Documentation and assessing customary practices of managing forest resources at local level

REDD Implementation Centre
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संक्षिप्त सारांस

यो प्रतिवेदन नेपालमा प्रचलनमा रहेका वन र चरण श्रोत व्यवस्थापनका प्रथाजनित कानुन र प्रणालीसंग सम्बन्धीत छ । यसको मूल उद्देश्य नेपालमा विगतमा १९५७ देखि पछि क्रियाशील रहेका वन र चरण व्यवस्थापनका प्रथाजनित प्रणाली/पद्धतीहरुको अभिलेख तयार गरि तीनिहरुका प्रभावकारिता रेड प्लस परिप्रेक्षमा मूल्याङ्कन, गरि ती मध्य उपयुक्त एवं उत्कृष्ट पद्धती/प्रणाली वा कार्यक्रमको प्राथमिकताका साथ रेड प्लसको कानुनी संरचना एवं कार्यक्रममा सम्माहित गर्न के कस्तो अवधारणा, सिद्धान्त, अवलम्वन गर्न पर्दछ र यसका सम्भाव्य रणनितिक कार्यक्रम के के हुन सक्दछ सो को रणनीति योजना तयार गर्नु रहेको छ । यस सन्दर्भमा विभिन्न राष्ट्रिय र अन्तरराष्ट्रिय संघ संस्था का अधिकारिक प्रतिवेदन, बिशेषज्ञ, सोधकर्ता,.अनुसन्धानकर्ता, द्धारा प्रकाशित वा अप्रकाशित बिषवस्तुसंग सार्न्दभिक उपलब्ध लेख रचनाको पुनरावलोकन गरि निकालिएको सार र निचोडबाट प्राप्त सुचना। जानकारी र तथ्यायङ्कलाई मूख्य आधारमानी नेपालमा प्रचलनमा भएका प्रथाजनित कानुन र यस संग सम्वन्धित वन तथा चरण सम्बन्धी परम्परागत/प्रथाजनित ज्ञान, व्यवस्थापन प्रणालीको शूक्ष्म तरिकाले विश्लेषण गरि बदलिँदो सामाजिक, आर्थिक एवं जैविक भू-जगतमा रेड प्लस कार्यक्रम संचालन गर्दा नेपालको वन जंगल र चरण आदि प्राकृतिक सम्पदा यी सम्पदामा पूस्तौदेखि जीवन निवार्ह गर्दै आएका आदिवासी जनजाती समुदाय (अन्य स्थानिय समुदाय सहित) को जीविकोपार्जन सहति समष्ठीगत वन र वातावरण संरक्षणतः के कस्ता, साधरणतः राम्रा नराम्रा प्रभाव पर्न सक्तछन सोको लेखाजोखा गर्दै राष्ट्रिय र अन्तर्रारष्ट्रिय जलवायू परिवर्तनसंग सम्वन्धित अधिकारिक दस्तावेज, खास गरि आदिवासी जनजाती र प्रथाजनित श्रोत व्यवस्थापन सम्बन्धी कानुनी दस्तावेजहरुले निर्देशित गरेका प्रावधान अनुरुप नेपालको रेड प्लस सम्बन्धी कानुन बनाउँदा वा यस सम्बन्धी कार्यक्रम संचालन गर्दा अपनाउनु पर्ने सिद्धान्त, अवधारणा सहितको आदिवारी जनजाती समुदायको प्रथाजनित कानुन वन तथा चरण सम्पदा बिषयका जल्दावल्ल्दा सवाल सम्वोधन गर्न सकिन्छ , यसका लागि सम्भाव्य रणनीती , कार्यदिशा वा कार्यक्रम नेपालको सन्र्दभमा क् के हुन सक्छन प्रेषित गर्ने जमर्को गरको छ ।

प्रतिवेदन छ अध्यायमा विभाजन गरिएको छ । पहिलो अध्यायमा विषयवस्तुको सामान्य परिचय, प्रतिवेदनको उद्देश्य र आसातित उपलब्धीको चर्चा गरिएको छ । दोश्रो अध्यायले प्रतिवेदन तयारिगर्दा अवलम्वन गरिएका कार्यविधिको छोटकरी विवेचना गरेको छ । तेश्रो अध्यायमा श्रोत माथिको पहुँच, हक, अधिकार, सम्बन्धी सामान्य सैद्धान्तीक पक्ष प्रथाजनिक कानुन र श्रोत व्यवस्थापन प्रणाली पद्धतीको अवधारणा, मूल्य, मान्यता र उपयोगिताको सन्दर्भमा जोड दिँदै बिषयवस्तुको कार्यक्षेत्र (स्कोप) साधकबुझाइस् दिने प्रयास गरेको छ । यसपछि नेपालमा प्राकृतिक श्रोत (जग्गा/वन/चरण) सम्बन्धी हक अधिकार र पहुँच सम्बन्धी कानुनी व्यवस्थापनको छोटकरी चर्चा गरि नेपालका तराई, पहाड र हिमाली क्षेत्रमा प्रचलनमा आएका प्रथाजनिक वन र चरण व्यवस्थापन प्रणालीहरुको तिन राजनैतिक कालखण्डको (सन १९५७ पुर्व, १९५७ देखि १९९१ , र १९९१ खेखि वर्तमान सम्म) चरणबद्ध रुपमा चर्चा गरिएको छ ।

चौँथो अध्ययनमा रेड प्लस कार्यक्रमले कानुनी संरचना तयारीको सिलसिलामा गरिएको उद्देश्यहरुले पहिचान भएका वन विनास र वनको हैसियतमा गिरावटका कारक तत्वलाई सम्वोधन गर्न प्रथाजनित कानुन, र वन र चरण व्यवस्थापन प्रणालीको सान्दर्भिकता एवं प्रभावकारिताको बिस्तृत विवेचना गरिएको छ । देशको भौगोलिक बनावट, जनसंख्या र विविध जीवनशैली, मौजुदा व्यवस्थापनका प्रणाली, जलवायू परिर्वन सम्बन्धी विभिन्न अन्तर्राष्ट्रिय नीति एवं कानुन र राष्ट्रले यसमा जाहेर गरेको

प्रतिवध्दता, निमार्णधिन रेड प्लस सम्वन्धि कानुनी दस्तावेज र नेपालका प्रथाजनित वन तथा चरण व्यवस्थापन प्रणालीले वन/चरण श्रोत र आदिवासी जनजाती समुदायको जीविकोपार्जनमा पारेका समेर्षठगत प्रभावकारीता आदि समेतलाई मुख्य आधारमानी रेड प्लस कार्यक्रमलाई प्रत्यक्ष एव अप्रत्यक्ष फाईदा पराउन सक्ने सम्भाव्य रणनीतिहरु सहितको प्रथाजनिक वन तथा चरण व्यवस्थापन प्रणालीको सुची कार्यन्वयनको लागि सिफरिस गरेको छ ।

अन्तमा प्रतिवेदनले प्रस्तुत गरिएको कार्यक्रमहरुको रेड प्लस कानुनी संरचना तर्जुमा गर्दा तथा कार्यक्रम संचालन गर्दा आदिकारी जनजाती को सवाललाई सम्वोधन गर्दै प्रथाजनित वन तथा चरण व्यवस्थापन प्रणालीलाई वन र चरण बिकासको मुल प्रवाहमा समाहित गर्न अपनाउनु पर्ने अवधारणा र सिद्धान्त सहितको सामभाव्य रणनीति कार्यदिशाा, कार्यक्रम छैठौं अध्यायमा सुझावको रुपमा प्रस्तुत गरेको छ ।

प्रतिवेदनमा उठाएका मूख्य विषयहरुको सार

१. आदिबासी जनजाती र अन्य समुदाय

आदिबासी जनजाती र अन्य स्थानिय समुदायलाई परिभाषित गर्ने कार्य कठिन छ र बर्तमान बिश्वमा यि दुई जिबनशैलीका ब्यक्ति वा समुदायलाई कसरी परिभाषित गर्नु पर्दछ वा गर्दा उपयुक्त हुन्छ भनि खुब चर्चा परिचर्चा भए । धेरै बर्षसम्म यसको निर्क्योल हुन सकेन आखिरमा सन् २००४ मा संयुक्त राष्ट्रसंघले आदिवासी समुदाय, जनता र राष्ट्रको परिभाषा आफुसंग सम्बन्धित आबद्ध राष्ट्रहरुलाई उपनिबेस कालखण्डलाई मुख्य आधार मानी आदिबासी जनजाती, जनता र राष्ट्र तिनवटको परिभाषा दिन सफल भयो । जसअनुसार आदिबासी जनजाती, जनता र राष्ट भन्नाले उपनिबेस पुर्व देखिनै आफ्नु क्षेत्रमा बिकास भएका, आफ्नु छुट्टै पहिचान बोकेका, हालसम्म आफ्नै पुर्खौली क्षेत्र वा यसको केहि भागमा बसोबास गरिरहेकालाई जनाउँदछ ।

नेपाल सरकारले आफ्नै मातृभाषा र प्रथाजनित चालचलन बेग्लै साँकृतिक पहिचान, बिशिष्ट र छुट्टै सामाजिक संरचना, र लिखित वा अलिखित इतिहाँस बोकेको नेपालमा बसोबास गर्ने जात जातीको समुहलाई आदिबासी जनजाती भनि परिभाषित गरिएको छ । प्रस्तुत प्रतिवेदनमा यि आदिबासी जनजाती र वन सम्पदामा आश्रित अन्य स्थानिय जनजाती र समुदायलाई आदिबासी जनजाती वा आदिवासी समुदाय दुबैलाई पर्यायवाची शब्दका रुपमा ग्रहण गरेको छ । नेपालको कानुनले नेपालमा बसोवास गर्ने कुन कुन जात जाती आदिवासी हुन भनी हाल सम्म ५९ जातीलाइ आदिकासी जनजातीको कानुनी मान्यता दिएको छ । २०११ को जनगणना अनुसार उनीहरुको कुल जनसंख्या ८४ लाख अनुमान गरिएको छ अर्थात नेपालको कुल जनसंख्याको लगभग ३६ प्रतिशत आदिवासी जनजाती को रहेको छ ।

२.परम्परागत ज्ञान/प्रथाजवित ज्ञान

परम्परागत ज्ञान/पुर्ख्यौली ज्ञान, जसलाई अंग्रेजीमा इन्डीजेनियश नलेज भनेर भनिन्छ । यसलाई विभिन्न विद्वान वर्ग (समाजशास्त्री देखि अर्थशास्त्री), अनुसन्धान कर्ता देखि संयुक्त राष्ट्रले परिभाषित गरेका दर्जनौं परिभाषा पाईन्छ । यसरी भिन्न भिन्न विद्धत वर्ग र अनुसन्धानकर्ता समाज अर्थ वन, वातावरण सम्वन्धी खोजकर्ता, कार्यगर्ने व्यक्ति संघ संस्थाले आफ आफनै उद्देश्यअनुरुप दर्जनौ परिभाषा दिएको पाईन्छ । अंग्रेजीमा यसलाई विभिन्न नाम जस्तै इन्डिजिनस नलेज, लोकल नलेज, ट्रेडिश्नल नलेज, इन्डिजिनस टेकनिकल नलेज, इन्डिजिनस इकोलोजिकल नलेज आदि को संज्ञा दिएको पाइन्छ । यिनिहरुकै अनुकरण गर्दै नेपाली विद्धान एवं संघ संस्थाले पनि अंग्रेजी शब्दलाई रुपान्तरण गरि यसको

परिभाषा गर्ने गरेका छन् । संयुक्त राष्ट्र संघको इन्टर गभरमेन्टल प्लेटफर्म वन वायो डाईभसिटी एण्ड ईकोसिस्टम सर्भिस अर्थात जैवीक विविधता र परिस्थितीकिय प्रणाली सम्बन्धि कार्य गर्न बनाईएको अन्तर सरकारी मञ्चले मानव समेत जीवित प्राणी र वातावरण विचको अन्तरसम्बन्ध बिच पुर्खाहरुले जीवन निर्वाह गर्दा सिकेका, भोगेका ज्ञान, पाठ, अभ्यास, अनुभवलाई जातीगत संस्कारको माध्यम द्वारा सन्तान .. दर सन्तान हस्तान्तरण. हुदै आएको ज्ञानको संगालो भण्डार भनि गरएको परिभाषलाइनै यस प्रतिवेदनले अंगिकार गरेको छ ।

३.प्रथाजनित कानुन

प्रथाजनित कानुनल समष्त प्राकृतिक सम्पदाको प्रति मान, सम्मान, आदर, समान व्यवहार गर्न समाजका सम्पूर्ण सामाजिक, राजनैतिक, सांस्कृतिक एवं धार्मिक, आर्थिक एवं (वातावरणिय पक्ष) प्रकृति (सम्पूर्ण श्रृष्टी) समेतको सु-व्यवस्था गर्न आदिवासी जनजाती समुदायमा पुर्खौ देखि आर्जित ज्ञान , सिप, अनुभव आदिबाट परिमार्जित एवं परिस्कृत हुंदै आएको समाजबाट स्विकृत प्राप्त तर अलिखित समाज एव प्राकृतिक सम्पदाको दिगो बिकासका लागि आवश्यक नीति नियम, समुदायका सदस्यहरुको हक, अधिकार, कर्तव्य, र आचारसंहिता सहतिको संगालो हो

४.भू (कृषि, वन र चरण) व्यवस्थापनका परम्परा प्रणाली

साधरण वोलीचालीको भाषामा प्रथाजनिक कानुनले निदृष्ट गरेका सिद्धान्त, मूल्य, मान्यता र बिस्वासको आधारमा प्रकृती प्रदत्त प्राकृतिक सम्पदा जस्तै भू-व्यवस्थापन (कृषि योग्य जग्गा, वन र चरण) का लागि आदिवारी जनजाती समुदाय ध्दार बिकसित प्रणालीलाई प्राकृतिक सम्पदा प्रथाजनिक व्यवस्थापन प्रणाली भनी भन्ने गरिन्छ । स्थान र जातियता विशिष्ट आदिवासी जनजाती समसदायको प्रथाजनिक कानुन हुने हुँदा प्रथाजनिक प्राकृतिक सम्पदा व्यवस्थापन पनि भिन्न भिन्न रुप र स्वभावका छन् ।

यसलाई परम्परागत प्राकृतिय श्रोत व्यवस्थापन प्रणाली पनि भनिन्छ । यो कुनै एक निश्चित क्षेत्र वा समूदायले आ आफना क्षेत्रमा रहेका प्राकृतिक सम्पदाको दिगो व्यवस्थापनका लागि समूहको सम्पदा माथीको पहुंच, हक र उपभोगका अधिकार ,समुहको काम र कर्तव्य, सहित समाजिक एव. प्राकृतिक सम्पदाको समष्टिगत तथम एकिकृत दिगमृ बिकासका लागि अमवश्यक नीति नियम । शासकिय स्वरुप समेत समुदायमा रहेका हरेक तह र तप्काका आदिवासी जनजातीको सर्वसम्मत निणर्यको अलिखित आदिवासी जनजातीको पहिचान र अस्तित्वसंग अन्योन्याश्रित अन्तरसम्वन्ध राख्ने शासकिय पध्दती हो ।

५. भू/श्रोत भोगचलनको हक र अधिकार: प्रोपर्टी राइट र श्रोत व्यवस्थापन शासन प्रणाली:

साधारण भाषामा राज्य वा समाजले , कहिलेकाहीँ दुवैले, कुनै व्यक्ति वा समूदायले प्राप्त गरेको कुनै एक खास निश्चित वस्तुको भोगचलन जसमा व्यक्ति वा समूदायको दायीत्व/जिम्मेवारी पनि पर्दछ भन्ने बुझिन्छ । श्रोतको भोगचलन सम्बन्धी अवधारणाले कुन श्रोत कसले कति समयको लागि, कुन-कुन शर्तमा भोगचलन गर्न पाउँदछ भन्ने एकिन गर्दछ यो अवधारणा सम्पती माथिको अधिकार (प्रोपर्टी राइट) र श्रोत व्यवस्थापनका शासन प्रणालीका प्रतिपादित सिद्धान्तले अझ बढी प्रष्ट बनाउँदछ ।

भू-श्रोत भोगचलन र श्रोत व्यवस्थापन शासन प्रणाली एक अर्काका पर्यायवाची शब्दको रुपमा प्रयोग गर्ने गरेको पाईन्छ । श्रोत भोगचलन वा श्रोत माथिको स्वामित्वलाई प्रशिद्ध विद्धान द्धय.स्कालगर र ओर्सटनलेस्पष्ट रपमा व्याख्या गरिदिनु भएको छ । वाहाहरुकानुसारप्रोपर्टी राइट/श्रोत व्यवस्थापन शासन पद्धतीले कुल तीन मुख्य कुराहरुलाई राम्ररी समेट्छ र व्याख्या गर्दछ । ती हुन्: श्रोत माथिको

पहुँच, कार्यान्वयनसंग सम्बन्धीत अधिकार मध्य कुन अधिकार समाविष्ट गर्ने वा कुनलाई हटाउने र व्यवस्थापकिय अधिकार जस्तै कसलाई उपभोक्ताबाट हटाउने वा कसलाई समावेस गर्ने वा समुहिक अधिकार अंगिकार गर्ने जस्ता ५ किसिमका एक आपसमा अन्तरनिहित अधिकार र चार किसिमका अधिकार कर्मी: श्रोतको धनी/मालिक, लगानीकर्ता/व्यवस्थापक, दावीकर्ता/उपभोक्ता वा समाज, र कानुनी मान्यता प्राप्त उपभोक्ता (राज्य)। यी कर्माहिरुको दुई किसिमका कानुनवाट अधिकार प्राप्त गर्दछन । पहिलाु राज्यको कानुन जसलाई अंग्रेजीमा डिजुरे हक अधिकार भनिन्छ) र दोश्रो प्रथाजनित कानुनबाट मान्यता प्राप्त अर्थात डि फयाक्टो हक अधिकार।

कुनै एक व्यक्ति, समुह, समुदाय वा राज्यले प्राकृतिक सम्पदा जस्तै जग्गा, वन र चरण व्यवस्थापनका लागि अख्तियार गरेको अधिकार र दायित्वको संगठनात्मक स्वरुपलाई श्रोत व्यवस्थापनका शासकिय पद्धती भन्ने बुझिन्छ । यी स्थान र श्रोत विशिष्ट हुन्छन् अर्थात समाज, जीवनशैली र भौगोलक र श्रोतको किसिम र प्रचुरता र वजारको.... अवस्थानुसार फरक-फरक हून्छन र परिस्थिति वा परिवेस (प्राकृतिक एवं मानविय)मा हुने परिवर्तनसंगसंगै यीनीहरुको स्वरुप पनि परिवर्तन हुन् हूंदा गतिवान पनि हुन्छन् । अर्थात यी पद्धती बदलिँदो सामाजिक, आर्थिक, राजनैतिक र वातावरणीय परिवेशनुसार समूदाय र समाजको आवश्यकता र चाहना अनुसार परिमार्जित भईरहन्छन् । श्रोत व्यवस्थापन शासकिय पद्धतीलाई चार प्रमुख वर्गमा बाडने गरेको पाईन्छ ।

क) नीजी शासकिय पद्धती

ख) राज्यद्धारा संचालित शासकिय पद्धती

ग) समूदाय वा समाजद्धारा संचालित शासकिय पद्धती

घ) कुनै शासकिय पद्धती नभएको खुला/छाडा श्रोत व्यवस्थापन शासकिय पद्धती

६.नेपालको भू-उपभोग सम्बन्धी व्यवस्थापनको इतिहास

राणाकालिन शासन अवधिमा देशमा रैकर र किपट गरि दुई प्रमुख भूउपयोग शासन प्रणाली वा भू भोगाधिकारका हक अधिकार थिए । । रैकर प्रणाली राज्य जमीनदारी सिद्धान्त अर्थात राज्यनै सम्पूर्ण भू-सम्पदाको स्वामित्व, हक, अधिकार निहित हुनु पर्दछ भन्ने शिद्धान्त मा आधारीत थियो भने किपट प्रणालीले समूदाय/समूह द्धारा संचालित शासकिय पद्धतीमा आधारीत थियो । राज्यको अधिनमा रहेका रैकर जग्गा, व्यक्ति विशेष र समुदाय लाई विभिन्न उद्देश्य र प्रयोजनका लागि राज्यलाई बितरण गरिन्थ्यो, जस अर्न्तगत नीजि रैकर वा रैंकर (राज्यलाई भूमिकर बुझाउने शर्तमा व्यक्तिलाई सम्पुर्ण भोगधिकार सहित बितरण गरिएको जग्गा) विता (शासक वर्गका परिवार र शासक वर्गलाई खुसि , रिझाए वापत अन्य व्यक्तिलाई सर्म्पुण भोगधिकार सहित बितरण गरिएका जग्गा , जागिर (सैनिक तथा राज्यका कर्मचारीलाई तलव वापत दिइने जग्गा) रकम, गुठी (धार्मिक संस्थाको लागि राज्य वा व्यक्तिले भोगाधिकारको हक सस्तान्तरण गर्न नमिल्ने गरि बितरण गरिएको जग्गा) र राज्य (वांकी सम्पुर्ण रैकर जग्गा) आदिमा वितरण गरिन्थ्यो ।

राणा शासनको अन्त्य र प्रजातन्त्रको आगमन भएपछि राणा शासकहरुले उनीहरुका परिवार र आसेपासे.लाई माथि उल्लेख भएबमोजिम. दिएको जमीन, वन र चरण/खर्क राष्ट्रियकरणको शिलशीला १९५७ बाट शुरु भयो । १९५९ मा विर्ता उन्मूलन भयो । १९६४ मा नेपालको पूर्वी क्षेत्रमा रहेको किपट. प्रथा अन्तरगतका सम्पुर्ण मूमी ९(जग्गा/कृषी, वन, र चरण) लाई रैकरमा. संयोजन गरि किपछ भू व्यवस्थापन प्रणाली सदाको लागि अन्त्य गरियो । १९६२ मा वन ऐन तथा नियमावली तर्जुमा गरियो

१९६५ मा जमीनको कित्तानापीको थालनी भयो ।.. वन ऐन र नियमले वन क्षेत्रको निर्धारण गरे वाहेक अन्य जग्गाको भोगचलनको आधारमा कित्ता नापी भै जग्गाको धनिपुर्जा बितरण गरियो तर साविक किपट प्रथाबाट प्रदत्त भस्मे वा खोरिया खेती प्रणाली अर्न्तगत बांझो छाडिएका भस्मे पाखा (फाल्यो वन) प्रचलित वन ऐन तथा नियमावलीनुसार वन क्षेत्रको परिभाषा भित्र ०(खेती नगरि बांझो छोडिएकधो हुंदा र कृअि पुराना प्लट वनमा रुपान्तर भैसकेको कारण) व्यक्रिको नामा दर्ता हुन नसक्दन वनक्षेत्रमा नापी न्क्सा भए । त्यसैगरी १९७२ मा नीजी खर्क राष्ट्रियकरण भए र १९७६ मा वनको नयाँ नीति आयो जसले वनको दिगो व्यवस्थापनमा स्थानिय जनताको सक्रिय सहभागितालाई वाञ्छनिय बनाएपछि तत्कालिन वन ऐन र नियमावलिमा संसोधन गरि सामुदायिक वन कार्यक्रम संचालन गर्नको लागि पंचायत वन र पंचायत संरक्षीत वनको व्यवस्था गरियो । सामूदायिक वन कार्यक्रम अन्तर्गत व्यापक वृक्षारोपण कार्यक्रम संचालन गरी पहाडी र उच्च पहाडीमा खाली पाखा, नाङ्गा चौर र विगतका किपट जग्गा समेत वृक्षारोपण भए पश्चात बृक्षरोपण गरिएका वन पंचायत वनमा र प्राकृतिक वन. संरक्षित वन तत्कालिन गाउः पंचायत मार्फत स्थानिय समूदाय लाई हस्तान्तरण भए ।

यसै विच देशमा तराई देखि हिमाली क्षेत्रमा राष्ट्रिय निकुञ्ज, वन्यजन्तु आरक्ष, शिकार आरक्ष र संरक्षित क्षेत्र आत्याधिक रुपमा बिस्तार भए । यी क्षेत्र बिस्तारको क्रममा विस्तारमा/ कतिपय राष्ट्रिय निकुञ्ज तगा आरक्ष क्षेत्रबाट पुर्खौदेखि बस्दै आएका आदिवासी जनजाती लगायत अन्य बासिन्दाहरु विस्थापित भए र उनीहरुको प्रथाजनित कानुनले प्रदत्त भू सम्पदामाथिको पहुंच, हक र अधिकार र स्वामित्वमा पूर्ण बन्देज गरियो वा अत्यधिकमात्रामा कटौती गरिए । यसूं विच सन १९८८ मा २० बर्षे दिर्धकालिन वन विकास गुरु योजना तर्जुमा भयो जसले समुदायमुखी सामुदायिक वन बिकास कार्यक्रमलाई वन क्षेत्रको पहिलो प्राथमिकता प्राप्त कार्यक्रममा राखि वन श्रोत सरंक्षण र व्यवस्थापनमा जनसहभागितालाई संस्थागत गरि स्थानिय वन उपभोक्तको वन श्रोतमाथीको पहुंच र हक र अधिकारको नतिगत व्यवस्था गरिदियो ।

प्रजातन्त्रको पूर्नवहाली पश्चात अर्थात १९९० पछि वन विकास गुरु योजनाले निर्देशित बिकेन्द्रिकृत वन नीतिले साविक वन ऐन खारेज भई नयाँ वन ऐन २०४९ र नियमावली २०५३ लागु भयो । मध्य पहाड र उच्च पहाडी क्षेत्रमा सामूदायिक वनको विस्तार तिव्ररुपमा विस्तार भयो । यसै विच संरक्षित क्षेत्र समेतको विस्तार भई उच्च वहाडी क्षेत्रको ४०% भन्दा बढी भू-भाग संरक्षित क्षेत्रमा गाभिए ।

नयाँ वन ऐन कानुनले नेपालका वनलाई दुई मुख्य वर्गमा विभाजन गरेको छ । पहिलो राष्ट्रिय वन र दोश्रो नीजिवन । राष्ट्रिय वनलाई (संरक्षित क्षेत्र भित्र बाहेकका वन क्षेत्र) दुई उपवर्गमा विभाजन गरिको छ् । पहिलो सरकारद्धारा व्यवस्थीत वन र दोश्रो समूदायद्धारा व्यवस्थीत वन । पहिलोमा दोश्रो वर्गका वन क्षेत्र बाहेक बाँकी रहेका राष्ट्रिय वन पपर्दछन भने वन समूदायद्धारा व्यवस्थित वनमा सामुदायिक वन, धार्मीक वन, साझेदारी वन, संरक्षित वन आदि पर्दछन् । हालसम्म नेपालको कुल वनक्षेत्रको करिव ३३% वन र सरकारद्धारा व्यवस्थित व्यवस्थित वनको ४९ % भन्दावढी वन समूदायद्धारा व्यवस्थित शासकिय प्रणालीमा हस्ताक्षर भईसकेका छन् । तराई, चुरेका केहि वन र उच्च पहाडी क्षेत्रमा अधिकांश वन सरकारद्धारा व्यवस्थित वनमा रहदै आएका छन् ।

७.आदिवासी जनजाती र प्राकृतिक सम्पदा र जीवनशैली

आदिवासी जनजातीको जीवन शैली जीविकोपार्जनका उपाए पूर्णरुपमा वनश्रोतमा आश्रित छन् र यिनिहरुको जीवनशैली र वातावरणबिच अद्धितिय र अक्षुणर अन्योन्याश्रित सम्बन्ध रहदै आएको तथ्य

विश्व भरमा प्रकाशन भएका लेख, रचना, सोध कार्य, सरकारी तथा गैर सरकारी निकायका आधिकारीक प्रतिवेदन दस्तावेजको अतिरिक्त संयुक्त राष्ट्र संघमा आवद्ध विश्वका सम्पूर्ण मूलुकले सहर्ष, सर्वमान्य रुपमा स्वीकारेका छन् ।

आदिवासी जनजातीका प्रथाजनित कानुनले जमिन, वन र चरण जस्ता प्राकृतिक सम्पदा मानव जीवनको अस्तित्व, आदिवारी जनजातीको जातीयताको पहिचान र अस्मिता संग जोडिएको हुँदा यो नीजि सम्पती हुन नसक्ने मान्यता राख्छन र यसको बजारीकरण, व्यापारिकरण वा निश्चित वर्ग, व्यक्तिको नीजी फाईदा र प्रयोगमा प्राकृतिक सम्पदाको दोहन हुनुहुन्न , समस्त श्रृष्टीजगतकै भलाईमानै यी स्म्पदाको उपभोग गरिनुपर्दछ.भन्ने सोच वा अवधारणा वाकेका आदिवासी जनजाती समुदायका प्रथाजनित कानुन, भू सम्पदा व्यवस्थापन प्रणाली प्रकृति र मानव जीवनको सम्वृद्धिउन्मुख विशिष्ट अन्तर सम्बन्ध दर्शाउने अनुपम विशिष्टता द्योतक हुन् ।

८.नेपालका प्रथाजनिक वन र चरण व्यवस्थापन पद्धती/प्रणली

नेपालमा बसोबास गर्ने प्रत्येक समुदायका आ-आफ्नै जीवनशैली र सो मा आधारीत सामाजिक व्यवस्था र प्राकृतिक सम्पदा व्यवस्थापन, संरक्षण एवं उपयोगमा प्रथाजनिक कानुन र पद्धती/प्रणाली रहँदै आएको छ । समाज बिकासको, गति विश्व र नेपालमा समय समयमा घटित सामाजिक, राजनैतिक, आर्थिकको कारणवाटं प्राकृतिक सम्पदा एवं वातावरणमा देखा परेका प्रभाव संगसंगै खारिँदै, परिमार्जीत हुँदै पुस्तौ पुस्तामा हस्तान्तरण हुँदै आएका सामाजिक बिकास र प्राकृतिक सम्पदाको बिकास र व्यवस्थापनका कानुन र पद्धती देशको कतिपय क्षेत्र खास गरी तराई, भित्रिमधेशको महा भारत दक्षिण तर्फ चुरे समेतमा प्रायः लोप भई सकेका छन् । तथापी आदिवासी जनजातीमा केही सिमित व्यक्तिहरुमा यी परम्परागत/पुर्ख्यौली ज्ञान अहिले पनि जीवन्त रहेको पाइन्छ । तर यी ज्ञान र सिपलाई राष्ट्रले सामाजिक सु व्यवस्था कायम गर्न र प्राकृतिक सम्पदाको दिगो व्यवस्थापनको पद्धतिको रुपमा रुपान्तरित गर्ने प्रयासमात्र पनि भए गरेको भएको पाईदैन । तर यसको ठिक विपरित नेपालको मध्य पहाड, उच्च पहाड र हिमाली क्षेत्रमा यी प्रथाजनिक कानुन, वन र चरण पद्धती बद्लिँदो सामाजिक, आर्थिक एवं राजनैतिक परिवर्तन र भू-मण्डलीकरणलाई आत्मसाथ गर्दै यथासम्भव जीवन्त राख्न आदिवासी जनजाती देखि अन्य स्थानिय बासिन्दा .तल्लिन देखिएका छन् । यस सन्र्दभमा, प्रतिवेदनले नेपालका तिन राजनैतिक काल खण्ड १९५७ पुर्व (राणाशासन र प्रजातन्त्रका शुरुवाती वर्ष), १९५७ देखि १९९० (सक्रिय पञ्चायत काल) र प्रजातन्त्रको पूर्वबहाली देखि हाल सम्म. प्रचलनमा आएका प्रथाजनिक वन/चरण पद्धतीलाई यथासम्भव समेटि ती पद्धतीले अंगिकार गरेको सामाजिक, आर्थिक एवं वन/चरण व्यवस्थापन संरचना निर्णय प्रक्रिया र कालखण्डनुसार छोटकरी व्याख्या विश्लेषण गर्ने जमर्को गरेको छ । प्रतिवेदनले मध्य र उच्च पहाडी/हिमाली क्षेत्रमा प्रचलनमा आएका भू/वन व्यवस्थापनक ४० भन्दा बढि प्रथाजनित वन/चरण पद्धतीको वर्तमान अवस्था सम्म समिक्षा गर्ने प्रयास गरिएको छ ।

८.१ नेपालका प्रथाजनित वन तथा चरण व्यबस्थापनका बिशेषता

क्षेत्र/थातथलो : पहाड र उच्च पहाडी क्षेत्रमा बसोबास गर्ने समुदायहरुको आफ्नै प्रथाजनित कानुनले व्यबस्था गरे बमोजिमका भु उपयोग शासकिय पद्धति (लेण्ड टेनुर) थिए । जस अनुसार प्रत्येक आदिबासी जनजाती, र अन्य समुदायको प्राकृतिक भौतिक संरचनाहरु जस्तै : डाँडा, नदि, खोला, मुलबाटो आदीलाई साघ सिमाना तोकि स्पष्टरुपमा चार किल्ला सहित आ आफ्नो उपभोगका क्षेत्रहरु निर्धारण गरिको हुन्थ्यो । प्रायः नदि खोलाका जलाधार र उपजलाधार अनुसार बसोबास र प्राकृतिक

सम्पदाको उपयोग गरिने हुँदा यिनै प्राकृतिक जलाधार क्षेत्रनै आदिबासी जनजाती र अन्य समुदायका क्षेत्र/थाक्थलोको रुपमा निधौरण गर्ने गरेको पाईन्छ । यसरि छुट्याएका क्षेत्रमा पर्ने जमिन , वन, चरण, पानीका स्रोत तथा अन्य प्राकृतिक सम्पदालाई सामुदायिक सम्पदा अर्थात सम्पुर्ण समुदायको हक हित अधिकार र पहुँचको सम्पति मानी प्रथाजनित कानुन र पद्धतिबाट प्रदत्त सेवा सुबिधाको उपयोग गर्ने चलन रहेको थियो ।

प्राकृकित सम्पदा माथि पहँच र उपभोगको अधिकार : आफ्ना क्षेत्रहरु प्रत्येक समुदायको स्पष्ट निर्धारण गरिएता पनि ति क्षेत्रका प्राकृतिक सम्पदा माथीको पहुँच र उपभोगको अधिकारको बाँडफाँड र निर्धारण बिषम प्रकृति छन् तिनिहरुमा बिबिधता पनि रहेको पाईन्छ । प्राकृतिक सम्पदा जस्तै वन र चरण माथीको पहुँच उपभोगको अधिकारको स्थानिय बासिन्दाको जीवनशैलि खेति किसानी, घुमन्ते पशुपालन, ब्यपार आदि वन र चरणको बर्तमान अबस्था (उत्पादकत्व र हैसियत) वन पैदावारको उपलब्धता आदीलाई आभार मानी तय गर्ने गरेको पाईन्छ । यसरि आफ्नु क्षेत्रभित्र रहेका प्रत्येक वन र खर्कहरुको स्पष्ट सिमाना सहित नामाकरण गरिएको हुन्छ । ति वन र खर्कहरुको उपयोग गर्ने महिना, अबधि, वन पैदावार संकलन गरिने प्रतिघरधुरी संकलन गर्न सकिने परिमाण, पशु संख्या र बथानको साईज आदिलाई ध्यानमा राखि प्रत्येक बर्ष वन चरण र अन्य प्राकृतिक सम्पदाको उपभोगका निती नियम बनाईन्छन् र सो बमोजिम भए गरेका काम कारबाहिको नियमित अनुगमन र निरिक्षण गर्न पनि संस्थागत संरचना स्थापना गरि गर्ने गरेको पाईन्छ । खासगरि कुनै गाउँसंग जोडिएको वन त्यहि गाउँका बासिन्दालाई संरक्षण सम्बर्धन र उपयोगको लागी तोकिन्छ । ठुला ठुला वन जुन घर निमार्ण गर्न र चरणमा समेत प्रयोग हुन्छन् तिनीहरुलाई र ठुला क्षेत्रमा फैलिएको खर्कलाई पशुहरुको संख्या, बथान र खर्कको उत्पादकत्व र क्षमतालाई हेरि दुई वा सो भन्दा बढि खण्डमा बिभाजन गरि तिनीहरुको उपभोग गर्न पाउने घरधुरी र समुदाय समेतको स्पष्ट रुपमा ब्यबस्था गरिएको हुन्छ ।

नेपालका पहाडी र उच्च पहाडी क्षेत्रमा चलनमा आएका प्रथाजनित प्राकृतिक सम्पदा (भुमी, वन, चरण आदी) माथी उपभोक्ताको पहुँच र उपभोगको अधिकार जटिल जेलिएका त छदैछन् तर भौगोलिक क्षेत्र अनुसार फरक फरक पनि छन् । कतिपय क्षेत्रमा खासगरि आदिबासी जनजातीहरुको बाहुल्यता भएमा उच्च पहाडी क्षेत्र किरातक्षेत्रमा पैतृक बंशज, वा निश्चित समुदायसंग आबद्ध जनजातीले मात्र प्राकृतिक सम्पदाको उपभोग अधिकार बंशाणुगत रुपमा प्राप्त गर्दछन् भने कत्तिपय क्षेत्रमा खासगरि मध्य पहाडी क्षेत्र(चेपाङ जाती बाहेक) मा स्थायी बसोबास गर्ने परिवारलाई मुख्य आधार मानी स्रोत उपभोगका अधिकार सुनिश्चित गर्ने चलन रहेको देखिन्छ ।

भुमि एबं प्राकृतिक सम्पदा

आदिबासी जनजाती समुदायको भुमि र प्राकृतिक सम्पदाको बुझाई समष्टिगत छ । यि दुई एकै सिक्काका दुईपाटा भएकाले यसलाई छुट्याएर हेर्न, बुझ्न र ब्यबस्थापन गर्न हुन्न भन्ने मान्यता यिनीहरुको रहेको पाईन्छ । त्यसैले आदीबासि समुदायको दृष्टिकोणमा भुमि तथा खेतबारी मात्र होइन, भुमि भन्नाले कुनै एक भौगोलिक क्षेत्रमा जमिन, वन, खर्क, खोलानाला, चट्टान हिमश्रृखला, प्राकृतिक मनोरम स्थल अर्थात सम्पुर्ण भु बनौट र त्यसमा अबस्थित प्रकृतिबाट श्रृजित सम्पुर्ण जिबित वा निर्जिब बस्तुहरुलाई समेत जनाउदछ । भुमि नै उनिहरुको जिबनयापनको मुख्य साधन भएको हुदाँ पुर्खादेखि नै शताब्दीदेखि नै बसोबास गरिरहेको स्थान जसलाई थाक थलो भनिन्छ । उनिहरुको जातियता एबं मानब हुनुको अस्तित्वसंग जोडिएको हुदाँ आफ्नो थाक थलो समुदायको साझा उपहारको रुपमा स्विकार्दछन् । त्यसैले भुमिलाई उनिहरु ब्यक्तिगत सुख सुबिधा, नाफा आर्जन गर्ने साधन, खरिद बिक्रीको बस्तु अर्थात ब्यबसायिक बस्तुको रुपमा पटक्कै स्विकार गर्दैनन् ।

नीति नियम तर्जुमा र कार्यान्वयन प्रकृया

आदीबासी जनजाती समुदायको निती नियम र कार्यान्यन प्रकृया प्रजातान्त्रीक, पारदर्शि, समयसापेक्ष र बस्तु स्थितीबादी, समानतामुलक रहेको पाईन्छ । यि निती नियम प्राकृतिक सम्पदाको दिगो ब्यबस्थापन र भुमि उपयोगमा मात्र सिमित नराखि समुदाय र समाज संचालनलाई सदैब एक सुत्रमा आबद्ध राखि सामाजिक सद्भाब, प्रेम, सहयोग र समन्वयलाई जिबन्त राख्न बढि केन्द्रित छन् ।

त्यसैले प्राय बाली लगानु अगाडी अलि कति फुर्सदिलो समयमा प्रथाजातिय संस्थाको प्रमुखले बोलाएको बार्षिक आम सभाबाट निती नियम (सम्पुर्ण सामाजिक आर्थिक र प्राकृतिक सम्पदा ब्यबस्थापन ,संचालन) हरुको समिक्षा गरि प्राप्त पाठ सिकाई र अनुभबको आधारमा बदलिदो राजनैतिक, सांस्कृतिक, आर्थिक र वाताबरणीय परिबेश अनुकुल नयाँ निती नियम तर्जुमा र पुराना निती नियम परिमार्जन सम्पुर्ण समुदायको आपसी छलफल र सर्ब सम्मत निर्णय वा आम सहमतीबाट गर्ने चलन रहँदै आएको छ । यसरि बनाईएका प्रभाबकारी कार्यन्वयन गर्न प्रथाजनित संस्थाको पदाधिकारीहरुको समेत छनौट वा चुनाब गरि ति निती नियमको कार्यन्वनको जिम्मेवारी सुम्पीने गर्दछन् ।

८.२ प्रथाजनित संस्था

बिश्वका अन्य मुलुकसरह नै नेपालका आदिबासी जनजाती समुदायका आफ्नै बिशिष्ट प्रथाजनित संस्था छन् ।यि प्रथाजनित संस्था नेपालका मध्य पहाडदेखि उच्च हिमाली क्षेत्रका भुमी, वन चरण र जलस्रोतको जर्गेना गर्न आजको अबस्थासम्म ल्याईपुऱ्याउन अहम भुमिका निर्बाह गरिरहको कुरा आजको बिश्वले पनि स्विकारेका छन् । संस्थामा आबद्ध समुदाय जात जाती ब्यक्ति सबैलाई समान आदर र ब्यबहार गर्नु र समुदायको सदैब सम्बृद्धि र भलाईको सोच राखि काम गर्नु र प्राकृतिक सम्पदालाई समष्टिगत प्राणीको साझा सम्पदाको रुपमा ग्रहण गरि मानबलाई आबश्यक सेवा र सुबिधाको लागी मात्र प्रकृतिको दोहन गर्नुपर्दछ भन्ने समतामुलक सिद्धान्तलाई ब्यबहारमा उतारि आजसम्म पनि यसलाई जीबन्त राख्न र प्राकृतिक सम्पदाको दुरदर्शिता पुर्बक उपभोग अपार ज्ञान सिप र पद्धतिलाई समुदायमा संस्थागत गर्न यि प्रथाजनित संस्था सफल देखिएका छन ।प्रतिबेदनले अध्यायनको सन्दर्भमा समेटेका संस्थाहरुको सुचि निम्नानुसार छन् ।

- किपट वा शुब्बा प्रथाजनित संस्था
- जिम्मवाल वा मुखिया प्रथाजनित संस्था
- कर्णाली क्षेत्रको मुखिया, नोराल रोकाया प्रथाजनित संस्था
- पुगंमा डाल्पाको गुम्बा प्रथाजनित संस्था
- नार र फुको गाउँ परिषद
- स्याङ्जा उपत्यका मनाङको ढावा स्यास्पा र निथेन प्रथाजनित संस्था
- पश्चिमेली गुङग समुदायको काब्रा संस्था
- माथिल्लो मुस्ताङको मुखिया वा थाकखोलाको मुखिया परिषद (मिर्चाङग) संस्था
- तरामी मगरको रितिथिती संस्था
- खम्बुक्षेत्रको सिन्धा नेवा संस्था

- डोल्पाका समुदायको घापा र देउबु संस्था

९. राष्ट्रिय एवं अन्तराष्ट्रिय आदिवासी जनजाती तथा प्रथाजनिक वन/चरण व्यवस्थापन सम्बन्धी निति तथा कानुन

आदीवासी जनजाती र प्रथाजनित प्राकृतिक सम्पदा (भूमी, वन, चरण र जल) व्यवस्थापन प्रणालीको सन्दर्भमा विद्यमान राष्ट्रिय तथा अन्तराष्ट्रिय निति तथा कानुनी संरचना अतिनै आदिवासी जनजातीमुखी छन् ।

नेपालको अन्तरिम संविधान २००७, विभिन्न राष्ट्रिय आवधिक बिकास योजना (हाल चालु तीन वर्षे आधारपत्र समेत), राष्ट्रिय संरक्षण कार्य, निति (१९८८) जैविक विविधता संरक्षण निति (२००२) हाल ड्राफ्टमा रहेको ५ वर्षे राष्ट्रिय जैविक विविधता संरक्षण निति तथा कार्ययोजना २०१४, आदिवासी जनजातीको राष्ट्रियसंघ गठन ऐन २००२ आदि सम्पूर्णले परम्परागत/पुर्ख्यौलीज्ञान, प्रथाजनित कानुन र प्राकृतिक सम्पदा व्यवस्थापन पद्धती/प्रणालीको उच्च मुल्याङ्कन गर्दै यि कानुन र ज्ञान सम्मानका साथ वन क्षेत्रका नीती , नीयम, योजना तथा कार्यक्रमा सोको अतिरित्त राष्ट्रको बिकासका हरेक योजना तथा कामहरु तिनीहरुको संयोजन गर्ने मार्गदर्शन प्रदान गरेका छन् ।

वन/चरण एवं जैविक विविधता संरक्षणमा परम्परागत/पुर्ख्यौली ज्ञानको अभिलेख राख्न, निर्माण भएका वा निर्माणाधिन सर्म्पुण वन बिकास र जैविक विविधता संरक्षण नीति, योजना र कार्यक्रममा परम्परागत/पुर्ख्यौली ज्ञान र वन चरण पद्धतीमका सिद्धान्त र मूल्य मान्यतालाई सम्बोधन गर्न जोड दिएका छन् । हाल रेड प्लसका कार्यक्रम कार्यन्वयन सिलसिलामा तयार गरिएका सम्पूर्ण आधिारिक प्रतिवेदन र कानुनी दस्तावेजले आदिवासी जनजातीका सासामयिक जयाज मांग र सवाल उनीहरुले अंगिकार गरेका प्रथाजनित कानुत तथा जग्गा, वन , चरण जस्ता प्राकृतिक सम्पदा व्यवस्थापनका लागि स्थापीत नियम, मुल्य र मान्यतालाई उच्च कदर गर्दै तीनिहरुलाइ सम्मान प्रदान गर्न जोडदार रुपमा उठाएका छन् ।

यसैगरि अन्तर्राष्ट्रिय कानुन रियो घोषणापत्र (एजेण्डा २१), बिमिन्न जैविक विविधता, जलवायु परिवर्तन सम्बन्धी विभिन्न र महासन्धी, आई.एल.ओ. १६९, आदिवासी जनजाती केन्द्रित संयुक्त राष्ट्र संघिय घोषणापत्र (यु.एन.डि.आर.आई.पी./UNDRIP) र यु.एन.सी.सी.सी. सम्झौता आदि सम्पूर्णले आदिवासी जनजाती बा प्रथा जनित कानुन, प्राकृतिक सम्पदा व्यवस्थापन, सम्वर्धन , उपभोग गर्ने पद्धती /प्रणालीलाई उतकृष्ट प्रणालीको संज्ञाादिइ कदर स्वरुप आदिवासी जनजाती लाई प्राकृतिक सम्पदा, बिषेशत: वन र परिरिस्थरिकिय प्रणालीको संरक्षक अविभावक (Stewards/Custodians)सम्मान समेत गरिसकेको अवस्था छ । संयुक्त राष्ट्र संघले रेड प्लस कार्यक्रम संचालन गर्दा पक्षधर राष्ट्रहरुले आदिवासी जनजातीको स्वतन्त्र अग्रीम जानकारी सहितको मञ्जुरी (एफ.पि.आई.सी./FPIC_ प्रकृया अवलम्बन गर्नुको साथै, वातावरणीय र सामाजिक सुरक्षा निति, स्वतन्त्र र प्रभावकारी गुनासो समाधान संयन्त्र (Feedback or Grievance Re-address Mechanism) जस्ता विभिन्न कानुनी प्रावधान द्वारा रेड प्लस कार्यक्रम कार्यन्वयनवाट प्राप्त लाभांस माथि आदिवासी जनजातीको पहुंच, हक अधिकार र न्यायोचित अंस (सेयर) को सुनिस्चितता प्रदान गरेको छ ।

१०. प्रथाजनिक कानुन र वन/चरण व्यवस्थापन पद्धती/प्रणालीमा आएका परिवर्तनबाट देखा परेका प्रभाव

बदलिँदो परिवेशनुसार प्रथाजनित कानुन र वन/चरण व्यवस्थापनमा आएका परिवर्तनले दुवै. प्रकारका (सकारात्मक/नकारात्मक) प्रभाव देखापरेका छन् । प्रतिवेदनले निम्न मूख्य प्रभावहरुको लेखाजोखागर्ने प्रयत्न गरेको छ ।

- वन र जैविक विविधता संरक्षणमा परेको प्रभाव
- संरक्षित क्षेत्र बिस्तारका कारण आदिवासी जनजातीको जीवनशैली, सामाजिक र आर्थिक अवस्थामा परेको प्रभाव
- सामुदायिक वन (संरक्षित क्षेत्र समेत) को विस्तारबाट घुमन्ते चरिचरण जीवनशैली अंगिकार गर्ने आदिवासी जनजातीको जीविकोपर्जनमा परेको प्रभाव
- परम्परागत/पुर्ख्यौली ज्ञानमा ह्रास
- सामाजिक अस्णुता र समन्वयमा फितलोपना

११. प्रथाजनित वन चरण व्यबस्थापनको रेड प्लस को सन्दर्भमा समष्टिगत प्रभाबकारीता

वन बिनाश र वनको हैसियत कम गर्नमा अहम भुमिका निर्बाह गरिरहेका कारकतत्वलाई सम्बोधन गर्न र व्यबस्थापन गर्न वा न्युनिकरण गर्न प्रथाजनित वन र चरण व्यबस्थापन प्रणालीले वा निर्बाह गरिरहेका छन् भनि बुझ्नको खातिर तिन प्रमुख सुचाङ्क (सान्दर्भिकता, दक्षता र प्रभाबकारीता) छनौट गरि नेपालमा नेपालमा प्रचलनमा आएका, अभिलेख गरिएका प्रथाजनित वन र चरण व्यबस्थापनको समष्टिगत प्रभाबकारीताको गुणत्मक एबं संख्यात्मक हिसाबले लेखाजोखा तथा मुल्यांकन गर्ने प्रयत्न गरिएको छ । यसरी मुल्यांकन गर्दा रेड प्लस रणनिती (मस्यौदा) २०१५ ले पहिचान भएका आधारभुत वन बिकास र वनको हैसियत कम गर्ने कारक तत्व मध्ये वन डढेलो र अनियन्त्रित, अति चरिचरणलाई ब्यबस्थीत गर्न वा न्युनिकरण गर्न सबैभन्दा बढि प्रभाबकारी देखिन्छन् । त्यसैगरि यी प्रथाजनित प्रणाली वर्तमान वन पैदावारको सदुपयोगको दिगोपन सुश्चित गर्न र कमजोर वन र चरण ब्यबस्थापन गर्नमा मध्यम छन् र बाकी वन बिनाशका कारक तत्व जस्तैः जथाभाबी/अनियोजित भौतिक पुर्वाधार बिकास, शहरीकरण र बसोबास, वन अतिक्रमण र मिचाह प्रजातीको आक्रमण नियन्त्रण गर्न वा ब्यबस्थापन गर्न प्रथाजनित वन र चरण ब्यबस्थापन पद्धति वर्तमान नेपालको राजनैतिक, सामाजिक एबं आर्थिक परिप्रेक्ष र प्रथाजनित संस्थाको सांगठनिक एबं प्राबिधिक भन्दा बाहिरको बिषय भएको हुदाँ त्यति प्रभाबकारी हुन सक्दैन भन्ने निचोड प्रतिबेदनले प्रस्तुत गरेको छ ।

१२. रेड प्लसका लागि प्राथमिकता प्राप्त कार्यक्रमको पहिचान

बिभिन्न सुचाङ्क जस्तै वन बिनाश पीत सम्देदनसिल क्षेत्र, प्राकृतिक पारिस्थितिक प्रणालीमा धनी वन क्षेत्र, रेड प्लस कार्यक्रममा आबद्ध हुदाँ तुलनात्मक लाभलिन सकिने क्षेत्र र प्रथाजनित प्रणालीका बिशिष्टता, र रैड प्लसमा यनीहरको प्रभावकारित, राष्ट्रिय र अन्तराष्ट्रिय स्तरमा नेपाल सरकारले गरेका प्रतिबद्धता आदीलाई आधारमानी भु वन तथा चरण ब्यबस्थापन प्रणालीलाई रेड प्लसका लागि देहायका दूइवटा कार्यक्रमलाई प्राथमिकता प्राप्त कार्यक्रमको रुपमा सिफारिस गरिएको छ । यी दुबै प्रणालीको संरक्षण सम्बर्धन र बिकासका लागी आबश्यक ६ वटा बिभिन्न रणनितीहरु र यी कार्यन्वयन गरिएपछि प्राप्त हुनसक्ने रेड प्लसका लाभ समेतको पुष्ट्याई समेत प्रतिबेदनले प्रस्तुत गरेको छ ।

१. उच्च पहाडी र हिमाली क्षेत्रको घुमन्ते पशुपालन पद्धति

२. परम्परागत खोरिया/भस्मे खेती प्रणाली (पुर्वाञ्चलको किरांत क्षेत्र/किपट क्षेत्र र चेपाङ प्रजाती थाकथलो क्षेत्र)

१३. प्रस्तावित रणनीकि कार्यक्रमः भावि कार्यदिशा

१३.१ अवधारणा/निर्देशित मार्गदर्शन

क.अधिकारमुखी अवधारण: यस अवधारणाले आदिवासी जनजाती समुदायको रेड प्लस सम्बन्धी कार्यक्रमका प्रत्येक चरणमा सक्रिय सहभागिता रहनुपर्दछ भनि संयुक्त राष्ट्र संघले रेड प्लस सम्बन्धी अखख्तियार गरेका विभिन्न प्रावधान जस्तै अग्रीम जानकारी सहितको मञ्जुरी आदिको सुनिश्चितता प्रदान गर्न अहम भूमिका प्रदान गर्दछ । यस अवधारणाले आदिवासी जनजातीको थातथलोमा रहेका प्राकृतिक सम्दपदाको स्वामीत्व, सम्वन्धी हक र अधिकार र वन र चरणको दिगो व्यवस्थापनको प्रभावकारी कार्यान्वयनका लागि अपरिहार्य हुन्छन् भनी वकालत गर्दछ ।

ख.**वायोकल्चरल अवधारणा:** यस अवधारणाले आदिवासी जनजाती समुदायको जीवनशैली र वातावरण वीचको अन्तर सम्बन्धलाई राम्ररी बुझ्न मार्गदर्शन उपलब्ध गराउँछ । यस अवधारणाले आदिवासी जनजाती समुदायमा अन्तरनिहित अपार पुर्ख्यौली ज्ञानको भण्डार उच्च मूल्याङ्कन गर्दै यसको समय सापेक्षरुपमा परिमार्जन गरि प्रयोगमा ल्याउनमा जोड दिन्छ ।

ग.गैर बजारीकरण अवधारणा:

यस अवधारणाले वन स्रोत जस्ता प्राकृतिक सम्पदाबाट प्राप्त हुने वजारी वस्तु (इकानोमिक गुडस)मात्र आर्थिक लेखाजोखा गर्ने परम्पराभन्द अगाडी बढदै वन स्रोत वा परिस्थितिकिय प्रणाल ीका वजारी वस्तु (जसलाई पैसामा रुपान्तर सजिलै गर्न सकिन्छ) को अलवा अन्य सेवा र सुविधालाइ पनि, जस्तै जैविक विविधता, जीवन सहयोगी सेवा र वायुमण्डल सुध्दिकरया, सँस्कतिक धरोहरको संररुष्क्षण आदि बरोबर महत्व दिइनु पर्नेमा जोड दिन्छ । सबैभन्दा महत्वपूर्ण पक्ष यस अवधारणाले वन श्रोत जस्ता प्राकृतिक सम्पदाको बजारीकरण वा व्यवसायिक कारणले आदिवासी जनजाती समुदायको आफ्नो पुर्ख्यौली क्षेत्र माथीको सार्वभौमिकता र वन पैदावर माथीको पहुंच, हक र अधिकारमा समेत ह्रास ल्याई विन्यास निम्त्याउँछ भनि जोडदार अपिल गर्दछ ।

घ.न्योचित वितरण प्रणाली अवधारणा:

यस अवधारणाले आदिवासी जनजातीले वन चरण आदि प्राकृतिक सम्पदाको संरस्क्षण, संवर्धन वा जगेर्णा गर्न र उनीहरुको जीविकोपार्जन सुधार एवं सम्वृद्धिमा के कस्तो योगदान पुऱ्याएका छन् वा पुऱ्याउन सक्छन्, सो को अधारमा दिगो वन श्रोत व्यवस्थापन र यसबाट प्राप्त हुने लाभांसको बाँडफाँड विभिन्न किसिमका सरोकारवाला वीच पारदर्शि, प्रजातान्त्रिक, समानतामुलक ढंगबाट बितरण नीती वा प्रकृया तर्जुमा एव कार्यन्वयन गर्न मार्गदर्शन प्रदान गर्दछ ।

१३.२ प्रस्तावित रणनिति कार्यक्रम/कार्यदिशा

१. परम्परागत ज्ञान/ प्रथाजनित ज्ञान, प्रथाजनित भुमि वन र चरण ब्यबस्थापन सुहाउँदो एबं अनुकुल सहयोगी नीती निमार्ण गरि काम गर्ने सहज वाताबरणको सिर्जना गर्ने ।

- आदिबासी जनजाती समुदायको भुमि, वन र चरण ब्यबस्थापनका प्रथाजनित प्रथालाई कानुनत: स्विकृत दिने र आदर प्रदान गर्ने ।
- हरित कार्वनको स्वामित्व र लाभ संग सम्वन्धी हक अधिकार को कानुनी अस्पष्टता हटाउने

२. नाङ्गापाखा, हैसियत बिग्रिएको वनको पुनरुत्थान गर्ने र सम्पुर्ण भूमीको (कृषि, वन, र चरण) अधिकतम उपयोग एव तुलानात्मक लाभ प्रप्तिको लागि सधन सहभागितामुलक भुमी व्यवस्थापन प्रणाली अवलम्वन गर्ने

३. रैड प्लस लाभ बितरण प्रणाली आदिवासी जनजाती समुदायले रैड प्लसका लाभ सरल,सुलभ ढगवाट निरन्तररुपमा प्राप्त गर्न न्यायोचित लाभ बितरण सम्वन्धि कानुनी एव संस्थागत संरचनाको सुनिश्चतता प्रदान गर्ने

४. प्राकृतिक सम्पदा (कृषि, वन,, चरण र जलाधार) व्यवस्थापन पक्षसंग आवद्ध सरकारी, गैह्र सरकारी र प्रथाजनित, संघसंस्था उपभोक्ता र सरोकारवालाहरुको संस्थागत एवं मानविय श्रोतको अभिवृद्धि गर्ने ।

५. बहुसरोकारवाला एव सहकार्य योजना तर्जुमा एवं कार्यन्वयनको अवधारणा तथा सिद्धान्तलाई बढावा दिने ।

६.प्रथाजनित ज्ञान, प्राकृतिक सम्पदा व्यवस्थापन प्रणालीको खोज, अनुसन्धान गरि तीनीहरुलाई वर्तमान आधुनिक बिज्ञानसंग संयोजन गर्न अनुसन्धान तथा बिकासकायएक्मलाई बढावा दिने ।

Executive Summary

The report is about customary practices of managing forest resources of Nepal**.** The overall objective of the is to review and document customary practices of managing forest and pasture resources in Nepal in order to identify optimally suitable customary forest and pasture management categories, approaches and structures to be included in REDD+ program in Nepal. To this end, this report has drawn on REDD + related published or unpublished academic literatures', official documents and study reports, of a number of organisations (National and Non-government organisations institutions), scholars, researchers and the findings of the stakeholder consultation and field survey. Based on review of lieratuers and findings from the field survey a set of strategic options or action as ways forwards for developing indigenous friendly REDD + policy instruments as well as designing and implementing REDD + plans and programmes

At first the report discusses in brief the context, objectives of the study and overview of socio-economic and biophysical features of the country followed by overall socio-economic situation of indigenous people in the country. Theoretical aspects of land/resource tenure, management regimes has been discussed along with a brief history of land/resource tenure system of Nepal for the better understanding of the concept of the customary laws, land tenure and their implication in natural resource management in general and REDD+ in particular. Covering the major physiographic regions of the country, status and trends of a number of indigenous land, forests and pastures management systems over three major political era (before 1957; 1957-1990 and after 1990) including existing national and international policy and legal instrument related to forests/pasture and climate change have been discussed. Assessing the overall effects of policies changes over the various period of time on forests and pasture and livelihoods of the indigenous and local people and overall relevancy, efficiency and effectiveness of indigenous forests and pastureland management in response to address drivers of deforestation and forest degradation have been discussed and analysed. Based on the overall assessment socio-economic features, status of indigenous forests and pasture management systems and national and international policy and legal instruments related to Indigenous people, a set of priority programme/activities to be promoted for REDD+ development has been explored. Finally, a set of strategic options or action as ways forwards for developing indigenous friendly RED + policy instruments as well as designing and implementing REDD + plans and programmes

Synopsis of the report

1. Defining indigenous people and local people

Defining indigenous people and local people is a complex and highly debated issue in the contemporary world. GoN (2002) defines indigenous nationalities as ***"those ethnic groups or communities, who have their own mother tongue and traditional customs, different cultural identity, distinct social structure and written or oral history".*** According to the United Nations (2004) "indigenous communities, peoples and nations are those which, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing on those territories, or parts of them. However, for the purposes of this report the term Indigenous communities refers to both indigenous people and forest dependent local people and the word indigenous people and indigenous communities is interchangeably used.

2. Indigenous knowledge, customary laws and practices of natural resource (land/forests/pasture) management

indigenous knowledge as defined by the Intergovernmental Platform on Biodiversity and Ecosystem Services is *a cumulative body of knowledge, practice and belief evolving by adaptive processes and handed down through the generations by cultural transmission about the relationship of living beings (including humans) with one another and with their environment.* Strong ethics, and deep respect to nature guided by egalitarian philosophy of development, strong belief in coexistence and coproduction,

bio-cultural approach of land resource management (land/forests/pastures), strong and robust social institutions enriched with rules and regulation (are some of the major features of indigenous or customary knowledge system. Customary law is the body of rules which a particular community in a given locality follows. The legitimacy of which is founded on tradition or rules and a set of norms, values and practices that have been applied from time immemorial in a locality or among groups of people. Derived from customary laws indigenous/customary land/resource management practices in a locality or among a group of community refers to legal codes of governing a community and are always guided by principles of trustship and collective actions. These social systems are highly egalitarian, dynamic and responsive in nature.

3. Indigenous forest and Pasture Management practices of Nepal

More than three and half dozens of indigenous land resources (land/forests and pasture) including their indigenous knowledge of use of forest resources and biodiversity over three political periods (before, 1957, between 1957 and 1990 and after 1990) covering the Tarai, the Hills and the Mountains have been documented, and assessed Major features of customary practices of forest and pasture resource management of Nepal are:

i. Area/territory

Majority of communities in the hills and mountains of Nepal in the past had their own communal system of land tenures. The area or territory governed by a particular village or community under each of these systems is recognised, defined and their boundaries delineated/demarcated by natural features such as ridges, rivers, mostly the boundary of a watershed or sub watershed

ii. Rights to use

Rights to use forests and pasture resources are complex and vary across the regions villages to villages, mostly guided by their purpose of using the resources (wood or grazing or strict protection/conservation), geographical location, resource availability and lifestyles of the dominant population. The rights are guarded by delimiting the forests/grazing areas with well-defined rights of households to a particular forests/ grazing areas.

iii. Rules and Regulations

The indigenous forests and pasture management systems have a number of well defined rules, which are both formal (*de jure*) and informal *(de fecto*)-depending on the local communities and the local conditions. The rules, promulgated on the basis of consensus, are generally imposed to ensure a social welfare, harmony and sustaining the productivity of forests and pastures and are dynamic in nature.

iv. Indigenous/customary institutions of lands (land forests and pasture) management

Similar to the other countries of the world, there are dozens of indigenous institutions specific to different caste and ethnic groups, locations as well as specific to different purposes in Nepal. Some of the major customary institution of Nepal are:

i. The Kipat or Subba institution of forest and pasture management
ii. Jimmawal and Mukhiyas Institution
iii. The Shingginawa institution of the Khumbu region
iv. Mukhiya, Nora/Rokaya instituions in Karnali region
v. The Gumba system in Pugmo Village Dolpa
vi. Traditional village councils in Nar and Phu Village of Upper Manang

4. National and International policy instrument related to IPs and their customary laws

National and international policy and legal instruments have respected, recognised and guaranteed the indigenous knowledge and Indigenous natural management system of Indigenous communities. All

REDD+ policy and legal document from R-PP draft REDD+ Strategy (2015) has strongly recommended addressing the issues of indigenous people as guided by the international obligations and commitments.

5. Effects of change in resource regimes on indigenous people and forests/pasture resources

The overall effects of changes in land and forest policy and tenure system on Indigenous Forest and pasture Management (IPPM) systems focussing on livelihoods, and resource conservation from Indigenous people and REDD+ perspective are:

- Impacts on forests and biodiversity conservation
- Impact on selected indigenous peoples
- Impacts Community based Forestry on livelihoods of Transhumance herders
- Erosion of indigenous knowledge
- Weakening Social Relationship and Cohesion

6. Overall effectiveness (relevancy, efficiency and effectiveness) of IFPM practices of Nepal

Using relevancy, efficiency and effectiveness of IFPM system as the major criteria/indicators the IFPMs systems are assessed to address the various drivers of deforestation and forest degradation. The IFPM systems has the highest effeteness to address Forest fire and Over grazing/uncontrolled grazing; medium effectiveness to address Unsustainable utilization of forest products, and Weak Forest Management practices; and the least effeteness to address Unplanned infrastructure development, Urbanization and resettlement, Encroachment, Expansion of invasive species, and Mining /excavation (sand, boulders, stones).

7. Priority Area, and Strategic Actions for REDD+

Several criteria are considered to identify the most priority areas for REDD+ intervention. They are: the area with high risks of deforestation and degradation, area with high ecosystem services, opportunity costs and benefits of REDD+, and uniqueness of the practices. Based on these criteria, two customary practices of land resources (land, forests and pasture): *Indigenous Transhumance Pasture/livestock Management System of the High Altitude Areas*; and Traditional *Khoriya/bhasme Agricultural Practices or the Shifting Cultivation* have been recommended as the most priority areas.

8. Ways Forward: Strategic Options

The following strategic options have been suggested as priority options of REDD+ related to indigenous knowledge and customary practices of managing forests and pasture resources.

i. Develop supportive policy environment conducive to indigenous knowledge and customary practices of land, forest and pasture management.
    a. Recognise and respect Indigenous/customary lands, forests and pasture resources management system/practice
    b. Clarify carbon ownership and benefits forded+ Activities
ii. Rehabilitate degraded areas and intensify optimum management practices of land forests and pasture resources
iii. Ensure REDD+ benefits flow to indigenous communities
iv. Develop human resource capacities and strengthen institutional capabilities
v. Promote multi-stakeholder and collaborative approaches of planning and implementation
vi. Promote research and study of indigenous knowledge and customary practices and integrate with modern science of forestry and pasture management

Abbreviations

AIJ	Association of Indigenous Journalists
AIPP	Asia Indigenous Peoples' Pact
AIWN	Asian Indigenous Women's Network
BZ	Buffer Zone
CBOs	Community Based Organisations
CBS	CentralBureau of Statistics
CCB	Climate, Community, and Biodiversity standards
CDM	Clean Development Mechanism
CF	Community Forest/ry
CFUG/s	Community Forest User Group/s
CIFOR	Center for International Forestry Research
COP	Conference of the Parties
DADO	District Agriculture Development Office(s)
DD	Deforestation and Forest Degradation
DDC	District Development Committee
DFCC	District Forestry Coordination Committee
DFO	District Forest Office/er
DFRS	Department of Forest Research and Survey
DLSO	District Livestock Service Office
DNPWC	Department of National Parks and Wildlife Conservation
DOA	Department of Agriculture
DoF	Department of Forests
DoLS	Department of Livestock Services
DPR	Department of Plan Resources
DPRO	District Plant Resources Office
DSCO	District Soil Conservation Office/Officer
DSCWM	Department of Soil Conservation and Watershed Management
FAO	Food and Agriculture organisation of the United Nations
FCFP	World Bank’s Forest Carbon Partnership Facility
FCPF	Forest Carbon Partnership Facility
FECOFUN	Federation of Community Forest Users Nepal
FUGCs	Forest User Group Committees
FUGs	Forest User Groups

GCF	Governor’s Climate and Forests Task Force
GDP	Gross Domestic Product
GHG	Green House Gas
GHG	Green House Gas
GMF	Government Managed Forests
GoN	Government of Nepal
ha	hectare
HH	Household
ICIMOD	International Centre for Integrated Mountain Development
IFAD	International Fund for Agriculture Development
IFPM	Indigenous Forest and Pasture Management
IGA	Income Generating Activities
IK	Indigenous Knowledge
ILO	International Labour Organisation
IMF	International Monetary Fund
INGO/s	International Non-Governmental Organization/s
IPCC	Intergovernmental Panel on Climate Change
IPCC	Intergovernmental Panel on Climate Change
IPCCA	Indigenous People’s Bio-cultural Climate Change Assessment Initiative
IPPFCC	Indigenous Peoples’ Partnership on Forest Climate Change
IPs	Indigenous Peoples
IWGIA	Indigenous Working Group for Indigenous Affairs
kg	Kilograms
km	Kilometres
LAHRNIP	Lawyers for Human Rights of Nepal's Indigenous Peoples
LCDS	Low Carbon Development Strategy
MRV	Measurement, Reporting and Verification
NNIW	National Network of Indigenous Women
REDD+	Reducing Emissions from Deforestation and forest Degradation
SISA	System of Incentives for Environmental Services
UN	United Nations
UNDP	United Nations Development Program
UNDRIP	United Nations Declaration on Rights of Indigenous Peoples
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change

UNPFII	United Nations Permanent Forum on Indigenous Issues
USAID	United States Agency for International Development
VCS	Verified Carbon Standard
LF/LHF	Leasehold Forests
LFUGs	Leasehold Forest User Groups
LIP	Livelihood Improvement Plan
LRMP	Land Resource Mapping Project
LSGA	Local Self Governance Act
m	meter
M&E	Monitoring and Evaluation
MAPs	Medicinal and Aromatic Plants
MoAC	Ministry of Agriculture and Cooperatives
MoE	Ministry of Environment
MoFSC	Ministry of Forests and Soil Conservation
MPFS	Master Plan for the Forestry Sector
MT	Metric Tonne
NAPA	National Adaptation Program of Action
NBS	Nepal Biodiversity Strategy
NBSIP	Nepal biodiversity Implementation Plan
NEFIN	Nepal Federation of Indigenous Nationalities
NGO	Non-governmental Organisation
NNIW	National Network of Indigenous Women
REDD	Reducing Emission from Deforestation and Forest Degradation
RL	Rangeland
R-PP	REDD+ Readiness Preparation Proposal
RWG	REDD+ Working Group

1. Section one: Introduction

1.1. Background and Rational

The management of natural resources is a challenging task owing to the complexity ofthe resources and the benefits they provide. The complexities havefurther been exacerbated from the global climate change, which has not only threatened the livelihoods of many poor but also the self rejuvenating capacity of natural resources where the forests being one of the major reservoir of carbon play an important role. However, forests of the world, particularly in developing countries, are depleting at an alarming rate both in terms of areas and quality (productivity[1] (FAO, 2015). Of the various factors of deforestaion and forest degrdationin (DD) developing countries unsustainable landuse practice and insecure land tenure contributing more DD and mission of green house gases. The global communities have agreed to provide a numbers of initiatives to developing countries to enhance carbon stock or reduce carbon emission through conservation, management and wise use of natural resources. Of them Reducing Deforestation and Forest degradation plus (REDD+) initiativeis one which not only provides incentive to reduce green house gases but also equally contributes to the sustainable development of the country (REDD Cell 2014).

Nepal has already agreed to go for REDD plus initiatives. REDD+ Readiness Preparation Proposal (R-PP) has been prepared with the technical and financial support from the Forest Carbon Partnership Facility (FCPF) of the World Bank. The implementation of the R-PP is being coordinated by the REDD-Forestry and Climate Change Cell under the Ministry of Forest and Soil Conservation (MoFSC)is in place. A national REDD+ Working Group (RWG),representing multiple stakeholders including other government institutions, NGOs, INGOs, Civil Society Organizations and forest communities' representatives, has also been established at the national level to support the REDD Forestry and Climate Change Cell (REDD Cell, 2014).

The cultural diversity of Nepal has also made the country rich in customary land use practices. A number of customary natural resources management practices (land, forests, water and pasture) are found spread over throughout the country from Tarai to alpine pasture devoid of permanent human settlement. These practices are centaury old but are dynamic in nature. They have been continuously built up and enriched in response to the changed socio-economic and environmental context and are highly governed by the law of nature, therefore, are recognised highly sustainable (UN, 2007).These practices should be properly recognized, appreciated and brought within the national REDD+ framework (REDD Cell, 2014). The customary practices are crucial for the success of REDD+ program in Nepal. A comprehensive assessment of the customary practices and institutions involved in forest and land resource management is necessary before identifying which and how the forest categories, customary practices and institutions could/should be included in the REDD+ program. To end this the REDD Forestry and Climate change Cell of the Ministry and Forest Soil Conservation (MFSC) has commissioned anational consultantfor the studywith the primary objective of review and document customary practices of managing forest and pasture resources in Nepal (since 1957) alongwith the expected output of production of a comprehensive report on customary practices of forest and pasture resources and their potential for an effective and inclusive national REDD+ program in Nepal.

1In 1990 the world had 4 128 million ha of forest; by2015 this area has decreased to 3 999 million ha. this is a change from 31.6 percent of global land area in 1990to 30.6 percent1in 2015 representingan annual rate of –0.13 percent and a total area about the size of South Africa (FAO, 2015)

In this regard, this report presents a comprehensive report on customary practices of forest and pasture resources and their potential for an effective and inclusive national REDD+ program in Nepal .

1.2. Objective and output of the study

As per the Tor of the study (Annex I), the primary objective of the proposed study is to review and document customary practices of managing forest and pasture resources in Nepal in order to identify optimally suitable customary forest and pasture management categories, approaches and structures to be included in REDD+ program in Nepal. The specific objectives are:

i. To review and describe past (since 1957) and present customary forest and pasture management practices in Nepal;

ii. To assess relevant national policies and laws in relation to these customary practices; and

iii. To prioritize communal forest and pasture management categories and practices for their potential in national REDD+ program.

Expected output

The overall output of the study is the production of a comprehensive report on customary practices of forest and pasture resources and their potential for an effective and inclusive national REDD+ program in Nepal consisting of:

i. An analysis of customary practices of managing forests and pasture land in Nepal;

ii. Analysis of customary institutions and strategies and their links with government policies, laws and agencies;

iii. Identification of suitable customary practices and institutions for an inclusive REDD+ program;

iv. A concrete set of recommendations and a clear work plan for including potential customary practices in Nepal's REDD+ program.

1.3. Limitations of the study

Some of the major limitations of the study include:

- Limited resources, including time, were the major constraints to conduct this study Because of these, remote districts and areas rich in indigenous forests/pasture management systems particularly Khambu region of Sagarmatha, Mustang, Manang, Humla and Dolpa could not be visited; therefore, documentation of indigenous forests and pasture management system of these areas are mainly based on secondary sources;
- Information of indigenous system of forests and pasture management in Tarai region is almost absent , limited resources also restrained to invest much time for in depth research/field work and documentation of indigenous forest and pasture management in these areas, however, efforts have been made to document indigenous knowledge of major indigenous nationalities of Tarai region on use of genetic resources (biodiversity) and use of other natural resources to the extent possible
- The information for this report was primarily derived from the review of secondary sources. Efforts, however, were made to validate and fill the information gaps through participatory appraisal techniques such as focus group discussion, key informant survey and stakeholder consultations ;
- Findings of the study could be considered as baseline information or checklists and indicators of indentifying best practices of forest and pastureland management required for designing and developing the way forward for national REDD strategy from the perspective of indigenous people

1.4. Structure of the report

The report consists of six major sections. The first section presents in brief the introductory part (brief context and rational of the study and objective of the report). The second section presents a brief summary of various methodologies adopted while preparing the report. Section three presents the overview of customary practices of managing forests and pasture land in Nepal and analyses them in the context of contemporary government policies, laws and agencies. The fourth section discuses the effectiveness and relevance of customary practices and institutions for and inclusive REDD+ programme. Section five identifies priority programme/activities to be promoted and finally a set of recommendations along with a self explanatory work plan for including potential customary practices in Nepal's REDD+ program is presented in the sixth section.

2. Section two: Study Methodology

2.1. Overall Study process and methodology

Theoretical framework: The study has adopted the theoretical framework described by Emeka E. Obioha, (2008). It implies that:

- Customary land law is connected in one way or another with other social structures;
- There is eternal mutability of all elements of the social system in a given landscape ;
- Social structure (customary land law) are dynamics in nature;
- Process of change or evolution the entire social mechanism is not lost rather the whole system could is transformed to a new stage of development comprising the inherent characteristics or elements of previous system

Underlying principles:

The study was based on the following underlying principles. They included:

- Be consultative and participatory focussed on indigenous people and their customary resource management practices;
- Be site or context specific and contribute to REDD plus initiatives;
- Be nationally relevant and inform policy dialogue

Overall Methodological approach

Overall methodological approaches employed by the study included:

I. Employing Participatory and Consultative Methods

The study had adopted a strategic participatory approach (SPA) and engage with various organisations and stakeholders from central level to district level covering government, NGOs/INGOs community based forestry organization networks, indigenous or customary institutions and their networks such as NIFIN, development partners and all other relevant stakeholders and authorities involved on social empowerment and economic enhancement of indigenous people, the sustainable management of land resources (land, forests, and pasture) and climate change initiatives.

II. Adaptation of Conflict Sensitive Approach

Conflict sensitive resource management approach (an approach that helps minimize or avoid conflicts among the resources users and creates an environment to create harmony in the society to promote peace through addressing structural causes of conflicts in the society) was adopted particularly in discussion and interacting meeting with various stakeholders at the districts and users level during field survey period.

III. Use of Secondary Sources of Information

Considering the timeframe and resource given to the study required information was derived largely from the review of the available relevant publications, published or unpublished , policy and legal documents on land forests and pastures, study reports of the government, REDD IC, UN agencies and projects, programmes related to customary landuse practices or indigenous natural resources management systems

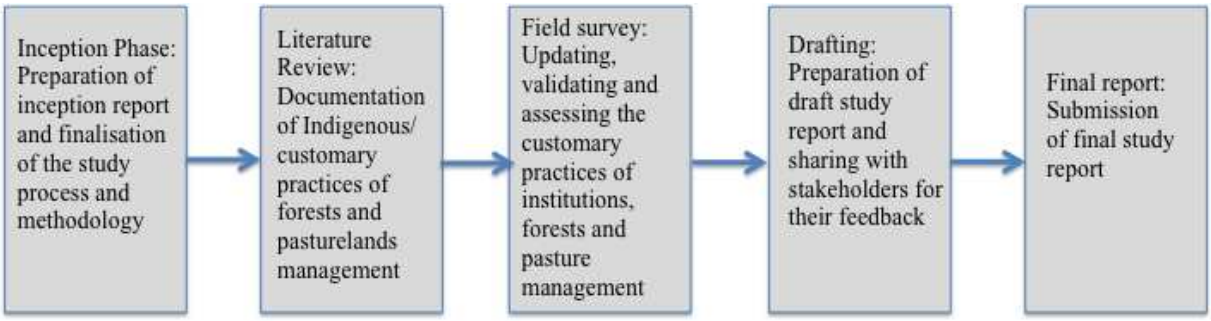
IV Field survey: Updating and validating information from secondary sources

In order to refine/update and validate the information collected from the secondary sources and also capture the perception, and interests of indigenous communities and their neighbours and dynamics of change in customary practices brought about by changed socio-political, economic and climate change context a field visits of some selected districts representing indigenous communities and physiographic regions was conducted

Methodological Framework

The study followed various participatory methods and processes that included the preparation of inception report, stakeholder consultations, literature reviews and listing of customary practices, and a short field survey focussed on validation of information collected through literature review updating and validating and data analysis. Figure 1 presents the process involved to conduct this study and prepare the study report.

Figure 1: Study process/methodology



2.2. Review of the secondary information

A number of literature (study reports, project documents, forest management plans, district profile, annual reports etc) related to indigenous peoples and their customarypractices of managing forests and pasture resources , climate change and livelihoods, published and unpublished by various government, projects, organizationsand international agencies were collected and reviewed.Similarly, climate change policy, forestry sector policies, strategies, acts and regulations of the forestry sector and other sectoral guidelines were also reviewed..

The desk review exercise was primarily focussed to find answers or gaps on the following issues particularly from customary forests and pasture management practices and REDD plus initiatives point of view .

- What is customary forest and pasture management practices and what are their main features?
- What major customary forest and pasture management institutions are/were functional in Nepal and what is their current status?;
- What is the extent and trends of changes in customary land use practices? what are/were the determinants of changes?
- What is the level of understanding of customary forest and pasture management practices among stakeholders and what is their perception about indigenous communities and their customary practices?
- How inclusive are the existing forest and pasture management policy and legal frameworks of the government from customary laws or practices perspectives?

- How efficient and relevant are the customary forest and pasture management institutions and their strategies in terms gender and social inclusion, governance and REDD + initiatives?

2.3. Consultations and meetings with concerned stakeholders

A number of consultations and meetings were organized with the concerned stakeholders. The objectives and process of study were shared and their opinions, expectations were obtained to refine the methodologies. The consultations at central and district level were focused on understanding their perception about the scope of indigenous knowledge and customary practices of forests and pasture management in line with REDD+ initiative. A total of over 75 stakeholders including officials from the government organisations (forestry and livestock sector), representatives of Non-government organisations (NGOs), indigenous people, forest users group and their network, livestock farmers etc were consulted during the entire process of the study (Annex IV).

I. Meetings and presentation at REDD Forestry and Climate Change Cell

Altogether three interaction meetings cum workshops were held at the centre with concerned officials from REDD Forestry and Climate Change Implementation Centre of MFSC. The first meetings were focused on sharing and refining study methodologies and field planning. The comments and suggestions received during the consultations were incorporated and a revised methodology and work plan were prepared. In the second meeting, preliminary draft study report was presented and discussed. Finally a one day workshop of central level stakeholders consisting representatives from the ministry, departments, networks and associations of indigenous nationalities and forests users groups was organized for in depth discussion and final comments and suggestions on the study report.

II. Consultations with District Stakeholders

A total of 10 meetings with were held with the district stakeholders representingdistrict Forests Livestock Services officials, Federation of Community Forestry Users Nepal (FECOFUN) of the sample districts to share and discuss in depth the objective of the study, assess the status and trends of various types of indigenous/customary practices, and also obtain their overall perceptions, and suggestions on the study.

2.3.1. Field verification

In order to assess the status and trends of various customary practices documented through the literature review and also to obtain perceptions and feedback on the overall objectives and outputs of the study a total of 10 districts representing from Tarai to High mountain regions were selected for field survey (Table 2.1).Various PRA Tools were used to validate the status of various customary practices listed from the secondary sources as discussed earlier, and also to perception of various stakeholders from government officials to indigenous nationalitiesabout the implication of REDD+ initiatives in customary practices.

Table 2.1: Sample districts

Physiographic regions	**Development Region**				
	EDR	CDR	WDR	MWDR	FWDR
Tarai	Morang&Jhapa		Nawalparasi		Kailali
Inner Trai/Chure		Makwanpur&Chitwan		Dang	

Midhills	Sankhuwasabha &Panchthar		Myagdi&Baglung		Dadeldhuhura
High Altitude (Above 2200-2300 m asl)		Sindhupalchowk, & Dolkha		Jumla &Kalikot	

I. Focus Group Discussions

Altogether 10 FGDs, at elast one in each sample study districts, were organized. FGDs were conducted among diverse groups representing gender and caste/ethnicity composition and wellbeing. Representatives of the local community groups, village leaders, social workers, with special focus on indigenous nationalities, women and poor were invited for FGDs. A separate checklist outlining the major issues to be discussed in the FGDs was prepared (Annex II) and was moderated by the trained research assistants at each sample sites.

II. Key Informants Survey (KIS)

A total of 20 Key Informants representing GOs,, Indigenous and Local communities, NGOs/CBOs were identified and interviewed. To facilitate the interview, a separate checklist of semi-structured questionnaire was developed and used. (Annex II**).**

VI. Transect walk and direct field observation/visits

To verify the information collected from various sources including FGD and KIs, more than 20 sites/forests (representing major forests types, and lifestyles of indigenous people, and management practices field observation/transect walk were made. The visits focused on assessing and acquiring hands on knowledge on effectiveness/implicationof policy changes on customary practices on forests/pastures and local livelihoods

2.4. Assessing the Effectiveness of Customary Practices

Both primary and secondary sources discussed earlier were used to assess the effectiveness of indigenous system of forest and pasture management. Most relevant (from the study perspective) underlying and proximate causes of Deforestation and forest degradation (DD) as identified by REDD+ Strategy Report 2015 (Draft) of the REDD Implementation Centre of MFSC were taken asthe indicators of assessing the effectiveness of indigenous management systems towards reducing the GHG emission and mitigating the impacts of climate change.

2.5. Prioritising customary practices relevant to REDD+ programme

All the information collected from KIs, FGDs and field observation were compiled and analyzed, shared with REDD IC and other relevant stakeholders in interaction meeting organised by REDD IC. Based on these information as well as exploring potential benefits having better comparative advantages from indigenous forests/pasture management perspective a priority lists of customary practices of forests and pasture management relevant to REDD+ initiative were developed.

2.5.1.1. Data Analysis

Most of the data obtained were qualitative, and hence an interpretive approach for data analysis was used. The descriptive information collected during the interviews was organized by content and interpreted accordingly.

2.5.1.2. Preparation of draft study report and Stakeholders Workshops

Based on the literature review, field survey and feedbacks from the district stakeholders a draft report has been prepared. The draft report was presented on a one day national multi-stakeholders workshop organised by the client and after incorporating relevant feedback/comments from the stakeholders final study report was prepared

3. Section Three: Customary Practices of Managing Forests and Pasturelands in Nepal

3.1. Indigenous People and Natural Resources

Historically, indigenous people and other local people (forest dewllers) have a very special relationship with natural resources, particularly with natural resources-land, forests and pastures. These natural resources are not only the basis of their livelihoods, but are also interlinked with their cosmology and life systems. These resources have deeper cultural meanings. These people derive their sense of identity by living in certain areas and using location specific natural resources. The ownership of natural resources, especially land/forests, has always symbolized wealth, power, social prestige and security for most of the indigenous people (Caplan, 1991, 2000; Daniggels, 1997; Baral, 2008; Sherpa *et al*, 2009).

There exists an inextricable link between nature, indigenous people and local communities, and their livelihoods. For example: *Rautes* indigenous to Mid-western and Far-western region of Nepal still enjoy hunting and gathering nomadic life styles (Bhattachan 2002, CSVFN, 2011). They make wooden products for domestic use such as bowls, plates box, and drums etc and barter thewith cerealfood crops or sell them to meet their daily needs (Sneha, 2012). *Bankariyas and Kusundiyas* have abandoned their hunting and gathering life styles but largely depend on forest resources. Similarly, *Chepang* lifestyle involves shifting cultivation.About 80% of the indigenous people are 'marginal cultivators' (with less than 1 acre) or small cultivators (having 1-2 acres) (IIDS 2002) producing food just sufficient for less than 3-6 months. To supplement their diet, they eitherrely on edible roots of wild forest vegetables or sell medicinal and aromatic plants (MAPS), non timber forest products (NTFPs) or engage in wage labour.Wild tubers such as *Dioscorea Spp* are still the main staple food of most of the *Chepangs.* They consume more than 30 varieties of wild edible plants as a substitute for (agriculturally produced) food (Baral, 2009, Aryal and Kerchoff, 2008). Similarly, transhumance pastorilism (yak, sheep and mountain goat) is a lifestyle and an intrinsic part of the identity of high mountain indigenous nationalities the *Sherpas, Jirels* and *Thamis*.Bamboobased economic activities (manufacturing of mats, baskets, households accessories and implements)are intricate part of major occupation of *Paharis, Rais, Limbus, Tamangs, Gurungs*, Magars and Sarkis in the Hills and *Doms,Tharus, Rajbamsis* and *Danuwars* in the Tarai region.Furthermore, indigenous people like *Chepangs,* need their own traditional land to bury dead bodies. Similarly, *Bote, Majhis* and *Rajis* worship fish and boats using certain plants from the forest. These examples show the inextricable link between nature, indigenous peoples and their livelihoods. As natural resources form such an important component of their culture, any disruption in access to natural resources has deep-seated implications for their identity and sense of self.

3.2. Customary Laws and Land/ResourceTenure

3.2.1 Concept of land/resource tenure

In simple terms, land /resource tenure means the terms on which something is held: the rights and obligations of the holder; which are recognised by a national or local law or combination of both. Resource tenure (land, forest, pasture, carbon tenure etc) determines who can use what resource, for how long and under what conditions and is better understood as property rights, which in fact is synonymously used to refer to the resource tenure or the property right regime or the resource management regime (Folke and Berkes, 1995, Schalger and Ostrom, 1992.).

In general terms, property rights institutions are part of the cultural capital; by which societies convert natural capital , that is, resources and ecological services, into human-made capital (Folkes and Berkes,

1995). These are the rules of the game in a society or more formally, are the human devised constraints or subset of a society's institution that shape human interaction (North, 1990 cited in Baral, 1996). They comprise ‘a set of rights and responsibilities concerning a thing' and better understood as a bundle of rights because it can have multiple rights belonging to several different persons or groups’ (Bromely 1991).Property rights are mainly about claims over resources made by individuals or groups and their rights are recognised as legitimate by the government/state or the society and protected through law and relationships between the claimants. Property rights are dynamic in nature and changes with the prevailing socio-political and environmental contexts. Owing to ecological, livelihood, knowledge and social and political uncertainties, as well as to the plurality of, and changes in, laws property rights are dynamic in nature, therefore are subject to change (Bruce, 1998; Schalger and Ostrom, 1992, Folke and Berkes, 1995).

While introducing the concept of forms or natures of rights, their bases (customary or statuary) and category of right holders, Schlager and Ostrom (1992) present three distinct but interrelated dimensionsor components of a property right regime. They are:

a. Five bundles of rights (access and withdrawal rights or operational-level rights, and management, exclusion and alienation or collective-level rights);
b. Four categories of rights holders (owners, proprietor, claimant and authorised user);
c. Two bases of rights (de jure and de facto).

They further explore that different categories of rights holders may hold different bundles of rights over a resource such as a forest and these rights may be based on state law (de jure) or locally crafted rules which may not be recognised by the state (de facto or customary rights) or combination of both. Owners of a forests (the state or an individual or group of individuals-the community), for example, have all five bundles of rights whereas authorised users have only access and withdrawal rights, and proprietors have allrights except that of alienation (Schlager and Ostrom ,1992). Meinzen-Dick (2006) argues that the major bundles can be grouped into three categories:

i. Use rights, such as the right to access the resource (for example, to walk across a field), withdraw material from a resource (gather fodder), or exploit a resource for economic benefit
ii. Control or decision-making rights, such as the rights to management (decide which tree to cut, when to open the forest for fodder collection), exclusion (prevent others from accessing the forest)
iii. Alienation, the right to rent out, sell, or transfer the rights to others.

‘Ownership’ is often thought of as holding the complete bundle of rights over a particular resource, as in the view of Schalger and Ostrom (1992).

The forest tenure is 'the combination of legally or customarily defined forest ownership rights and arrangements for the management and use of forest resources (FAO, 2006). The FAO goes on to explain that the components of forest tenure include ‘excludability, duration, assurance and robustness’. Excludability allows those with rights to a particular piece of land to exclude those without rights. Duration refers to the period for which the right is granted. An institutional framework capable of enforcing rights provides assurance and robustness refers to the number and strength of rights that can be possessed (FAO, 2006). The FAO’s definition of tenure (and implicitly, property rights) includes bundles of rights (ownership, management and use rights), basis of rights (state or customary law) and security of rights (exclusion, duration, assurance and robustness). This definition of FAO (2006) is highly relevant to the present study as it encompasses both formal/legal rights (*dejure rights*) and informal (*defacto* rights) of rights overforests resources.

3.2.2 Understanding the Customary Laws and Land Tenure

Customary law is the body of rules whose legitimacy is founded on tradition (Cotula, 2006). Although the term "tradition" has been defined variously by different writers, generally denotes the idea of a set of norms, values and practices that have been applied from time immemorial in a locality or among a group of people (Paaga, 2013).

Tenure means the conditions under which land or buildings are held or occupied[2]. Customary land tenure refers to the systems that most rural communities of the world[3] (extensively in countries dominated agrarian economies) operate to express and order ownership, possession, and access, and to regulate use and transfer. Unlike introduced landholding regimes, the norms of customary tenure derive from and are sustained by the community itself rather than the state or state law (statutory land tenure). Although the rules, which a particular local community follows, are known as customary law, they are rarely binding beyond that community. Customary land tenure is, as much, a social system as a legal code (Wily, 2012).Customary land (land, forest, and pasture) tenure can, therefore, simply be defined as the set of rights in land that derive from customs or practices handed down from generation to generation. The right to use or to dispose of use rights over land under customary land tenure rests on the fact that such rights are recognised as legitimate by the community where the rules governing the acquisition and transfer of these rights are usually explicitly and generally known, though they mostly are not normally recorded in writing. This implies that an individual's rights in land under customary land tenure derive from his/her membership to a social group such as a clan or family. The ultimate or desired outcomes of customary land use practices or laws is to avoid occurrence of land disputes/conflicts and maintain intact the cohesiveness, peace and harmony among the allodial title holders[4]by equity in access, transparency in land alienations, and safeguarding against undue machinations by customary trustees (Kasanga and Kotey, 2001; Amanor, 2001; Ubink, 2004).The concept of customary rules used for this report refers to the informal institutions that encompass both the socially accepted norms and practices that shape people's collective and individual behaviour and organizational structures such as socio-cultural entities, associations and village councils (discussed in more detail in the next section).

The silent features of customary land systems can be summarised as (Regmi, 1978; Mc dougal, 1979; Furer-Haimendrof, 1984; Mahat et al, 1986 a and b; Mahaet et al, 1987 a and b; Gilmour and Fisher, 1991, Fisher, 1991 Daniiggels, 1992; Gurung, 1999; Lastarria-Cornhiel, 1997; Kasanga, 2000, Cotula, 2006; Colchester, 2006, Uprety, 2008, NEFIN 2012 and 2013):

- Land resources belong to the community, and access to them is regulated by the community or community authorities through customary law; Very often landholders are customary trustees (for an example *Guthi* and *Kipat s*ystem of Nepal) only, the trustees hold the land on behalf of the whole community;

2 As defined by http://www.oxforddictionaries.com/definition/english/tenure

3 Customary or indigenous land tenure is a major tenure system on a worldwide scale. It is not confined to developing countries customary land tenure even governs lands in industrial economies, such as rural commons in Spain, Portugal, Italy, and Switzerland and territories belonging to indigenous minorities in Europe, North America, and Oceania. The system operates most extensively in agrarian economies (Wiley, 2012)

4 Allodial title is related to the concept of land held "in allodium", or land ownership by occupancy and defence of the land allodial title is inalienable, in that it may be conveyed, devised, gifted, or mortgaged by the owner, but it may not be distressed and restrained for collection of taxes or private debts, or condemned by the government. https://en.wikipedia.org/wiki/Land_tenure

- Customary tenure is a “living institution” and evolves over time in response to changes in the institutional, economic and physical environment andmirrors the cultural and social values of the community;
- Inheritance rights and interests held by families and individuals belonging to the land owning group)are recognised and acknowledged;
- Customary tenure often favours the rights of first occupants (those holding inheritance rights) an those who initially invest labour to clear the land) but they may also have mechanisms for latecomers to enter the system;
- Customary tenure may differentiate rights between community members and those considered to be outsiders;
- Customary tenure frequently disaggregates rights to resources found in a particular space, allowing multiple uses and users of resources found in the territory;
- Customary laws or land use practices are highly democratic and areimplemented through social/community institutions (Formal and Informal) institutions;
- Customary laws are dynamic, and adaptive and ensure that the present and future well-being of communities are met and promoted; and
- Communal property rights enjoyed by the community at large are respected and ensured by other local communities and most often by the state.

3.2.3 Property Rights Regimes/Resource Management Regimes

A resource management regime is a structure of rights and duties characterising the relationship of individuals with respect to that particular environmental resource. They are varied, complex and dynamic. Resource management regimes change continually as per the needs and perceptions of the community or the individuals who own or control the resource (Bromley 1991).

Resource management regimes are generally grouped into four categories. They are: State property regimes; Private property regimes; Common property regimes; and Non-property regimes (open access). These four major property regimes aregenerally defined in terms of who holds the complete bundle of rights (‘owners’): the state holds therights to public property; individuals (or legal individuals, such as corporations) to private property; and groups or communities to common property. Open access is the absence of established property rights. The bundle of rights, rights holders and property regimes may be based on, andrecognised by, either state law or local rules which may not be recognised by the state or both. Thus, what may be classified as common property or open access regime by a community according to local law may be classified as public property by state law (Hanna and Munasinghe, 1996, Baral 2008). Moreover, the first three regimes, in theory if not always in practice, are managed by 'owners or 'users', the difference lies in the decision making process, whereby rules of access use are set (Pokhrel, 1999 cited in Acharya, 2003). The general characteristics of these regimes are given in Table 3.1.

Table 3.1: General Features of Resource Management Regimes

Regimes	Owner	Owner rights	Owner duties
Private	Individual	Socially acceptable uses, control of access	Avoidance of socially unacceptable uses
Common	Citizens	Determine rules	Maintain social objectives

State	Collective Action (Community)	Exclusion of non-users	Maintenance, constrain rates of use
Open access	None	Capture	None

Source:After Hanna and Munasinghe, 1996

A number of laws such as state, customary, local and international often construct rights, rights holders and property regimes of a resource (such as a forest) differently. It is also often the case that rival claimants construct matters differently, basing their claims to a resource on different, and sometimes a combination of, laws. Multiple and overlapping bases for claims to property rights over a resource often make it difficult and perhaps even unhelpful to determine the category of property regime (or tenure) for a specific resource[5](Bromley, 1991; Schlager and Ostrom, 1992, Hanna and Munasinghe, 1996; Acharya 2003;Meinzen-Dick and Pradhan 2003, Meinzen-Dick 2006)

3.3 Resource Tenures and Property Right Regimes in Nepal

Land, forests and water are the three major natural resources of Nepal upon which the state has always claimed the ownership. Various land/Resource tenure systems were in practice in the past and some still exist. Since the end of *Rana* rule in 1951 and with the dawn of democracy the state intervention increased in above discussed traditional tenure systems.

3.3.1 Land Tenure System

For simplicity, land tenure system in Nepal can be divided into two historical periods, prior to 1957 and after 1957. The year 1957 is considered important as all private forests of Nepal were nationalized by enacting Private Forests Nationalization Act of 1957.

Prior to 1957

Until 1951 there were many kinds of land tenure in Nepal, each with different kinds of rights and responsibilities (bundles of rights and responsibilities). Regmi (1978) identified two major types of land tenure, namely

i. *Raikar* or land owned by the state (or the king's 'crown land'), based on the principle of 'state landlordism';
ii. *Kipat* or communal ownership of land by some ethnic groups such as *Limbus, Rais* and *Sherpas,* based on the principle of customary rights to land.

The state as the ultimate 'owner' of all Raiker land including forests located within the country bestowed different types of rights over land and natural resources to its citizens (under different tenurial arrangements, which Included Birta, Jagir, Rakam, Guthi and Rajya tenures[6] (Regmi, 1978).

5The state claims to be the owner of all pasture land in Nepal, except that land registered as private. However, in areas such as Khumbu, Dolpo and Sindhupalchowk, communities claim some pasture land as their 'common property'. Similarly in the Eastern region of Nepal kipat land tenure regulate access to, and use of, the pastures and even levy fees for their use, all based on their 'customary rights', that is, rights based on 'traditional' use and decision making ,even though kipat tenure was abolished in 1964 (Timisina and Ojha 2004; Baral 2008)

6 Jagir tenure refers to the temporary assignment (until the death or termination of employment) of the Raiker land to government employees in lieu of salaries; Rakam refers to land assigned permanently to a particular person for the supply of specific functions, mostly of manual character. Such tenures were inheritable as long as the tenant continued the stipulated function; the land achieved by certain individuals (e.g. religious teachers, priests, loyal soldiers etc) from the state (rulers) as a reward is called Birta. ; Lands assigned for the use of charitable, religious or philanthropic institutions come under Guthi tenure, Rajyatenures were tenures assigned to chiefs or 'kings' of petty kingdoms which were conquered by the Shah dynasty and subject to annual review

Since the end of Rana rule in 1951, and with the dawn of democracy, state intervention in above mentioned traditional tenure system intensified. Lands under cultivation such as *Rakam, Jagir,* and *Birta* tenures were all converted to Raikar in 1959 while forests that belonged to Birta tenure were also nationalized in 1959). Finally, despite the opposition of most of the indigenous tenants the communal system of land tenure, the Kipat was abolished in 1964 (Regmi, 1978). From the perspective of state law, all land (whether agricultural or pasture) not registered as private land (or Guthi land) is state land, which could be either government land or public land.

After 1957

The new Land Reform Act (1964) and Forest Acts (1961) were enacted and pasture lands were nationalised in 1974. With these acts, government tried to expand and strengthen its control over the forests and pasture lands. The meaning of the term Raikar has also undergone a change.It meant any land 'owned' by individuals as opposed to its earlier meaning of state owned. Such lands are differentiated from government land (*sarkarijagga*) and public land (*sarbajanikjagga*). The public lands are also state owned land where local communities have use rights and are under the jurisdiction of local bodies (Village Development Committees) and are often treated as 'commons' of the village. From the perspective of state law, all land (whether agricultural or pasture) not registered as private land or Guthi land is state land which could be either government land or public land.

3.3.2 Forest Management Regime

Forests of Nepal can be categorised into two broad regimes: private forest (*niji* ban) and national forests (*Rastriya* Ban). National forests are further categorised by the Forest Act 1993 as Government-managed forest, Protection forests, Protected Areas System (National Parks, Wildlife Reserves, Hunting Reserves, Conservation Areas and Buffer Zones), Community forests, Leasehold forest, Collaborative forest and Religious forest (box 3.1). All residual national forests left over after handover in other forms of forest management regimes is known as Government managed forests (Baral 1996, Timsina and Ojha, 2004)

Box 3.1: Forest Management Regimes in Nepal

The Forest Act 1993, Draft Forest Sector Strategy, 2014 and Forest policy 2015 classify national forests into five categories (or management regimes):

Government-managed forests: national forests managed by the government. Ownership of all the forest products of government-managed forests vest in the government but the government may grant licenses to the public for use of such products.

Protection forests: national forests that the government has declared as protected in consideration of their environmental, scientific and cultural importance.

Community forests: national forests that is handed over to forest users groups with an agreed operation plan and constitution for development, conservation and utilization for collective interest.

Leasehold forests: national forests that is leased for specified purposes to legally definedinstitutions, forest- based industries or communities;

Religious forests: national forests that is handed over or entrusted to any religious entity,group or community for its development, conservation and utilisation.

The revised Forest policy 2000 has defined another form of community based forestry as "**Collaborative Forests",** which are the national forests managed by the joint venture of User Groups, Local Government (DDC, VDC, and Municipality) and the National Government.

Protected Areas System: It includes National Parks, Wildlife Reserve, Hunting Reserve; Buffer Zone, Conservation Areas and Strict Nature Reserve which are geographically defined areas regulated and managed for the achievement of conservation objective pursuant to existing National Park and Wildlife Reserve Acts and Legislations.

Of the total National forests (5.8ha million ha), about 17.6%of forest falls under protected areas systems majority of which is in the High mountain region and of the remaining 82.4% (4.8 million ha) about48% forests (2.8 million ha) has been remained under Government managed forests (GMF) regime and rest (33 %) land falls under other mode of forestry under DoF jurisdiction such as Community Forests (CF), Collaborative forests (CFM), Protection forests etc (MSFP.MFSC,2014). Majority of national forests in the Mid-hills and Inner Tarai have already been handed over in CF, the residual forests known as GMF mostly lie in High mountain areas of 55 districts(Baral and Acharaya, 2012) and Tarai/Bhabar and Churia hills region of 20 Tarai districts (MSFP/MFSC, 2014)

Similarly, about 3.3 million hectares of land (22.6% of total land area of Nepal) including shrub lands are estimated as grasslands or pasture lands (MoAC, 2012). About 94 % of the pasturelands/grasslands are situated in the hills and mountain regions while only 6 % rangelands are in the Siwaliks and Tarai regions of the country *(*MPFS, 1988*).*

3.4 Customary Institutions

Institutions are sets of regulatory arrangement such as customs or rules, values or practices accepted by members of a particular group and which tend to lead to chnage their of societal behaviour of an individual or a community repeatidly in response to the shock and stress imposed by changed internal and external factors (Hobley, 1995). Organization and institution are different but their meaning, however, sometimes overlaps , in other words, organisations can be institutions, and vice versa.

The institutions can be formal or informal based on whether they are made up of formal constitutions or statutorylaws (rules, laws and constitutions) or informal constitutions (constituted as per the norms, traditions, and belief system etc of a society or community). Instituion formed under statuary laws are also known as de-jure institutions. An informal institution, on the other hand, is an institution formed without formal sanctioning which is subject to an evolutionary development with a high binding socio-cultural force Informal institutions are generally known as de-facto institutions (Berkes and Folke, 1998; Kweka, 2004 and operate wholly or partly outside formal structures of the state (Messerschiidt,1992; Acharya, 1992; Mohmand, 2012).

Institutions in the context of Indigenous knowledge refer to the norms and procedures that shape people's actions. These procedures define practices, assign roles and guide interactions (Kajembe et al, 2002; Gadgil et al , 1993; Boonte, 1993). These norms and procedures for an example to protect and regulate access to common property resources such as forests and pastures are developed by the people themselves without outside guidance (Gilmour and Fisher, 1991). Thus customary or indigenous institutions are the councils or executives bodies or governance systems of a community nominated through consensus of the community or peopleand authorisedto implement and enforcetheircustomary laws in a more democratic, transparentand effective way.

Indigenous communities all over the world are known to be administered and governed by their own institutions called indigenous institution or customary institution for the welfare of their society and management of natural resources of area they live in. Among their several functions (social economic and ecological), the indigenous institutions in the past acted to ensure the sustainable use of community natural resourceswhile working for the welfare of human kind and maintaining the social integrity of their communities. They ensured the sustainability by defining rights over community natural resources (land, forests, pastures and water), formulating rules and regulations for their management and uses by imposing sanctions on defaulters.These institutions were largely responsible for the continued productivity of the forest and pasture and are recognised as the protectors or stewards of the natural ecosystems (terrestrial and aquatic). Examples of customary institutions in Nepal are Nogar of Gurung Community

(Messerschiidt, 1992), the Jimmawal or Mukhiya system of forest management (Mahat *et al*, 1986 a and b, 1987 a and b; Gilmour and Fisher, 1992; Fisher, 1992), the Shinggi Nawas of Khambu Region (Furer Haimendorf, 1984 etc (detailed discussion of these institutions is done in the next section).

Key features that characterize the customary institution in resources management are: first, the indigenous social organization that controls access to natural resources within the community. Second, the customary norms and procedures for control, acquisition, maintenance and transfer for natural resources and their indigenous utilization techniques for conserving and preserving resources (Furer Haimendorf, 1984 Boonte, 1993; Luoga, 1994; Louga *et al*, 2000; Gilmour and Fisher, 1992; Thapa 1995). Moreover, customary institutions are dynamic and innovative in nature, build or restructure to accommodate and adapt the survival needs in response to changed socio-political and ecological contexts. Thus, they are varied in forms and sizes, however, their ultimate goals or essence of change always remains the same as: welfare of their communities and nature conservation.

3.5 Field survey and major observations/findings

3.5.1 Field Observations

A short field visit programme of selected VDCs and areas/sites of sampled districts were carried out to collect and validate on the spot information and also validate information collected from the literature review about past and present and trends of change of customary land , forests and pasture management systems. A synopsis of these field observations is presented in the table 3.2.

Table 3.2 : Summary of field observations

District	Area/Sites Visited	Status of Customary/indigenous Forests and Pasture Management Practices (IFPM)
1 Morang and Jhapa	Hariacha and Jatuwa Katkuppa of Morang; Damak and Chandragadi Municpalites of Jhaps	Forests are concentrated on the northern belt of the district and found no existence of IFPM; Community forests is wide spread in the northern belt Could not find informants that could tell in detail about IFPM, Semi transhumance Buffalo grazing systems among Yadav community remained active till Mid 1970s; Sedentary grazing system is also in declining trend, concentrated in the forested areas s of northern Non-existence of IFPM practices. However indigenous knowledge of using genetic resources or biodiversity among the indigenous communities such as *Satars, Doms, Rajbansis and Tharus do exist*
2 Panchthar	Phidim Municipality, Bharpa VDC and Ranke Bazar	Kipat system was the dominant land tenure system before 1964; *Kipatiyas* are still enjoying their kipat rights on their ancestral land that they could not registered in to private land or the *Riaker*. These plots have been almost developed into agro-forestry plots of *Ainlenchi, Amriso, and Utis/Alnus* and conflict with DFOs in uses of these lands is in increasing trends. *Kipat* system of forests and grazing management is in the northern or high altitude areas is still maintained but as a ritual. Community based forestry (CF and Leasehold forestry) is widespread throughout the district;

3. Sankhuasbha	Chepuwa and Yasu VDC	*Some glimpses of Kipat* system in *Kipat* territory do exist. Tanshumance pastrolism in the high mountain dominated by Sherpa community is still widely practiced while the situation of *Kipat* system is similar to that of Panchthar. Community forestry and Conservation areas system i has covered most land area of the district, however, no serious conflicts with these systems except ban on shifting cultivation was observed
4. Kailali	Musuriya,; Bhjani and Dhangadi Municiplaity,	Non-existence of indigenous forest management practices; Community based forestry (community , collaborative and Protection forests is wide spread); Semi-transhumance livestock during the rainy seasons (mainly buffalo) did exist in many parts of the southern belts before 2005. A typical goat semi-transhumance grazing system of Hill farmers do exist in the hilly areas of the districts (Churia range); However, indigenous knowledge of using forest biodiversity especially for medicinal purposes among the indigenous nationalities such as *Tharus, and Rajis* is common. Sedentary grazing system in the district is common;
5. Dadeldhura	Jogbuda and Dadeldhura Municipality	Jimmawal and Mukhiya systems of forest management practiced in the past no longer exist; Community forestry (CF) has covered most of the area of the districts. Sedentary grazing system is common. *Ruate*s lifestyles has been disturbed by CF while a few HHs have changed their lifestyles and settled permanently
6. Chitwan and Nawalparasi	Thaurs, bote and Mjahi territory Inner Tarai/valley (Buffer zone areas of Chitwan National parks),	Before the establishment of Chitwan National Park in the 1970s the indigenous nationalities *Tharus, Botes and Majhis* have had their own indigenous system of utilising forests, pastures and water resources; However, after the establishment of national parks and its buffer zone, they have been displaced from their traditional areas and relocated in new places. Park authority and their institutions such as Buffer Zone Management Committees, Forest Users groups have imposed sanctions to enjoy their tradition system of lifestyles and uses of resource and are struggling to survive. Severe visible park-people conflicts are prevalent in the area.;
Chitwan (Hilly region)	Chepang territory Hilly region (Chnadibhyanjg and Skahikhor VDCs of Chitwana	Hilly region of Chitwan being the territory of A Chepangs *Bhasme/Khoriya phadani* agriculture system (traditional shifting cultivation system) was the major landuse system (in both registered or unregistered land). It remained actively functional till Mid 1980s with some modification on fallow period (less than 10 years). With the expansion of Muglin Chitwan high way, and

		group leasehold forestry and community forestry programme, a gradual changes in the Bhasme polne agriculture system has been started after 1990. Majority *Bhasm*e cultivation plots (unregistered-more than 25% of their old *Bhasm*e plots are unregistered) handed over to groups of Chepangs and other local poor farmers as a leasehold forests for 40 years on lease and remaining patches of forests in the vicinity of their villages handed over as a community forests to local farmers including Chepangs. As not all traditional *bhasme* cultivation were handed over as Leasehold or community forests, therefore, the Chepangs and other local poor farmer continued their customary practices as usual but the fallow period has been reduced drastically down to 2 years till 2005 and now majority of the plots have been converted into permanent plots. However, drastic Changes have occurred in the landuse system in Chepangs territories after the expansion of group leasehold forestry. Most of them have started using SALT technology of land use model converting the *Bhasme* plots into agro forestry of multiple use crops of both food and cash value such as Banana, vegetable, small fish pond, *amriso* and other horticulture crops. Now a days Bhasme polne cultivation system in these districts are confined in remote and inaccessible hilly areas, mostly on their registered lands.
Nawalparasi (Hilly region)	Hopse	The Hilly region of Nawalparasi districts (mostly the northern aspect) is known for *Bhasmepolne* agriculture system (shifting cultivation). But here non-C*hepangs*. This system remained actively functional till 2010 without any problem. However, with the expansion of group leasehold forestry in 2011 and 2012, the whole socio economic and ecological scenario of Hopsekot has been significantly improved/changed within a short period of two years. Almost all traditional *Bhasme* cultivation plots have been rehabilitated through broom grass and Tej pat plantation. And on an average the annual income of farmers from broom grass plantation of age three years is more than Rs %0,000/year/HH. Now the farmers of Hopsekot have completely stopped *Bhasme* cultivation and have started commercial cultivation of vegetable , ginger and goat farming
7 Gorkha, Tanhu and Makawanpur	Chepang Area Tanglichowk and Makiabari of Gorkha), Gaighat VDC of Tanahu, and Raksirang VDC of	The status and trends of Bhasmepoln*e* agriculture system (shifting cultivation) is quite similar to that of hilly area of Chitwan and Nawalparasi districts.

	Makwanpur	
8 Myagdi and Baglung	Sikh Ghara VDC of Myagdi and Dhorpatan Area of Baglung	IFPM worked well till 1980s. After the abolition of Jimmwal and Mukhiya system the Pradhan Panch the chief of the VDC, who were mostly the chief of the customary institutions, continued their century old practices. However, the situation started deteriorating with the expansion of Dhorpatan Hunting Reserves and Annapurna Conservation Area and community forestry programme after the 1990s Majority of stock farmer of Sikh Ghar have started toursim business, Ghodepani of Myagdi before 1980s was used as the summer pasture of stock farmers now has been developed into a hot tourist spot and market centre.
9. Jumla	Chhutro VDC, Kanak Sundari, Chandannath Municipality and Gothichau area	Similar to other regions of the country IFPM remained functional before 1990, however, ban on Tibetan pastures and change in the salt trade system, have changed their grazing cycle (using Midhills districts as a winter pasture), and their traditional salt and food-grain bartered system of trade. Nonetheless, the district was the main production and market centre of horses and mules. With expansion of road networks, flow of subsidised Iodized salt in to all parts of the district a drastic change has occurred in grazing cycle and sites/pasture. Keeping herds of sheep/goats on farm land of Midhills farmers during the day and night time with the intention of on the spot mulching as well as salt and food grain barter system of trade no longer is in practice. IFPM practices of the district have been seriously threatened when Karnali region started linking with road networks and rapid expansion of CF throughout the Karnali region. Both the CFUGs in and outside the districts (distrcts that fall into winter pastures of transhumance sheep/goat farmers) have imposed several sanctions prohibiting using their forests as pastures Morevoer,increased access to roads market for horses is completely absent; fortunately, the mule farmers have managed to survive because there exist a small market for the mules. Sever visible conflicts with CF authority have occurred, some have already abandoned their traditional lifestyles, a few are relapcing sheep/goats by yak and *chaur*i (because these livestock need not to go down to Midhills pastures/forests for grazing during the winter season) while the others are struggling with the CFUGs for survival paying high taxes to CFUGs
10 Sindhuplachow and , Dolkha,	Bhiarbkunda region (Sindhupalchowk Upper Thisang and Kalinchowk region	The districts were rich in IIFPM and they were wide spread all over the districts before nationalisation of forests in 1957 and abolition of *birta* land 1959. New forests and land policy enforced after 1960s have little

	(Sindhupalchowk-Dolkha) and Jiri valley	impacts on IFPM, many customary institutions continued their systems while in some areas, mostly in the Midhills based on the principle of Jimmawals/Mukhiyas system new forms of institutions and local forest management system emerged and expanded rapidly. While indigenous institutions continued their IFPM system in the high altitude areas despite change in land, forest, and pasture management policy and prohibition of access to Tibetan pastures remained functional. After 1990s CF expanded rapidly in these districts replacing completely the IFPM including the newly established local forest management by the forestry sector known as Community forest management and community forestry users groups. Whereas, the customary institution of the high mountain areas are still functional and are struggling to survive and give continuity to their systems in severe conflicts with the concerned state sponsored news institutions such as CFUGs (see case studies in the next section) . Moreover, declaration of Gaurishnakar Conservation Area recently in the territory of Transhumance stock farmers in these districts their access over and rights to use forest and pastures have been seriously curtailed.

Note: Khairabkunda sub-watershed covers Listi and Tatopnai VDC of Sindhuplachowk, Thingsang cis the winter pasture of farmers of Gati, Marming and Khilpingkatt of Sindhuplachowk, and Bigu and Alampu VDC of Dolkha; Kalinchowk region covers VDCs on both ridges of Sindhuplachowk (Chokate, Ghorthali, Karthali,and Rameche VDC) and Dolkha (Suspadeurali, Bonch Makaibari, Lapilang and , Kalinchowk).

3.5.2 Case Studies

During the field visits efforts were made to document some case studies that best reflect the existing situation of IFPM and provide better understanding of the prevailing issues. Of the various story told by the respondent during the field visits, as well as some case stories that have significant value to the present study and found still relevant have also been presented as a reference. :

Case study 1: The Chepangs no longer practice Bhasmepolne agriculture system: The case of Gorditar, Tanglichowk, Gorkha

The Gorditar is small village consisting of about 75 HH dominated by Chepangs (80%0 followed by, Magars and Gurungs (16%) and other poor Bhasme plots that were completely denudated at the time of have been developed into multiple use forests dominated by fodder species such as Ipil Ipil, Tanki, Ficus, and Morus. and farmers have become self reliant on their need of forage/fodder and firewood. they have diversified their income sources. Improved farming, off season vegetables farming, livestock (goat and dairy products), and services (project and local NGOs) wage labour and local business such as rural grocery shops are the major sources of income. More than 70% farmers are engaged in off-season vegetable farming commercial goat farming; and some have replaced goats by dairy cattle (cows and buffalo). The average annual income of a farmer in the cluster area from the sale of vegetables and goats, as reported by the farmers, varies between Rs 30,000.0 to 1,50,000/ year/HH and Rs 10000-30,000.0/year/HH. ***Som bhadur Chepang who started from two goats about eight years ago now has 54 goats and earns Rs two lakh/year only from the sale of goats***.

Case study 2.Conflict between Transhumance Yak/Chauri Farmers and CF: A Case from Suspa, Dolakha

Located at 1,890-3,300 m asl Suspa village is situated about 3 km northwest of Charikot, the district headquarters of Dolakha the total population of. Suspa VDC is o 15000 of which 20 HHs are of Sherpas

Of 20 HHs of Sherpas 10 HHs and 10 other Sherpas from Bonch and Makaibari VDC (adjoining VDCs of to Suspa) together practice transhumance yak/chauris grazing system from generation. During the winter they use forests close to their settlements ascends up to Subalpine Kuri and Tutan pastures the highest peak of Kalinchowk region during the summer.. Lower part of the forests below the winter pasture of area of Yak/chauris was handed over to local community as community forests in 1993/1994 but later on it was extended to the Tutan. Until 1992/93 they were happy using their traditional pastures and used to pay a nominal annual charge to the *guthiars* of Dolakh Bhimsen temple, Dolkha Bazar on behalf of using the pasture.

With the perception that transhumant pastoralists were earning significantly higher income each year by using the common resources as compared to the people living in lower altitudes the sedentary communities (Thamis and Shivakoties) introduced some measures to restrict people from areas outside Suspa VDC from using forest/pasture resources within their Community forests. They imposed certain taxes on outsiders of using their forests and pastures that lie on their newly defined territory (the boundary of their CF). Accusing them for over grazing inducing forest degradation, herders were frequently, harassed, humiliated and indirectly forced to quit their age-old occupation. They are usually scolded in assemblies, charged with destroying the forest, grazing their *chauris* beyond the boundary, etc. The general assemblies and committee meetings became hostile to herders so that they gradually began to avoid such meetings. Although the herders tried to defend their case, the CFUG office bearers and other members did not appreciate their voices. As a result, grazing was formally restricted within the community forest boundary. Not being able to comply on too many sanctions on grazing imposed by the CFUGs the stock farmers from Bonch and Makaibari have already sold their livestock and following them most of local Sherpas have also abandoned their life styles and migrated to Kathmandu.

Case Study 3: Conflcits between transhumance Yak/Chauri farmers and Community Forest Users groups. The case of Bigu and Alampu VDC Dolkha

More than 15 Yak/chauri farmers of Bigu and Alampu of Dolkha were using Alpine/subalpine pasture of Thingsang area of Upper Kalinchowk region bordering to Tibet that falls under the Territory of Marming and Khulpingkatti VDCs of Sindhupalchowk) from generation as winter pasture. It takes about a weak to the stock farmer to reach to Thingsang pasture, therefore, they have had stop over at several forests for a day or two. Of the various forests the Gyaldung forests of Karthali is highly crucial because there is no alternative way of reaching to Thingsang pasture, therefore they must stay over the forest and use it for enroute grazing.

However, their transhumance life cycle suddenly changed when the Gyaldung forests of Karthali was handed over as a community forest in 1994/1995 by the DFO Sindhupalchowk to the local people of Karthali and imposed several ban on using forests for any types of forest products and grazing to the outsiders. As the stock farmers from Bigu Alampu of Dolkha were excluded from the users of the forests, they were denied of using the forests. Therefore they stop entering them with herds into the forests. They were harassed and penalised. By any means after the payment of heavy tax (Rs 1500/chuaris) they settled down the issues for the first year but from the next years they did not allow them at all to enter into their territory (CF). The stock farmers finding no other options sold their chauris/yak to the rich users of the Gyaldung on a very cheaper rate offred by the users.

Case Study 4.: Rights to use pasture; the case of Kami Sherpa and his daughter Bhairab Kunda Sub-watershed, Sindhupalchowk

Kami Sherpa of Bagam Village, Listi VDC of Sindhuplachow (Bhiarb Kunda Sub-watershed), who is a traditional chauri farmers, does not have son but two daughters. The eldest daughter is already married and gone with her husband in other village. After a few years the younger daughter also got married with Nima Tseshring of Kyansing, a village east to Bagam about 2 hours walk from his home. As he remained alone, continuing Chauri husbandry was beyond his capacity; he finally decided to handover the charge to his newly married daughter and gave all his 15 chauri for continuing their traditional lifestyles of trashumance. The daughter carried the herds with her to Kyansing and joined with other stock farmers after getting permission from the chief of the Kyansing community.

However, by the end of the year suddenly the Kyansing community chief changed his decision upon the complain of the stock farmers and impose ban on Tseshring herds from using pastures og Kyansing and requested him to go back to Bagam. Because the herds dow not belong to Kyansing but to Bagam. Tseshring finding no options approached his father in-law at Bagam. An emergency generally assembly was called to discuss the issue, finally decided to him to join with their herds. As the pasture of their territory was already allocated to groups of stock farmers, they provided Tseshring to use pasture just above the other herd's i.e the pasture where the herds of other farmers reach after three weeks or so. From the second year, the villagers adjusted the grazing schedule accordingly.

Case Study 5; Conflicts between Transhumance Sheep Farmers and Community forestry: The Case of Lekhpur Mangau village of Kanaksundari VDC Jumla

(Based on conversation with Buddhi Bahadur Buda, Ex Jimmawal of Lekhpur)

Until the Mid 1990s the people of Lekhapur Managin Ward no 8 of Kanak Sundari VDC of Jumla were happy with their way of living and also had a very good relationship with their neighbouring village the Sangaun ward no 9 of Kanak Sundari VDC. Similar to other people of the region agriculture and livestock husbandry has remained the mainstay of livelihoods from generations. Cattle, goats and sheep are the major common livestock they rear while a few relatively richer households also have buffalo and horses in addition to these common livestock. And as usual to other high latitude people, transhumance grazing is also their major system of animally husbandry.

In the past the village was administered by the Mukhiya system and customary systems of managing forests and pasture resources with well defined boundaries users and their rights to use forests and pasture resources along with roles and responsibilities were also in place. Despite abolition of Mukhiyas system and enactment of new forests laws in the 1960s, these systems continued to be functional without any barriers and conflicts among livestock farmers, and other local people, including their neighbouers. They have a small patch of forests more than 50 hectare in area close to their village locally known as Lekhpar forests which they are using for firewood, pirol (leaf litter), forage and fodder and village pasture of livestock that do not go for transhumance grazing cycle (buffalo, milking cattle, and kidding sheep/goats) from generation. as a pre winter and pre-summer pastures of sheep and other livestock that go for transhumance grazing.

Although life was hard and arduous, they enjoyed it and were very much happy as compared to day. Various socio-political and natural barriers such as chnage in political system, enactment of new forest laws, change in trade with Tibet and change in century old bartered system and fluctuation in weather and climatic situations, did not harass them at all but opened a number of new opportunities and options to learn and adopt a number of new innovative livelihoods strategies of options (change in livestock species, change in trade items and system,

However, their livelihood became extremely difficult when the villagers of Sanegaun suddenly stopped them to use Lekhapur forest from collection of firewood, pirol and grass/forage which they were collection from generation. Women and children gone for collecting firewood, pirol and grasses were driven away and harassed and driven away. Later on the villagers from Lekhupr, Mangaun approached to

the Sangaun villagers and requested them to tell the story the sudden restriction of using the forests. In repose to them, the Sanaegaun villagers told them that forest is handed over to them by the District Forests Office as a community Forests, therefore, the forest now belongs to them only, no people from any other village can have use rights until and unless we recognize them the users and permit them use rights, because the forests is falls in the territory of ward no 9 i.e Sangaun and it has been handed over to the people of ward no 9 by the District Forest Officers, Jumla to them. After a series of meeting with the villagers the conflict could not be solved, and then they approached DFO Jumla for justice and resolving the conflict. However, the DFO could do nothing. Then they (the Mana gaun villagers) filed a case of looting forest products against the Sanegaun people, the court also gave a verdict against them. Then they went again to higher court for justice; the higher court (Applegate court) also endorsed the verdict given by the district court. Now the villagers of Mane gaun have become helpless, most of them have already solf their sheep and cattle to farmers of neighboring VDCs, some have abandoned their lifestyles and migrated from the villages while those finding no other options are still struggling to survive.

During the field visit a number of stories were told by transhumance sheep farmers and also by District Forest and District Livestock Forest Officials, who also worked in other districts of Karnali region, about the conflicts between transhumance farmers and community forestry. In this regard, The case study presented by Bhatta 2002 on his article on: Access and equity Issues in High Mountain Region Implication of Community Forestry Programme has been cited here for better understanding the present trends of Indigenous Transhumance grazing systems in other parts of the Karnali region as a reference.

Box 3.2: Stories of sheep farmers forced to sell their sheep herds. An example from Baragaun VDC of Humla

In 1996, fifty three years old Chhiring Chhumpel Lama of Bargaun has sent two shepherds with 57 sheep to Achham in south, but they returned home with only 27 sheep in April 1997. Out of 57 sheep, seven were seized and slaughtered by CFUGs. Furthermore, a large number of sheep has died, as they were not all wed to graze in the forestlands and thus were forced to cross long stretches without grazing. One who had once owned more than 2000 sheep until 1995 does not have a single sheep at present.

Prasate Lama, once an owner of about 15000 sheep, owned only 500 sheep after 1994. He is trying to sell the 60 sheep that had remained with him due to heavy demands made by CFUGs en route to grazing land to let the sheep pass through their CFs. Many CFs are imposing a fee of Rs 1000-2000.0 or one sheep per herd of 30-40 sheep to let them stay in the forest for a week. Many of the shepherds were beaten by members of CFUGs and now it has become difficult to find people work as shepherds.

Source: Bhatta, 2002:8.

Case Study 6: Protected Area System and the indigenous People. The Case of Bote of Chitwan and Nawalparasi

The Bote community of Chitwan and Nawalparasi living at the banks of the river Narayani river are one of the traditional inhabitants of the Chitwan National park area. . Their traditional life styles was of hunting and gathering type, largely based on boating, fishing and gold panning while the forest provided them firewood for energy, wood for constructing boat and temporary huts and wild plants for medicine and vegetables. They live in extended family and till about five decades ago they were happy with their lifestyles and ways of living. However, with the establishment of Chitwan National park and expansion of its buffer zone in their ancestral land they have been displaced from their without adequate rehabilitation packages. As they had no private or permanent lands for settlement and houses they did not get enough compensation. Now they are living in small patch of public land and with the imposition of a number sanction upon their traditional life styles by the park authority they are living in an abject condition. I found. The perception of an Botes cited by Rai (2011) in his study report on Impacts on Livelihoods of Bote Indigenous Communities in and Around the Chitwan National Park best illustrates the present situation of Bote and other indigenous communities displaced for the establishment of protected areas system

Box 3.3: Perception of Old Botes on the encroachment of their territories by the government

"I never thought that such harder days will come in the future. The fishes, the sands, the wild vegetables, the gold in the sands, the wild etc were our life. We used to enjoy our life with these things. The days and nights in the river were our heaven. But today, my sons and grandsons could not enjoy such life. Rather 'more the land better the life, lesser the land worse the life has become today's reality'. We could not hold much lands because we were not the farmers and not interested in holding lands- An old Bote man,

"Life was very joyful in the past. Everything was sufficient for us. I become sad when I remember that. But now, everything becomes difficult. We have shifted here when fishing became difficult, the misbehaviours of military become intolerable, and lands become insufficient

...."The Narayani river was our heaven, because everything for us were available there. Not only fishes, but there were gold for us. We were free either to collect gold or catch fishes. Both works were enough for our survival. When we worked in gold panning, at least we used to earn more than hundred rupes a day. But today, instead of gold panning, we afraid to reach to the river.... A 65 years old Bote women "

Source: Rai, 2011

3.6 Customary land (Land, forests and pasture) management systems in the hills and mountains of Nepal

3.6.1 Customary land (Land, forests and pasture) management systems

Rural and indigenous people all over the world have established unique relationships with the natural environment they live in. Built on indigenous knowledge they have their own customary laws of managing natural resources such as lands, forests, pastures, biodiversity and water and institutions for administration as well as governance of these laws. And the system/practice of forests or pasture resource management developed under the overall framework of customary laws and governed by the customary institutions, in simple terms, is known as an indigenous/customary forests or pasture management system/practice. Theses indigenous systems are location/site and community specific, therefore, vary across geographical regions and communities. The customary/Indigenousforests/pastures management systems are often complex and are closely related to indigenous people and their life styles, norms values and belief systems. They have been well recognized in both national and international arena for their roles in maintaining the integrity of the natural ecosystems (CBD, 1992; UNFCC, 2010). However, many state of the world including Nepal have not recognised these customory laws and natural resources (land, forests/pasture and water) management system of indegenous people.

Rural people, particularly the indigenous people have unique ethics towards the natural environment, which makes thsem "the protectors of the natural resources" or the "stewards of the natural ecosystems" (CBD, 1992; UNFCC, 2010). Akin to many other countries, the forest resources in Nepal have also been historically governed and managed by customary laws and institutions. Such practices have played a vital role in the management of natural recourses (land/forests/pasture, water and bio-diversity) and maintain the integrity of the natural ecosystem management for generations (Ailrol 1978; Furer Haimendorf, 1984; Cox, 1985 and 1990; Gibbon *et* al, 1988; Gilmour and Fisher, 1991, Messerschmidt, 1992; Chhetri, 1993; Gurung, 1999; Fisher, Thapa 1999; Baral 1996, Baral, 2000; Acharya 2003, Aryal and Kerkhoff, 2008; Uprety , 2008;Sharma et al, 2009; Aryal et al, 2010; Baral and Acharya, 2012; Stevans, 2003 and 2013).

No systematic as well as official documentation of customary practices of forests and pasture management has been carried out so far in Nepal. Therefore, information on indigenous practices of forest and pasture management are scattered, old and incomplete. Of the various customary practices of Nepal the *Kipat* system is comparatively more researched followed by Transhumance grazing system and shifting cultivation. Based on the available published or unpublished literature, genereal filed

observations of selcted forests/sites of sampled districts and personal experiences of the author, an attempt has been made to document and assess more than three and half dozens the indigenous forests and pastures management (IFPM) practices of Nepal Box 3.4, Map 1 and Annex V for other Maps) over a three different period of time (Before 1957; Between 1957 to 1990 and After 1991). Status and trends of customary institutions, decision making and implementation process and their effects on forests and pasture resources and local/rural livelihoods are assessed. More detail information about each of the customary practices of forests and pasture management is presented in Annex III and an overview of the some of the commonly practiced customary practices are presented in the following section

Box 3.4: Lists of IFPM Systems documented

I. The *Kipat* system

(i) The Kipat land-use system in eastern Nepal

ii). The Kipat land tenure of Tahmais (before the 1957)

2. Bhasme/Khoiriya cultivation

(i) Shifting cultivation practices among Chepangs

ii) Shifting Cultivation in the upper hills of Kangehenjunga Conservation Area (KCA)

iii) Kundalla katne or Slash and Burn in Kharpel Village of Karpunath VDC, Humla

3. Customary Forest Management Practices

(i) Talukdari System of Forest Management in Sindhu Palchowk and Kavreplanchowk

(ii) Conservation of *Ranivan*

iii) Indigenous forest conservation system of the*Kulange Rai* of eastern Nepal

(iv) Indigenous management of *Jangal* in the Upper Arun Valley

(v) Mukhiyas and Katuwal system of forest management in Jomsom, Mustang

*(vi) Riti-thiti*systems of Tarami Magars, Tara Khola, Baglung

vii) Forest conservation in a landscape:Chepang commons

4 Customary Pasture Management Systems

(i) The transhumance grazing systems in Dolkha and Sindhupalchowk Region (Kalinchowk and Bhairabkunda regions

(ii) The "shinggi nawa system of forest and pasture management of Khumbu Region

(iii) Customary pasture management in Pungmo, Lower Dolpo

(iv) Indigenous practice of pasture management Solukhambhu

(v) Indigenous forest and pasture management of Jirel

vi) Grass Cutting Day in Taplejung

(vii) Sheep Transhumance in Humla

(viii) Transhumance grazing system in Jumla

ix) Customary livestock and pasture management system in the high altitude area of Knachnjagha Conservation Area;

(x) Indigenous Pastureland management in Rasuwa district

(xi). Pasture Management in Limi VDC of Humla

(xii). Transhumance Pasture Management in Nar and Phu Valley of Manang

(xiii) Tarami Magar's Sat Thari Mukhiya System of Forests and Pasture Management

(xiv) The Dhapu and Dhebu System of managing land resources (farmlands, forests and pasture) of Dolpo Community in Dolpa

(xv) Indigenous Forests and pasture Management in Ngisyang Valley (Upper Manang)

(xvi) Kabra' Rithithiti System of Gurungs of forests and pasture management in the western Nepal

(xvii) The sedentary cum transhumance grazing system of GhoksilaPokharGaun, Sindhuli

5. Indigenous Forests and Pasture Management of Tarai

6. Management of Non-timber Forest Products

(i) Indigenous Management of Allo Chhantyal community in Gurga Khani VDC of Myagdi

(ii) Indigenous knowledge of manufacturing Nepali Paper (Neplai Kagaj
(iii).Traditional knowledge and practices on Bamboo and Rattan

7. Indigenous knowledge and practices of use of forest and pasture biodiversity of selected Tarai tribes/people (8 ethnic community)

- Tharus
- Rajbansi
- Bankariya
- Majhi/and Bote
- Rajis
- Santhals/Satars
- Doms and
- Yadav

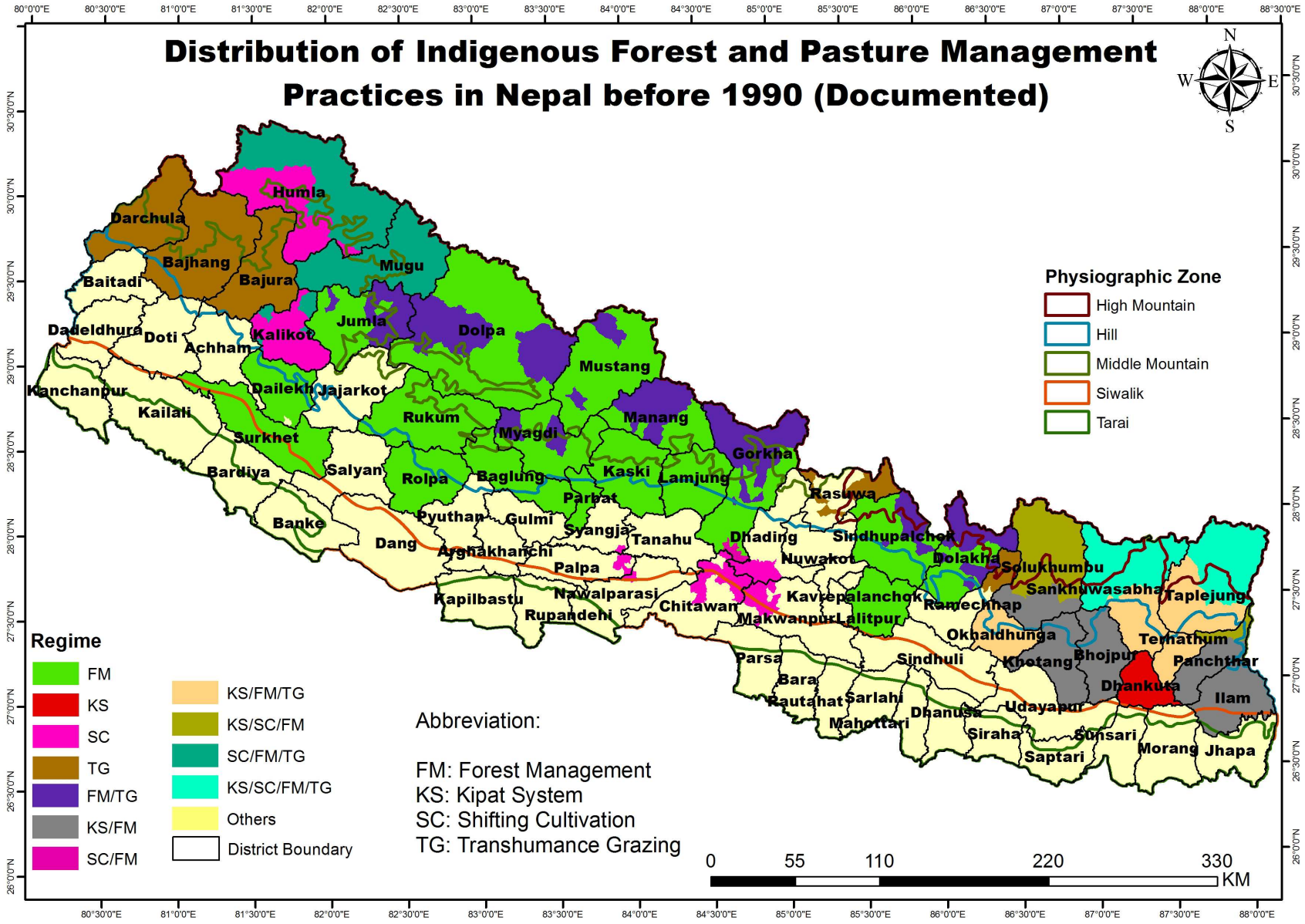
B. Kipat system between 1957 and 1990

Although the *kipat s*ystem practiced by other communities such as *Thamis, Magars, Gurungs, Tamangs* and *Chepangs,* in other parts of the country were abolished (before 1930s) by Rana rulers and converted into *raiker,* it remained actively functional and dominant in the northern hills of eastern Nepal till mid 1960s. Immediately after the end of Rana regime the then new government began replacing the traditional systems of land and forests administration and initiated a series of reforms on land use policies. The aim was to create a uniform system of governance and land tenure for the entire country- the *raiker*system. At first, all private forests were nationalized in 1957, and then *Birta* tenure was abolished in 1959.A series of new laws (the Forest Act and Regulation 1962; Civil Code 1963, the Land Act 1964 and Land

Administration Act 1967) were promulgated to implement these new policies. Finally, the pasturelands were nationalized in 1972. Finally, enactment of these laws abolished the *kipa t*system.The Forest Act, 1962 declared forests, fallow land, private forests and other uncultivated land or barren lands as national forests. The Land Act 1964 abolished the *kipat* system and made the provisions for land survey and registration providing the landholders a land certificate known as *Lalpurja.* As shifting cultivation was the major agriculture practice and fallow forests were declared as state/ national forests, majority of *kipatiyas*could succeed to survey and registersomepart of lands,lands that were under crop production during the time of Cadastral survey[7]. Although all kipatiyas could not registered all their traditional bhasme plots into their name or in riaker tenuer some kiptiyas in remote areas have continued their Bhasme farming system in their unregistered tradtional plots. While some relatively poor and socially weak *kipatiyas* have already abandoned their shifting plots and let them to grow into forest (Aryal *et al*, 2010; Field survey, 2015).

With the commencement of massive plantation programme in the 1980s, majority of abandoned shifting cultivation plots were planted and handed over to the then Village Panchayat as Panchayat Forests. Moreover, with the expansion of protected area system (National Parks and Conservation Areas) in the eastern region usufruct rights over *kipat* lands further limited to remote and inaccessible areas.

7 Mostly those shifting plots that were under cultivation during the cadastral survey and lands under permanent cultivation such as khet (paddy land) and gharbari (homestead areas)


Distribution of Indigenous Forest and Pasture Management Practices in Nepal before 1990 (Documented)
N
W
E
S
Physiographic Zone
High Mountain
Hill
Middle Mountain
Siwalik
Tarai
Regime
FM
KS
SC
TG
FM/TG
KS/FM
SC/FM
KS/FM/TG
KS/SC/FM
SC/FM/TG
KS/SC/FM/TG
Others
District Boundary
Abbreviation:
FM: Forest Management
KS: Kipat System
SC: Shifting Cultivation
TG: Transhumance Grazing
0 55 110 220 330
KM
Humla
Darchula
Bajhang
Bajura
Mugu
Baitadi
Dadeldhura
Doti
Achham
Kalikot
Jumla
Dolpa
Mustang
Kanchanpur
Kailali
Dailekh
Jajarkot
Rukum
Manang
Surkhet
Myagdi
Gorkha
Bardiya
Salyan
Rolpa
Baglung
Kaski
Lamjung
Rasuwa
Parbat
Pyuthan
Gulmi
Banke
Syangja
Tanahu
Dhading
Sindhupalchok
Dang
Arghakhanchi
Nuwakot
Dolakha
Solukhumbu
Palpa
Sankhuwasabha
Taplejung
Kapilbastu
Nawalparasi
Kavrepalanchok
Ramechhap
Chitawan
Rupandehi
Makwanpur
Lalitpur
Okhaldhunga
Tehrathum
Parsa
Sindhuli
Khotang
Bhojpur
Panchthar
Bara
Dhankuta
Ilam
Rautahat
Sarlahi
Udayapur
Dhanusa
Mahottari
Siraha
Sunsari
Morang
Jhapa
Saptari

C. Kipat system after 1990

With the restoration of democracy in 1990 the government promulgated new forests acts andregulations giving top priority to community forests. Plantation forests established during the 1980s on forests including unregistered kipat remained barren or unclaimed in the early 1990s have been handed over to the local communities as community forests. And some of the remaining scattered small patches of barren or open land and degraded forests have also been handed over to poor farmers as group leasehold forests.Moreover, further expansion of conservation area and National parks (Kanchenjunga Conservation Area and the Makalu Barun National Parks) included the remaining areas of *kipat* into the jurisdiction of Protected Area systems that prohibited the access to previous kipat areas.

Despite these legal provisions, a majority of unregistered land and or old *bhasme* plots or fallow forests located in the vicinity of a village and lands remained fallow or kept as *kahrbari*, along the border or periphery of the registered land continued to remain under usufruct rights, and at present are largely under a multiple use agro-forestry systems with cash crops such ascardamom, broom grass plantation and Chiraito as inter crops (Aryal et al, 2010; Field survey 2015).

3.5.3 Khoria/BhasmeCultivation system

A. Indigenous/customary Shifting CultivationPractices before 1957

Khoria/Bhasme is a shifting cultivation system of rotational agro-forestry or a practice that involves the growing of crops on a plot of land and then letting it rest and recover for several years.In such lands, the land area is cleared off, burnt and crops grown (Box 3.6).The land is then left over left over for medium (10-20 years) and long duration up to 50 years to regenerate forests, known as fallow forest. Meanwhile people farm in another rested and recovered and the cycle restarts again. It carries different name in different parts of world for an example: Swidden agriculture or simply a Swiddenin Indonesia, *Jhum* in Indian states Assam, Arunachal Pradesh, and *Khoriaphadani; Bhasmepolne*; and *Kudella-katne*in Nepal (Baral, 1994; Kharel *et al* 1996; Ramakrshnan, 1992 and Shrestha, 2008).

Box 3.6: Silent Features ofcustomary shifting cultivation practices of Nepal before 1957

Cultivation Practices

Selection of sites and land preparation: The customary institutions after assessing the performance of the farmers give final decision for selecting plots for cultivation. Normally plots with better and matured fallow forests are chosen for cultivation. However, selection of site varies across the regions. Average size of annual shifting cultivation plots varies between 0.5-1 ha. Land clearing and burning in most of the districts (EDR to WDR) is done between January-March while it is carried out during March-April in the Karnali region.

Cropping: This varies across the region in terms of crops intensity, topography and climate.Generally two croppings are common:Major cropping as Barkhebali and second cropping as Hiudebali.Maize,Millet, Buckwheat and Barley are the major crops where as Kauni, hill paddy or dry land paddyJunelo, Gahat (horse-gram), Black-gram (Mas), cowpea, soyabean, a number of other beans; sesame, mustard are also cultivated after the Barkhebali or relayed (mostly the bean varieties)withmajor crops maizeand millet. First crops are sown immediately after the onset of monsoon (June/July) harvested in August/September, and the second crops are sown immediately after the harvest of the first crops and harvested by November/October. Then the plots are kept rest till March/April.Cropping phase in the past used to be 2-3 years but now it is extended to 2-5 years.

Fallow Forest/period: Fallow period or rotation of shifting cultivation plots in the past used to be 15-20 years, now it is maintained at 3-5 year.

(Source: Regmi 1978, Forbes, 1994; Aryal et al 2010; Kerkhoff and Sharma 2006, Baral, 1995 and Uprety 2008)

In this study, the Bhasme Plone or Khirya pahdani refers to an integrated agro farming system of land management with basic tenets slash and burn (land clearing and burning), use of simple tools mostly hoeing (no ploughing), a distinct cropping phase and fallow forests/period administered and governed by customary regulatory institutions and indigenous knowledge and skills. Thus, common methods of land clearing and burning of land commonly practiced by common hill farmers to convert their *kaharbai (*a mraginal alnd set aside for grass and trees to grow*)*into crop land (*khoriya pahadani*) and also forest clearnce and burning by forest squatters aiming at forest encroachment[8] are not considered a *Bhamse polne/Khoroya pahadani* system or a shifting cultivation, therefore, are excluded from documentation and discussion

Until about a century ago Khoria/Bhasme/shifting cultivation was the dominant agriculture practices in the hills and mountains of Nepal. It was common in both raiker and kipat land tenure systems. It is now in transition mainly practiced in around 20 hilly and mountain districts across the country (Regmi et al, 2005) especially in the ancestral territory of the indigenous communities. This practice is largely associated with indigenous communities and their customary practices of managing land, forests, pasture and other natural resources.

B. Khoria/Bhasme between 1957-1990

The status of Khoria/Bhasme until 1980s remained quite similar to Kipat system.As majority of the Khoria/Bhasme cultivation area were located in remote and highly inaccessible areas,where state presence was almost nil and the cultivators continued their traditional way of farming in line with their customary laws or decisions of their institutions.Similar to Kipat holders, shifting cultivators also could not register their traditional lands and get land certificate during the cadastral survey because majority of land were under forest fallow and many could also not produce required land tax receipt given by their Mukhiyas.[9] However, with increased road access, emerging new markets and economic frontiers and other infrastructures facilities and the commencement of Praja Bikash Project (in Chepang area) has shifted the dependency of Khoria/Bhasme cultivators to other off-farm activities.All such efforts made them slowly and gradually shift from the kind of semi nomadic life styles to sedentary farmers. Furthermore, expansion of government (forest sector) machineries all over the districts and commencement of massive plantation in the 1980s also played a role to slow down the expansion of Khoria/Bhasme cultivation (Baral, 2009, Kafle, 2011; Field Survey, 2015).

As the cropping phase increased from 2-3 years to 3-5 years and the fallow period decreased from 10-15 years to less than 10 years and moreover, the areas of Khoria/Bhasme cultivation became scarce, many Chepangs and local farmers converted their Khoria/Bhasme into permanent agriculture. The pressure for Khoria/Bhasme further decreased as many Chepang and traditional shifting cultivators started engaging in cattle farming, goat raring, vegetable farming, seasonal labours, and small scale income generating activities. However, the Khoria/Bhasme cultivation remained widespread in many rural and inaccessible parts of the country such as northern part of Eastern hills, Hilly areas of Nawalparasi, eastern part of

8A gradual process of constructing small temporary huts and cottages (mainly from brush woods) in the forestland,land clearing and burningand ploughing the forestland with the intention ofpermanent settlement and cultivationin

9 Land Act 1964 and Land Administration Act 1967 had made Land tax receipt issued by the concerned Muklhiyas/Subbas or Jamaal an obligatory to document of identifying holder and get certificate of a given piece of land.

Palpa and Humla and Kalikot and other district, where the sate presence was almost nil (Field survey, 2015).

C. Khoria/Bhasme cultivation after 1990

During this period, the Khoria/Bhasme cultivation practice drastically changed in terms of coverage, and size of plots/HH, households cropping phase and fallow period. A number of factors contributed to these changes.They are: increase in population, increased access to roads and other infrastructure facilities, disinterest of youth or younger generation to continue their traditional life styles, seasonal migration of youth to urban and semi-urban areas for employment, income and better life, rise in the awareness level of development and natural resource management among the cultivators and theexpansion of community based forestry and protected areas system.The fallow period has been drastically reduced down to 2-3 years with increased cropping phases of 3-5 years. Most of the traditional Khoria/Bhasme cultivation plots have already been converted into permanent agriculture and number of households involved in farming has also been significantly reduced. Unregistered plots or land under usufruct rights have already been handed over as community forests or leasehold forests where cultivation of traditional crops (food grains/cereals) is strictly restricted. Moreover, expansion of National Parks and Conservation Area hasfurther limited their access to traditional farming. As a result, scarcity of land for Khoria/Bhasmecultivation continued.The average sizes of the plots is now less than 0.2 ha (Baral 2009, Aryal et al 2010).

Traditional *Khoria/Bhasme* cultivation, now a days is confined to limited area, particularly in remote and inaccessible areas of the ancestral territories of a few selected indigenous communities such as Chepangs, Magars in the Central and Western region (Baral,2005, Aryal and Kerchoff, 2008, Shrestha, 2008 and Field survey, 2015), Rai and Limbus in the Eastern region, (Aryal et al 2010) and Khas and other Janajatis in Karnali areas where usufruct rights over the land is still prevalent (Kharel et al 1996; Field survey, 2015). Moreover, it is being practiced by elderly households of indigenous communities not merely for subsistence butto conserve their socio-cultural identity.

Changes in Khoria/Bhasme cultivation practices, particularly of tenure rights, scarcity and de-motivation of younger generation have brought about many new creative innovations and dynamism in developing new champions leading to positives outcomes in the system of cultivation and livelihoods of many rural poor and indigenous communities. Rural poor and indigenous who adopted Khoria/Bhasme cultivation lifestyles have organised into groups, networks and cooperates involving in variousforest/land development and income generating activitiesinitiated by the government, local NGOs in support of a number of bilateral projects, international donors and agencies.For an example Chepangs of CDR and WDR, Rais and Limbus of Panchtar, Bhojpur, Terhathum and Panchthar districts and Magar and other local peoples of the hilly region of Nawalparasi (Hopsekot area), Eastern region of Palpa (Jhurubas area)and adjoining area of Syangja have been heavily involved in pro-poor leasehold forestry[10]. Chepangs and other rural people have adopted various environmental friendly agriculture intensification models prescribed by well recognised Sloppy Agriculture Technology (Shrestha, 2008; Field survey, 2105). As a

10 An agro-forestry based land development model that aims to meet dual objective of property alleviation and environmental conservation through rehabilitation of degraded land or forests where all crops expect cereals can be grown. Under this forestry open or barren or degraded forests (less than 20% crown cover) up to one hectare per household is handed over for 40 years on lease (free of land rent or royalty) to a group of bona fide poor of 10-15 households. To date more than 10000 ha of forests that were mostly the traditional shifting plots under usufruct tenure have been handed over to more than 1000 groups comprising of over 1000 HHs or 50,000 indigenous and rural poor.

result of these innovations and interventions traditional Khoria/Bhasme cultivation plots, majority of which were highly degraded, devoid of fallow forests and barren, are now converted into a mosaic of multiple-use agro-forestry system with cash crops such as broom grass, improved varieties of forage/fodder, fruits (banana, and pineapple), and non-timber forest products (NTFP) such as Argheli, bamboo/nigalo and chiraito, Tejpat as inter crops. These innovative interventions have brought about significant positive impacts on the livelihoods of rural poor and indigenous communities. Annual income per HH from the sale of crops produced from leasehold forestry is found to be many times higher than those from traditional farming. FAO/LFLP reports (2013/14) that on an average annual income of a household alone from the sale of broom grass in Jhirubas and Hopsekotarea increased from about Rs 2,500 in the first year of establishment tomore than Rs 50,000 by the end of third year (FAO/LFLP, 2014). The annual turnover of broom grass for 2015 from Jhuribas alone is more than Rupees Ninety Lakhs (Personal communication with LFLP/DoF Officials). Similarly, most of the Khoria/Bhasme cultivation that were under usufruct rights in the EDR have already been planted with Cardamom with mix of broom grass, Chiraito, Nigaloand alder trees Filed survey, 2015). Some have already changed their traditional life styles, some are involved on livestock husbandry, and a few are migrated from the area, while others are heavily engaged in tourism (Shrestha, 2008; Aryal et al, 2010).

3.5.4 Customary/Indigenous Practices of Forest Resource Management

A. Indigenous Forest Resource Management Practices before 1957

Until 1950 during the period of Rana regime, forests in many area of Nepal were under the responsibility of local institutions such as Jimmwal, Subba, ShinghiNawa, Mukhiyaor *talukdars.* These institutions were functionaries of the state whose primary responsibility was to enforce state law and collect revenue.To carry out this responsibility, these institutions used to control access to forests and distribution of forest products. Forest watchers known as *chitaida*r or *chowkidars*were employed and various sub-committee or institutions formed for regular supervision and protection from human disturbances such as forest fire, grazing, and illicit cutting. Based on the ethnicity, geography and life styles of the people the customary practices vary in the structure of the institutions, administration, governance systems, and forest harvesting and use patterns. Nonetheless, the priority areas and products of management did exit across the country and were basically guided by egalitarian principle and bicultural approach of forest management.

These institutions in most cases for an example Jimmawal and Mukhiya were inherited but formally recognised by the state, therefore, were considered the representatives of the state machineries.They generally accept gifts such as *ghee* (butter), *dahi* (yoghurt), chicken, free labour, and even grain in return for permitting small scale harvesting of forest products by the local people, but charged no fee in cash. Nonetheless theyhad to keep a record of all trees marked and felled, and report to the *bada hakim* (the representative or an employee of Rana regime in the district). All trees near water sources, main tracts, religious sites, and resting place (*chautara*) were to be preserved.

This system of local forest control system, in many districts, ceased to exist after the promulgation ofthe Private Forest Nationalization Act of 1957 and the introduction of the new forest administration.While in most of the remote rural areas away from the district headquarter remnants of this system continued with new names and forms such as a *Jimmawal or Mukhiya system* of Forest Management.

B. Indigenous Forest Resource Management Practices between 1957-1990

This is the period when state effort was focused developing forestry sector legislations (Acts and regulation) and expansion of organisation across the country. A new Forest Act 1961 and Special Forest Protection Act 1967 were formulated to manage, control and protect the forests. However, the focus was in theTarai forests for clear felling and providing forest land for resettlement. Thus there was a distinct institutional gap in the hills and mountains. Such a gap provided the indigenous institutions of these regions to consolidate and strengthen the system in the changed socio-political context. Most interestingly, even new institutions and systems of forest management emerge and expanded. As a result, local control over forests remained in place, particularly in areas where local leadership was strong enough to resist government interference. In these areas, forests were protected through local actions toensure that local people could continue to meet their needs from the forest, and the Actappears to have had little effect (Mahat *et al*, 1986a and b 1987 a and b); Baral, 1990; Gilmour and Fisher, 1992; Dahal 1995, Karki e*t a*l, 1994, Uprety, 2008).

Although the new forests Acts of 1961 and its regulation legally replaced the indigenous forest management in many area such as Gorkha, customory institutions became more active and responsive (Baral, 1990) when the government developed a Forest Development Plan that sought to adopt participatory approach of forest management but the plan remained silent about the indigenous system of forest management largely practiced in the Hills and mountain areas. The Department of Forests (DoF) started to hand over forests (plantation forests as well as natural forests) as Panchayat Forests and Panchayat Protected Forests after the promulgation of Panchayat Forests and Panchayat Protected Forests Rule in 1978. A massive plantation also began in the barren public land.Despite legal recognition and respect of the indigenous institutions, majority of members of customary institutions remained more active in villages where more active chiefs of the local indigenous institutions were elected as the village leaders (Pradhan Panch or Ward chief). Similarly, the indigenous institutions remained functional in remote hills and high mountains (Mahat *et al*, 1984; Gilmour and Fisher, 1992; Baral 2001; Baral 2009).

C. Indigenous Forest Resource Management Systems after 1990

With the commencement of Master community forestry programme in the hills and mountain as a forestry sector top priority and formation of government sponsored forest management and protection committee, majority of indigenous institutions and forest management systems started declining and deteriorating. Except in remote areas of Mid-hills and High Mountains where residual national forest is still dominant, no indigenous institutions or forest management practices as such do exist now in Nepal (Baral *et al*, 2012; Field survey, 2015). They have been almost replaced by new formal state sponsored institutions such as Community Forests Users Groups, Buffer Zone Community Forest Users Groups, Protection Forests Users Groups, Leasehold Forests Users Groups and Conservation Area Management Committee/sub Committee.

3.5.5 Customary/Indigenous Pasture Management Systems

A number of diverse customary pasture or grazing management practices do exist across the country from Tarai to High-Himal. There are limited infromation and literatuers of indigenous pasture mannagement in the Tarai and Midhills. However, there are waelth of information about indegenous pasture and forest management system of high alttude area., In general, three systems of grazing are practiced in the country. They are: Sedentary, Sedentary cum transhumance and Transhumance (Pariyar, 2014).

i. Sedentary System of Grazing in Tarai (<500 masl)

This system is practiced in Tarai region where winters are not so severe posing severe scarcity of animal feed. Cattle, sheep and goats are the main grazing animals in this area. These animals are grazed year long on roadsides, on cultivable land, forest near Siwaliks, on cultivable land after harvest and on fallow land, privately or communally owned grazing and forests lands. Small herds of sheep, goats and cattle set out to graze in the morning and return in the evening after 5-6 hours of grazing in summer and 6-7 hours in winter (Pariyar, 2014).

ii. Sedentary cum transhumance system of grazing in Hills (500 m-2500masl)

In the hilly regions, the sedentary system of grazing prevails at the lower altitude (up to 1000masl) while transhumance grazing prevails from 1000-2500masl. Cattle, buffalo and goats are the main grazing livestock. These animals graze at the high altitude rangelands from April-August (winter pasture of Yaks) and return back to settlement area from September-March. In the settlement area sheep and goats grazed on terraced after the paddy, maize and millet harvest manures the terrace land and housed at night in temporary shelters (goats) on the terraces. Only lactating buffaloes and improved cattle are stall fed. These animals are supplemented with concentrate feed including rice bran, maize flour and common salts (Ailrol, 1978; Messershimdt and Rayamajhi, 1995; Baral, 1996; Baral and Acharya, 2012; Pariyar 2014).

iii. Transhumance system of grazing in Mountain (>2500masl)

The seasonal movement of the animals from lower altitude to higher altitude and vice versa characterises the transhumance grazing system. This system is practiced in the High Mountain and trans-Himalayan region where winter is very severe that pose severe feed scarcity. Cattle (Lulu bulls, cows and calves) yaks, naks, and chauries, sheep, goats, and horses are the main grazing animals. These animals move in an annual cycle according to grazing availability at different altitudes. For instance: mountain cattle, yak, and chauri including sheep and goats move up to alpine pasture at 4000-5000 masl in summerand back down to 1600-2100 masl for the winter.But sheep and goats move further down to Mid-hills in the winter season at elevation 1000-1500 masl.

Until 1957 most of the transhumance farmers (for anexample in Dolkha, Sindhupalchowk, Humla, Mugu and Dolpa) had access to Tibetan pastureduring the winter season where they would keep animals for about two and half months (Goldestein, 1975; Alirol, 1979; Rai and Thapa, 1993; Messershimdt and Rayamajhi, 1995; Baral, 1996). However, in many districtssome transhumance farmers (for example farmers from Listi and Tatopani VDC of Sindhuplachowk (Baral 2000), andLimi VDC ofHumla are still

Using Tibetan pasturesin the winter seasonbut they are relatively inferior (less productive than earlier) and also pay relatively high fees to Tibetan authorities (Goldstein, 1975; Goldstein, and Beall, 1990; Baral, 1996).

Various forms of customary institutions (described in the next section) are responsible to promulgate the rules for the management of natural resources, usually by consensus. In order to apply clearly-defined rights over pasturelands, the indigenous pasture management systems inculcate a number of well-defined rules. The grazing rights are guarded by delimiting areas of pasture for exclusive use by particular groups of villagers or villages by delimiting areas of pasture for their exclusive use (Ailrol, 1979; Rai and Thapa, 1993; Parajuli, 1995; Baral, 1996).

These institutions often form sub-committee/institutions in consulation with the herders and local communtiy for a specified period of time (usually one year) to act as the "enforcer" of rules meant for the management of natural resources (Baral 2008, 2009). These rules range from formal to informal, depending on the local communities and conditions of the land. These rules are developed/redeveloped and implemented with active participation of transhumance farmers/herders. First and foremost, the rules restrict the number of animals per particular pasture area for a specific time period. They are strictly imposed to control the stationing and movement of animals and to discourage overgrazing of local pastures. Second, the rules are set to effect equitable access to pasture resources so that all the members of the herding group, including the weaker and poorer individuals, have equal access to the land. Third, the rules define liabilities such as animal taxes, so they may be borne equitably. Owners of larger herds pay more taxes. Fourth, the rules provide the basis for arbitration in case of disputes.

B. Indigenous Pasture Management between 1957-1990

The Nationalization of forests and pasture, and abolition of the *Birta* land and annexation of kipat land into national land tenure*Raiker* system have had little impact on the customary practices of pasture management or grazing in Nepal. As there was no distinct indigenous system of grazing in Tarai, herders continued grazing in the public land or in remaining patches of forest close to their settlements. The farmers of Mid-hills and mountains enjoyed their traditional system of grazing or pasture management without any hindrance from the sate till the end of 1980s. However, closure of Tibetan pasture to Nepalese herders by the government of China, increased access to plains and flow of iodized salt into the hills and mountain areas changed the grazing route and salt trade of livestock and forest products (Goldstein, 1975; Baur, 2002; Thomas et al 2002). Although the existing political system provided the legal responsibilities to the chief of the Village Development Committee (then Village Panchayat), majority of position in the VDC were also taken by the chief of the indigenous institutions, no major changes were observed (Gilmour and Fisher 1992). Similarly, the sheep transhumance in Humla functioned well until 1980s even after the nationalization of forests and pasture and Abolition of Birta tenure. There were also little impacts of the Panchayat governance systems and disruption of salt trade with Tibet (Parajuli, 1995; Baur, 2002; Baral et al, 2012).

However after the increased road networks and access to education and development of new economic frontiers (market, towns and cities, industries), and resettlement programme of the government in Tarai, majority of hill farmers migrated in Tarai and inner Tarai, a major change occurred in the grazing system. The migration of youth to cities and urban areas, their lack of interest to traditional farming and massive plantation by the government under the community forestry development program in the Mid-hills, the sedentary cum transhumance pasture or grazing system converted to sedentary grazing system. However, the transhumance grazing system in the upper/Midhills and mountain areas continued their indigenous practices.

C. Indigenous Pasture Management after 1990

With rapid expansion of community forestry across physiographic region of the country, significant changes in the indigenous pasture or grazing management practices were observed. With the restoration of multi-party democracy in 1990/91 majority of political persons of Panchayat regime who were mostly the chief of the various indigenous institutions became relatively inactive and their position were taken up by highly politically empowered members of various political parties.Moreover, forest users group particularly, the community forests users groups were also united and actively involved in the management of forests, special efforts were made to regulate open grazing. Gradually, sedentary practice

of grazing or pasture management was replaced by stall feeding or limited to natural forests or public land in the vicinity of villages.

With the expansion of community forestry across the country, winter pasture of herding sheep were banned or heavily taxed in all Community Forests jeopardizing the transhumance lifestyle of high altitude sheep herders. The transhumant herders of Humla used to move to the forests located in the south toBajura, Kalikot, Accham, Surkhet and Kailali districts for winter grazing and trade. Such a ban or heavy tax has pushed the sheep transhumance lifestyle of Humlato the verge of extinction. Majority of herders have already abandoned their traditional life style. By the end of 2008, of 1227 total HHs in Baragaon VDC only 30 HHs (12.44%) were found to be engaged in transhumance sheep farming. In addition, the size of herds on an average has reduced down to 72[11], with the most frequent size being 40, whereas the size of herd before 1980s used to be 150-500/HH (Gurung, 2008). In this way, the expansion of community forestry and also the protected area systems largely in the high altitude areas, together have greatly disturbed and jeopardized the century old transhumance livestock or pasture management system.Non-recognition of the traditional rights of transhumance herders' using the forests of Midhills as winter pastures has significantly affected the system of transhumance grazing system forcing the herders to abandon their life styles.Apart from this, other new economic opportunities such as tourism and hotel business, and youth migration has contributed to this decline. At present, very few farmers of high altitude areas are adopting the transhumance grazing system. The indigenous institutions do exist but are loosely organized and least active. The Community Forest user group or committee formed under the protected area systems has almost replaced the indigenous institutions or amalgamated into new institutions such as Conservation Areas subcommittee or Conservation Area Committee (Stevan 2013, Field Survey, 2015).

3.5.6 Rautes the last hunter-gatherers tribes of Nepal

Rautes are the last nomadic ethnic people who live in the hills of the Mid western and Far-western hills of Nepal. They have unique lifestyles of depending entirely on forest products (woods) and monkey for survival. They are classified as an endangered group of indigenous people. With the expansion of community forestry in their territory and ban on hunting and cutting trees to make wooden pots, declining in forests, and flooding of cheap plastic goods Rautes are struggling to maintain their traditional way of life. Moreover, the global climate change has already shown several serious implications on their livelihoods. It is, therefore, necessary to discuss about the status and trends of changes on the way of living and livelihoods of these endangered indigenous nationalities from REDD+ perspective.

A. Raute before 1957

Rautes are nomadic ethnic group officially recognized by the Government of Nepal. They roam the thick hilly forests of Dailekh, Jajarkot, Surkhet, Salyan, Kalikot, Achham, Jumla, Darchula, Baitadi districts in search of food and protect themselves from harsh climates. Depending on the location and available resources, they stay at one place between one week to one month andthey return to the same area after about 12 to 15 years. Upon departing they set fire to their huts (made out of leafs, branches and pieces of old clothes), but they never set fire to the forests (Bista 1967; Rana 2010).

11 During the 1970s, most of families in the Tsang Village of Limi VDC have 90 sheep or more (Goldstein, 1975)

Rautes have typical lifestyles.[12]They are known especially for their hunting of langur and macaque monkeys for subsistence. Hunting of monkey is an important part of Raute life.Other major activities are the production of the wood utensils such as chests, trays and bowls. Using simple locally made tools such as axe and basila they make various utensils such as bowls, plates,pots, Sanduk/s (trunk)grainstoring vessel, okhal (rice husker/maizeand millet piller) and other agriculture implements. They barter these products in the neighbouring villages in exchange for food grains, iron, clothes, and jewellery.When they come back with their earnings from the neighbouring villages, their earnings are collected in front of their chief (Mukhiya), afterward everything is equally shared in the community. Rautes are administered by the Mukhiya, the chief of their community elected among the senior most aged male Raute through consensus of the community. The Mukhiya's major roles and duties are social security of their community, meeting with outsiders, and setting date for the next move, resolving disputes among the individuals and organising cultural ceremonies and festivals (Rana, 2010; Sneha, 2012)

B.Raute after 1957-1990

No significant changes occurred in the lifestyles of Raute during this period of time. They enjoyed their territory without any interventions from outsiders (neighbouring communities) and the government.Theycontinued to remain full-time foragers and not assimilate into the surrounding farming population.

C. Raute After 1990

Rautes have largely continued their life styles. No significant changeshave been observed,exceptthe decline in their populationeven after the drastic changesin socio-political systems of the country . However, with the increased awareness, access to education, health and other income generating activities initiated by a number of development agencies, government and local NGOs, alongwithincreasing deforestation and restriction of using their traditional territories by the community forest authoritiesand replacement of their wooden products'by synthetic industrial products such as plastic, the Rautesno longer feel safe and secure in the forests. They have started to migrate from the forests to human settlements in pursuit of a better life. For example: 333 households of Raute living in two VDCs (Jogbuda and Shrisha) of Dadeldhura districts have already changed their lifestyles into sedentary farmers. They live now on 1.5 ha of forest land provided by the government for their residence (Rana 2010).Now they derive their livelihoods from daily wages (agriculture), sand and stone quarrying, skilled labour such as carpentry, masonry and fishing including weaving fish nets(Rana, 2010)

3.6 Customary institutions of managing forests and pasture resources of Nepal

Context

Indigenous communities all over the world are governed by their own indigenous institutions or customary institutions for the welfare of their society and management of natural resources of their terrotories. Among their several functions (social economic and ecological), these institutions in the past acted to ensure the sustainable use of community natural resources while maintaining the social integrity

12 They have their own language called Khamchi. Social norms are very strong in this community and they feel proud on their way of living. They drink water only spring water, do not waste time by gossiping and chatting, not collect money, not speak forgery, not cheat, and not look behind while walking. They neither garden, farm, or work for others as tenants or wage labourers nor they sell bush meat, wood and other non wood forest products such as medicinal and aromatic plants

of their communities. They ensured the sustainability of flow of goods and services of natural resources in favour of the welfare of their community. To regulate and maintain these flow of goods and services a set of rules and regulations with well defined bundles of rightsare formulated and various sanctions are imposed upon defaulters.These institutions are largely responsible for the continued productivity of the forest and pasture, therfore the world communities (United Nations) have recognised them as the protectors or stewards of the natural ecosystems (terrestrial and aquatic).

Nepal is a country of socio-cultural and biophysical diversities[13]so are the customary laws and practices. Thus, there are dozens of indigenous institutions specific to different caste and ethnic groups, locations as well as specific to different purposes. GoN/MoSTE in its recent study (2013) on "Understanding indigenous and traditional social institutions for climate change adaptation in Nepal" hascategorized indigenous institutions of Nepal intosix types (Forest and land management; Financial management; Labour relations; Social and Cultural Management and Religious sector; and Health and Medicinal) andmore than two dozens of corresponding indigenous institutions have been listed. Those related to forest and land Management and socio-cultural management include: Bheja, Kipat, Raiker, Mirchang, Posang and SinghiNawa and Mukhiya. However, review of existing literatures on Indigenous people and their customary practices of land resources (agriculture, forests and pasture resources) show that each of the institutions are directly or indirectly related to the forests and pasture management. The forms and names of the institutions differ between regions, locations and among ethnic groups or communities. The most widely researched indigenous institutions directly involved in forest and pasture resource management of Nepal canbe categorized into three major Institutions: Kipat or Subba System; the Jimmawal and Mukhiya system; and Gumbaand Mukhiya system.

3.6.1 Customary Institutions

i. The Kipator Subba institution of forest and pasture management

Two types of institutional framework or arrangements did exist to support and implements traditional practices and customary laws governed by the 'kipat' land use system. They are:

a. Formal institutions such as the *'amal'* (local court), *'amini'* (appeal court in the trans-boundary zone), and 'adalat' (appeal court in the non-trans-boundary zone);
b. Informal institutions such as traditional religious bodies, social organisations, and individual intermediaries.

The chief or head of the *amal* was called *Amali Subba*or*Pagari Subba* empowered with legal authority to rule on community issues regarding forests, rivers, pastures, wetlands, and religious sites. Thus, the IndividualSubbas were the institutions patronised by the rulers delegating feudal land rights (revenue collection and land distribution) alongwith responsibility of managing and using forests, pasture, water and other natural resources.

Informal institutions consisted of a number of social bodies such as *samaj'*, *'chumlumg'*, and '*manghim*'to take care oforto conservereligious sites and temples as symbols of their customary laws and traditions.Similarly, for the conservation of forests and biodiversity, social institutions consisting of professionals such as '*shikari' (*hunter), '*bijuwa'*, or '*phedangba*' (healer or priest), and '*dhami'* or *'jhakri'* (protector) are/were also established with well defined roles and responsibilities.

13 Nepal currently has 126 castes and ethnic indigenous groups; 123 languages spoken as mother tongue; and 9 religions (CBS, 2011) each with distinct cultures and unique ways of life. There are five distinct ecological regions more than 70 vegetation types, 35 forest types and 118 forest ecosystems and the country enjoys the climate from tropical to arctic climates (NBSAP, 2014)

ii. Jimmawal and Mukhiyas Institution

The system of *jimmawals and mukhiyas*were introduced in the second half of the 19th Century during the Rana regime. Jimmawals were thepowerful persons patronised by the Kingempowered withfeudal rights to land, called *Birta*. These feudal rulers were called *Jimmawals. Mukhiya* were the subordinate of *Jimmawals*who collected revenue, enforced law and order, and solved local conflicts. The *mukhiyas*were the ones who distributed the common property land among individual households, thereby fixing the plot boundaries, which are followed to till this day by the community members. *Jimmawals and Mukhiyas*in most cases were hereditary.There existed a number of area-specific and ethnicity-specific subtypes of Jimmawal and Mukhiyas systems of forest and pasture management. For example: Talukadari system of forest management, the Nora and Rokya system of forests and pasture management of Karnali region,Mirchnag or Mukhiya System of Forestand Pasture Management of lower Mustang (Thakkhola) etc.

During that period the Rana rulers restructured the old customary institutionsof each villagesor areas in line with their Jimmawal and Mukhiyas system of local governance.As a result,for example, the headmen (the Subba) who used to manage the *kipat*system became revenue collectors and land distributers (Mukhiyas). The Panchayat regime abolished the feudal Jimmawals and Mukhiyas system and their position was given to the head of theVillage Panchayat called *PradhanPanch.* The democratic government after 1991 continued it but with a different name- the VDC Chairperson.

iii. The Shingginawa institution oftheKhumbu region

The Sherpa of Khumbu region have demonstrated that they are highly aware of the sustained use of the common property resources in their ecosystem. They have established some institutions to regulate human relations with nature. They have developed a holistic village governing and enforcement system of forest and pasture management known as Shingginawa/Shingo naua. Under this system an "Official" known as *nawa/naua*is (simialr to Mukhiya or village head) is chosenby the communitytohead the institution of pasture management (known as shinggi-nawa-similar to village head or Mukhiya). The process of nominating the nawa is highly democratic. The Nawas are selected annually on a rotational basis from the households of the village, generally through a lottery system, where the former Nawa has no right to offer candidacy. So, each member household gets turn in rotation. However, in practice, if a *'Shingo Naua'* enjoys the confidence of villagers then he might hold his office as long as 12 years. These are of two types: OshoNawa and Shinggi Nawa (Shingi is for timber or wood and Nawa stands for people who look after forest). OshoNawa's responsibility is to coordinate the villagers' agricultural activities and to prevent damage to crops. Shinggi Nawas are responsible for NRM but also look after agriculture and livestock management (Haimendorf, 1979).

iv. Mukhiya, Nora/Rokaya instituions in Karnali region

Mukhiya refers to the ancient institutional system of collecting land revenue at village level by the head of the village. Besides this, the *Mukhiyas* had an important role in the forests and livestock management system. For example, he had the authority (given by the state) to decide at which date the animals had to leave for higher elevations and vice-versa. No one would be allowed to keep animals after this date, or bring the animals back to the village earlier; otherwise the person would be fined. This facilitated people to manage village grazing land better and allowed the grass to grow. Thus, there was sufficient grass in the village for all cattle of the village.

Other common rules set by the Mukhiya included deciding the day the people could go to the forest for collecting litter for animals. Although the Panchayat regime demolished this system in 1962, it continued till 1990. However, collecting leaf litter from the forest on a fixed date by all households is still practiced but at present it is the community, not an individual authorised by the state who sets the date for collecting litter from the forest.

The Nora system is another local institution, which does not exist anymore. Nora is a watchman who looks after the animals when they stay in the village. He used to be selected by the people for a year usually on BhuwaAunsi (Poush) and paid a fixed amount of cereals per year called Newapathi. For this service, the Nora used to receive 4 *mana* (one kilo) cereals per household per year (Kharel *et al*, 1996). The main responsibility of the *Noral* was to look after the animals and to prevent themfrom entering agricultural field and destroying the crops. This system saved a lot of labour for the individual household. In case of malfunctioning of the Nora, the main authority was with the head of the village (Mukhiya). However, the Nora system, which was regulating community issues and representing a certain community, collapsed a few years ago in many VDCs. In many VDCs of Humla for an example Piplang VDC, thecentury old system was broken down after the restoration of multi-party democracy in 1990 (Kharel *et al*, 1996).

v. The Gumba system in Pugmo Village[14], Dolpa

The Gumba System of pasture management in the Pugmo village is administered by the Gumba danda monastery and follows a Lama's hierarchical system of institutional structure. The structure consists of a major Lama called Chhabi Lama, a junior Lama known as Lajung Lama, a Kerkha Lama generally called assistant and a number of beginners or student called Tabas. The Chhabi Lama being the main Lama occupies the most respected position with higher responsibilities followed by the junior lamas, assistant Lamas and beginners mostly the students (Parajuli, 2001).

This The main Lama is primarily responsible for public health care, religious functions, public education, conflict resolution, public security, resource regulation and management, Gumba management, construction and repair of bridges and beaten tracks. He is also responsible for controlling public land encroachment, fire in the forests and pasturelands, tree felling, haphazard rotation of herds in the seasonal grazing pasture, commercial pasture product harvesting, outsider encroachment and wildlife poaching within their territory. Similarly, other Lamas and Tabas are generally responsible to assist main Lama while performing all the responsibilities. Apart from these, the assistant and junior Lamas had additional responsibilities of handling the whole natural resource control and management system and performing all other responsibilities of main Lama in his absence (Parajuli, 2001).

The Lamas are not only religious heads and most knowledgeable person in the society but also dynamic agro-pasturalists and Trans-Himalayan traders. It is enriched with the history of Bonpo[15] cultural development, pertaining knowledge of the Lamas and changing experiences of historical phases.It was generally effective in the very past in the Pugmo village and entire Pugmo village development area.

14 Pugmo village is one of the major settlements of Phoksundo VDC within the Shey Phuksundao National Park (SPNP) with a total population 159 and 30 HHs. The village lies in the upper part of the lower Dolpa region at an elevation of 3000 m. . All the people of the village are of Tibetan origin and are the followers of the Bonpo religion and their economy is subsistence agro-pastoralism

15 Bonpo religion is the pre-buddhist religion of Tibet After the spread of Buddhism in Tibet; it was incorporated under the Buddhism. The Pugmo people consider it as a separate religion (wing) and religious philosophy (Parajuli, 2001)

However, along with the extension of Talukdari system and District Land Tax Office (Mal Adda) after 1911 A.D, this system is confined only in the Gumba area (Parajuli, 2001, Thomas et al, 2004)

vi. The Dhapu and Dhebu System of Dolpo Community of Dolpa (Based on NEFIN, 2012 and 2013)

In the past there were four indigenous institutions and practices of managing land resources (farmlands, forests and pastures) namely: *Chikyap, Gowa, Dhapu* and *Dhebu,* in local languages they denote leaders of the village or elderly and respected persons (*Jetho/budho*), however the first two collapsed with the inception of Panchayt Regime in (2017 BS) while last institutions and practices are still functional.

Under the leadership of *Dhebu* and *Dhapu* four *Rolbu* (assistants) are nominated/elected each year from the general assembly of the villages through consensus, and thus formed five member committee is known as *Heyulpon Chokpa*. The generally assembly which is generally held on before the cropping season i.e. before the month Chaitra (April/May) choose the leaders- Dhebu and *Dhapu* from each house every year on rotation while the assistant members are elected among the villagers; The tenure of the committee is fixed at one year and they are given the responsibility of overall administration and governance of the natural resources, socio-economic and cultural/religious catties of the community. Their main function is to work for the welfare of their communities, maintain intra and inter community harmony and sustainable management of natural resources. The administration and governance system of the Heyulpon Chokpa is guided by the following five categories of customary laws (NEFIN, 2012 and 2013).

(i) Relung Chasid-laws related to ban on hunting and killing of wildlife including birds
(ii) Rigalingya- laws related to killing of animals
(iii) Chathim-laws related to managing and regulating grazing of pasture lands
(iv) Nghothim-laws related to agriculture system or crop management;
(v) Thakthim- laws related to offenses and punishment upon breaches of customary laws;

vii. Traditional village councils in Nar and Phu Village of Upper Manang

Prior to 1973 the villages of Nar and Phu were governed by traditional, indigenous councils. The councils used to set, administer and enforce rules and regulations pertaining to community affairs. Today, though government and other formal and/or legal institutions have overtaken many of their functions and activities, and are not recognised by the governmentthey are still very much alive and continue to play a vital role at the village level (Gurung and McVeigh, 2002).

The councils called *Ghampa-Ngerpa* and *Gamba-Lhenjing*[5] in Nar and Phu, respectively, are made up of two types of members: decision-makers (called ghamba in both Nar and Phu) and decision implementers (called chow in Nar and Lenjing in Phu). All household heads have to hold both types of posts at least once in their lifetime. Membership is rotational, and eligibility is based on residence (villagers only), age (15 to 60 years old), sex (men only), and marital status (married men only). Residents above 60 years of age are waived from active membership, and unmarried men are not included. Once the crops are harvested and the livestock are moved to the winter pastures, the duties of the existing council are fulfilled. They then hand-over their positions to the new council members, who then take up their responsibilities immediately after the winter migration is complete (Gurung and McVeigh, 2002).

viii. Sat Thari Mukhiya of Tarami Magars (Based on Nesheim, 1992; Grung, 1999)

This is a unique kind of customary institution known as *Sat Thari Mukhiya* Systems established for the overall governance and administration of the whole *Magar* community as well as the natural resources of

their territories. The institution is highly inclusive in structure and comprises seven members representing each ethnic sub groups, elderly and experts of the community. The chief of the institution is called the *Mukhiya* (the leader of the village/community and this post is reserved for Adrashi group, *Chautare.* representative of the whole *Magar* community (local elite group/Abhijat class and comes from *Kanchhibar*e),*Jetho buda* from the matured elderly person of the *Rokka* group, *Thari*, the decision maker (justice) and the post is reserved for the *Bajhyangi* group; *Baidar*-secretariat or administrative clerk locally known as *lekhanda*s (writer expert in writing legal documents a local lawyer) elected from *Kanchibare Rokka* group; *Burauli a*nd *Katuwal* the Messenger coming from *Rupani* group. This customary institution was functional till 1961, remained moderately active till Mid 1970s and finally collapsed after that period i.e. after 1970s

ix. Dhaba Shyarbaa and Mithawa of Nginsyang Valley Upper Manang (Based on NEFIN 2012 and 2013)

This is an another typical and complex highly inclusive and democratic customary institution of the Nginsyang community of upper Manang established about 300 years ago with the objectives of maintaining a social cohesion and harmony among them and integrated management and wise use of natural resource in a participatory way.

The word *Dhaba Shyarbaa* in local language means main person or leader of the village *and it* is also known as *Khamcha Lhenji.* Dhaba Shyarbaa is an institution consisting a total of five members, one Dhaba (*Khamcha*, the leader) and four *Shyarbaa* (Assistants) nominated or elected on rotation (turn by turn) from the senior most members of the individual households (however/ he must be *Shyarbaa*) by the general assembly of villages. While Shyarbaas are nominated on the bass of the *Phobe* (sub-ethnic group *Khalak or Thari*). *Dhaba* is selected or nominated for one year among the eldest person of the community. Nomination/election of *Dhaba Sharypa* is basically guided by the structures (*Phobe-khalak/Thari*) and population of the community and efforts are made to make the institution more inclusive democratic, therefore, varies across the VDCs. For an example there are three *Phobe* namely *Sankrong*(Gurungs), *Puene* and *Thate* (*Katuwal*-the messengers or watchman of the whole village or community) in Pisang VDC. Of them two *Dhaba Shyarbaa* from *Sakrong* and remaining two from are nominated from *Puene* community. No *Dhaba Shaypa* from *Thate* community is selected because they have been designated from generation to work as *Katuwal* of the village.

However, the role of this institution now is taken by *Mithawa* institution and their role has been limited as an advisory body. The *Mithewa* in local language also denote elderly and respected person of the society. The Mithawa comprises of nine members of various posts, one Falsin (the justice), four Khamchi (executives), two Mihiti (messengers) and two Syarpa (policeman). The nomination or election process is quite similar to the Dhaba Syarpa however, person of age 15-60 can only be eligible for candidacy.

The Khamcha being responsible for over all implementation of the customart laws and take legal actions against their noncompliance, In case Khamchi could not settle the issues they refer the case to Falsin. However, in recent years the Mithawa have taken the role of Khamcha and Lhenji.

x. Kabra of Gurung's of Western Nepal (Based on NEFIN, 2012 and 2013)

Kabra is the head of the Ritithiti management system of forests and pasture of *Gurungs* community. In local language *Ritithiti* means *'Pay-chaya and Ptna-lhu-tna .Pay -chaya* denotes over all traditions and governance system while *Ptna-lhu-tna* implies socio-cultural traditions and rituals and festive. And *Kabra* is the leader of the village or the chief of the Ritithiti institution who in fact represents the elderly matured, respected and gentleman locally known as *Chiya* and *Tawa .Kabra* in Nepali can also be termed

as a *Mukhiya*. Thus, Rithithiti is an institution that is responsible for the overall administration and governance system of the Gurung Community and the natural resources of the their territory.

3.6.2Decision making and implementation process

Decision making and implementation process among all the functional customary institutions are nearly similar to each other. There is neither a written law nor a written system of registering complains and making decisions. Issues were presented orally and so was the decision making process[16]. Formation of executive body varies across the ethnic group, community and location or geography. For an example in some community the executive position is held by a particular group of people (hierarchical e.g the Kipat system, Conventional Jimmawal and Mukhiya system), in some all household share the executive position on a rotation basis as mentioned earlier and in some communities executives are nominated or elected democratically. In general, in order to support the head of the institutions as well as implement the decisions various informal social institutions including the social networks (a network of communities closely related to each other) were formed to supervise, monitor the effectiveness of the whole activities institutions (customary/indigenous practices) and also to act upon as mediating institution between the executive body and local communities in a more efficient and planned way.

However, the whole system is highly democratic and bottom up. Issues are presented either orally or in written before community members and witnesses, discussions, verification, facts, submissions, vows, and oaths are the general process of decision making. Experienced and elderly persons from the communities were invited as symbols of fairness and justice, and concerns and opinions of each of the social institutions and networks and other elderly and experienced persons of the community were considered and respected. Finally, the head of the institution would pass the law orally and individuals would abide by them.

The legacy of harmonized command and control generated a sense of social pride in the community and faith in their traditional and customary laws. In order to support the head of the institutions as well as implement the decisions various sub-institutions are formed to supervise, monitor the effectiveness of the whole activities institutions (customary/indigenous practices) as well as to act upon as mediating institution with the local communities in a more efficient and planned way. For an exmaple Subba system of Kipat *Shingo Naua'* system Khambu region, *Gumba* system of Pungmo, Dolpa etc where number of sub-insituion of individual or group of households are generally in practce.

Two types of decision making process namely: (i) decision at community level and (ii) decision at household level were found among indigenous institutions of forests and pasture management. Farmers or herders of a particular village or area,particularly the transhumance farmers/herders the issues are of communal type such as where to graze the herds, when to graze, when to enter and exit from a particular pasture area and sub-pasture, when to perform culturalrituals beforemovement of herds etc. The farmers would wait and see the decisions of their customary institutions that are made in assembled group level. Whereas, the issues related to individual households such as how much and which species of livestock to keep, where to live, which member goes for summer grazing, to whom to ask for help for the herds

16However, those customary institution that are still actve and functional have stated maintaining records major decisions or community sanctions (bandej) in writing. Complaints one may have about the work of headman or a decision made by the village council can either be delivered at the village assembly or in some villages can be given in writing.

grazing etc, the decisions are made either individually or at household level (Dewalt, 1994 cited in NEFIN, 2013).

3.7 Indigenous knowledge and practices of using forest and pasture biodiversity

This section discusses in brief the indigenous knowledge of forest dependent rural and indigenous people in the use of selected consumptive as well as productive services of Non timber forest products of Nepal[17].In simple terms Non-timber forest products (NTFPs) are anyproduct or services other than timber that is produced in forests including pastures. They include fruits and nuts, vegetables, fish and game, medicinal plants, resins, essences and a range of barks and fibres such as bamboo, rattans, and a host of other products. They are used for a number of purposes including but not limited to: household subsistence (food, shelter, fabric, medicines forage/fodder, and other inputs to agriculture etc), maintenance of cultural and familial traditions,and scientific learning and income, a sources of raw materials for industries ranging from pharmaceutical companies to micro-enterprises centred upon a wide variety of activities, such as basket-making, woodcarving and the harvest and processing of various medicinal plants (Paudel, 1993; Olsen, 1997; Thapa *et al*, 2014).

3.7.1 Indigenous Knowledge of Medicinal and Aromatic, and wild edible plants

Review of contemporary literature on indigenous people, their life styles and means of livelihoods reveals that almost all indigenous people can be considered environmental friendly and rich in indigenous knowledge and governed by their own social institutions. Until recently use of medicinal plants and traditional healing practices were the major means of health care system in Nepal.Regarding the use of different species for medicines-the *Tharus* community use a total of 45 different plant species belonging to 31 families and 42 genera. Out of total species used for medicinal value, majority are trees (42%) followed by herbs (27%), shrubs (18%) and remaining (13%) were climbers (NBS/MFSC, 2002).

The *Aimchi* medicine system is entirely based on indigenous knowledge. Moreover, use of wild edible plants, tubers, honey, and mushroom is still common in many rural areas.A total of 29 wild fruits and 10 wild vegetables are often used by the *Rautes* community as medicine for headache, diarrhoea fevers, indigestion curing wounds etc(CSVFN, 2011; Sneha, 2012). Most of the *Botes* and *Majhis*communities of Chitwan usemore than 13 herbal and fruit species and 18wild plants for vegetables (Acharya et al, 2010). Similarly, a total of 198 plant (mainly wild) and 14 animal species areused in the treatment of different ailments among *Kirat* community, of which130 wild plant species are also used as edible fruit, curry, spices and other purposes (Maden et al, 2008).

3.7.2 Indigenous knowledge and practice of other Non timber forest products (Products other than MAPs)

Indigenouscommunitiesare also rich inthe knowledge ofmanaging and using other Non-timber forest products for both local and commercialuse.Of the variousNon-timber forest products,Bamboo/nigalo, allo (Nettle) and Lokta (Daphne) are largelyused for both domestic purposes as well as commercial purposesand orfor additional income.

Indigenousknowledge and practicesof manufacturingBamboo and Rattan Products

17 Details of indigenous knowledge of using forest and pasture biodiversity among the major indigenous communities of Nepal is provided in Annex III

Bamboos and rattans[18] are the integral part of rural farming system as they play a critical role in maintaining rural livelihoods. Until recently (before the entry of industrial syntheticor plastic products) rural life could not be imagined without bamboos. In the process, some ethnic groups in the Tarai and hills and mountains are heavily involved in making and supplying a number of bamboo and rattan products as a major economic activity. They have developed various skills and technologies of manufacturing products as per the needs of the local communities and resources availability.

Bamboos are used in a variety of ways in Nepal. They are used for construction of houses and huts, walling, roofing, agriculture tools, various forms of baskets (*doko, dalo, bhakari,* fishing basket, winnow, brooms etc) and utensils and kitchenware (drinking vessels, tumba pot, tea sieve, spoon/fork, serving tray), various kinds of furniture(chairs, tables, beds racks, book shelves and sofa set etc), hunting materials such as arrows and catapults (*guleli),*various kinds of musical instruments (*madal*, bin, flute, *damfu*etc) and a number of handicrafts. A total of 33 products (construction, woven, handicrafts, furniture, and other implements) with 86 designs made in 293 ways in practiceshave been documented by Department of Forest Research and Survey (DFRS). Similarly, a total of 17 products of rattan with 34 designs have alsobeen documented (DFRS, 2011).

Bamboo and Rattan based economic activities are an intrinsic part of both rural and urban socio-economic life of Nepal especially in the mountains areas (Karki and Karki, 1996). A considerable number of poor, socially and economically disadvantaged people mostly the indigenous people are involved in bamboo and rattan crafting. Among them *Paharis, Rais, Limbus, Tamangs, Magars, Sarkis* of hill and mountain communities and *Doms, Bins, Tharus, Rajbansis and Dunwars* are the major ethnic groups involved in bamboos and rattan crafting. Almost all Dom communities of Central Tarai region still derive their livelihoods needs from bamboo crafting (Marik, 2003 as cited in DFRS, 2011).

Indigenous knowledge of manufacturing Nepali Paper (Nepali Kagaj)

For ages Lokta[19]has been used for making varieties of products like ropes, papers for letters, documents, manuscripts, publication of mantras, tracts and books of a religious and secular nature, festival decorations, warping papers and incense etc. It was also used as a fodder for goat and as cordage. The history of paper making as a rural based cottage industry in Nepal can be traced back to at least the 12th century AD (DoF/UNICEF, 1884; Jeanrenaud, 1984).

The local rural people have developed their own indigenous methods of making paper.Materials and skills required for making the paper are locally made available from harvesting to final paper making. In the past Nepali paper was/is traded in the local markets both in cash and kind. It was also traded to Tibet along with other items. Nepali paper is still used extensively for all legal official

18Bamboos (big sized bamboo or big bamboo and small bamboo locally called Nigalo and *Malingo*) are found both on farmlands and in the natural forests. Big bamboos now are found in limited districts of Churia hills while small bamboos are found only in the upper hills and high mountain areas. Similarly, rattan once abundant in Tarai regions, now has been confinedon commercial scale in Farwestern region mainly in Kailali district of Nepal. Similarly, *Malingo* (small bamboo bigger than *Nigalo*) is generally found on farmlands of upper Mid-hills (Baral, 2008; DRFS, 2011).

19 An evergreen shrub species of the genera Daphne, found largely in the broad leaved temperate forests and moist conifer forests of the Himalayan region at above 1600 m to 3600 masl Two species of Daphne: *Daphne bholua and Daphne papyracea* are common in Nepal. The fibrous inner bark (bast) of these species is used for paper making which is widely known as Nepali Kagaj. For many rural people it is one of the major income-generating NTFPs of Nepal. The handmade paper is popular and has high demand in international market.

documents[20]in Nepal. So marketing of it was not a problem. Until 1960s, the Lokta paper was the cheapest form of paper. At present, however, with the influx of several competing modern and cheaper types of imported papers, the Nepali handmade paper has limited local users (GOs, Lawyers, Courts etc) in the country. They are usually processed and impoerted abroad. Nonetheless they are very much poplar in tourism business particulalry amongst tourists as well as for wraping gifts and making souvenior for tourists.

Indigenous knowledge on the management of Allo

Allo (nettle) is a short herb about 2-3m high, belonging to the family Urticaceae and genera *Girardinia.*It occurs in most of the high mountain regions of Nepal at the altitude of 1200 and 3000 masl.However, in Nepalthe term allois known for the fibre of Allo plant, particularly the fibre extracted fromthegiant nettle *Girardiniadiversifolia* (Deokota and Chhetri, 2009).

Allo is as old as the history of human settlement in Nepal and has remained the essential goods for many rural Nepalese as a source of food, fabric, income and items of national as well as international trade. Products made from allo are well known for their quality and have always remained in high demand in both domestic and international markets.Allo fibre was one of the major sources of income after agriculture and livestock husbandry. Fibres made from allo was used for manufacturing local costumesand accessories such as Bhangra, Kahdi, Fancho and Thailo and Jalalan and surplus fibre was used to exchange with cereal in the neighbouring villages and also with salt and other household accessories in Tibet (Pun, 2011).

Similar to manufacturing of Nepali paper fromLokta, indigenouscommunities of high altitudeareas have also developedvariousmethods of alloprocessing and making fibres. Of the various methods, the typicalindigenousmethods of Allomanagement ofChhantyal community of Myagdidistrictknown as *TarpaHalne Method*is the most innovative, integrated, cost effective and efficient methods of sustainable management and its utilisation. However, indigenous marketing system has changed with increased access to roads and Ghodeto road (a relatively wider trail made for horses and mules), where cheap readymade clothes/garments along with plastic sacks and polyether sheets are easily available.Locally made allo items are no longer a commercial good or items in the barter system. Batter system now has been replaced by cash based system and commercial value of allo has not declined. Nowadays allo products are directly sold tothe neighbouringmarket centres or to the local traders (Pun, 2011). Nonetheless, demands for allo fiber and *allo* made products in the national as well as international markets is in increasing trends however, little efforts have been made by the concerned government authority (Department of Forests and Department of Small Cottage Industry) to transfer technology for management, harvesting and provessing and marketing. Most interestingly the innovative and environmental friendly indigenous TrapaHalne Methods of processing *Allo* developed no longer practiced and is completely replaced by the improved methods introduced by NGOs and development agencies

3.7.3 Institutions and Governance systems of NTFP management

Rural and indigenous people have always well recognised the values of Non timber forests products and have considered them a major component of forest and pasture management. Therefore, the institutions and sub-institutions established for administering and governing forests and pasture resources management are also responsible for the overall management of these resources. For example the Tharus

20It is still used in Nepalese courts for all purposes, for special document in other government offices and for wrapping the incense used in most of the worshipping functions in Nepal.

are administered by *Badghar* system (Bista, 1967; Meyer and Deuel,1998), whileSanthals or the Satar community have their ownstrong and well defined social institution known as MajhiHadam Administrativeand Legal System, while Rajis andRauteare governed by Mukhiya system (NIFIN, 2004; Pradhan et al, 2006). Some have institutionalised their IK into systems such as Raniban, establishing Bhumestahn (a religious site of hill tribes) or thaan (shrines), incorporating the value of nature and biodiversity into their spiritual and cultural festives. Maghi (Tharus) perform bhume puja and ban *devi puja* by planting trees of highly religious and medicinal value in and around temples, cultural sites and public places are some of example of respecting the nature, biodiversity conservation and handing over their knowledge to the younger generation (McLean, 1999).

3.8 Customary /Indigenous Forest and Pasture Management Practices in Tarai

The forests in the Tarai were a form of natural defensive barrier against any enemy aggression, especially during the pre-colonial Indian rulers and British invasion (Whelpton, 2005). To maintain the integrity of Tarai forests as a natural defence, royal decrees were ordered for decolonization of the Tarai in various occasions, notably in 1817, 1824 and 1826, which would ban settlements and cultivation (Regmi, 1978).

The information or documentation of indigenous practices of forest and pasture management in the Tarai is virtually absent. Review of a few available literatures (Regmi, 1978; Guneratane, 1996; Whelpton, 2005) reveals that the Tharus, before the Unification of Nepal, used to practice shifting cultivation when they enjoyed the lifestyle of a tribe. The Tharus relied heavily on the collection of forest products such as wild fruits, vegetables and medicinal plants. Their traditional resource use included burning, medicinal plant collection, hunting of deer, rabbit and wild boar, fishing, planting crops such as rice, mustard, corn, millet and lentils. They harvested a variety of species of grass and collected wild fruits and vegetables.

After the unification, particularly during the Rana regime, the state for a long period of time prevented them from owning forestland and practice shifting cultivation.Jamindari system was enforced to collect revenue and forests were protected for the sake of revenue collection. Tharus were employed as non-paid watchers. Firewood and a small quantity of timber for construction wereprovided free with prior permission from the Jamindar. For large quantities of timber they had to pay the fee fixed by the Jamindar. In addition they had to provide free labour, one person per household for work such as clearing forests to constructroads,and irrigation canals or as agriculture labour of Jamindar (for more detail see annex IV).

3.9 Major features of customary practices of forest and pasture resource management of Nepal (Based on lieratuere review and Field survey)

Based on the above discussion, general features customary practices of forests and pasture management in Nepal can be summarised as:

Area/territory

Majority of communities in the hills and mountains of Nepal in the past had their own system of land tenures and more or less defined ancestral area and territory. For an example Sherpa live in the high mountain areas. Magars and Tamangs live in upper Midhills while the tahrus live in the Tarai. The areas each of the systems is recognised defined and demarcated/delineated by natural features such as ridges, rivers, mostly the boundary of a watershed or sub watershed. The natural resources such as lands, forests and grazing lands /pasturelands within their areas are considered communal properties or resources

Rights to use

Rights to use forests and pasture resources are complex and vary across the regions, mostly guided by their purpose of using the resources (wood or grazing or strict protection/conservation), resource availability and lifestyle of the dominant population. The rights are guarded by delimiting the forests/grazing areas with well-defined rights of households to a particular forests/grazing area. Generally ridges of a watershed or sub-watershedare divided into grazingunits/zones, each belonging to a particular village or groups of farmers/herderswhile forests in and around a particular villages are considered the forests of that particular village.Each village has its own name of the forest and pastureor with a name to each of herding groups living in a given areas or landscape.

Rights to pasture are more complex compared to forests and vary across the regions and communities. In most of the cases grazing rights are obtained permanently through patrilineal inheritance or temporarily through affinal relation, while in some other areas it is defined by residence. For example, in Jugal Himal area each group or a village has its own territory in which only the animals from that group can graze, while in Kalinchowk areaonly the member of particular ethnic groups had the right to pasturage.Similarly, among the Jirel community, individual households had access to use the grasslands irrespective of whether or not one had ownership title to a land. In Khumbu and Solukhambhu areas, rights to pasturage and collect animal fodder are obtained through property ownership and/or membership in patrilineal clans oronly by members of the local clan group

Rules and Regulations of managing forests and pasture resources

In addition to the clearly defined rights, the indigenous forests and pasture management systems also have a number of well defined rules, which are both formal and informal-depending on the local communities and the local conditions.The rules, promulgated on the basis of consensus, are generally imposed to ensure a social welfare, harmony and sustaining the productivity of forests and pastures. These rules and regulation are not static. Each year the customary institution invites general assembly of its members, discuss about the issues and problems encountered, collect their feedback or suggestions and finally, new rules and regulations are reformulated for the next year.Some of the common rules and regulations of forests and pastures management are:

A. Forest Management

- Employing a watcher (*Chowkidar, Noral or Rokaya*)and fixing his annual remuneration, norms and forms of payment (monthly, annually cash or kind such as cereals and livestock) for day to day supervision of the forests and protect it from illegal harvesting and any other forms of disturbance such as forest fire, encroachment and grazing by the outsiders;
- Setting timber harvesting rules and ascertain the annualquantity and seasons/months offorest harvesting (timber, firewood, leaf litters and *nigalo*per household) and grazing;
- Collection of dead wood for firewood and leaf litter (except in Karnali and trans-Himalayan region, where it is generally open throughout the year);
- Special rules area made for harvesting of wood for timber and *Nigalo* giving due consideration to the needs of the neighbouring villages or farmers who do not have preferred woods for construction and making agriculture tools and Nigaloin their forests;

- Harvesting of timber and *Nigalo* is regulated by issuing permit[21] that defines purpose/objective,name or part of the forests, quantity,species, and time; Generally dead and dying trees are permitted for timber harvesting;
- Harvesting of timber and *Nigalo* without a formal (verbal) permit from the head of the concerned institution or during the restricted period is considered as an offence and punished;
- Setting time/season and duration for harvesting of medicinal plants and other non-timber forest products such as Allo (nettle),wild honey etc;
- Area or forests of high socio-cultural values and plant species are often declared as *Raniban* or strictly protected and conserved giving socio-culturally accepted name/s to the forest/s.

B. Pastureland Management

- Regulating number of livestock (for example in case of sheep and goats sale of matured male goats/sheep, over matured she goats/sheep)and maintaining an adequateherd size for a given pasture and sub pastures for specific time period so as to avoid overgrazing as well asmaintain the carrying capacity of the pasturelands[22];
- Determining the date of upward-downward and inward outward movements of livestock/herds at the herdsmen level and at the appropriate time;
- Use only those pastures and sub pastures as cross out of the herds routes or en-route grazing (pastures/sub pasturesthat fall along the moving route of the herds);Grazing in the cropping and other pasturelands should be made effective only when the harvesting of crops is completed and restriction on pasturelands is opened;
- Creating understanding and cooperation among themselves while grazing the herds in the pastures and sub-pastures and using the resources;
- Employing *Norals or Rokayas* (in Karnali region)[23]for the overall supervisionand monitoring of grazing system,compliances ofgrazing/herding rules and regulation and reporting to the head of the customary institutions

Others (Forests/pastures)

- Not to extend the individual land areas in the communal pastures for agricultural purposes;
- Not to dig out the land in the communal pastures and sub-pastures if the herdsmen are not constructing temporary houses or sheds for shelter;
- The fodder trees and other palatable bushes if they are present in the community owned pastures are not to be cut down;

21Households or individual who need timber for domestic use has to report verbally to the concerned customary institutions specifying the purpose, species and quantity. He or she can harvest timber only after receiving a formal permission from the head of the customary institutions which generally include species and its size, quantity, time of harvesting and name and part of the forests. Similarly, in case of Nigalo they made special decisions and arrangement of harvesting, generally a common date (Oct-November) where a forestor its certain part is open with fixed quantity (headload) and a nominal fee, particularly to the outsiders.

22 Transhumances herders often merge and split their livestock mainly sheep and goats. During the summer season, ie when they go to higher elevation (Subalpine and Alpine pastures) they have plenty of pasture land , therefore, farmers having small number of livestock frequently merge with the livestock of their kin or neighbors and again split the herds into their original size when they come down to winter pastures. It helps them to cope with the problem of labour scarcity as well as optimal use of existing pasture resources throughout the year.

23 In other areas special arrangement such as formation of sub-committee is made for the overall supervision monitoring and evaluation of effectiveness of grazing /herding rules and regulations.

- Ask permission with the owner for resources use (fodder, firewood, thatching materials etc) in case of the resources are located in the private lands;
- Except for basic household need, various species of medicinal plants should not be harvested from the natural ecosystem and if they have to harvest the plants, areas where the plants are dominant should be selected;

3.10 Statutory Laws and Other Policies on Forests and Pasture Management

3.10.1 National Policy and Legal Framework

A number of decentralized policies, and legal frameworks[24]and a number of community based management/and conservation (Protected Area systems) programs and action plans on forest, biodiversity watershed and climate change have developed and implemented. These policies and legal frameworks have been formulated (and amended) as per the strategic guidance of the Interim Constitution of Nepal 1990, in general, and International policy and legal frameworks such as Conventions, Treaties and Commitments in particular. These policies and legal frameworks of the Forestry Sector define tenure rights of forest resources, dos and don'ts in management and conservation, benefit sharing mechanism, forest products harvesting, distributions andtheir trade. National level institutional mechanisms have been set up with a provision of focal division/section/point on each of the major theme/programme/activity such as national forestry community forestry biodiversity, environment, climate change, and gender and inclusion responsible at department levels for overall implementation of the national forestry policy and legal framework in a more effective, efficient and coordinated way. All these policy instruments have had effects on customary institutions and customary practices. The time line of major landuse and forestry policy changes and their impacts on the customary institutions and customary practices is presented in annex IV.

The Forest Act of 1993, the Forest Regulations of 1995, and the Forestry Sector Policy of 2000 are the major legal and policy foundations of forestry management in Nepal. The Forest Act of 1993 broadly divides forests into two ownership categories: national and private. The national forests are further divided into two major categories: Community based forestry (Community forestry, Leasehold forestry, Religious Forestry, and Protection forests) and the Government managed Forests (residual national forests). The Forest Regulation 1995 gives details on the forms and modalities of separate regulatory arrangements on the above classified forests including the procedures to obtain license for marketing of forest products with certain limits. However, the act is silent regarding customary practices of forest and pasture management. Most interestingly it has not defined pasture land/range land/grazing lands and there are no provisions for the management of pasture resources.

WildlifeProtection Act 1972, National Parksand Wildlife Conservation Act 1973 andvarious regulations, National Biodiversity Strategy 2002 and its implementation, Action Plans, the newly revised NBSIP 2014, a number of Landscapes Strategy and Action plans (Tarai Landscape; Sacred Himalayan Landscape etc) all provide the legal basis of implementing the various plans and programmes on biodiversity and nature asprovisioned by the national as well as international policy and legal frameworks. The National

24 Includes Policy, Acts and Regulations', Directive, Guidelines/manuals, GoN, National Conservation Strategy, Constitutions of Nepal, Periodic development Plan, forest, watershed or Protected area management/ conservation plans of the forestry sector including Operational or forest management plans of community based forestry.

Parks and Wildlife Conservation Act, 1973 contains a number of environment-friendly provisions and prohibits activities that will have adverse impacts on the environment.

Moreover, the newly developed **Forestry Sector Strategy 2014** (draft) for the next 10 years has attempted to consolidate the success stories, experiences and lesson learntduring the MPFS period. It providesdecentralised, practical, cost-effective,andsite specific strategic guidance on seven thematic areas covering all contemporary and emergingnational and global issues of forestry with a vision of optimizing the potentials of forest ecosystems, biodiversity and watersheds for peoples' prosperity.

Recent **Forest Policy 2015** has also given due consideration to settle the issues of land tenure and issues related to customary practicesand rights to use forests and pasture resources. Moreover, **REDD+ Strategy2015 (draft)**has clearly identified anumber of policy gapsin the existing forestry sector policy and legal frameworkregarding right to carbon forest ecosystem services,customary practices, customary use rights and other (discussedalso in the next section) and remedial measures or action for improvement.

A number of directive, manuals and operational guidelines have been developed and amended based on the experiences and lessons learnt. These also address issues that have emerged from prevailing socioeconomic, political and biophysical context. For example, the operational guidelines on Community based Forestry Community Forestry, leasehold forestry and collaborative Forestry provides detailed process offorest handover from identification of forest users groups and preparation of forest operation plan preparation, to the implementation ofthe plans. Similarly, the Forest Inventory guidelines of the DoF provides detail methodological framework for forests: the inventory, growing stockassessment andcalculation of annual allowable harvest of forest products.

Climate Change Policy 2011 of the government aims to improve livelihoods of the people by mitigating and adapting to the adverse impacts of climate change and National Adaptation Plan of Action (NAPA) 2010 and Local Adaptation Plan of Action (LAPA) framework provide the strategic actions plans to address the issues of climate change at national and community levels.

The Interim Constitution of Nepal (2007) guarantees the rights of every person to acquire, own, sell and otherwise dispose property and subject to the existing laws, while the **draft constitution (2015)** guarantees the right of every person to live in a healthy and clean environment as a fundamental right.

Various periodic plan of the government from **ninth to the current Thirteenth Plan 2014**all are highly conduciveto the plans and programme of theforestry sector. Theseplans emphasizethemaintenance of forest cover of at least 40% and havegiven special priority to forest management, biodiversity conservation, combat DD, and address the issues of climate change in planned and effective manner. They have also given top priority to the issues of indigenous and rural poorand also emphasisethe development of an appropriate fair and just benefit-sharing institutional arrangement accrued or generated fromconservation and management of forest, biodiversity and watersheds.

The otheroverarching national policiesand legal frameworks such asEnvironmental Protection Acts 1996, andRegulations and Action Plans 2003, Poverty reduction Strategy2001, National Development Plans (such astenth plan), the interim plan, all are highly conduciveto the plans and programme of theforestry sector. Another initiative of the government: the National Landuse Policy of 2012, has identified several land use categories and has strongly recommended land development as per the identified land use class and has also recommended to maintain at least 40% of land area of Nepal under forest cover.

The National Rangeland Policy (NRP) 2012 is a remarkable achievement for rangeland management in Nepal formulated jointly by Ministry of Land Reform and Management (MLRM), Ministry of Forest and

Soil Conservation (MFSC) and Ministry of Agriculture Development (MAD) andis much more concerned with production, conservation and utilization of rangeland resources (forage, herbs,non-timber forest products, water resources, wildlife and ecosystem).The Rangeland Policy clearly recognizes the Department of Livestock Services as the lead agency for rangeland management. The policy highlights the importance of rangelands and the major issues, analyzes the holistic management of rangelands from the viewpoint of different stakeholders; and considers rangelands as under constant and serious threat, which require urgent attention. A draft for the rangeland policy implementation framework has also been prepared recently by the Directorate of Livestock Production, Department of Livestock Services.

National Land Use Policy-2012 (NLUP) was formulated by Ministry of Land Reform and Management. NLUP is concerned with the utilization of land resources according to its land capability category. It states that forest will cover a land area of 40% of the country. The NLUP has focused on the promotion of valuable herbs, medicinal plants, livestock and rangeland improvement in high altitude regions.It has clearly stated that agriculture land should not be used for other purposes giving stresses on commercialization of agriculture sector including promotion in the livestock sector and rangeland management. NLUP is concerned mainly with proper land utilization.

Some of the sectoral laws have made explicit provisions of environmental conservation and management. The **Water Resources Act 1993** contains provisions to minimize adverse environmental impact, including soil erosion, floods and landslides. The **Electricity Act 1993** also contains provisions to minimize soil erosion, floods, air pollution and damage to the environment while producing and transmitting electricity. The **Tourism Act 1978** also contains provisions to minimize waste and environmental pollution in the trekking areas. The **Local Self Governance Act 1998** has provision to establish plantation and environment conservation by the DDC and VDCs in its area.

3.10.2 International policy and legal Instruments

The importance of combining indigenous and non-indigenous institutions for land and natural resource management is further reflected in the widespread adoption of international strategies that establish a link between poverty alleviation, sustainable development and biodiversity conservation. The international strategies and initiatives that exemplify this link include but are not limited to the Convention on Biological Diversity on Traditional Knowledge, Innovations and Practices, the Ramsar Convention on Wetlands (Resolution IX.21 of 2005- Taking into account the cultural values of wetlands) and the Millennium Ecosystem Assessment (Linking Local Knowledge and Global Science in Multi-Scale Assessments). As such, the recent Global Strategic Plan for Biodiversity (2011-2020) declared in the COP 10 (Strategic Goal E, target 18) is to be achieved by 2020.

Traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of their biological resources should be respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of the indigenous and local communities, at all relevant levels (Global Strategic Plan for Biodiversity, 2011).

International meeting on Article 10 (Sustainable Use of Biological Diversity) with a focus on Article 10(c) (Customary Use of Biological Diversity) held in May 2011 in Montreal, inter alia has strongly emphasized that indigenous knowledge or customary practices ofsustainable use of natural resources provides not only for livelihoods of people and conservation of biodiversity but also builds resilience for

climate change adaptation and a source for learning related to socio-ecological systems and possible innovations for productive landscapes and continued human well-being. Territories inhabited by indigenous communities are Bio-cultural heritage expressingthe indivisibility of indigenous peoples and local communities with their territories, biodiversity (genetic level to landscape level) and culture and includes traditional resource rights.

3.11 Effects of change in resource regimes on indigenous people and forests/pasture resources

This section briefly presents the overall effects of changes in land and forest policy and tenure system on indigenous forest and pasture management (IFPM) systems focussing on livelihoods, and resource conservation from Indigenous people and REDD+ perspective. Furtheremore, a timeline of causes and consequences in relation to policy changes and impacts of these on indigenous people and customary practices in relation to natural resource management has been discussed in Annex V.

I. Impacts on forests and biodiversity conservation

The participatory decentralised forests and protected areas policy and programme of the forestry sector, particularly the community based forestry have brought about significant positive impacts on forest resources in term of area coverage, density, species diversity (biodiversity), productivity and protecting wild animals from poaching and hunting in many parts of the country. In theory, the practice of community forestry evolved and was developed on the premise that it respected the traditional user rights and recognized the indigenous resource management practices. However, in practice it has not integrated the customary laws and indigenous practices of various indigenous people into the community forestry practice. This has brought about not only socio-economic conflicts but also a visible adverse ecological consequences of forest degradation, change in land use and resource depletion. For example exclusion of transhumance herders from the users of CF and their restriction on the access to forest resources and grazing animals has compelled them to stay for longer periods of time in undisputed area such as residual national forests, thus degrading these resources.

The areas between 2000 m to 2500 m are under extreme pressure of grazing as the lower winter yak/chauri pastures and high summer water buffalo-common cattle pasture overlaps. In areas where the forests that include yak/chauri winter pasture are handed over as CF, the nearby government forests are much degraded. This is because the grazing pressure shifted to nearby government forests as CF imposed restrictions in their areas . In many instances, lower oak forests have been heavily lopped and Junipers and Rhododendron forests in Sub-alpine areas and Fir forests in temperate zone have been cleared or many gaps have been created to mitigate the deficit of pasture land from CFs *(*Baral et al, 2012).

Assessing the land use change in the high altitude areas of Sindhupalchowk and Kavreplanchowk districts of central Nepal, Tamrakar (1996) and Jackson et al (1998) reported that the rate of decline of mixed forest and broadleaved forests ranges from between 32% (Sindhupalchowk) to 59% (Kavrepalanchowk) and 6% (Kavrepalanchok) to 22% Sindhupalchowk. Similarly, the shrub land has increased by 205% in Sindhupalchowk, and no change was observed in Kavrepalanchok.

Similarly assessing the land use change between 1985/86 and 2001/2002 in 25 high mountain districts of Nepal, Baral *et al* (2012) report a decline in the area of cultivated land (58.2%), forest (18.74%) and grassland (32.48%) between 1985/86 and 2001/002 with an annual rate of 3.6%, 3.3% and 4.08% respectively. In addition, the area covered by shrub land and barren land or NCI has drastically increased at an annual rate of 37.4% and 25.7% respectively.

However, a study carried out by HELVETAS Nepal in 2011 reports that there is an overall increase in forest area and forest quality, with a significant increase (17.8%) in dense forests and a decrease in the area of pastureland by about 8% over the period between 1990 and 2010. The same study further reports that community forest regimes have done extremely well in terms of both creating new forest and improving forest quality as compared to that of government managed forests. About 33% of community forest has been created as new forest as compared to 17% of the forest under government control.

The situation of forests in the national parks and protected areas system of high altitude area with high tourism impacts is further alarming. Based on a report by Hinrichensen *et al* (2004) it reveals that Sagarmatha NP has suffered more deforestation during the last two decades than in the preceding 200 years. Stevens (2003 and , 2013) also reports heavy deforestation and forest degradation in and around Khumbu region of Sagarmatha National park to meet the requirement of timber and firewood of the inns/lodges, labour of trekking and expedition groups[25]. Species composition of many forest types has also changed. The juniper forests and shrubs in the sub-alpine and alpine areas are heavily degraded in many places to meet the requirements of timber and firewood. Despite strict park rules and regulation, the park authority has failed to control and monitor the extraction of firewood and timber from park and outside the park (Steven 2003 and 2013).

II. Impact of Protected Area System on indigenous People

The areas of forests and pastures that had been used under the indigenous and customary practices of majority of Indigenous nationalities now fall under either protected areas system or community based forestry. This has brought about serious adverse socio-cultural impacts and changes in their traditional life styles, particularly of transhumance herders. Expansion of PAs and development of infrastructure such as roads and market centre in their area/territory have also opened up many new opportunities and options of income, employment and economic enhancement. However, research done by various scholars have shown that majority of them have not able to benefit from these opportunities options (Gurung *et al*, 2008; Pandit, 2011).

III. Impacts of Community based Forestry on livelihoods of Transhumance herders

People living at high altitude have developed a number of different adaptive land use strategies and practices for subsistence livelihoods in the harsh condition of mountain ecosystem (Acharya, 2003). Of these, the transhumance grazing system is one of the most dominant livelihoods strategies adopted by indigenous communities of high altitude areas for generations. However, the expansion PAs in the High Altitude areas and CFs in lower belt not recognizing the traditional use rights of transhumance herders threatens the century old indigenous practices of transhumance herding and the livelihoods of herders.

With the change in land and forest policy of the government and community forestry imposing ban on grazing visibly affected the livelihoods of high altitude people, particularly transhumance herders. Dry land farmers (non transhumance herders) are least affected and are rather benefited from such provisions of CF and its expansion. The exclusion of these herders from the access to their winter pastures has already resulted in severe adverse social-cultural, economic and ecological consequences. Visible changes have been observed in the lifestyles of many indigenous peoples of high altitude areas. Transhumance

25 Demands for round wood in Khumbu region has increased many fold amounting 3,000 m^3/year over the last 20 years (Stevens, 2003) and harvesting of wood is not limited to the periphery of Sagarmatha National Park, it has now expanded to Ramechhap (Gumdel ridge) and Dolkha (Chordhum ridge) and Likla of Solukhambhu to meet the growing demands of timber (Baral, 2005; Baral et al, 2012).

herding is being abandoned in some places (Khambu Region, Sailung Area of Dolkha/Ramechap, Kalinchowk area of Dolkha) and intensified in others (Terthathum, Thisang area of Sindhuplachowk and Dolkha). Traditional herders are selling their livestock to upland dry farmers and some have migrated to urban centre such as Kathmandu and Pokhara while those unable to find alternatives struggle to survive through adaptation strategies of reducing size and types of herds and concentrating grazing on residual national forests (Baral 2008, 2009).

Studies done by Baral (2000; 2008; 2009) in Sindhupalchok, Dolkha and Ramechapp suggest that implementing Mid-hills model of CF in high altitude areas has brought about various ecological and socio-economic adversities. The cases of conflicts between transhumance herders and CF users groups from Karnali Zone, Humla, Jumla and Mugu as reported by a number of studies (such as Bhatta, 2002; Thomas et al, 2004;; Uprety, 2008; Gurung 2008) are disastrous and alarming. Incidence of severe social conflicts between two communities who remained in harmony with each other in the past is an increasing trend.

IV. Erosion of indigenous knowledge

Erosion of indigenous knowledge of indigenous communities is another serious implication of existing forest management and protected area management system of Nepal. Use of indigenous knowledge, tools and technique of using forest resources are either prohibited or considered an offense without proper study and assessment. For example, use of traditional fishing net, hooks and traps are banned in National parks and its buffer zone, and traditional way of fishing in the night is also an offence. Similarly, the river tract where they used to stay in their traditional houses for rest after fishing during the day and night now belongs to PAs. Efforts were initiated to handover river tracts to the indigenous communities as BZ community forests. However, this process has not progressed and is stalled at present because the existing legislations are silent regarding it.

Similarly, there are number of events and cases where indigenous communities are restricted from using community forests and park resources to derive their livelihoods. The single hunter and gathers tribes of Rautes are prohibited to cut trees for making wood vessels. Prohibiting them from making wood vessels means loss of knowledge of making tools and wood crafting. Similarly, the lifestyles of traditional occupational caste the *Chandaro* (local wood crafter) and their indigenous technology of making a varieties of wood vessels, pots of high domestic values is being destroyed with restrictions on using selected tree species by both the PAs authorities and community based forestry institutions. Moreover, demonization of youth to follow or adopt of transhumance grazing system and their migration to urban and abroad in search of better life and income from the high altitude areas best illustrates the erosion of indigenous knowledge among indigenous communities of Nepal.

V. Weakening Social Relationship and Cohesion

Indigenous people living in remote and harsh environment are aware of the value and benefits of social relation and group cohesion in access[26] to natural resources and their lifestyles. Indigenous people recognize the value of group cohesion among their own communities and of establishing cordial social relationship with their neighbours. Various socio-cultural festive and rituals such as *Udaauli, Ubhaunle,*

26 Access refers to the ability to benefit from things-including material objects, persons, institutions, and symbols., while ability is bundles of powers that enables individuals and groups to gain, control, and maintain access. Various factors such as social relations and identity, knowledge, technology, market, and position shape access (Ribot and Peluso 2003 cited in *Mcveigh, 2004*)

Banvoj, Ban devi Puja, Bhumepuja, Parma /Nogar system (exchange of labour among the communities for farming and other household chores etc) and establishing culturally accepted and respected kinship or friendship such as *MitLagune* with neighbouring communities are some of the initiatives taken by indigenous people to enhance access to natural resources and other livelihood assets.

4. Section Four: Discussion and Analysis

The earlier section presented a detailed scenario (major features, governing institution and decision making process, status and trends) of more than three and half dozens of customary/indigenous system of managing forests and pasture resource during the three major political era (before 1957,have been discussed and impacts of change in policy, political system, socio-cultural and economic system on the indigenous forest and pasture management and overall livelihoods of the indigenous people have also been discussed in detail. This section discusses and assesses the overall effectiveness (relevancy, efficiency and effectiveness) of indigenous forests and pasture management practices from REDD+ perspective.

4.1 Context

The phenomenon of climate change is currently one of the major environmental problems highlighted since the Rio Earth Summit in 1992. To cope with the negative effects of these changes on the livelihoods of communitiesthe government of Nepal has taken a number of programmatic and regulatory actions on adaptation and mitigation. They include Climate Change Policy, 2010; National Action Programs for Adaptation (NAPA) to Climate Change; and Local Action Programs for Adaptation (LAPA). Similarly, Nepal has already decided toparticipate in the international REDD+ mechanism. The Ministry of Forests and Soil Conservation established REDD Forestry and Climate Change Cell (currently called REDD Implementation Centre) and is preparing for REDD+ readiness. Currently the first phase of REDD+ preparation of National Readiness Preparation Proposal (R-PP) is nearing completion and the second phase of implementation will begin.

The R-PP has recognized the role of Indigenous Knowledge of people in managing forests and pastures resources has strongly emphasized for mainstreaming these local knowledge into National REDD+ strategy.The local indigenous knowledge and customary practices not only make adaptation strategies practical but also participatory, sustainable and cost effective. In this regard, this section analyses the effectiveness of various indigenous forest and pasture resource management systems documented and discussed in the earlier sections of this report from REDD+ perspective. The best practices are then indentified and suggestions made to incorporate them into National REDD+ strategy.

4.2 Assessing indigenous knowledge and customary practices of forests and pasture lands management

There are no widely agreed criteria and indicators of assessing overall performance indigenous management of natural resources from environmental management or climate change perspectives.Nevertheless, the criteria used in assessing development intervention are more relevant. In assessing development projects, four major criteria are generally used. They are: efficiency, effectiveness, relevancy and sustainability**.** Efficiency in simple terms means *doing the thing right* and effectiveness means *doing the right thing* (Goh, 2013; Cheffey, 2014). Efficiency is generally measured to the degree to which objectives are achieved and the extent to which targeted problems are solved within a given resource (time, money and materials). In contrast effectiveness is not concerned with costs and is determined without reference to it. Efficiency and effectiveness are mutually exclusive (Sundqvis et al, 2014), resource management practices or actions that could be efficient butnot always be effective and vice versa. Efficiency increases productivity and saves both time and money. Similarly, relevance denotes the extent to which given intervention or project activitiesare suited to the priorities and policies of the government, target groups, and beneficiaries (European Commission, 2012). Sustainability is concerned with the principleof sustainable development, therefore deals with social sustainability, economic

sustainability and Environmental sustainability with special focus on human welfare fromintra- and intergeneration equity perspective (WCED, 1987). The objective of assessment is determined by both internal and external contexts (socio-political, economic, biophysical or environmental), the interest and object of resource managers and the beneficiaries. In the absence of relevant and reliable data and information and in a highly complex environment of climate change the assessment of indigenous or customary practices of forests and pasture management is a daunting task. Developing a common criteria and indicators and measuring the overall performance of these practices is further complicated as they varies across the region, communities, and ethnicity. This study report has used three criteria of relevancy, efficiency and effectiveness in assessing the customary practices and indigenous knowledge of managing forests and pasture land. The sustainability criteria are linked with the criteria of effectiveness and relevancy (See Box 4.1).

Box 4.1: Criteria and indicators of assessing customary /indigenous knowledge and practices of forests and pasture management in Nepal

A. Relevance
To what extent are the customary or indigenous knowledge and practices of managing forests and pasturelands suited to the policies and priorities of the Government, indigenous people, local communities and other beneficiaries; and to what extent are the practices still valid?
B. Effectiveness
To what extent are the IK or customary practices able to help address DD, contribute in forest/pasture management and biodiversity conservation?
To what extent are they democratic, transparent, sustainable, and GESI friendly?
C. Efficiency
1. How cost-efficient are they?
2. Are they dynamic, innovative, and responsive to changed context?

The relevancy is seen as the extent of the indigenous knowledge and customary practices suited to the policies and priorities of the Government, indigenous people, local communities and other beneficiaries. Regarding effectiveness and efficiency, Stadelmann et al (2011) and European Commission (2012) have used and recommended several indicators for climate change projects. For effectiveness Stadelmann et al (2010) have identified GHG emission, Energy consumption, Material consumption, Land use, and Human harvest as the indicators. Similarly for efficiency, European Commission (2012) has recommended three major indicators:

i. Resource productivity indicators
ii. Environmental impact indicators
iii. Socio-economic indicators or eco-efficiency indicators for assessing the overall impacts of a climate change project (Box 4.2).

This study report has used the extent of customary practices helping to address DD, extent of contribution in forest/pasture management and biodiversity conservation, and the extent these practices are democratic, transparent, sustainable and GESI friendly as indicators of effectiveness. Similarly for efficiency indicators are used as their cost-efficiency, and their dynamism, innovativeness, and responsiveness to changed context. (See Box 4.1).

The draft REDD+ Strategy, through a synthesis and analysis of drivers of deforestation and forest degradation identified by different studies (WWF/TAL, 2003; ANSAB, 2010; PSPL/FECOFUN, 2010; MFSC, 2010; WWF Nepal/ Hariyo Ban Program, 2012; Baral et al, 2012; WWF Nepal/ Hariyo Ban Program, 2013; UN-REDD/REDD Cell, 2014; MFSC, 2014) has identified a total of 9 direct drivers and 10 underlying causes (Box 4.3). Of these factors that are directly or indirectly related to IK and customary

practices are: shifting cultivation, over harvesting or inadequate methods or technology of forest harvesting, forest fire, over grazing, management of forest and pasturelands, biodiversity conservation, soil and water conservation. Similarly, underlying causes identified by the draft strategy that relates with IK and customary practices are: forest tenure insecurity, lack of respect, recognition and integration of indigenous or customary practices into forestry policy, and planning and poverty and lack of alternative options of livelihoods and weak institutional and human resource capacity.

The indigenous knowledge and customary practices of forest and pasture management documented and discussed in the earlier chapters are assessed in terms of relevancy, efficiency and effectiveness addressing the various proximate and underlying factors of DD.

Box 4.2:Resource effectiveness and efficiency indicators

Indicators of Effectiveness
GHG emissions: Amount of greenhouse gas emitted or reduced
Energy Consumption: Type of energy and technology in use and quantity of energy consumed or reduced.
Material consumption: Decrease in the demand ofconsumption of biomass as feed to livestock;
Land use; Increase in productivity or yield of agriculture without putting more pressure on the environment (e.g. without increasing water abstraction, mineral fertiliser use and nutrient loss).
Human harvest: Human Appropriation of Net Primary Production (HANPP) the amount of biomass orproductsremoved from the land resources (agriculture, forests and pasture)
Resource efficiency indicators
Resource use indicators: Quantities of resources extracted, along with their quality, abundance (e.g. renewable, non-renewable, exhaustible, and non-exhaustible), availability and location.
Environmental impact indicators: Quantity and types of inputs used and output produced, and changes brought about by them in the state of the natural environment e.g. resourcedegradation or desertification, climate change, eutrophication, eco-toxicity)
Socio-economic indicators (eco-efficiency indicators): Accounting environmental externalities (putting monetary value to environmental goods and services) impact of resource use to well-being and quality of life; distribution of the benefits of resources, or obligations to carry environmental burdens i.e. assessing the equity issues: intergenerational equity' (i.e. not compromising the ability of future generations to meet their needs) and 'intra-generational equity' (i.e. the fairness of distributing wealth and burdens among communities and countries within one generation)
(Source: Stadelmann et al 2011;European Commission, 2012)

Box 4.3: Drivers of deforestation and forest degradation in Nepal

A. Proximate causes

1. Forest fire
2. Over grazing/uncontrolled grazing
3. Unsustainable harvesting and illegal harvesting
4. Weak Forest Management practices (unmanaged/under-managed)
5. Unplanned infrastructure development (includes manmade disasters)
6. Urbanization and resettlement
7. Encroachment
8. Expansion of invasive species
9. Mining/excavation (sand, boulders, stones)

B. Underlying causes

1. Disproportionate population distribution and migration pattern
2. Policy gaps and poor implementation
3. Poverty and limited livelihood opportunities
4. High dependency in forest products and gap in demand-supply
5. Land use policy and insecure forest tenure
6. Poor governance and weak political support
7. Weak coordination and cooperation among stakeholders
8. Inadequate human resource development and management

9. Low priority to research and development
10. Poor coping strategy to natural disasters and climate change (including effects of climate change/lack of integrated climate change disaster management)

Source: REDD+ Strategy (draft), 2015

4.4 Relevancy of IK and Customary Practices

The relevancy of indigenous knowledge and customary practices of natural resource management (land, water and pasture) has become a subject of great concerns in both national and international arena.As discussed in the earlier sections of this report, realising the value and importance of indigenous knowledge and customary practices majority of national policy and legal instrumentsrelated to forestry particularly biodiversity conservation have emphasized to give due respect and consideration and integrate them in to plans and programme of the forestry.Interim constitution of Nepal has clearly stated the concerns of indigenous people,their territories and rights of access to natural resources.A separateAct and Regulation for the indigenous people and aninstitution for their implementation are also in place. The prevailing Forest Acts and Regulations have poorly addressed the issues of Indigenous knowledge and customary practices, although various guidelines and manuals of the forestry sectors have provided guidelines to address issues of IK and customary practices at the implementation level. The National conservation Strategy (NCS) 1988, the recent National Biodiversity Strategy and Action Plan2014, and the all government periodic national plans from Ninth to onwardshave stressed the need of integrating of IK and customary practices in sectoral policies and plans. Moreover, the NBSAP (2014) has also recommended the Ecosystem based Adaptation Approach (an approach that integrate socio-economic development of rural poor, the indigenous people and other local communities with the conservation of biodiversity) is the guiding principle of managing forests of high biodiversity values such as Protection forests and protected areas management systems.Furthermore, the draft Forestry Sector Strategy (FSS) 2014 and almost each and every policy study carried out by REDD implementation Centre has acknowledged the value, importance and role of indigenous institutions in managing forests and pastures and have stressed to make necessary policy instrument that helprespect and recognise the role played by these institutions in managing forests and pasture resourcesand maintaining forest ecosystems and biodiversity and ensure their full participation inforest resources management, and decision makings processes and institutional arrangements of the forestry sector.

The importance of indigenous community institutions for land and natural resource management is further reflected in the widespread adoption of international strategies that establish a link between poverty alleviation, sustainable development and biodiversity conservation. The international strategies and initiatives that exemplify this link include but not limited to the Convention on Biological Diversity on Traditional Knowledge, Innovations and Practices; the Ramsar Convention on Wetlands; and the Millennium Ecosystem Assessment. As such, the recent Global Strategic Plan for Biodiversity (2011-2020) has targeted fully integration and reflection of indigenous/traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use by 2020 at all levels.

Similarly UN Institutionsworking on climate change issues such as IPCC UNFCCC (2010) and their various climate change related policy instruments have stressed to support and promote several safeguards, including respecting the knowledge and rights of indigenous peoples and members of local communities when undertaking REDD+ actions and also take into account relevant international

obligations, national circumstances and laws and ensuring the full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities in REDD+ actions.

4.5 Efficiency and effectiveness of customary forest and pastureland Management systems/practices

4.5.1 Management of Forest Fire

Forest fire has been identified the major cause of deforestation and forest degradations. Fire in forestry including pasture/grassland science is considered a good master but a bad servant. It is prescribed as an efficient management tool in forestry and pasture management, generally known as prescribed buring or control burning. For an example: burning chirpine and wattle (*Acacia spp*) forests and natural grasslands (tropical/subtropical) are a common management prescription. Similarly, fire is also considered an efficient and effective tool of land preparation and nutrient cycles in traditional shifting cultivation systems practiced all over the world. Use of fire as atool of land preparation, clearing of weeds and unwanted plants, control of invasive species and nutrient cycling is a feature of generic shifting cultivation widely practiced under Kipat land use systems in Nepal. There are several other socio-economic and ecological benefits of forest fire provided they are used in a planned way with adequate precautions and measures. Fire also plays a crucial role in maintaining ecological integrity and regulating the functions of majority of terrestrial ecosystem (forests and pasture/grassland). In summary, under indigenous system prescribed fire is used to alter, maintain, or restore vegetative communities; achieve desired resource conditions; and to protect life, property, and values that would be degraded and/or destroyed by wildfire.

Recognising the role and ecological values of forest fire, indigenous systems have always used fire as a good master. In these systems uncontrolled fire in forests is considered an offense, therefore strictly prohibited. To prevent accidental or escaped fire various preventive measures taken. Setting season/month and time of burning agriculture waste (mostly during the winter especially in the morning time when the wind is very slow), clearing leaf litter and fire hazard fromthe common foot trails, setting months periods, methods and period of making charcoal to blacksmith, prohibition of picnic (*Banbhoj* during the dry season inside the forests) are the common practices of fire prevention in indigenous forest management practices. In addition to these, special provisions are/were made for detection, fire control and monitor forest fire during the dry seasons. Some of the common indigenous measures included: monitoring the personsor travellers passing through the forests, watching constantly the sign of fire such as smoke or flames in and aroundthe periphery of forests, and making fire-fighting mandatory in cases of forest fire. There are also instances of setting back fires or use of fire to control big or disastrous fire (crown or pit fire) particularly in the high altitude areas.

Similarly, to facilitate early growth of grasses, and to maintain vigour, qualityand productivity of grassland in the hills similar provisions are made. Burning of grassland is only allowed during the end of the winter particularly before the winter monsoon in case of natural grassland or before the onset of pre-monsoon in case of *kharbari* (Baral, 2000).

However, with the change in land and forest policy, particularly the land tenure system, institutional vacuum or inefficiency of managing forests and pasture together with a number of other socio-economic and ecological factors made many indigenous systems of forest fire management discontinued.Traditional

institutional arrangements slowly and gradually became less effective.The new formal institutions such as VDC and FUGs could not actually take the roles of traditional institutions properly.

As fire was established as land and forest management tool in the past, local people continued it asper their own will and interests ignoring its objectives, process, norms and regulation or prescriptions to be taken before burning. The absence of strong governance system (state and community) to monitor and regulate the individual behaviours, forest fire further stimulatedto transform the practices into a social culture or phenomenonin many parts of the country (Baral, 2000). As a result of this number of fire events, intensity and types of forest fire are also in increasing trend. Now it has been considered a major driver of deforestation and forest degradation.and has become a major driver of deforestation and forest degradation.However, a number of literatures and studies have reported that forest firein terms of its intensity, extent, and types have been largely reduced in Community Forests that follow the indigenous systems of fire control and management.

Moreover, annexation of *kipat* lands into *Raiker*, expansion of community forestry and protected areas system in the areas of indigenous people, area of land for *bahsme polne* has been drastically reduced shifting cultivation drastically reduced resulting in shortening of fallow forest period, consequently converting traditional cultivation plots into permanent plots. Many indigenous people are still practicing Bhasme cultivation in their traditional lands (both registerd or unregistered) which may or may not fall under the legl definition of forests. Burning being a tool of land prepration of Bhasme cultivation use of fire in a small arae in a limited period (one or two days) and specified period before the onset of premonsoon could never be a major causes of forest fire or a driver of deforestation and forest degradation. Bhasme cultivation is, at present, limited in a few selected territories of indigenous communities such as Chepangs of the CDR and WDR. Traditional shifting cultivation once the dominant farming system in the EDR and other region has almost vanished because majority of such landnowfalls eitherinto CF or in protected areas systems where cultivation of land is strictly prohibited.

The high altitude region occupying more than 33 percent of forests is highly sensitive to forest fire, and except a few cases in the trans-Himalayan region such as upper Mustang, Dolpa there are no indigenous system of using fire as management of pasture management. Even a small fire can bring disaster to both forests and herders in these areas. Therefore, fire was never used as management tool. Moreover, the biophysical features of subalpine and alpine pastures cannot naturally be burned because they are covered with snow for more than nine months or during the off grazing seasons.

Most of the forest encroachers use fire as land clearing and management tool. As forest encroachment is widespread in *Tara*i and *Chur*e hills where the forest governance and community based forestry are weak compared to Hills, the fire is one of the major causes of deforestation and forest degradation.

4.5.2 Management of grazing land/pastureland: Regulation of grazing system

Animal husbandry is an indispensable component of rural farming system where the forests and pasture lands provide them necessary inputs to sustain the farming system.Review of trends and status of these systems reveals that indigenous pasture management system was highly efficient and effective in the overall management and uses of pasture resources. However, with the change in internal and external context (expansion of road networks, increased access to education,change in political regimes and better political freedom, lack of economicand employment opportunities and migration of youth and younger generation to urbanareas for better life and change in forestpolicy and resource tenure and conversion of large areas of *Tarai* forests into agriculture and loss of grazing land) and globalisation and climate change,the sedentary and semi transhumance and sedentaryindigenous system of grazing or pasture

management institutions in *Tar*ai and hilly regions no longer exist or they arelimited to certain localities. Majority of forests in these areas were handed over to community based forestry and most of the CFs have also mainstreamed customary or indigenous system of grazing into their operational plans, indigenous sedentary and semi-sedentary system of grazing have little impact on forestsand grasslands, particularly in the Midhills and CF area of *Tarai* and *Bhabar r*egions. Moreover, stall feeding has been institutionalised among users in majority of community based forestry further illustrate the low impacts of grazing on forests. Therefore, over grazing is not a major causes of DD in community based forests in *Tarai* and hilly areas.

Farmers of Nepal have developed their own system of regulating grazing. Forests are generally used for grazing during the rainy season while farm land is used for winter. They also practice mobile herding systems from winter to the end of summer season. They have developed a number of techniques to regulate grazing and increase the availability of forage for the livestock. Storage of straw (rice, maize, wheat, barley and millet), maize husks and residues of beans locally called *kunauro* and their use during the winter and summer when there is short supply of green forage are common practices (Personal experience). Moreover, plantation of forage and fodder species on their farm land, allocation of certain parts of their private land mostly the marginal and steeps land for forage production, collection and storing of green grasses during the rainy season (mostly in Far-western region and neighbouring districts of trans-Himalayan region such as such as Dolpa and Mustang) are some of the common practices adopted by the rural farmers to cope with the shortage of green forage (Rai and Thapa, 1993; Thapa, 1995; Goldstein 1995, Gurung 2008).

In this regard, an attempt has been made in this report to analyse the efficiency and effectiveness of widely practiced and researched indigenous pasture management or livestock husbandry on forest and pasture management in the high altitude areas of Nepal.

Transhumance livestock system- A unique system of sustainable management of natural resources

Transhumance is a mountain culture for livestock keeping that has evolved over generations of interaction between human and rangeland environment. In the past, the rhythmic pattern of transhumance was basically governed by ecological domain, meaning availability of grass was the determining factor. But lately, it is determined by the access to forests and pastureland, which is dependent upon the social, political, and economic realms.

By tapping a variety of ecological, social and market niches transhumance herders and other indigenous people of high altitude region maximise the full range of opportunities offered to them and minimise the risks that are inevitably part of the human adventure called ‘Life’. Pastoralists in high altitude area are needed to ensure the health of both the local farming system, and the wider regional farming system in north-central Nepal. While it may not produce sufficient income in its own right for all village households, together with agriculture and tourism it provides the economic means for high altitude inhabitants to remain in the valley and make a living (Mcveigh, 2004).

Moreover, the significance of transhumance is not only limited to livelihood sustenance of high altitude communities. Pastoral cycle represents human adjustment motivated primarily by a combination of environmental conditions and economic considerations (Bishop, 1990). It is also an effective indigenous system for managing the mountain ecosystem at large. Agriculture, forestry, and pastoralism are symbiotically interrelated in mountain farming system. Transhumance integrates all three. Further, transhumance acts as a link between highland and lowland rangeland, and thus has been maintaining the

complex mountain ecosystem at large. With breaking up of this linkage there could be unforeseeable threat to the regional landscape (Baral, 2001, Acharya, 2003; Uprety, 2008; Baralet al,, 2012).

Indigenous institutions previously acted to ensure the sustainable use of local pasturelands by clearly defining tenure and use rights, formulating rules and regulations for their management and imposing sanctions on defaulters. The grazing rights were and are guarded by delimiting areas of pasture for exclusive use by particular groups of villagers or villages. In order to apply clearly-defined rights over pasturelands, the indigenous pasture management systems inculcate a number of well-defined rules. These rules range from formal to informal, depending on the local communities and conditions of the land. The rules, consensually promulgated, are generally imposed to ensure a number of ends. First and foremost, the rules restrict the number of animals per particular pasture area for a specific time period. They are strictly imposed to control the stationing and movement of animals and to discourage overgrazing of local pastures. Second, the rules are set to effect equitable access to pasture resources so that each member of the herding group, including the weaker and poorer individuals, has equal access to the land. Third, the rules define liabilities such as animal taxes, so they may be borne equitably. Owners of larger herds pay more taxes. Fourth, the rules provide the basis for arbitration in case of disputes.

Transhumance is a knot that entices animal husbandry and trade, the two main livelihood pursuits of the people residing in the high altitude regions of Nepal (Bishop 1990). However, this centuries old sustainable approach of livelihoods is threatened and is at the vergeof extinction. There is no doubt that expansion of CF and ban on herding animals during the winter season is the major limiting factor in the declineof transhumance livestock farming, a number of other external and internal factors that had happened after the mid 80s have also contributed to bring about this change. Lack of human resources, diminished profit in the trans-Himalayan trade, alternative employment opportunities, epidemic pest attack, preference for other livestock, lack of interest among new generation in taking over the traditional practice and their migration for employment, education, aspiration of better life and enactment of community forestry program have all coupled up in this decline.Many ex-herders state that they sold their herds as new generation took no interest in taking over the traditional practice. Education has played a significant role in this inter-generational attitude change. Before the 70s, there were no schools, so herders did not attend schools, and were engaged in sheep transhumance from early adulthood. There are other equally compelling reasons for youths in not continuing this traditional profession. Most importantly it is the diminished profit in salt trade combined with hardship and semi-nomadic lifestyle that deterred the young from practicing transhumance. Further, the youth are now opting for other professions. New market for trekking/tourism and collecting NTFPs which offers better earnings have lured the younger generation. There are also significant numbers of youth migrating out of their villages for employment, education, and better life. The diversion of younger generation to other professions as well as their outmigration are the main reasons for the current human resource deficit in continuing the traditional family business.

CF has brought about new scenario of tenure rights over national forests. It upholds the devolution of power by handing over rights to conserve, manage, and utilize forest resources on CFUG. However, the inherent flaw in the definition of CFUG, which only incorporates the local communities in vicinity to the forest, fails to recognize the rights of mobile group as users of the forests. The distant herders are excluded by these CFUGs, and consequently restrictions are imposed upon herder’s access to graze inside the forests (Baral 2008, 2009 and Field observation This exclusionary conservation policy has brought complication in maintaining the transhumance cycle.

4.5.3 Regulation of harvesting of forest products

Forest products that are harvested from forests include timber, firewood, shingles for roofs, leaf fodder, bedding materials, *nigalo,* MAPs and other NTFPs (Baral, 1996; Acharya, 2003). A substantial quantity of these products are harvested and used for both domestic and commercial purposes. REDD+ Strategyandother REDD+ related studies have identified unmanaged product harvesting also one of the major cause of DD.

Review of various indigenous system and three decades of consultant experience reveals that indigenous systems of forest harvesting are/were nature friendly, context specific and evolved over time.They have made a number of regulations to stop over harvesting of forest products and non-timber forest products such asMAPs, *Nigalo,* and *Lokta*. Unregulated or over harvesting of forest products such as cutting live trees and branches for fodder, fuel-wood or timber without a permit is/was considered as an offense. But collection of leaf litter, dead branches, and short dry logswas allowed in all the forests. Villagers could obtain the timber cutting permission for private construction or repair work. To obtain permits, the villagers needed to approach the committee at specified times of the year, explaining their needs and the quality of timber required. However, the system varies across the regions. For example, under a *Kipat* system any of the residents in the locality may collect dry wood for fuel from land owned by any local clan group.However, to fell a living tree, either for the construction or to cut and dry for fuel, it is necessary to obtain permission from the headman of the local clan group on whose land the tree stands and pay a fee for each tree.

Indigenous institutions of forest and pasture management historically demonstrate considerable ingenuity in organizing various management systems to conserve and sustain natural resources on which their subsistence and survival is depended. Their management systems were effective and efficient. These systems were also equitable and sustainable. The institutional arrangement of resource distribution had a broader basis and it served diverse social interests including those of disadvantaged elements, such as the poor and women.

Use rights of forest products generallyensured with the rights of individual households other than defined users or household belong to the land clans is/was strictly prohibited.However, special provisions that were mutually beneficial were made for construction timber or other products of high domestic use (example: making plough, making charcoal, *nigalo*, leaves for making plates and sabai/*babiyo* grass for roofing and making ropesetc) for those neighbouring households without good these products or timber species in their forests.

Indigenous systems have developed a typical NTFPs harvesting and management system in the high altitude areas which are highly efficient from both economic as well as ecological perspective. High altitude areas are the home of high value Medicinal and Aromatic Plants (MAPs) and commercial species such as *lokta*. The indigenous communities of the high altitude areas, particularly the transhumance herders have developed a typical system of sustainable harvesting system of MAPs and NTFPs. The collection rights of NTFPs and rights to sale or trade of NTFPs are/were in a given forests area coincides with the pasture territory assigned to the groups of herders. As the mobility of herders and maturity of MAPs and NTFP follow the nature which fully matches the natural harvesting season, chances of over harvesting of MAPs and NTFPs are/were minimal because there was no state intervention nor any permit or license given to outsiders. Local herders having strong sense of ownership, NTFP being another good source of cash income together with the strong notion of sustained annual income were always conscious to maintain the productivity of NTFP and conservation of these unique resources. However, with the

increased state intervention in the territories of indigenous people and issuing special permits and license of harvesting to private individuals and enterprises/industry the indigenous systems of MAPs and other NTFPs harvesting is almost eradicated from high altitude areas.

Further, adaptation of various mechanisms such as employing forest watcher, regular assessment of abundance and availability of forest products and ban on harvesting for a certain period of time and formation of committees and sub-committees for regular supervision are the additional provisions of forest harvesting methods employed in indigenous forest management systems. Nobody was allowed to do anything without consensus and every villager watched another closely to check the over harvesting or unwise use. This process worked as a safety valve to protect the forest from degradation and deliberate exploitation.

However, the methods and tools used by the indigenous people particularly in the high altitude areas, consideredto be efficient and effective in the past, are highly destructive and wasteful in nature and are not sustainable in the present context. For an example, despite a huge quantity of dead and fallen trees, only preferred species and selected live trees (Oaks, Rhododendron, etc) are chosen for firewood. Similarly, selective feeling of trees for timber, making shingles, debarking of confers bark for shading of *Goth* and making special beds for young calves to keep them warm are also highly inefficient in the present context. Moreover, the harvesting tools and logging technologies dominated by dragging or sliding) make forest harvesting and logging highly inefficient (Baral, 1996; Messerschmidt and Rayamajhi, 1996; Acharya, 2004; Baral et al, 2012).

4.5.4 Management of forests and pasture resources: Maintaining sustained flow of forest ecosystem goods and services

The indigenous people manage their communities in accordance with certain environmental principles, egalitarianism in authority relations, and social values of equality, autonomy and reciprocity. They believe that, the land, forests or pastures and the rivers are part of their culture. They do not take actions that can inflict harm on these natural resources. Their traditional system is based deeply on environmentalist concepts of conservation and saving for the future. In fact, indigenous forests and pasture management system are based on principles of collective actions designed for sustainable management of common property resources as suggested by Ostrom (2000) against the dominant paradigm of Tragedy of Commons advocated by Haden (1968) and other economists. As discussed in the earlier section, territory or boundary of indigenous people and their system are well defined and costs of management and benefit from it are distributed proportionally among the indigenous and local people.Their decision making process and governance system are highly democratic where rules and regulation required for managing the resources and institutions for governanceare formed by the resource users themselves in a transparent and democratic manner mostly through consensus.Indigenousforests and pasture governance systems were enriched with strong enforcement,monitoringand evaluation systems where action against breaches of rules and regulations were taken timely.Rights to organise communities with sufficient autonomy to make decisions apart from non-local authorities (*Ama sumah*, youth clubs, religious groups etc) are ensured and existence of various nested institutions with well defined roles and responsibilities within their main formal intuitions also suggests that all level of governance have an important and legitimate roles to play.

Another significant feature of the indigenous systems are that they largely guided by the principle of right based approach, a biological approach and non-market approach, which are very crucial in the present

context of climate change and livelihood improvement. The right based approach always helped them to be dynamic and innovative in developing, and refining rules and identifying better interventions as per the changed socio-economic contexts, politicalneeds and aspirations and keep the social cohesion intact, active and productive. While the ecosystem based bio-cultural approach helped them better understand the relationship between their communities and their environment, develop and refine rules and regulations and use of wealth oftheir ecological knowledge in the managementforests and pastures. The motto of indigenous people of land/forests management is no other but living in harmony with nature.It means nature is not produced for sale or as a commercial commodity but rather has social, cultural and spiritual values. Thus, indigenous people and their forest management system recognize the value of forests beyond the economic and beyond other goods such as carbon. In other words, they are primarily guided by nonmarket approach of benefit sharing, believing that commoditization of land and forests or pasture can lead to the loss of their sovereignty, territory and resources access.

Indigenous systems of forest management are not mere remnants of old systems. They are dynamic responses to changing situations. They respond to shortages of forest products by developing rules and organizations to protect forests. They are directly related to the difficulties people face in obtaining forest products. Where products are relatively accessible, it is unlikely that they will form organizations to protect and manage forests. Where there is a perceived need, villagers have proved themselves to be quite capable of positive response (Gilmour and Fisher, 1991).

However, indigenous systems of forest management are not always effective in terms of protection of regeneration or sustainability of production because some indigenous forest management systems are aimed at limiting access rights to particular products rather achieving any specific biological (silvicultural) objectives. Nonetheless, indigenous systems are reasonably equitable (Gilmour and Fisher, 1991; Baral et al, 2012).

4.5.5 Resource governance

It is widely accepted that high degree of consensus is necessary for effective common property management (Gilmour and Fisher, 1991). Indigenous governance systems are relevant to attain consensus and resolve conflict related to the management of forest resources. Sanctions are used for disputes/breaches. Matters related to the disputes are usually handled informally within the user group in small communities with extensive face to face contact and complex webs of social ties and obligations. They also argue that social exclusion can, at times, be powerful force for compliance. Disputes are handled internally in many communities. The governance of indigenous institutions or indigenous forest management systems is conspired highly participatory, democratic, transparent, responsive and always accountable to the local people and their duty of guardianship or stewardship of natural resources as well as the local people.

In most instances, the informal indigenous institutions are “councils” represented by all the permanently settled households of a village. The councils promulgate the rules for the management of natural resources, usually by consensus. Often the councils may elect one or several of the households for specified period (usually one year) to act as the “enforcer” of rules meant for the management of natural resources. Indigenous organizations have generally worked out a set of sanctions against the encroachment of territorial or other use rights and against the breaching of the agreed upon rules. The sanctions range from social to economic in nature. The defaulters may have to face social exclusionor pay a penalty fee. In serious instances, the defaulters may lose their use rights for specified periods.

4.5.6 Biodiversity conservation and wise use of resources

As discussed in the earlier section the bio-cultural ecosystem based and non-market based approach of benefit sharing of indigenous forests and pasture management systems have always givenmuch impetusand efforts onthe conservation of biodiversity in their territories.Based on the degree of abundance and status of resource base and their social, cultural, medicinal and economic value, restrictions are generally imposed on their collection and harvesting. For example, using walnutfor timber and firewood, strict ban on cutting trees along main foot trails, riverside, in and around temples and cultural sites such crematory and *chautara* and hunting of wildlife. Moreover, live trees of culturally valued speciessuch as Bel (*Aegle marmelos*) Pipal (*Ficus reliogosa*), Bar (*Ficus bengalensis*) and Sami (*Ficus recimosa*) are strictly prohibited from lopping and for use as firewood. Establishing strong institutional arrangements of intensive monitoring and supervision of compliances these customary laws is another example of giving high value to biodiversity conservation[27]. Moreover, the establishment of *Raniban* in areas rich in biodiversity with outstanding cultural and scenic values, plantation of multiple use species with high religious in public places such as temples, road side, schools and cultural and ritual sites and celebrating a number of festivals related to biodiversity conservation such as *Uvauali and Udhauli*, *Bumipuja*, *Bandevi Puja*, establishing temples at the top of the hills with immense scenic values to make familiar with value of biodiversity and nature as well as handover indigenous knowledge to the younger generations referring them as a cultural festive/event are the other example of indigenous system of biodiversity conservation.

Most of indigenous system of forests and pasture management systems[28]particularly those systems under Kipatland use system and transhumance grazing systems largely meet the criterion or features ofrecently developed concept ofIndigenous Community Conservation Areas[29] (ICCAs) by international communities and recognised by IUCN and CBD.This concept of ICCAs resonated with aspiration and concerns of many indigenous peoplehas also been rapidly developed and promoted by international conservation circle. (Kothari 2006; Kothari et al 2012 cited in Stevans, 2013*).* The IUCN (2012) advocates ICCAsas an integral and critical component of global conservation of biodiversity and to endorse their recognition by state as protected area).

4.5.7 Conservation of soil carbon: Soil and water conservation

Rural farmers in several parts of the country, particularly in the hills and mountain areas, have been known to conserve soil from erosion,increase soil fertility and moisture and carbon in soils through the use of contour bonding, terracing, mulching, planting trees along the bund of terraces, promoting agro-forestry, constructingconservation ponds to trap surface run off and reducesoil erosion, crop rotation and

27 For example local communities of Barpak and Mucchowk VDC of Gorkha observed drastic depletion of Nigalo in their forests after its flowering, then they decided to protect the forest from grazing and ban on its uses including use of shoots as a vegetable till the area is fully regenerated and got mature. The chief of forest user group committee then assigned its members to visit nook and corner of home yards of each of the households including the kitchen to monitor effectiveness of the decision made by the villagers themselves (Personal experience while working as a District Forest Officer of Gorkha during the late 80s).

28 The Subalpine and alpine pasture of Nepal are not only rich in endemic flora and fauna of Nepal, they are also rich in the high value MAPs and immense natural beauties and scenic values

29 ICCAs refer to places where IPs and local communities exercise" predominant or exclusive control and management and achieve conservation 'through customary laws and other effective means (WCPA 2003 cited in Stevan 2013)

managing marginaland steep slope land for grass production, restoring land by using green manure; constructing stone dykes and bamboo or brush wood check dams or walls, and protecting river banks. Other soil-management techniques include planting of grasses and soil conserving species such as *Ketuke/Hathibar* (*Agave spp*), *Sajiwan/Majhibar* (Jatropha), Sabai grass, *Simali* ***(****Vitex negundo)*, *Ngundee/Besaram* (*Ipomea cornea*) and bamboos in landslides/gullies areas and along the banks of rivers and streams.The other important indigenous practices of soil conservation are trail improvement or maintenance. Trail improvementor maintenance immediately after the end of rainy season before the festivals were regular phenomenon. Similarly, maintenance of catchment or conservation pond (cleaning or removing siltation deposited on the ponds and maintaining run-off channels diverted to the ponds) locally known as *Aahal*(cattle/buffalo pond), local wells (*Pandhero*) and local irrigation canal before the onset of monsoon were also regular phenomenon. Although J*immawa*l and *Mukhiya* system was legally abolished by the governmentin 1964, they were socially active till the end of 60s and mid 70s, taking lead in organising and managing these traditional practices.

4.5.8 Gender and social inclusion

Although institutions of indigenous forest/pasture management are equally sensitive to social cultural issues and respect theuse rights promotion of networks of various committees specializing in forest, biodiversity, economic and other cultural and religious activities.They are also equally sensitive to the fair and equitable distribution of forest products and benefits.However, these institutions undermine the roles of women in forest resource management, not giving them any space in decision making. Women's roles are limited in collection of firewoodand grasses, harvesting and processing of MAPs and NTFPs animals husbandry and in other householdchores. They are neither given space in decision making positions nor in resource management, use and access. However,in state sponsored forest and pasture management systems such as in FUGs and in PA systems the limitation of indigenous forest/pasture management system have been well addressed by providing women much options, opportunities and platforms for decision making and decision making positions.

4.5.9 Social relationship and group cohesion

Indigenous people living in remote and harsh environment are aware of the value and benefits of social relation and group cohesion in access to natural resources and their lifestyles. Theories of access define it as the ability to benefit from things-including material objects, persons, institutions, and symbols. Ability here is more associated with the power and social relationship of different social groups that make them able to derive benefits from natural resources. In other word, it is bundles of powers that enable individuals and groups to gain, control, and maintain access. Access analysis helps us understand why some people or organisations benefit from resources, whether or not they have rights to benefit from the resource.Similarly, social relations and identity, knowledge, technology, market, and position shape access (Ribot and Peluso 2003 cited in *Mcveigh, 2004*).

Indigenous people are confident that group cohesion among their own communities and social relationship with their neighbour is a must to enhance access to natural resources and maximise benefits from them. Various socio-cultural festivities and rituals such as Udhauli, Ubhauli, Banvoj, Ban devi Puja, Bhumipuja, parmaculture (exchange of labour force among the communities for farming and other activities) and establishment of culturally accepted and respected kinship or friendship such as *MitLagune*with neighbouring communities are some examples of means to enhance social relationship among neighbours and maintain strong cohesion among themselves.

4.5.10 Climate change and natural disaster

Traditional knowledge, the wisdom, knowledge and practices of indigenous people gained over time through experience and orally passed on from generation to generation, has over the years played a significant part in solving problems, including problems related to climate change and variability. Indigenous people that live close to natural resources often observe the activities around them and are the first to identify and adapt to changes. The appearance of certain birds, mating of certain animals and flowering of certain plants are all important signals of changes in time and seasons that are well understood in traditional knowledge systems. Indigenous people have used biodiversity as a buffer against variation, change and catastrophe. In coping with risk due to excessive or low rainfall, drought and crop failure, some traditional people grow many different crops and varieties with different susceptibility to drought and floods and supplement these by hunting, fishing and gathering wild food plants. The diversity of crops and food resources is often matched by a similar diversity in location of fields as a safety measure to ensure that in the face of extreme weather some fields will survive to produce harvestable crops.

4.5.11 Indigenous knowledge in weather forecasting

Indigenous knowledge systems have enabled the various communities in the area to live in harmony with their environments for generations, and their traditional knowledge systems are important tools in environmental conservation and natural disaster management. Based on this traditional knowledge and people's long-standing experiences concerning cloud formation, lightning, wind direction, occurrence of rains in a particular period of the lunar calendar, the indigenous rain forecasters predict the reasonably exact nature of rainfall for the entire season, including good and undesired effects (e.g. flooding, droughts (Pareek and Trivedi, 2011).

Box 4.4: Indigenous knowledge of the local communities forecasting climate

Ficus species: Flowering and generation of new leaves indicates near rainfall onset.
Butterfly: Appearance of many butterflies indicate early rainfall onset and also gives a prospect of good season, while presence of numbers of moth predict drought
Ants: Appearance of ants indicate imminent rainfall onset and signifies a prospect for good season
Termites: Appearance of many termites indicates near rainfall onset.
Frogs: When frogs start to make a lot noise, it indicates near rainfall onset.
Birds movement: Flocks of Kakakul (a variety of Hawk spp) flying with cry indicates early onset of rain or cry of specific birds on trees near rivers to predict the onset of the rainy season
Wind: Change in wind direction and temperature signifies imminent rainfall.
Colour of clouds, their location, intensity and frequency of rainfall, unusual sounds and changes in water flow indicate extent of hailstone and early warning of floods;
Height of nests of birds in riverside indicates the extentand size of floods
Migration of the bird *gauthal*i to plains/Tarai and their return to home predicts emergence of winter and summer season
(Source: Pareek, and Trivedi, 2011; Acharya et al, 2014,)

Local communities and farmers in Nepal have developed intricate systems of gathering, predicting, interpreting and decision-making in relation to weather. Farmers' forecasting knowledge encompasses shared and selective experiences. Elderly farmers formulate hypothesis about seasonal rainfall by observing natural phenomena, while cultural and ritual specialists draw predictions from divination, visions or dreams. The most widely relied-upon indicators are the timing, intensity and duration of cold

and hot weather, intensity of frosts, direction of wind, the colour of the clouds in the sky, the timing of flowering and fruiting of certain local trees, the water level in wells and streams, the nesting behaviour of birds living riversides, unusual behaviour of wild animals and birds, ants, flies and insects and position of sun/moon are some of the indicators used by the rural farmers in forecasting weather and early warning of floods (Box 4.4). Similarly, the knowledge of local rain corridors enables them to prepare for storms. Knowing the colour of clouds that may carry hailstones enables people to run for cover. Knowing that prolonged drought is followed by storms, thunder and lightning during the first few rains enables people to anticipate and prepare for these events. Using these indicators farmers are able to use knowledge of weather systems such as rainfall, thunderstorms, windstorms, emergence of drought to prepare for future weather and response to natural disaster such as floods drought and epidemic of pest and diseases. Indigenous methods of weather forecasting are known to complement farmers' planning their farming systems (Pareek and Trivedi, 2011; Acharya *et al*, 2014).

4.6 Overall assessment of Relevancy, efficiency and Effectiveness of IFPM practices/systems

Based on the above discussion, expert judgement of the author of this report verified in consultations the overall effectiveness of various IK systems in addressing the direct and indirect drivers of DD has been tabulated in the Table 4.1. Analysis of the scores presented in the table shows that the IFPM systems has the highest effectiveness to address Forest fire and Over grazing/uncontrolled grazing; medium effectiveness to address Unsustainable utilization of forest products, and Weak Forest Management practices; and the least effeteness to address Unplanned infrastructure development, Urbanization and resettlement, Encroachment, Expansion of invasive species, and Mining /excavation (sand, boulders, stone.

Table 4.1: Overall effectiveness (relevancy, efficiency and effectiveness) of IFPM practices of Nepal
(Based on expert judgement verified in consultations)

	Relevancy	Effectiveness	Efficiency
A. Proximate causes direct drivers of DD			
Forest fire	4	4	4
Over grazing/uncontrolled grazing	5	5	4
Unsustainable utilization of forest products	3	3	2
Weak Forest Management practices	3	3	2
Unplanned infrastructure development	1	1	1
Urbanization and resettlement	1	1	1
Encroachment	1	1	1
Expansion of invasive species	1	1	1
Mining /excavation (sand, boulders, stones).	1	1	1
B. Underlying causes			
Disproportionate population distribution and migration pattern	2	3	1
Poor policies, implementation and conflicting	4	3	3
Poverty and limited livelihood opportunities	4	3	2
High dependency in forest products and gap in demand-supply	3	3	2
Land use policy and insecure forest tenure	4	4	4
Poor governance and weak political support	4	3	4
Weak coordination and cooperation among stakeholders	1	1	1

	Inadequate human resource development and management	1	1	1
	Low priority to research and development	1	1	1
	Poor coping strategy to natural disasters and climate change	3	4	4
1-Very low/no; 2- Low; 3-Moderate; 4-High; 5-Very high				

5. Section five: Prioritisation of IK and Customary Practices

This section briefly presents the status of IK practices in different ecological regions andtheir effectiveness in managing forests and pasture, various national and international REDD+ related policies and strategic options for addressing the issues of indigenous people and their customary practices. Based on features of the best IK practices in general and comparative advantage of REDD+ benefits from IK practices of Nepal in particular, a priority list of REDD+intervention areas have been suggested.

5.1 Status of IK across ecologicalregions of Nepal

IK practices of forests and pastureland management documented and discussed in the earlier sections of this report reveals that the Midhills and High Altitude areas (High Mountain and High Himal above 2000masl) are rich in indigenous or customary practices of managing forests and pasture lands. Although, the indigenous knowledge of Tarai such as *Tharus, Rajis, Bankariyas, Santhals/Satars and Botes*are is rich but they are not put into actions (practces) of managing forests and pastuere biodiversity. .Their IK and customary practices of forest and pasture management are likely to be lost with the loss of large tracts of forests and expansion of protected areas system in the Tarai. Similarly, Chure region does not have any IK and customary practices of forest and pasture management. Nonetheless, seasonal usefor grazing and NTFP collection by both lower hills and Tarai farmers existed. Collective seasonal grazing was in practice in Chure until 1980s. Until this time, Chure was almost devoid of human settlement or sparsely populated. With the increase in population, road networks, expansion of Community Forestry and the loss of forests in the Tarai collective and planned seasonal grazing system is no longer practiced in the Chure region With the expansion of Community Forests and Protected Area System in the Mid-hills and High Mountains almost all indigenous system, traditional institutions and informal rules and regulations governing the forests and pasture weakened or ceased to function in their original forms.Most of these systems have been replacedby state promoted and sponsored institutionof community based forestry including BZ Community Forestry and Conservation Area of PA system.The state sponsored institutions have tried to base their functioning over the foundation of the indigenous forest management system or institutions of the past. Review of constitutions and forest operational plans (legal document governing the institutions and managing forests) reveals that most of them have used the Indigenous system in terms of coverage (territories and users), governance and rules and regulation of forest management. These new institutions of forest and pasture management are doing well where they have strictly followed the principle, norms and values of their past indigenousmanagement practices. However, severe socio-cultural conflicts have emerged between the customary users and statuary users over the use of forest and pastures where the IK systems are largely undermined. Boundary dispute between two communities of Community Forests, conflict between park authorities and indigenous communities over the right to use of forests, rivers and pastures and the conflicts between transhumance herders/farmers and community forest users groups in the High Altitude areas are some of the cases of conflicts.

Of the various ecological regions of the Nepal the High Altitude area (H.A. area above 2000-2220 masl,is the home of endemic flora and fauna and reservoir of huge water resources enriched with wealth of indigenous knowledge and customary practices of managing forests and pastureland. This region is also highly sensitive to climate change compared to other regions.Although, HA region is the area of sparse population, and it supports hundreds of millions of people at the downstream (Mid-hills and Tarai) by providing various ecosystem goods and services. Transhumance livestock systems, with varied forms and institutions, across the regions were the major systems practiced in these areas that meet the criteria ofrelevancy, efficiency and effectiveness in managing forests and pastureland in a sustainable way.

However, the continuity of these systems have been restrained due tothe change in forest and pasture policy, expansion of Community Forests and protected areas and exclusion from access to use forests and pasture, increased road access and change in the trade policy with the Tibet, migration of youth to urban areas and new economic frontier in search of better life and income.The allocation of the area of use in the user group concept promoted by the state is too small for transhumance herders to sustain their life styles. Traditional territory of transhumance herders extends as low as to the Mid-hills, sometime up to Chure hills and as high as up to Alpine pastures.As a result, the use conflicts have arisenamong transhumance herders and community forestry users leading to degradation of forests and pasture (because of over grazing or concentrated grazing), and declining trend of indigenous knowledge and customary practices. Many transhumance herders have already abandoned their traditional old lifestyles while a few are still struggling to survive.

This implies that understanding the interface between theMid-hills and High Altitude areas along with the impacts of climate change on these unique landscapes has major implications for indigenous people as well as conservation of the unique biological resources therein. It requires articulating indigenous knowledge with modern techniques. A mix of indigenous knowledge and customary practices withmodern techniques can prove to be more valuable than either one on its own. In this regard, linking the best practices of indigenous knowledge and customary practices with the co-benefits of REDD+ mechanism would be appropriate in developing criteria to identify priority activities for REDD+ development.

5.2 The concept of Best Practices

In simple terms a "Best Practice" is an approach or methodology that has proven effective for a particular purpose in a particular context but could also be effective in other contexts if properly adapted and applied. A "Best Practice" is thus held up as a model worth imitatingin other parts of the world. It is believed that Best Practice is the result of articulating indigenous knowledge with modern techniques; a mix that proves more valuable (UNESCO/MOST, 2002). Nepal's community forestry programme provides a good example of articulating indigenous knowledge with modern techniques. The interaction between two different systems of knowledge have already created a mechanism of dialogue among local populations,forestry professionals and decision makers providing a strong base to design REDD+ activities that reflect real aspirations of local people and at same time enhance their active participation in management and conservation of forest resources. The central idea of identifying Best Practices is that they could be replicated (however, not without compensating the ‘knowledge owners’), that ideas could be generated from them, and that they can and should contribute to policy development and development practices (ibid).

UNESCO/MOST (2002) suggests four characteristics of"Best Practices"while identifying best practices of a community development project. They include: innovativeness, making a difference, sustainability, and inspiring (box 5.1). These characteristics are also equally valuable, and relevant to forest resource management, conservation and REDD+ activities.

Box5.1: Characteristics of "Best Practices"

They are innovative.	A Best Practice has developed new and creative solutions to common problems of poverty and social exclusion.
They make a difference.	A Best Practice demonstrates a positive and tangible impact on the living conditions, quality of life or environment of the individuals, groups or communities concerned.
They have a sustainable effect.	A Best Practice contributes to sustained eradication of poverty or social exclusion, especially by the involvement of participants.
They have the potential to be a source of inspiration to others.	A Best Practice could serve as a model for generating policies and initiatives elsewhere.

Source. UNESCO/MOST, 2002

5.3 REDD+ benefits, Safeguards and Monitoring, Reporting and Verification (MRV)

REDD+ Benefits

REDD+ have multiple benefits in addition to carbon. Luttre *etal (*2013) discuss the net benefits of carnon (total Benefit achieved minus total cost incurred) and divide them into three major types:

1. Benefits from implementation of a REDD+ project, program, or policy e.g. net gains from the sale of credits in a carbon market, or from donor or government funds linked to REDD+ readiness and/or payments based on results
2. Increase in income sources and indirect ecosystem benefits suchas the protection of soil and water quality, biodiversity protection, and local climate stabilization through increase in forest cover or forest management and conservation
3. Improved governance, e.g, strengthening of tenure rights and law enforcement, technology transfer, enhanced participation in decision making, and infrastructure provision and generationnew income-earning opportunities (Luttre, et al, 2013).

The last two benefits of REDD+ are known as Non carbon benefits or co-benefits.

Non Carbon Benefits

Recognising and internalisingthe contribution of REDD+ activities beyond mere carbon storage and carbon sequestration in forest the UNFCCC COP16 conference in Cancun 2010 introduced and included the concept of Non-carbon benefits (NCBs) also known as Co-benefits in REDD+. NCBs are generally understood as positive social, environmental and governance outcomesof REDD+ activities (Hvalkof, 2013). The non-carbon benefits (NCBs) of REDD-plus include maintaining ecosystems, enhancing biodiversity,conservation of natural ecosystems while Lee et al. (2011) list five categories of co-benefits of REDD+: biodiversity conservation, ecosystem protection, economic benefits, adaptation needs and community benefits (Murphyand Minang, 2010). Chhatre et al (2012) have further divided NCBs into short term and long term benefits. The short-termNCBs includes improved rural livelihoods and lower costs of implementation, whileimproved adaptive capacity of local communities and good forest governance have beencategorized as long-term co-benefits .In the context of community forestry Joshi et al (2013)have indentified six major non-carbon benefits . They are

i. Enhancement of local livelihoods
ii. Increased value of biodiversity
iii. Better ecosystem services to people and environment
iv. More resilient ecosystems for climate change adaptation
v. Improved governance
vi. Contributions to multinational environment agreements.

In addition, the options recommended to incentivize co-benefits resulting from implementing REDD+ activities include: 1. Bundle incentives for co-benefits with incentives for carbon in single payment: 2. Keep incentives for co-benefits separate from incentives for reduced carbon emission; and 3. Combine Options 1 and 2.

REDD Implementation Centre (2013) has identified the following key Non-carbon Benefits (co-benefits) of implementing REDD+ activities in Nepal: Enhancement of local livelihoods;Increased value of biodiversity; Better ecosystem services to people and environment; More resilient ecosystems for climate change adaptation; Improved governance, institutional setup and policies for natural resource management at local to national levels; and Contributions to multinational environment agreements.These imply that NCBs have critical importance for the local communities for their livelihoods improvement and economic enhancement as well as preserve and maintain their social identity while enjoying their lifestyles as per the norms, values and belief system that they inherit in from their ancestor.

REDD+ Safeguards

The Cancun conference has defined and recognised NCBs as the contributions of forest-maintaining livelihoods and cultures to the permanence and viability of the REDD+ programme and its achievements but it has also provisioned for robust safeguards regime with a set of well defined safeguards and corresponding social and environmental standards to assess their performances, known as REDD+ SES (See REDD+ Draft Strategy 2015 for more detail).The Cancun conference strongly stresses that REDD+ *activities should enhance social and environmental benefits, incentivize the conservation of natural forests and their ecosystem services, and promote effective forest governance mechanisms* (UNFCCC, 2010). In addition, the Cancun Agreements also recognize that the UNFCCC Parties are obliged to fully respect human rights and particularly the rights of indigenous peoples in all climate-change related decisions and actions.

Actually, REDD+ benefits are assessed in terms of their contribution towards the overall goal of REDD (reducing GHGs emission and carbon sequestration) therefore payments are made on the extent of performance or results achieved. However, before claim over the these benefits and get benefits from carbon markets anumber of institutional, technical and social process must be completed and institutional arrangements of their implementation must also be in place. Of these various mandatory provisionsREDD+ Social and environmental safeguards (REDD+ SES) system andmonitoring, reporting and verification system are crucial and most important to make REDD+ more community centred, cost effective and operational.

Monitoring, Reporting and Verification (MRV

To make results-based payments of NCBs operational, a Safeguards Information System (SIS) and national forest monitoring system must be in place for each country in order to document that safeguards are being met, including NCBs. This whole process in REDD+ literature is referred to as “MRV”, monitoring, reporting and verification systems, an essential component of the REDD+ framework and an integral part of the REDD+ Readiness Programmes. However, MRV system is a highly costly affair as it is professional and specialist led and time consuming processes. However, studies focused on the capacity of local communities to monitor biodiversity and resources in a number of developing countries covering South Africa, South America and South East Asia regions suggest that it is fully possible to build a cheap and effective MRV system based on community monitoring of NCBs.

5.4 Concept of REDD+benefit sharing mechanism

5.4.1 Key Assumptions of REDD+

REDD+ is designed around a flow of incentive payments from the developed to the developing world conditional on proven emission reductions in forest ecosystems and the flow of incentive payment is basically guided by the following three major assumptions (Osborne et al, 2014).

1. REDD+ is a highly cost-effective strategy for carbon reductions.
2. REDD+ will have a significant impact on climate change through the reduction of deforestation and forest degradation
3. REDD+ can achieve market efficiency as well as sustainable development and local co-benefits

However, these assumptions are challenged by scholars working on REDD+ (Rudel et al, 2009; Agrawal et al, 2011 Osborne et al, 2014). The first argument is that REDD+ has proven to be quite expensive when other costs beyond the opportunity costs are considered.It has also ignored the social, cultural and spiritual values of forests. Hence, REDD+ would not be cost effective.They also argue that REDD+ may be exchanged on an offset market where reductions in forests are traded for continued emissions from industrial sectors in the Global North, therefore market for carbon is insecure. Contrary to widely held views that shifting cultivation is a cause of deforestation they strongly argue it is a highly sustainable land use system (Geist &Lambin, 2002). They further argue that fundamental tradeoffs between market efficiency and sustainable development or market efficiency criteria often compromise effectiveness of collective action thereby weakening the institutional social controls communities used to manage forest commons (Brown &Corbera, 2003; Osborne et al, 2014).

5.4.2 REDD+Benefits and IndigenousCommunities and their Customary Practices

Overall assessment of various customary or indigenous practices of managing forests and pastureland in the earlier section reveals majority of drivers of deforestation and forest degradation in Nepal are caused by the subsistence based economic activities. For example firewood, forage/fodder and leaf litter are the major forest products or inputs of rural farming system (agriculture and livestock). In addition, major source of livelihood for the majority of farmers in the high altitude areas is pastorilsm, in which medicinal plants and other Non-timber forest products (NTFPs-wild edible plants, natural fibres etc) provide rural farmers additional sources of income and food as a complement to the farming system and maintain a living. Thus, the increase in forest cover or productivity of forests and pasture will provide them better inputs to agro-culture and livestock husbandry as well as additional income for their subsistence needs. This implies that indigenous communities will be better off from Non-carbon benefitscompared to carbon credit of carbon sequestration. Moreover, customary institution and their forest and management system and practices being recognised as the custodian of natural forests and biodiversity, their role in forest and pasture governance will also be equally crucial and important.Moreover, Non-carbon benefits are free from the technical problem of justifying the issue additionality of carbon stock.

Natural forests are generally considered the most carbon-dense forests and are highly resilient (more able to withstand and recover from disturbance).The Forests of high biodiversity are better able to withstand pressure from invasive alien species and other pests and disturbances such as forest fires and storms, and recover more quickly following such disturbances. Such forests are also likely to store carbon over long periods of time. However, the variation exists across the physiographic regions as the condition of forests and stock of carbon varies (Diaz et al, 2009; Strassburg et al, 2010).

The High Altitude area of Nepal(Area between 2200-23000m to 4500m-5000m asl) is rich not only in forests (areas and biomass), biodiversity (endemic spp), water resources and landscape but also the richest in terms of indigenous knowledge and customary practices, particularly various form of transhumance livestock farming or grazing system. So, conservation of these resources will yield a double dividend for climate change mitigation and biodiversity, and provide ecosystem services at the local, national and global level. Moreover, forests in the High Altitude Area being primary forests the total ecosystem carbon stock (in plants and soil) is also higher(more than 25%than in plantation forests) (Liao et, al, 2010). While REDD+ is the first and foremost being developed as a means of mitigating climate change, it is expected to generate considerable biodiversity or ecosystem benefits and also has the potential to generate benefits for indigenous and local communities. In order to achieve and optimize the "co-benefits", and the benefits to indigenous and local communities, REDD+ will require policy coherence and close coordination among key actors at the local, national and international levels.

In Mid-hills the shifting cultivationis still dominant practice of many indigenous people such as Chepangs, Limbu, Gurung, Tamangs and Magarsin both registered and unregistered land under usufruct ownership. Similarly, majority of indigenous people have failed to register their Kipat land. However, farmers or indigenous people are using such traditional plots under various land use systems such as shifting cultivation in the Central and Western development Region and intensive cultivation of cardamom the Eastern region. Although some of unregistered the kipat land have been rehabilitated and handed over in CF and LF, there are still considerable areas of unregistered Kipat lands that are under usufruct ownership. At present, theyare under varied land use systems; some have been brought under multiple use agro-forestry with cultivation of *Ailench*i (Cardamom), broom grass and *Chiaraito* as under or inter crops while some are still under traditional *bahsme polne* agro-culturesystem.Experiences and lessons learned from pro-poor leasehold forestry reveals that if tenure security is provided highlydegraded forests or traditional shifting cultivation plots can be developed into a mosaic of agro-forestry resembling a natural forests within a short period of time (less than five years).Thus, restoration of degraded forest and traditional shifting cultivation plots can provide multiple biodiversity and climate benefits (FAO/LFLP, 2014).Over the long term, natural succession will occur in such degraded areas enhancing ecological connectivity adding more ecosystems or biodiversity benefits.

UNFCC (2010) has proposed two approaches: Market based approach; and Non-market based approach (NMA) for REDD+ financing to its partners countries. However, until recently market-based approach was the only available option for REDD+ financing. Market based mechanism refers to instruments and approaches that have international transferable units from forest carbon markets. Although this approach has distinct benefits necessary institutional and technical factors such as inadequate capacity, lack of quality data and high upfront and transaction costs make an under-developed country like Nepal likely to retrain or limit the scope of this approach. While NMA refers to policy measures and instruments designed to raise adequate, predictable and long term resources for enhancing effective mitigation and adaptation actions without internationally transferable units, butcontinued monitoring, reporting and verification system so that the outcome can be accounted toward an emission reduction target of the contributor country. The NMA is more appropriate and practical to Nepal.It goes beyond carbon offsets by taking into account the multi-functional attributes of forests and creates a synergy between mitigation and adaptation measures with better complement of improved ecosystem services and poverty reduction. Realising these relevancies of NMA to Nepal context, the draft REDD+ Strategy of Nepal has proposed to adopt the NMAwith a hybrid of compliance and voluntary funding under Common but differentiated responsibilities (CBDR) and other public and private sources.

5.4.3 Policy options of REDD+ and Indigenous People

A number of international policy instruments discussed in the earlier section of this report, particularly theUN REDD Safeguards, the UNFCCC REDD+ Safeguards and the Cancun Agreements are the fundamental policy to address and safeguard the issues and concerns offorest dependent people, women, vulnerable groups and indigenous peoplewith respect to REDD+ activities. The UNFCCC REDD+ Safeguards provide environmental, social, carbon and governance standards to be applied to all types of REDD+ financing and ensure that REDD+ will be implemented in an inclusive and transparent manner with respect for the rights of indigenous peoples and local communities.While the Cancun agreement is a major milestone to address land tenure, gender rights, drivers of deforestation and forest degradation and forest governance issues in national strategies. Similarly, the UN-REDD Safeguards provideSocial and Environmental Principles and Criteria (SEPC) framework to address the need to secure land tenure, empower women and vulnerable groups, establish a grievance mechanism and provide the member countries the framework to develop respective national approaches and strategies in line with these policy instruments. The other important aspect of the SEPC is that it does not limit REDD+ activities simply to increase carbon stock and maximize carbon benefits but goes beyond merely to carbon benefits but other indirect non-carbon benefits. REDD+ programme also bringsa number of multiple benefits such as contribution to conservation of biodiversity, forest ecosystems and local livelihoods improvement, therefore, these additional benefits of REDD+known as co-benefits must be acknowledged, internalized and equally prized /rewarded. This helps the IPs and local forest dependent people to claim over the REDD+ benefits as the protectors or steward of forests resources.

RegardingSocial and Environmental Safeguards, the Draft REDD+ Strategy 2015 has recommended to adopt the Strategic Environmental and Socials Assessments (SESA), Environmental and Social Management Framework (ESMF), and REDD+ Social and Environmental Standards (SES) prepared by the government of Nepal as they are important documents to design and implement REDD+ programs that respect the rights of Indigenous Peoples and local communities, and generate significant social and environmental benefits.

The REDD+ National Strategy of Nepal (draft) based onthe overall framework of the above discussed international safeguard instruments, a number of studies carried out by the REDD Implementation Centre and extensive consultations has proposed a total of 13 Strategic Options and a number of strategic actions. The strategies cover a wide range of areas of policy and measures, management practices, governance and institutional strengthening, capacity enhancement, and policy and sectoral synergy development in order to achieve REDD+ outcome of:

a. Reducing emissions from deforestation
b. Reducing emissions from forest degradation
c. Conservation of forest carbon stocks
d. Sustainable management of forest
e. Enhancement of forest carbon stocks (Draft National REDD+ Strategy).

Of these, the strategic options that are relates to indigenous people and their customary practices are:Increase non-carbon benefits by promoting climate resilience, ecological integrity, adaptive ecosystem-based approaches and integrated watershed management (S2); Clarifying forest tenure and carbon rights and sharing fair and equitable benefits (S5); Promoting enterprise, livelihoods and employment opportunities to forest dependent poor, women, IPs and marginalized (S6); Increasing access to affordable, gender friendly and efficient alternative wood and energy technologies (S8);Improving and

developing synergy among various sectors, sectoral policies and legal framework(S9); Strengthening institutional performance and service delivery (S10); and Enhancing capacity, capability and improving collaboration and cooperation (S11). (See Box 5.2).

Box 5.2: Strategic Options identifiedby the National REDD+ Strategy, 2015 (draft)

S1.	Enhancing carbon stocks, increasing supply of forest products and reducing carbon emission
S2.	Increase non-carbon benefits by promoting climate resilience, ecological integrity, ecosystem-based adaptation, and integrated watershed management
S3.	Promoting private and public land forestry
S4.	Promote optimal land use through improved land use planning and implementation
S5.	Clarify forest tenure, ensure carbon rights and fair and equitable benefit sharing among various right holders
S6.	Promoting enterprise, livelihoods and employment opportunities to forest dependent poor, women, IPs and Dalits
S7.	Increasing agricultural productivity of subsistence and near landless farmers
S8.	Increasing access to affordable and gender-friendly technologies of alternative wood and energy to poor and marginalized
S9.	Improving and developing synergy among various sectors, sectoral policies and legal framework
S10.	Strengthening institutional performance and service delivery
S11.	Enhancing capacity, capability and improving collaboration and cooperation
S12.	Promoting forest and climate-friendly infrastructure planning, construction and maintenance
S13.	Establishing and maintaining a well-equipped forest management information system

Source: Draft National REDD+ Strategy

5.6 Concerns of indigenous people

Major concerns of Indigenous peoples of Nepal include: (NIFIN nd)

- The recognition of the right of indigenous communities to Free, Prior, and Informed Consent (FPIC)
- The recognition and protection of the rights of indigenous and other forest communities to their land and forests;
- The full and effective participation of indigenous and other forest communities, and their representative organizations, in REDD+ at all stages and at all levels, as well as forest management planning and decision making; and
- Establishment of fair and equitable REDD+ benefit sharing mechanisms is ensured, and also REDD+ reward indigenous and other forest communities for forest protection, and compensate them for lost revenues from alternative land uses; and that they have the freedom to collectively decide on the form and terms of benefit sharing.

All these above mentioned factors have been taken into consideration while prioritizing IK and customary practices. Priorities also reflect strategic and tactical considerations including links with poverty alleviation, the need to identify tangible courses of action at scale, economic justifications for investments, the connections between adaptation and mitigation, and the potential for private sector involvement.

5.7 Priority Area, and Strategic Actions for REDD+

5.7.1 Priority Areas

Several criteria are considered to identify the most priority areas for REDD+ intervention. They are: the area with high risks of deforestation and degradation, area with high ecosystem services, opportunity costs and benefits of REDD+, and uniqueness of the practices. Based on these criteria, two customary practices of land resources (land, forests and pasture) have been recommended as the most priority areas.

1. Indigenous Transhumance Pasture/livestock Management System of the High Altitude Areas (These areas contain dense natural forests with high biodiversity, watershed values, rich in natural beauties and tourism values,high potential for ecosystem service benefits but much degrading close to human settlement and town centres. The customary institutions are rich in indigenous knowledgesystems, and uniquely adaptive. The transhumance herders have dynamic lifestyles, strong social cohesion and cooperation with strong respect to nature)

2. Traditional Khoriya/BhasmeAgricultural Practices or the Shifting Cultivation- The practices in(i) Chepangs areas of central and western development region and (ii) Kipat areas of eastern development region (these areas are of high risks of deforestation and degradation with high rate of soil erosion, loss of biodiversity and connectivity to wildlife.The indigenous people practicing these traditional cultivation practices are highly marginalized and their life styles are in the verge of extinction losing indigenous knowledge. The productivity of the land is very low and there is high dependency on nearby forests) and indigenous knowledge is disappearing.

5.7.2 Strategic Options/Actions

To respond to the needs and issues of the priority areas as discussed above and in the earlier sections, the following strategic options/actions are recommended.The more detail of the strategic option/actions are discussed in section 6.2 and the corresponding benefits of each of the options are summarized in the Table 5.1.

1. Develop supportive policy environment conducive to indigenous knowledge and customary practices of land, forest and pasture management
2. Rehabilitate degraded areas and intensify optimum management practices of land forests and pasture resources
3. Ensure REDD+ benefits flows to indigenous communities
4. Develop human resource capacities and strengthen institutional capabilities
5. Promote multi-stakeholder and collaborative approaches of planning and implementation
6. Promote research and study of indigenous knowledge and customary practices and integrate with modern science of forestry and pasture management

Table 5.1: Summary of potential priority options and benefits

	Potential strategic areas of interventions	**PotentialNon-carbon benefits▪**
1	Develop supportive policy environment conducive to indigenous knowledge and customary practices of land, forest and pasture management	Formal recognition of indigenous knowledge and practices; Secured rights to access forest and pasture resources and carbon rights
2	Rehabilitate degraded areas and intensify optimum management practices of land forests and pasture resources	Increase in ecosystem services and biodiversity (Increase in the productivity of land resources; increase in biodiversity and wildlife; improvement on forest harvesting and use of forest resources;and sustained flow of ecosystem services)
3	Ensure REDD+ benefits flows to indigenous communities	Rural livelihood improvementand Ownership of REDD+ (Increase in land and livestock productivity through improved supply of agriculture inputs and forage/fodder to livestock;increase in income sourcesand employment opportunities increase participation and build ownership of REDD+ activities among the farmers and users
4	Develop human resource capacities and strengthen institutional capabilities	Decentralized institutional set up with competent, responsive human resources (Improved service delivery system, production of local resource persons; Improvement ingovernance)
5	Promote multi-stakeholder and collaborative approaches of planning and implementation	Better coordination and collaboration with multi-stakeholder; Collective vision, participatory and integrated planning, resource efficiency and, an increase in access to additional fundresources and technologyetc
6	Promote research and study of indigenous knowledge and customary practices and integrate with modern science of forestry and pasture management	Increased knowledge and understanding and technology dissemination: Site specific land/forest/pasture management model; Wood harvesting and lopping of tree fodder; Production and distribution of knowledge products

6. Section Six: Ways Forward: Strategic Options/ Action

The core problems of indigenous people from their customary/indigenous knowledge and practices of managing forests and pasture resource from REDD+ perspective are associated with the policy, institutional arrangement and the governance at multiple levels. Though the current policy and institutional mechanisms have certain positive influences in specific localities, it has failed to address the needs, unique characteristics and the challenges of IK and customary practices particularly in the High Altitude region. There is institutional vacuum and the policy mismatching the core issues. The current induced institutional mechanisms have undermined the century old informal institutions. The socio-political status of indigenous people have not able to raise their voice and influence in the national political decision making and also in various pull and push factors towards resource management and livelihood improvement. All these core issues have resulted into inability to address the proximate causes of DD as explored by various REDD+ studies.

As the way forward, the following approaches/principles, policy options and working strategies are suggested to address the issues of Indigenous communities and their customary practices of forest and pasture management in the changed context of climate change and other global environmental concerns.

6.1 Overall underlying principles or approaches

The strategic actions regarding the indigenous people and their customary practices proposed by this report are basically guided by the following principles or approaches:

1. **Rights-based approach:** This approach ensures that indigenous people have a right to participate in REDD+ and/or carbon markets (if they so choose), but through FPIC (Free prior and informed consent), they also have a right to be fully informed and to oppose participation altogether. This approach strongly argue that recognizing indigenous people's rights to territory and resolving land tenure conflictsshould be a prerequisite for participation in REDD+. Moreover, this approach also provides an operational guideline to implement provisions made by United Nations Declaration on the Rights of Indigenous People (UNDRIP) about REDD+.
2. **Bio-culturalapproach:** This approach highlights the relationship of indigenous people with their environments and the wealth of traditional ecological knowledge they have acquired over generations. It also reflects a dynamic and dialectical relationship between people and the environment. Moreover this approach is ecosystem-based rather than market-based. Forests are recognized for their social, cultural, economic and spiritual values that cannot be adequately represented in monetary terms alone.
3. **Non-market approach:** A non-market approach to REDD+ recognizes the multiple values of forests beyond their economic and carbon values. This approach also questions the use of global carbon markets as the main financial mechanism for guiding the management of forest ecosystems. It highlights concerns about the commodification of land and forests, which can result in the loss of indigenous sovereignty over their territory and/or reduced access to forest resources. This is also an approach suggested by the GoN forREDD+ benefits.
4. **Distributive justice Principle:** The principle of distributive justice implies equitable distribution of the burdens resulting from environmentally threatening activities or of the environmental benefits of government and private-sector programs. In the context of REDD+ it implies that all parties (the stakeholders of REDD+ programme) have equal rights to receive benefit pursuant to their contributions in reducing emissions (merit-based) and needs (need-based). This principle looks into indigenous peoples' contribution to conserving the forests and their subsistence needs from forest

resources and ensures fairness of REDD+ benefits and the allocation of outcomes and their impacts on different stakeholders in terms of costs, risks, and benefits

6.2 Proposed Strategic Options

Taking into account all the issues discussed in the earlier sections of this report the following strategic areas and actions have been suggested as priority optionsof REDD+ related to indigenous knowledge and customary practices of managing forests and pasture resources.

1. Develop a supportive policy environment conducive to indigenous knowledge and customary practices of land, forest and pasture management

Agro-pastoral system, particularly of the inhabitants of the northern high altitude areas are governed by complex, technical, environmental socio-political and economic factors. These indigenous agro-pastoralists using and managing local resources regulated by well-defined and mutually agreed open rights and rules, and backed by various social controls and sanctions indicates them as judicioususers of the forest resources of their area. So, recognizing the strengths of these age-old systems, and the rights of indigenous communities and developing a supportive policy environmentwill not only make positive contribution to address drivers of deforestation and degradation but also comply with the international obligations of respecting the rights, FPIC and achieve active participation of indigenous people and other local communities in all phases of REDD+ development. For this the following strategic options are proposed.

i. **Recognise and respect Indigenous/customary lands, forests and pasture resources management system/practice**
   - Recognize the rights of the indigenous communities adopting transhumant pastoralism to access over their ancestral pasture areas as a bonafide users and make a special provision of iton the existing forests acts and regulations;
   - Recognize the indigenous forests and pasture management systems have potential for sustainable and integrated natural resource managementand *Khoria/Bhasme* farming system can be converted into an integrated agro-forestry model of land management;
   - Clarify usufruct rights of indigenous communities who are still practicing *Khoria/Bhasme* farming on their ancestral lands or area and develop a participatory code that respect the traditional practices as well as objectives of REDD+ and principles of sustainable land management;
   - Recognize and respect the customary institutions as the custodians or stewards of forests and pasture management for their contribution to ecosystem management and biodiversity conservation;
   - Develop and implement grazing codes for the transhumance grazing in consultation with the transhumance graziers, community based forest users groups and livestock development institutions;
   - Develop a special community forestry operational guidelines for handing over forests to local communities that fall under the grazing routes of transhumance farmers including conservation and national parks area systems; and
   - Develop a separate operational guideline and annex it into the existing CF operational guidelines for the handover and overall management of land/forests and pasture in areas

dominated by well established customary practices such as transhumance grazing/livestock system.

ii. Clarify carbon ownership and benefits ofREDD+ Activities

- Clarify the legal issuesof recognising carbon ownershipin REDD+ activities including the contribution of Indigenous communities (ICs) and theirforests and pasture management in reducing emissions through carbon sequestration activities; and
- Defineexplicitlythe site specific or context specific types of benefits (direct and indirector the Non-carbon-benefits) and the corresponding beneficiaries from the perspective of indigenous forest and pasture management practices/systems and ensure that ICs as a stewards of forests/pasture are well recognised and addressed and incorporated into the REDD+ policy and legal framework.

2. Rehabilitate degraded areas and intensify optimum management practices of land forests and pasture resources

Rehabilitation of Khoria/Bhasme cultivation areas needs to be done with appropriate agro-forestry land use models and technologies.Similarly, the large chunk of forests and pasturelands, particularly in the High Altitude areas needs more intensive management with appropriate institutional, technical, and policy measures. Handover of large patch of forests to small groups of household beyond their capacity needs to be corrected. Equally important is the immediate interventions on improving existing highly exploitative wood and fodder/forage harvesting and processing technologies. All these issues have to be addressed, consolidated, harmonized and incorporated into the forest operational plans of concerned forest users groups and bring the natural forests and pastures under immediate management in line with the national forest policy framework in general and REDD+ policy framework in particular. The proposed strategic actions, for this, are:

- Rehabilitate degraded forests, open or barren land and shifting cultivation plot under customary land tenures through developing multiple uses agro-forestry land use models such as Sloppy Agriculture Technology (SALT)
- Develop context specific, indigenous knowledge based intensive integrated (forest, pasture, biodiversity) technical forest/pasture management plan/s in due consideration with the concerns of Indigenous communities
- Develop and implement a community-based forest and pasture management model specific to the High Altitude areas that recognizes and incorporates the indigenous and customary practices of management.
- Revisit the constitutions and forest operation plans of community based forests falling into the areas where indigenous and customary practices are still in practices, and harmonise them; and
- Improve wood and fodder/forage harvesting and processing technology (wood and fodder harvesting codes) and promote alternative energy technologies.

3. Ensure REDD+ benefits flowsto indigenous communities

The principles of distributive justice has to be employed in defining site specific or context specific REDD+ benefits and to developREDD+ benefits distribution mechanism. This will be the fair and just approach to provide carbon and non-carbon benefits of REDD+ in favour of indigenous people and communities. The strategic actions include:

- Define necessary site or context specific sub-principles for sharing REDD+ benefits in accordance with the rationales and principles elaborated in section five of this report;
- Bundle benefits/incentives from REDD+ (carbon and non-carbon benefits) and establish equitable benefit sharing options/schemes as per the performance in terms of carbon emission reduction, resource conservation (management/conservation of forest/pasture ecosystem and biodiversity conservation, watershed management, governance (robust leadership; democratic and participatory governance, etc);
- Ensure that distributive justice principles are incorporated into REDD+ legal framework such as national safeguards and/or REDD+ policies and national benefits sharing mechanism; and
- Establish a robust monitoring and evaluation mechanism at local, district and central level and based on the outcomes reviseor refine the benefit sharing mechanism making it performance based.

4. Develop human resource capacities and strengthen institutional capabilities

The existing institutional models (that includes the community forestry, the Buffer zone, conservation area) are not capable enough respond to the needs of the unique characteristics of the indigenous resource management systems, particularly in the high altitude areas. Similarly, the existing knowledge and capacity of the forestry sector is not adequate enough to respond the resource management need of the High Altitude areas, and also integrate the existing indigenous knowledge and customary practices into the resource management system. For this, the following strategic actions are suggested:

- Organise indigenous institutions relevant to forests and pasture resourceintogroups/network at local district level and strengthen their institutional and technical capability in response to the present challenges of climate change mitigation and adaptation;
- Identify, develop and strengthen community-based functional institutional arrangements at the High Altitude areas for the management of forests and pasture resources within the framework of overall national policy and legal framework of land (forestand pasture);
- Ensure that representation of indigenous people particularly those who are still practicing indigenous and customary practices of resource management in the existing various institutional arrangements created and established for REDD+ initiatives, and capacitate them;
- Develop and implement context specific, need based social empowerment extension packages covering various aspects of indigenous natural resource management systems and their implications, REDD+ initiatives, its rational, scope, national and international obligations,working modalities and merits and demerits of REDD+.
- Enhance the awareness and capacity of indigenous people and forest users groups particularly those engaged in traditional and customary practices, and other service providers (GOs and NGOs) to strengthen the understanding and issues of indigenous people related to REDD+; and
- Reorient the major actors engaged in natural resource management (land, forests, pasture and water) to change their attitude, mindset and ethics and achieve a common or collective vision towards indigenous people and their lifestyles.

5. Promote multi-stakeholder and collaborative approaches of planning and implementation

There is still a lack of clarity and little understanding about the potential benefits of REDD+to the different groups of actors and its potential impacts on local livelihoods. Therefore, a multi-stakeholder approach with collaborative interface among different actors (including upstream-downstream, Mid-hills-High Altitude) is most important to harness the benefit, to make equitable distribution of benefits, and achieve smooth implementation of REDD+ activities. Such interface will also promote integrated planning, explore better technologies and opportunities and support in developing context specific policy provisions thereby contributing to improve forest and pasture conservation, management and use.

- Establish and institutionalise learning centres or platform at local level, watershed level and central/national level. This will help not only to deal with conflicting interests of various stakeholders but also to reach at collective vision, participatory and integratedplanning, resource efficiency and better collaboration and cooperation among different stakeholders;
- Document information and knowledge system of indigenous knowledge and customary practices, assess the relevancy, effectiveness, and efficiency to address drivers of deforestation and degradations;
- Facilitate and coordinate to strengthen existing, and create new institutional arrangements (based on lesson learnt from indigenous practices as well as existing forests/pasture management practices) capable of bringing together diverse stakeholders to catalyze major shifts in forestand pasture management decision-making and regimes, and to better operationalise the policy provisions; and
- Develop collective vision and common understanding of Indigenous people and their Indigenous systems of natural resource management to capitalize the collective energy and knowledge for the wise use of available resources.

6. Promote research and study of indigenous knowledge and customary practices and integrate with modern science of forestry and pasture management

Indigenous knowledge based forests and pasture management are dynamic in nature, and are subject to change.Research and study of such dynamism and documentation has several policies, socio-economic and ecological implications. Similarly, articulating indigenous technology and methods of wood harvesting and forage/fodder collection and use with the modern science of forestry and pasture also help wise useof natural resources thereby contributing to reduce carbon emission.

- Continue research, study, assessment and documentation of Indigenous knowledge, Indigenous systems of natural resource management;
- Develop cost effective local knowledge based wood harvesting and logging technology;
- Identify suitable species (agriculture,and forest/pasture) for cultivation in the High Altitude areas and develop appropriate technology for their processing and storages;and
- Create and update inventories and work towards resolving various conflicts related to indigenous communities, and, at the same time, anticipate future potential conflicts to ensure legal certainty in the protection of rights for all citizens;

6.3 Implementation Schedule

Sn	Activity	Years							
		1	2	3	4	5			
1	Develop supportive policy environment conducive to indigenous knowledge and customary practices of land, forest and pasture management								
2	Rehabilitate degraded areas and intensify optimum management practices of land forests and pasture resources								
3	Ensure REDD+ benefits flows to indigenous communities								
4	Develop human resource capacities and strengthen institutional capabilities								
5	Promote multi-stakeholder and collaborative approaches of planning and implementation								
6	Promote research and study of indigenous knowledge and customary practices and integrate with modern science of forestry and pasture management								

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Annexes

Annexes

Documentation and Assessment Customary Practices of Managing Forest Resources at Local Level (FCPF/REDD/S/IND-25

Contents

Annex 1: ToR of the Study

Annex IIIndicators field survey checklists and questioners

A. Guiding Indicators: Literature Review and Field survey/verification

1. Assessing relative importance of Policy and legal framework for Forests and Pasture Management and Customary Practices

1. Types of rights recognised formally;
2. Types of rights recognised informally;
3. Level of dispute over land; and uses;
4. Safeguards for vulnerable groups

2. Assessing customary practices (qualitative)

1. Legal recognition of customary practices;
2. Clarity in identity of customary authority;
3. Clarity in boundaries of customary authority;
4. Clarity in customary rights

3. Assessing policy and legal; framework (quantitative)

1. Security;
2. Clarity and simplicity;
3. Timeliness;
4. Fairness;
5. Accessibility; costs and sustainability

4. Assessing the contribution of customary forest and pasture management practices on reducing deforestation and forest degradation or reducing green houses gases

1. Factors of deforestation and forest degradation identified by REDD + Strategy , 2015 (draft) of the REDD Implementation Centre, MFSC, Babar Mahal Kathamndu

B. Field survey Checklists and Questioners (FGD and KIs)

नेपालमा परम्परागत खेती, वन, चरण तथा बाग बगैचा व्यबस्थापन गर्ने चलन रितीथिती लोप हुदैछ , कत्ति त लोप नै भईसकेका छन् । यस सन्दर्भमा ति पुराना परम्परागत जल, जमिन र जंगल व्यबस्थापन प्रणाली जुन समाज र देशका अमुल्य गहना हुन तिनीहरुको अभिलेख तयार गर्ने जर्मकोको शिलसिलामा यो सामान्य जानकारी संकलन चेकलिष्ट तयार गरिएको छ । यी प्रश्नहरु तिन काल खण्डमा वा, वन, चरण कापरम्परागत व्यवस्थापन प्रणाली अभिलृख गर्नको लागि तयार गरिएको हुंदा आफुलो जानेका् बुझको, र पाका व्यक्तिबाट सुनेको सहि सत्य तथ्य जानकारी उपलब्ध गराइदिनुहुन तपाइहरुलाई हार्दिक अनुरोध गर्दछु ।

१) पहिलो काल खण्डः राणा शासन र वन र खर्क राष्ट्रियकरण नहुदासम्म अर्थात प्रजातान्त्रिक सरकारको पाला (२०१६) साल सम्म

(क) भूमी तथा वन व्यवस्थापन

धेरै बर्ष पहिले राणा शासन र तत पश्चात वन र खर्क राष्ट्रियकरण नहुदासम्म गाउघरमा वन, जल र चरिचरण व्यवस्थापन को चलन चल्ती के कस्तो थियो वा थिएन, यदि थियो भने तलका बिषयमा स्पष्ट पारिदिनुहोस् ।

१) गाउले स्वयमले बाबु बराजेको पालादेखि देखि वन संरक्षण काठ दाउरा कट्न, घास काट्न के कस्तो रितिथिती वनाएका थिए त्यसलाई गाउले भाषामा के भनिन्थ्यो ?

२) वनमा के गर्न पाइन्थ्यो के गर्न पाइदैन थियो यसको रेखदेख, अभिभावकत्व कसले लिने गर्दथ्यो, ब्यक्ति थियो कि संस्था (जस्तै : मुखिया, जिम्मावाल, पुजारी, पटवारी आदि) थियो, र ति ब्यक्ति वा संस्था कसले कति समयको लागी मनोनित वा नियुक्त हुन्थे ? त्यस्ता ब्यक्ति वा संस्थाको नियुत्ती, र पदावधिको बिषयमा जाने बुझेसम्म बताईदिनु होस

३) यसरी चुनिएका ब्यक्ति वा संस्थालाई वन चरिचरण र पानी (खानेपानी, घट्ट, कुलो आदी) संरक्षणको अलवा अन्य सामाजिक झै झगडा सुन्ने, निर्णय दिने अधिकार पनि हुन्थ्यो कि हुदैन थियो ? वा छुट्टै अर्को ब्यक्ति वा संस्था हुने गर्दथे ।

४) वनमा काठ, दाउरा ,घास ,चरिचरण र कुलो तथा घट्ट बनाउने के कस्ता नियमहरु थिए? नियम उलङ्घन गर्नेलाई के कसरी दण्ड जरिवाना गरिन्थ्यो ? दण्ड जरिवाना नगद, जिन्सी वा अन्य के हुन्थ्यो ? यसरी प्राप्त नगद वा जिन्सी कसको सम्पत्ती हुन्थ्यो ?

५) कस्तो कस्तो ठाउबाट वा वन क्षेत्रमा काठ दाउरा काट्न मनाई थियो ?

६) वनमा डढेलो लाग्दा के गर्ने चलन थियो ?

७) वनमा चरिचरणमा रोक पनि लगाईन्थ्यो ? रोक लगाउनका कारण र नियन्त्रणका उपायहरु के कस्ता हुने गर्दथे ?

८) कुन कुन प्रजातीका रुख बिरुवा काट्न रोक लगाईएको थियो ? काठ दाउरा उपभोग गरेबापत दस्तुर पनि बुझाउनु पर्दथ्यो ? यदि पर्दथ्यो भने के कति नगद वा जिन्सी कसलाई बुझउनु पर्दथ्यो ?

९) काठ दाउरा काट्ने इजाजत कसले दिन्थ्यो ? काठ दाउरा काट्नका लागि कुनै निश्चित समय तोकिएको हुन्थ्यो या १२ महिना नै खुल्ला हुने थियो ?

१०) वन्यजन्तु शिकार तथा संरक्षण तथम जडिवुटी स)कलन सम्बन्धि पनि गाउले नियम थियो की ?

११) वनमा निगालो प्रजाती पनि पाईन्छ ? यदि पाईन्छ भने निगालो काट्ने परम्परा कस्तो थियो ? यसको पनि आफ्नो छुट्टै गाउले रितीथिती थिए की ?

२) दोस्रो काल खण्ड: प्रजातान्त्रिक एवं पञ्चायत काल (२०१३-२०४७ साल सम्म)

राणा शासनको अन्त्य पछि थुप्रै नियम कानुनहरु निर्माण भए, बिर्ता (जग्गा, वन, चरण) उन्मुलन भए, वन र खर्क राष्ट्रियकरण भयो अर्थात परम्परागत रुपमा चल्दै आएका समाजबाटै मान्यता प्राप्त व्यक्ति वा संस्थाले गरेका वन, जमिन र खर्क सम्बन्धि काम कारबाही अबैधानिक भए , सरकारले वन र खर्कको संरक्षण र व्यबस्थापनको सम्पुर्ण जिम्मेवारी आफुले लियो । यस अवधी अर्थातप्रजातान्त्रिकएवं पञ्चायत काल (२०१३-२०४७ साल बिचमा यस अधि बर्णन गरिएका परम्परगत वन, र चरण व्यवस्थपन प्रणालीमा परेका सकारत्मक एवं नकारत्मक प्रभाव के् कस्तो रह्यो सो को जानकारी संकलनको लागि तलका पश्नहरु तयार पारिएका छन

- वन बिर्ता र खर्क राष्ट्रियकरणको प्रभाव परम्परागत वन, चरण र पानी व्यबस्थापन प्रणालीमा कस्तो पऱ्यो ? पुराना रितीथितीहरु निस्कृय भए या निरन्तर रुपमा चलि नै रहे ?

- गाउँका मुखिया, जिम्मल, पुजारी, परवारी आदीको भुमिका कस्तो रहयो, गाउँ पंचायत वा प्रधानपंच, वडा अध्यक्ष ति प्रणाली निरन्तरता दिए दिएनन् ?

- वन र चरण क्षेत्रको उपभोग (काठ दाउरा काट्ने, जग्गाको लागी खोरिया बिस्तार गर्ने र गाईबस्तु चराउने आदी ।) मा के कस्तो परिवर्तन आयो ? यस्तो गर्दा वन क्षेत्र जोगियो कि झन बढि बिनाश भयो ?

३) तेस्रो काल खण्डस् प्रजातन्त्र पुनर्वहाली तथा सामुदायिक वनको युग (२०४७ सालपछि)

यस अवधिको जानकारी संपलन गर्दा दोस्रो काल खण्डमा भएका परिवर्तन र यसका प्रभाव मात्र टिपोट गर्न हुन

- पंचायत काल र यस अबधिमा कुन कुन कुरामा परिवर्तन भए ?

- राणा काल र पंचायत कालको अबधि भन्दा वन र चरण व्यबस्थापनमा कुन कुरा राम्रा थिए ?

- परम्परागत वन, पानी, र चरण व्यबस्थापन प्रणालीको अबस्था हाल कस्तो छ ?

(ख) चरण/चरिचरण व्यवस्थापन

गाउघरमा चरिचरणका तिन प्रमुख परिपाटी छन् । मध्य पहाडमा प्राय आफ्नै गाउघर वरपरका वनमा चरिचरण हुने गर्दछ । दोस्रो हिउद पछि बर्षात शुरु नभएसम्म माथिल्लो पहाडी भेगका लेकमा गाईबस्तु लैजाने र तल्लो बेशी क्षेत्रका गाईबस्तु चुरेसम्म लैजाने गरिन्थ्यो ।

नेपालका गाउघरमा भौगोलिक क्षेत्र अनुसार फरक फरक चरिचरणका परिपाटी पाइने गर्दथ्यो मध्य क्षेत्रमा बर्षायममा उत्तरी क्षेत्र अर्थात भाबर र चुरे क्षेत्रको दक्षिण मोहडासम्म गाईबस्तु चराउने गरिन्थ्यो भने मध्य पहाडमा प्रत्येक

गाउका आफ्नै घर वरपरका परम्परा देखि नै भोग चलन गर्दै आएका वनमा चरिचरण गराउने चलन थियो । मध्य र बेशी क्षेत्रका गाउलेले श्रावणदेखि भाद्र मसान्तसम्म लेकमा गाईबस्तु लैजाने वा गोठ राख्ने चलन थियो ।

उच्च पहाडी क्षेत्र अर्थात मानव वस्ति रहेको अन्तिम गाउँ (शेर्पाहरुको वस्ति) मा दुई किसिमका किसान हुन्छन् (साधरण किसान (भैंसी, गाईवस्तु वाखा सहितको बारी जग्गामा आधारित कृषी प्रणाली) र र घुमन्ते पशुपालक किसान (याक, चौंरी, हिमाली गाई गोरु, भेडा, च्याङ्ग्रा, घोडा र थोरै बारी खेती) ।साधरण किसान र उपल्लो पहाडी भेगका किसानको घुमन्ते पशूपालन प्रणालीमा त्यति फरक छैन तर घुमन्ते पशुपालकमा व्यापक फरक देखिन्छ ।

घुमन्ते पशुपालक किसान त्यही गाउ र जिल्लाका मात्र नभई पुस्तौ देखि चौरि, भेडा च्याङ्ग्रा घोडा पाल्न अन्य छिमेकी जिल्लाका पनि हुने गर्दछन् । यि घुमन्ते पशुपालक जाडो महिना पौष माघमा गाउघर नजिकका वनमा गोठ राख्दछन् । अषाढ देखि भाद्र करिब ३ महिना हिमालसंग जोडिएका खर्कमा गोठ राख्दछन् र मौसम अनुसार उच्च पहाडी वनमा स्थान फेरी फेरी गोठ सार्ने गर्दछन् । प्रत्येक पशुपालक समुहको आ आफ्नै रितीथिती हुन्छन् । नव आगन्तुक व्यक्तिलाई घुमन्ते पशु पालन किसान समुहमा रहि पशुपालन गर्ने इजाजत हुदैन । प्रायः वंशाणुगत किसान मात्र यस पेशामा संलग्न हुने गर्दथे । घुमन्ते पशु पालक किसान आफ्ना पशु तिब्बतको खर्कमा पनि २-३ महिना लैजाने गर्दथे। । यस बिचमा उनिहरुको दैनिक जीवन तिब्बतसंगको ब्यापारमा आधारित थियो । नेपालबाट उन, भेडा च्याङ्ग्रा का छाला अन्न र मसलासंग कम्बल र नुन साटासाट गर्ने गरिन्थ्यो । तिब्बति पनि नेपालमा उत्तर ब्यापारिक नाका जस्तै : मूस्ताङको थापखोला, गोरकको लार्के सम्म आफ्ना ब्यपार गर्न आउने चलन थियो । यस पृष्ठभुमिमा तपाईको क्षेत्रको उच्च पहाडी भेगमा चरिचरणका कस्ता प्रणली थिए ?निम्न विषयमा तपाईलाई थाहा भएसम्म बताईदिनु होस् ।

- मध्य पहाडका किसान हिउदमा भित्री मधेस र चुरे क्षेत्रको काहा सम्म (जिल्ला र ठाउको नाम) गोठ ल्याउथे, कहिलेसम्म बस्थे , चरिचरणका नियम के थिए

उच्च पहाडी भेगमा चरिचरणका प्रंणाली कस्तो थियो वा छ, किसान , खरचरि (चरण गराएवापत तिर्नुपर्ने कर) बुझाउनु पर्दथ्यो पर्दैनथ्यो ? यदि बुझाउनु पर्दथ्यो भने के बुझाउथे (ध्यु,उन वा रकम) ?

-उच्च पहाडी क्षेत्रका घुमन्ते पशुपालन प्रणालीमा गाउले भाषामा के भनिन्थ्यो ?

-सबैभन्दा उचाईमा रहेका खर्कलाई गाउले भाषामा के भनिन्थ्यो ?

पर्क सार्ने प्रथा लाई के भनिन्थ्यो र वा भनिन्छ, जस्तै उभौली , उघोली आदि, गोठ सानै दिनको निर्ण कसले के कसरि गने गरिन्थ्यो वा गरिन्छ ?

-चरिचरणका नियन्त्रयण ब्यबस्थापन के कसरी हुन्थे, झै झगडा र बिवाद के कसरी समाधान गरिन्थ्यो ? संचालक ब्यक्ति वा संस्थालाई के नामले चिनिन्थ्यो ?

-गोठ सार्ने नियम के थियो ? आफुखुसी गोठ सारेमा वा स्थानिय रितीथिती उलंघन गरेमा के गरिन्थ्यो ?

- महिलाको समस्टीगत पशुपालनमा कस्तो भुमिका रहन्थ्यो ?

- समस्टीगत रुपमा वन र खर्कको अबस्था कस्तो छ ?

<u>वन खर्क राष्ट्रियकरण पश्चात</u>

राणा कालको अन्त्य र पंचायत काल समाप्त नभए सम्मको अबधिलाई माथी उल्लेख गरियो , चरिचरण प्रणालीमा कस्तो परिर्वतन भयो भएन ? भयो भने के के भयो ? खासगरि घुमन्ते पशुपालक र चुरे भित्र .....गोठ लाने रितीथितीमा, वन र खर्कको संरक्षण ब्यबस्थापनमा, किसान र पशुपालकको जीवन निर्बाहमा

<u>सामुदायिक वनको युग</u>

माथी उल्लेखित परम्परागत प्रणालीमा सामुदायिक वन हस्तान्तरण पछि कस्तो प्रभाव देखियो राम्रो वा नराम्रो ? यि चलन चालु छन वा चाडपर्वमा मात्र सिमित छन् ?

- घुमन्ते पशुपालक किसानको भनाई के छ ?

-तिब्बतसंगको ब्यपारमा हिजो र आजमा के के कुरामा फरक छ ? नेपालमा साटासाट गर्ने बस्तु पहिले र अहिले के के थिए र छन् ?

समस्टीगत अभिमत वा धारणा

- परम्परागत प्रणालीका ३ वटा प्रमुख बिशेषता र कमजोरी (वन,चरणको दिगो व्यबस्थापन सामाजिक सहिसुणता र सन्तुलन लैङिगक एवं सामाजिक समानता)

-अब के गर्नुपर्ला? ३ वटा प्रमुख सुझाबहरु

घुमन्ते पशूपालन पेशा प्रती ् नया पुस्ताको भनाई के छ ? यसलाई निरन्तरता दिनु पर्दछ भन्छनकी पेशानै फेरवदल गर्नु पर्दछ भन्छन ?

सफलता एव असफलता वा खराव उदाहरण को कथा लेख्ने

१. परम्परगत वन र चरण व्यवस्थापन प्रणाली बाट भए गरेका काम कारवाहरु को सवैले सुन्नुनै पर्ने खालका उतकृष्ठ वा जंगल चरण एव समाज व्यवस्थापनका उदाहरण

द्द। वर्तमान नीति नियमबाट परम्परगत वन र चरण व्यवस्थापन प्रणाली अंगिकार गनै किसान तथा वन र चरणमा परको उतकृष्ट नकारत्मक प्रभाव

-परम्परागत वन, चरण ब्यबस्थापनका अति उत्कृष्ट उदाहरण (कुनै एकको संक्षिप्त काहानी (Case study)

हालको बर्तमान अबस्थाबाट पशु पालकशरुमा परेको नकारात्मक प्रभाव को एक संक्षिप्त काहानी (Case study)

Annex III Customary land (Land, forests and pasture) management systems in the hills and mountains of of Nepal

Similar to many countries rights to forest land and resources in Nepal have also been historically governed by customary laws and institutions of Indigenous peoples. These institutions have been recognised by a broad range of international human rights treatise and legal system. For an example, the Kipat system in the Eastern Development Regions, (EDR) The transhumance grazing system in the high altitude area of Nepal and the Traditional farming system known as Khoria Phadani (a kinds of shifting cultivation) are some of the well known and conflicting customary land tenure systems contribution to deforestation and forest degradation in Nepal (Baral 1995; Baral and Acharya, 202). The customary laws of Indigenous peoples and local communities (IPCLS), however, are often complex and generally lack official recognition or documentation within national and sub national governments; a main area of land tenure conflict arises from the discrepancy between official and customary land rights.

The discussion on the follwing section (Dumnetation of Status and trends is mainly based on review of lieratuers, published or unpublished, filed verfication and personeal expereices of the author while working for the giverment and projects in the last two half decades. Some of the common customary/indigenous practices of forests and pasture management commonly found are/were in Nepal are:

3.1 Customary Landuse and Land Management Practices

A. Before 1957

3.1.1. The *Kipat* systems

(Based on Caplan 1971; 2000; Regmi, 1978, Chemjhung, 2009; Baral et al 2012; Khatri et al, 2014)

There was a practice among the early settlers to claim rights to the land they cleared for cultivation and regeneration known as a kipat. Ownership of most of the land resources was given to the *kipatiyas* commonly designated as*: jimmawal* among higher castes such as the C*hhetris* and *Brahmins; subba* among the *Limbus*, and a *gob*a among the *Sherpas.* They were also commonly known as mukhias. The transfer of land ownership from a kipatiyas to new settlers was complex and needed a final signature from the *subba* and other locally-established functionaries. A typical or a generic k*ipat* system is/was largely found in the eastern region but other forms of this system are/were also in practice in lesser extent in regions of the country. The process of land ownership and tenancy rights followed the '*kipat*' system) until the *Birta Unmulan* Act of 1965 and the Pastureland Nationalisation Act of 1975. The 'de jure' right of '*kipatiyas'* or other locals to pastures were then vested in the government. In some remote mountain areas, a 'de facto' *kipat* system is still prevalent.

(i)The Kipat land-use system in eastern Nepal

The eastern region of Nepal in the past was highly dominated by *Kirat* community. The *Kirat* community is composed of four ethnic tribes: *Limbu, Rai, Lepcha, and Dhimal*. Among these, the *Limbus* is the dominant indigenous tribe and one of the oldest communities in the *Panchthar and Ilam* districts of eastern Nepal. Their social, cultural, and economic systems are governed are governed by a customary land tenure system known as the k*ipat.*

The *kipa*t system is a particular land-tenure system associated with the *Limbu's and Rai's* community. It represents a communal form of land tenure inherited by the same communities from their ancestors as a source of livelihood. Traditionally, *kipat* rights were recognised not only for cultivated land but also for wasteland and forest. The *kipat* system went through a long history of political changes from 1774 to 1950. With the implementation of different acts, the *kipat* system ended in 1964

Institutional Framework and Implementation Procedure

Two types of institutional framework or arrangements did exist to support and implements traditional practices and customary laws governed by the 'kipat' land use system. They are: (i) Formal institutions such as the 'amal' (local court), 'amini' (appeal court in the transboundary zone), and 'adalat' (appeal court in the non-transboundary zone); and (ii) informal institutions such as traditional religious bodies, social organisations, and individual intermediaries. The chief or head of the 'amal was called Amali *Subba or Pagari Subba* empowered with legal authority to rule on community issues regarding forests, rivers, pastures, wetlands, and religious sites. Thus, the individuals *Subbas* were the institutions responsible for making decisions about conservation and restoration. Decision making process was The central government has delegated/deputed the revenue collection authority to Subbas, 40% of which was allcated to them (*Subbas*) as '*khangi*' (a type of lumpsum salary given in the form of honorarium) . The old '*Muluki Ain'* (Civil Code 1854 AD) was also in support of customary laws, and dispensed justice based on customs and traditions

Informal institutions consisted a number social bodies such as samaj', '*chumlumg'*, and '*manghim'* to take care of or to conserve religious sites and temples as symbols of their customary laws and traditions. Similarly, for the conservation of forests and biodiversity social institutions consisting professional such as the '*shikari'* (hunter), '*bijuwa', or 'phedangba'* (healer or priest), and '*dhami' or 'jhakri'* (protector), were also established with well defined roles and responsibilities. These informal institutions have .played a significant role in shaping social institutions and conservation of forest, pastures and biodiversity in their territories. Role and responsibilities of these social institutions were well defined, well shaped by the traditional values and norms of the communities and law of nature. The social institutions affiliated to conservation of highly cultural and religious sites such as temples, ceremonial or festival sites comprised of clearing heritage sites before big festivals maintenance a or renovation of temples or other cultural sites while institutions responsible for the conservation of forests, pasture, and wildlife were responsible for prohibition of hunting during breeding seasons, weeding of *Ranivan* (a strictly protected forests similar to wildlife sanctuary or biodiversity hot spots defined by a modern laws) after the rainy season, and extracting timber before summer budding.

Moreover, to support both types of institutions in decision making and information /decision sharing and communication, monitoring and reporting a network of communities closely related to each other were formed to act upon as mediating institution with the local communities in a more efficient and planned way

Decision making and implementation process

Although the there was neither a written law nor there were a written system of registering complains and making decisions. Issues were presented orally and so were the decisions making process. However, the whole system was highly democratic and bottom up. Issues were presented orally before community members and witnesses, discussions, verification, facts, submissions, vows, and oaths were taken in making decisions. Experienced and elderly persons from the communities were invited as a symbol of fair and justice, and concerns and onions of each of the social institutions and networks and other s were listened, and respected . Finally, the Subbas passed the laws orally and individuals would abide by them. The legacy of harmonized command and control generated a sense of social pride in the community and faith in their traditional and customary laws. And the implementation of traditions and customary laws was carried out through the informal social institutions including the social networks. Thus, transparency, morality, and a strong belief in the socio-cultural fabric were the major features that made these systems not only participatory and successful but also maintain the strong social cohesion and social harmony.

(ii). The Kipat land tenure of Tahmais before the 1957

(Based on Bista, 1967; Regmi 1978; and Shneiderman and Turin, 2002)

As a whole, 24 out of 59 Janajatis, Surel and Thami of the central hill (Ramechap, Dolkha and Sindupalchowk) are the most disadvantaged and deprived groups (NEFIN, 2004). *Thami/Thangmi* people speak their own language, called *Thangmi kham* that belongs to Tibeto-Burman family. The Thangmi language is similar to *Magars and Sunuwars.* They have their own history of origin and indentify (see Turin, 200; Sneiderman and Turin 2002; Budhathoki , 2008 for more detail)

Thamis had ample of land areas under *Kipat* land. *Thami Kipat* land ended with the process of unification Nepal in 1862 B.S when their *Kipat* lands were transferred to the Machhindranath *Guthi and Birta* land for Chhetris/Bahun declaring abolition of Thamis' *Kipat* system. Since then the Thamis were forced to pay land revenue/tax to Guthi and government agents. *Birtawal* (the *birta* tenure holder) moastly the *Chetri-Bahun* seized the fertile lands of the Thamis located in low land areas creating difficult situation in payment of land tax, high-interest loan and other legal difficulties. *Thamis* were told to pay land tax of three-five years in a single installment not allowing them to pay it each year. Not being able to pay the tax of more than three years and in the pretext of revenue dues their most of their fertile land was taken by the birtawals and *Jimmawal.* Finally, they became small and marginal farmers and some have been landless.

Before the abolition of *Kipat* system, *Thamis* were self-reliant and self-employed. Agriculture and livestock husbandry was their major means of livelihoods while the forests within their *Kipat*system provided them the basic inputs for both agriculture and livestock husbandry. Most of their basic needs including food and clothes were met through their own production and traditional occupations weaving rough clothes, *bhangra* from *allo* (nettle) fibers and sheep wools, making bamboo products, carpentry and masonry

B. Kipat system between 1957 and 1990

Although the *kipat s*ystem practiced by other communities such as *Thamis,Magars. Gurungss Tamangs* and *Chepangs,* in other parts of the country were abolished (before 1930s) by Rana rulers and converted into *raiker* it remained actively functional and dominant in the northern hills of eastern Nepal till mid 1960s. Immediately after the end of Rana regime and aiming at to create a uniform system of governance and land tenure for the entire country- the *raiker* system, the new governments, began to replace the traditional systems of land and forests administration and initiated a series of reforms on landuse policies. At first, private forests were nationalized in 1957, and then *Birta* tenure was abolished in 1959. A series new laws (the Forests Acts and Regulations 1962; Civil Code 1963, the Land Act 1964 and Land Administration Act 1967) were promulgated to implement these new policies. Finally, the pasturelands were nationalized in 1972. Finally, the *kipat* system was abolished completely with the enactments of new land acts. The new Forests Acts declared forest fallow private forests and other uncultivated land or barren lands as national forests. The Land Acts 1964 finally abolished the *kipat* system and made the provisions for land survey and registration providing the landholders a land certificate known as *Lalpurja.* As shifting cultivation was the major agriculture practice and fallow forests were declared as state/ national forests, majority of *kipatiyas* could succeed to survey and register some part of lands, lands that were under crop production during the time of Cadastral survey[1]. Nonetheless, most of them continued their traditional farming system despite strong conflicts over the landuse with the government (forestry sector) as well as non-kipatiyas while some relatively poor and weak kipatayas abandoned the shifting plots.

However, with commencement of massive plantation programme in the 1980s majority of abandoned shifting cultivation plots were planted and handed over to then the Village Panchayat as Panchayat Forests. Moreover, with the expansion of protected area system (National Parks and Conservation Areas) in the eastern region usufruct rights over *kipat* lands further limited to remote and inaccessible areas

<u>Kipat land tenure of Tahmais</u>

1Mostly those shifting plots that were under cultivation during the cadastral survey and lands under permanent cultivation such as khet (paddy land) and gharbari (homestead areas)

Thamis were deprived of all rights to their kipat land in 1862 BS when their kipat lands were transferred to the Machhindranath *Guthi* and *Birta*land to outsiders. As most their kipat land was transferred as Guthi land and reaming fertile land (paddy land) were already converted in to Raikar by the Jimawal and others the abolition of Birta in in 2061 B.S was of little use to them. Moreover, the nationalisation of forest in 1957 (2013 B.S) majority of land that were remained fallow at the time of Cadastral survey which started in 2021 B.S (1965) prohibited them to register, therefore, become a part of National forests. Very few *Thamis* have been successful to register some part of lands (lands that were under crop production during the time of Cedestarl survey), nonetheless, they were cultivating their traditional shifting cultivation plots despite strong conflicts of the landuse with non-kipat holders neighbours.

To derive their livelihoods needs they work as seasonal agricultural labours in other's or landlord's land seized or occupied by outsiders and some are engaged in their traditional occupations of weaving bamboo baskets (Budhathoki, 2008). Most of adult men were heavily engaged in stone quarrying business and preparing stone slates at Alampu slate mine. It is said that *Thamis* are born, marry and die while quarrying and carrying stones for sale to neighbouring VDCs. They stay at their in houses during the time of festivals[2] (Personal experiences)

Kipat system after 1990

With the restoration of democracy in 1990 the government promulgated new forests acts andregulation giving top priority to community forests. Therefore, the plantation forests established during the 1980s and early 1990s and natural forests inducing the well matured fallow forests have already been handed over to the local communities as community forests. And some of the remaining scattered small patches of barren or open land and degraded forests have also been handed over to poor farmers as group leasehold forests. Moreover, further expansion of conservation area and National parks (Kanchanjangha Conservation Area and the Makalu Barun National Parks) remaining areas of *kipat* now fall into the jurisdiction of Protected Area systems which prohibits the to enjoy the rights provided by their customary laws- the kipat system

Despites these legal provisions , majority of unregistered land and shifting cultivation plots in the vicinity of a village *kipat* land along the border or periphery of the registered land not handed over in CF or leasehold forests, because of their claim as private lands, remained under usufruct rights, and these lands at present, are largely under a multiple use agroforestry systems with cash crops such as cardamom, broom grass plantation and Chiraito as inter crops

3.2 . Shifting cultivation:Bhasme/khoriya cultivation/agricultural practices

"Shifting cultivation, in general, is a system of farming in which fields are prepared by cutting down the natural vegetations, letting [them] dry and burning [them] off. Shifting cultivation fields are generally used not more than two years at a time, after which the farmers move to a new area and repeat the same process" (Dhakal,2000:93).: "The essential characteristics of shifting cultivation are that an area of forest is cleared, usually rather incompletely, the debris is burnt, and the land is cultivated for a few years - usually less than five - then allowed to revert to forest or other secondary vegetation before being cleared and used again" (FAO, 1984). A common term frequently used is "slash and burn" cultivation; another is "swidden" agriculture. The same is described in Bhutan by the term tsheri, which refers specifically to the montane type of shifting cultivation on steep slopes while a set of vernacular terms such as *lose*, bhasme, and *khoriya kheti is* called in Nepal (Baral 1994; Dhakal,2000). This report from has used *bhasme/khoriya* cultivation or farming or agriculture systems as a synonyms of shifting cultivation.

The stages and features of *bhasme/khoriya* cultivation cycle vary depending upon the local circumstances. However, most practitioners mention that the cultivation phase has six stages: (1)site selection and land clearing, (2) drying of the slash and burning,(3) planting and cultivation, (4) weeding, (5) harvesting, and

2A common saying in Dolkha district, listened, experienced by the author of this report while working as district forest officers for more than two years during (1991-1993).

(6)succession (Fujisaka et. al., 1996). After the cropping phase, the land is left fallow for up to twelve years and during the period the forest regenerates. Land clearing is usually done through slashing and burning.

Researchers of *bhasme/khoriya*have identified the criteria considered crucial for distinguishing shifting cultivation from other land use practices. Some of the more tangible factors are described below (FAO, 1984, 1985, Updhyaya, , 1995).

- Cultivation is interrupted by a period of natural fallow; cultivation is neither permanent nor continuous.
- The duration of the fallow period and of the cultivation period may vary in length, but the fallow would be relatively long (usually more than five years).
- A wide variety of vegetation may grow on the fallow, but it would typically be some type of forest.
- The fallow period may or may not be sufficient to restore soil fertility since the minimum period required is extremely variable.
- The population density associated with sustainable shifting cultivation is relatively low, since there must be enough land per farmer to leave a portion of it to fallow

General features of the Bhasme/khoriya farming system of Nepal

(i) Land tenure, customary institution and decision making process

Land tenure. Majority of the people practicing shifting cultivation have registered (*raike*r) as well as unregistered land (*Kipat* land under use-fruct rights). The *Kipat* lands are used for *bhasme* or shifting cultivation.

Location/Territory. Area where *bhasme/khoriya* cultivation is practiced can be divided into four major regions and is largely associated with indigenous communities managing their land, forests, pasture and other natural resources under communal land tenure or natural resource management property right systems. ,

1.Kipat territory of Limbu in the EDR

Khotang, Bhojpur, some parts of Terhathum, and Panchtahr; Lower parts of Barun river in Sanhuwasabha, remote areas of Solukhambhu, along the side of Tamor Riverin Dhankutta

Major cultivators; Kipat land hoders and their clans- Limbus, Rais, Lepchas and other clans

Other communties: Magars, Tamangs, Sunars, and Sherpas and Bhotes

2. Chepang Territory in CDR/WDR

Districtsand Area: Makwanpur (Manohari and Lothar upper watershed), Chitwan (hilly region), Dhading (sourthen part), Gorkha and Tanahun (along the side of Trishuil river); Nawalparasi (North and eastern part of the hilly region,and Lamjung.

Major cultivators:*Chepangs* (the kipat holders)

3. Remote and hilly areas of WDR: Southern Syangja, Esatern Palpa, Nawalparasi (North and eastern part of the hilly region

Major community: **Magars, Gurungs,Tamangs** and other local people

4. Karnali Region- Jumla, Mugu and Kalkot

Major community: *Magar, Gurungs,Bhotes*, and other *khas* community

Institutions. In the past, before 1966, all lands including *bhasme/khoriya*cultivation plots were managed under a common property system called *Kipat*. Local institutions called*Subha* system in case of Limbus and rai and Singnuwa system in case of Sherpas, and Mukhiyas among Chepangs communities would regulate the whole communities including land, forests and other natural resources. Taking into account the family size and labour force within the family, the *Subba* (the headman elected by the community) in support of his other supporting members would allocate some parcels of *bhasme* to individuals.

While During the *Rana* regime *Kipat* system was one of the dominant land tenure system particularly in the eastern development region dominated by *Kirtat* communities (*Limbus, Rais and Lepchas)* . But after the abolition of *Kipat* in the 1966 and commencement of Cadastral Survey in 1966 ,*bhasme* that were

under cropping phase were eligible for registration while *bhasme* under fallow forest period were declared as forests and not registered in the name of the individuals . However, the old institutions *Subha r*emained active allocating land for *bhasme* to individual households (mostly to their kin's or who worked for him) with the understanding that the arrangement be kept secret from government officials (Aryal *et al* 2010). With restoration of democracy in 1990/91 and increased social empowerment, nowadays the communities have allocated most of their land to individuals (particularly abandoned *bhasme*, absentee *Kipat* holder, ands lands not handed over on community or leasehold forestry) with well defined boundary using natural features such as trees stone or river/streams as signs of demarcation. Thus, individuals household, yet, adhere to the customary boundaries without any conflicts.

(ii) Cropping System and Forest Fallow

Selection of site. Usually sites under longest fallow period is preferred for cultivation

Land Clearing.Generally, land clearing is done during the months of February and March where all the bushes and trees are cut , slashed materials are left to dry for 10-12 days and then burn usually in March Some days before the actual burning the community decides the date for burning and with a special precaution and provision (setting fire in the morning or when wind velocity is low and direction favourable and sufficient persons are present to guard the fire or fight the fire if it goes uncontrolled) of preventing fire from breaking out into neighboring land and forest) slashes are burnt. Land clearing is mostly done by households individually, but sometimes they make use of a labour sharing/exchnage system called '*parma*'.

Cropping phase. 2-3 years in the past not it is extended 3-5 years

Sowing: Maize is the main crop and is sown around the middle of March to mid May. And a number of other crops such as radish, beans, soybeans, and latte/amaranth (leafy vegetable seeds of which is used as food) are intercropped with the maize as inter crops. Dibbling (poking holes in the ground with a long stick after which the seeds are thrown in) is the preferred sowing method.

Weeding. Weeding is done in the months of July and August, when the uprooted weeds are deposited at the bottom of the maize stumps

Harvesting. Maize is harvested in October while other crops are from October to December

Second Cropping. In the past, immediately after harvesting the first crops (maize and other intercrops), potatoes used to be a common as part of this cycle, but in recent years potatoes have moved to the rain-fed land. However, some farmers cultivate barely and wheat and harvest them before the next year's planting season of maize

Forest Fallow. Forest fallow in the past was more than 12 years. But because of various socio-economic factors[3] there is a huge shortage of land available for Bhasme/khoriya cultivation. Now days the fallow period varies between 8-15 years. Poorer households leave their land fallow for around eight years, whereas richer families have fallow forests of 12-15 years

(iii) Social cooperation, equity and Cohesion

Cooperation and Equity

Bhasme/khoriya cultivation is labour intensive farming systems. In rural areas labour is always a scarce resource. To get rid of labour scarcity the shifting cultivators employ three major strategies. The first one is *parma*(exchange of labour). The second one is wage labour; and the third is one sharing of labour (working together in a group). Farmers facing land shortage, can opt for *kut* (land renting), *adhiya* (sharecropping), or to work as farm labourers. There is a culture of supporting one another, so in special cases a farmer with less *bhasme* can borrow land informally from those who have more

Exchange of seeds

In order to maintain the availability of quality seeds of locally appropriate crop varieties, and improve production and also conserve local seeds exchange of seeds among the local communities is common practice among shifting cultivators.

3 With iincrease in population land size per family has been reduced, intensification of cropping pattern has increased the length of cropping phase and most of the traditional shifting cultivation have been abandoned and used for cardamom cultivation and permanent agriculture (Aryal et al, 2010)

***A. Bhasme/Khoriya* farming/agriculture System of selected indigenous community of Nepal before 1957**

(i). Bhasme/khoriya cultivation practices among Chepangs (Bista 1967; Baral, 1994, Gurungs, 1996, Dhakal, 2000; ILO, 2008; Jana and Sharma, 2010)

The region where the *Chepangs* traditionally live consists of the southern part of Dhading, the western part of Makawanpur, the northern part of Chitwan and the southern part of Gorkha. They live along the steeper slopes of the Mahabharat range at elevation of 500 to 1200 m". They are extremely marginalized ethnic people and have their own ethnic language which belongs to one of the Tibeto-Burman strains. Bhasme/khoriya cultivation is common agricultural practice and prime means of survival

Chepangs were given Kipat tenure over extensive territory by Rana regime in 1854 which was converted into Raikar tenure in 1928 (Rai, 1985). In addition to *Chepang*, other ethnic groups such as *Magars, Rais, Limbus, Sherpas* and few Hindu caste groups also do *bhasme/khoriya* cultivation in the country even at present. According to elder members of the community, they used to submit fruits such as banana, chiuri, and other edible items that grew on their khoriya to panchayat administrative body before 1990 under the taxation system. *Gaurungs* and *Mukhiyas* were responsible for the collection of such items in the panchayat era. This tradition was known as *bali sherma*. *Mukhiyas* and*Gaurungs* were in the charge of collection of *balisherma* ofkhoriya land.If a *Chepang* family wanted to cultivate the khoriya of neighbors then the family had to submit *bali sherma* to the khoriya owners. This tradition was common in both intra and inters ethnic communities.

The Nationlisation of Forests in 1957 and introduction of land reform program by the Panchaya regime in 1960s had played a significant role in termination of practice of bali sherma, and falling of the Panchayat political system had totally discontinued this tradition. *Chepangs* do not have land ownership certificate of their *khoriya* land. Ownership is based on customary and oral tradition. The*khoriya* land also inherits generation to generation as like irrigated and. They had not registered their *khoriya* land because they thought that the registration of the land was not necessary. They registered only irrigated

Private Forest Nationalization Act 1956, Forest Act1993, Forest Regulations Act 1996, etc., forest related acts and laws, also do not recognize this agricultural practice.

Chepangs perceive rather strongly believe that their ancestors and deities reside in and around the *khoriya* land, therefore it reflect their cultural identity. They pay great respect to nature – forests, rivers and stones- and consider them as the symbol of god and goddess. According to*Chepangs* they are worshiper of nature (*prakriti pujak*). A *Chepang* household must have *khoriya* land, household that doesn't have *khoriya* is considered as incomplete.

Customary institutions of Chepnags

In the case of the *Chepangs*, customary institutions play an important role in promoting their culture by preserving the society's links with their ancestors. In social terms, their functions include providing peace and order, solving conflicts, harmonising relations between generations or other interests within the community. *Chepangs* celebrate a range of ceremonies; common ones include *Chandi purnima* (in May), *Kulpuja* (worshiping the ancestors) in December, and *Ban puja* (worshiping for eternal peace) and *Diyali* (usually done after the harvest of paddy, maize, taro (*Colocasia esculenta*), pumpkin etc.) *Bhumi Puja* (worshipping the land) is done once a year, usually at the base of a *chilaune* (*Schima wallichii*) tree.

The most important figure in the *Chepang's* community seems to be the *pande*, who is a religious and cultural leader, but does not seem to have a role in land tenure arrangements. The *pande* is responsible for tree tenure, namely of the *chiuri* tree. This tree takes a prominent place in the Chepang landscape and is used to demarcate farmers' lands. This practice is still maintained nowadays. Some cases were reported where Chepang-held trees have been chopped down by insensitive non-Chepang villagers.

(ii). **Bhasme/Khoriya cultivation in the upper hills of Kangehenjunga Conservation Area (KCA)[4]**

(Based on Aryal et al 2010)

Bhasme cultivation cycle in the KCA, as elsewhere, has a cropping and a fallow phase. The main stages include land clearing (through slashing and controlled burning), cropping, and fallow management. In this process, the clearing takes one to two months, the burning one day, the cropping phase one to two years (recently extended by an additional three to five years because of cash crop farming), and the fallow is eight to ten years. This makes a complete cycle of around 10-12 years, before the farmers clear the same field again.

Socio economic and environmental features of Bhasme cultivators and their environment

The Bhasme cultivation areas are situated at an elevation of around 2000m and the topography of the site is diverse characterised by rocky surfaces with slopes between 30-70 degrees Climate variesbetween temperate to alpine. The vegetation of the study sites is dominated by semi-temperate forest with diverse plant species, such as Gurans (Rhododendron arboretum); *Katus (Castonopsis indica); Painyu (Prunus cerasoide);Utis* (*Alnus Nepalensis*); *Okhar (Juglans regia); Nigalo/*small bamboo*(Arundinaria malinga; Arundinaria intermedia), Lokta (Daphne bholua) etc*

Limbus, Sherpas and Rais are the three major ethnic group practicing bhasme/khoriyacultivation. And there are a total of 122 households majority of them are *Rais and Sherpas*. Of the total population, about 50% adult male and 20% female are literate. The average registered land holding size per family is around 2 ha, with a minimum of 0.5 and a maximum is 75 ha. Land holding size is highest among the *Sherpas*, followed by *Limbus and Rais*

(iii). **Kundalla katne or bhasme/khoriya in Kharpel Village of Karpunath VDC, Humla**

(Based on Kharel *et al*, 1996)

Bhasme/khoriya cultivation in Humladistricts islocally known as *Kundalla katne* and is wide spread in many VDCs of Humla and Kalikot district. Local farmers strongly believe that this type of agriculture system provides them more yield per unit area (clearly three times as that of bari land) and relatively needs to invest less labour and is considered one of the best available options to cope with the effects of draught. For an example, farmers of Kharpel have begun *Kundila katne* extensively since the severe draught of 1982. Generally, land (forests/shrublands) close to the temporary *goth (*winter pasture) or lands adjacent to registered lands is selected for *Kundalla katne*, because it makes easy to allocate lands for the individual farmers. Before 1990s the local institutions*Mukhiyas or* the ward chairpersons used to decide and allocate lands for *Kandila katne*, however, after 1990 lands for cultivation is decided by the community itself.

Similar to other areas land clearing is done between March-April (Falgun-Chiatra) followed by burning in Jestha (May). Cropping (buckwheat) starts from May and end to July (Jestha-Ashad), No ploughing is done, however, depending on the gradient of the terrain hoeing is done using simple tools such as pointed small sized spade (*kutto*) or a simple spade (*Kodalo*) in areas with gentle slopes, otherwise seeds are sown usually by dibbling or broadcasting. Weeding is done for two months and the crop. Harvesting crops starts from the end September (Bhadra) and ends by October (Ashwin).

Regarding land tenure,the land they cultivate in legal terms refers to forests, therefore, the overall ownership of it lies on the government (District Forest Office), however, the community claim it their land because they have been using it since long time. As almost all members of the community practice *Kundella katne*, there is no any social conflicts on the usufruct rights over the land among the farmers.

B. *Bhasme/khoriya* agriculture system between 1957-1990

4The case study is taken from study of Aryal et al , 2010 in four villages of three VDCs of the KCA :Yasang, Tapethok VDC-9; Lawajin and Langluwa , Lelep VDC 3 and 6; and Sherpagaun, Yamphudin VDC-2

Until 1980s the status of Bhasme/khoriya cultivation during this period remained quite similar to *Kipat* system. As majority of the Bhasme/khoriya cultivation territory were located in remote and highly inaccessible areas,, therefore, state presence were almost nil, they continued their traditional way of farming in line with their customary laws or decisions of their institutions.Similar to *Kipat* holders, shifting cultivators also could not register their traditional lands get land certificate during the cadastral survey because majority of land were under forest fallow and many could also not produce required land tax receipt given by their *Mukhiyas*[5]. However, with increased road access, emerging new markets and economic frontiers and other infrastructures facilities and the commencement of government Praja Bikash Project/programme all opend the new doors and shift from and massive plantation programme of the government in the 1980s , their dependency on Bhasme/khoriya cultivation reduced get started changing. Slowly and gradually they shifted from a kind of semi nomadic life styles to sedentary farmers.

Furthermore, expansion of government (forest sector) machineries all over the districts and commencement of massve plantation in the 1980s land for *bhasme/khoriya* cultivation declined significantly. Because of this, cropping phases increased from 2-3 years to 3-5 years while the fallow period decreased from 10-15 years down to less than 10 years. Areas where land for*bhasme* cultivation was limited, many *Chepangs* and local farmers converted their plots in permanent agriculture. To cope with these problems, chepang and tradtional *bhasme* cultivators involved heavily in cattle farming mainly goats, seasonal labour, and small scale income generating activities such as groceries and vegetable farming.

However, in many rural and inaccessible parts of the country such as northern part of Eastern hills, Hilly areas of Nawalparasi, eastern part of Palpa, and Humla, Kalikot and other districts, where the state presence was almost nil, *bhasme/khoriya* cultivation as reported by the local people during the field visit continued without any much disturbances.

C. *Bhasme/khoriya*after 1990

With the increase in population, increased access to roads and other infrastructure facilities, disinterest of youth or younger generation to continue their traditional life's styles and their seasonal migration of youth to urban and semi-urban areas for employment, income and better life, and rise in the awareness level of development and natural resource management among the cultivators along with expansion of community based forestry and protected areas system in their territories the *bhasme/khoriya* cultivation practice is in transition. *Bhasme/khoriya* cultivation practices in many aspects (coverage, and size of plots/HH, households cropping phase and fallow period, crops and others) has been drastically changed. Fallow period has been drastically reduced down to 2-3 years with increased cropping phases of 3-5 years. Most of the traditional *bhasme/khoriya* cultivation plots have already been converted into permanent agriculture and number of households involved in farming has also been reduced significantly. Unregistered plots or land under usufruct rights have already been handed over in community forests or leasehold forests where cultivation of traditional crops (food grains/cereals) is strictly. Moreover, expansions of National Parks and conservation have further limited their access to traditional farming. Thus, scarcity of land for cultivation is widespread now the average size of plots is less than 0.2 ha

Traditional *bhasme/khoriya* cultivation, now a days is confined to limited area, particularly in remote and inaccessible areas of the ancestral territories of a few selected indigenous communities such as Chepangs, *Magars and Rai and Limbus; Khas* and other *janajtis* of Karnali regions where *usu-fruct* rights over the land is still prevalent. Moreover, it is being practiced by elderly households of indigenous nationalities not merely for subsistence but asan entity of being a human as well as conserves their socio- cultural integrity.

5 Land Act 1964 and Land Administration Act 1967 had made land tax receipt issued by the concerned *Muklhiyas/Subbas or Jammawal* an obligatory to document of identifying holder and get certificate of of a given piece of land.

However, changes in *bhasme/khoriya* cultivationpractices, particularly of tenuerial rights, and scarcity and de motivation of younger generation to continue their traditional lifestyles have brought about many new creative innovations, and dynamism and developing new champions resulting in significant positives outcomes in the system of cultivation and livelihoods of many rural poor and indigenous communities. Rural poor and indigenous who adopted *bhasme/khoriya* cultivation lifestyles have been organised into groups, networks and cooperates involving actively in various forest/land development and income generating activities initiated by the government, local NGOs a in support of a number of bilateral projects, international donors and agencies. For an example, Chepangs of CDR and WDR, *Rais*and *Limbus* of Panchtar, Bhojpur, Terhathum and Panchthar districts and *Magars* and other local peoples of hilly region of Nawalparasi (Hopsekot area), Eastern region of Palpa (Jhurubas area) and adjoining area of Syangja have been heavily involved in pro-poor leasehold forestry[6]. And *Chepangs* and other rural people not interested to be involved in government Leasehold forestry or community forestry programmes have adopted various environmental friendly agriculture intensification models prescribed by well recognised Sloppy Agriculture Technology" in support of local NGos, bilateral projects (Livelihood Forestry programme/DFID, Hariyo Ban Programme/ USAID) and donors (SNV), FAO,IFAD and SGP/GEF/UNDP Nepal (MDI, 2010; Baral, 2014). As a result of these innovations and interventions traditional Bhasme/khoriya cultivation plots, majority of which were highly degraded, devoid of fallow forests and barren now have been converted in to a mosaic of magpie use agroforestry system with cash crops such as broom grass, improved varieties of forage/fodder, fruits (banana, and Pineapple) , and Non-timber forest products such as *Argheli, bamb,/nigalo and chiarito, Tej pat (Cinnamomum spp)* as an inter crops. These innovative interventions have brought about significant positive impacts on the livelihoods of rural poor and indigenous communities. For an example annual income/HH form the sale of crops produced from leasehold forestry is many times higher than those traditional farming[7] Similarly, most of the Bhasme/khoriya cultivation that were under usufruct rights in the EDR have already been planted with Cardamom in a mixture of broom grass, Chiraito, nigalo and alder/utis trees. Some have already changed their traditional life styles, some are involved on livestock husbandry, while other are heavily engaged in tourism and a few have already migrated from the area (MDI, 2010, Aryal, et al 2010)

3.3 Customary Forest Management Practices

A. Forest Management Practices before 1957

(i). Talukdari System of Forest Management in Sindhu Palchowk and Kavreplanchowk ((Mahat *et al*, 1987; Fisher , 1992)

Until 1950 during the period of Rana regime, forests in many area of Nepal were under the responsibility of local headmen called *talukdars.* The *talukadars* were functionaries of the sate whose primary responsibility was revenue collection, although they also had some responsibilities in law enforcement. In addition to this major concern with collecting land revenue, the talukdar was responsible for controlling access to forests and distributing forest products. Forest watcher known as *chitaida*ra or*chowkidars,* protected the forest on behalf of the talukadars.

6 An agro-forestry based land development model that aims to meet dual objective of property alleviation and environmental conservation through rehabilitation of degraded land or forests where all crops expect cereals can be grown . Under this forestry open or barren or degraded forests (less than 20% crown cover) up to one heacare per household is handed over for 40 years on lease (free of land rent or royalty) to a group of bonafide poor of 10-15 households. To date more than 10000 ha of forests that were mostly the traditional shifting plots under usufruct tenure ship have been handed over to more than 1000 groups comprising of over 1000 HHs or 50,000 indigenous and rural poors.

7 FAO/LFLP reports that on an average annual income of a household alone from the sale of Broom grass in Jhirubas and Hopsekot arae increased from about Rs 2500 in the first year of establishment to more than Rs 50,000 by the end of third year ((FAO/LFLP , 2014). The annual turnover of broom grass for 2015 from Jhuribas alone is more Rs. ninty lakh (personnel communication with LFLP/DoF Officials)

Talukadars in most cases were hereditary and they generally accept gifts such as ghee (butter), dahi (yoghurt), chicken, free labour, and even grain in return for permitting small scale harvesting of forest products by the local people, but charged no fee. Nonetheless the *talukadars* had to keep a record of all tree marked and felled for submission to the *bada hakim*(the representative or an employee of Rana in the districts a senior fellow). All trees near water sources, main tracts, religious sites, and resting place (*chautara*) were to be preserved. This system of local forest control in many districts ceased with the Private Forest Nationalization Act of 1957 and the introduction of the new forest administrative, while in most of the remote rural areas away from the district headquarter remnants of this system continued but with a different name, such as *Jimmawal system* of Forest Management, *Rithi Thiti* system or Mana-pathi system of forest management and others.

General Features of Talukdari System of Forest Management in the two districts' as reported by Fisher and Gilmour, 1992 are:

(i) the systems are not necessarily old (traditional), but innovative in nature developed as dynamic responses to changing situations;

(ii) there is considerable variation in the form of systems because formal roles (committees, forest watchers) are not always present, and

(iii) all effective systems, whether they have a formal structure or not, have an institutional base characterized by:

- rules with sanctions are sometimes involved, but these are not always applied in practice;
- there is usually a fairly clear group of users, that is, use rights are clearly specified and recognized;
- the functions of the systems range from simple protection (limited or no use of products from designated forest) to rotational harvesting systems;
- System in certain locations are protective guided more towards the regeneration of forests on previously degraded or open land

(ii). Conservation of *Ranivan*

(Uprety 2008)

Conservation of '*ranivan*'is another common customary practices particularly among janajaits communities (*Rais, Limbus, Tamangss, Magars and Gurungss*) R*anivan*' is a form of community bird/wildlife sanctuary or a protected forest, generally comprise a highly valued cultural and religious sites. Two kinds of *ranivan* are generally found. In some *ranivan* nothing is extarcted or harvesting of any kinds of forest product even leaf litter or dead wood is strictly prohibite3d while other are conservation type where harvesting of dead wood (timber for religious or cultural purposes) , fodder, foliage, fuel wood, and medicinal plants for local use is permitted.. In such forests, the responsibility for conservation is given to the head of the local community who, with the cooperation of the people, issues orders concerning use and allocation of forest resources. The *shamans* (the community chief or leader) and priests established the policy of *ranivan* conservation which are now being conserved as community forests.

(iii). Indigenous forest conservation system of the*Kulange Rai* of eastern Nepal (McDougal ,1979; Nesheim , 1992)

It is/was a clan based common property resource management system practicedby the*Kulange Rai* of eastern Nepal on their *kipat* land. Under this system forest and pasture were considered common property resources whereas the rights to land were obtained by membership in a kin group. Forests, however, Land could be used by members of other ethnic groups/castes but not sold to them. All of the *Kulunge Rai* clans have their own forest resources and until no more than a decades ago, clan members controlled access to such resources. Under this system, indiscriminate felling of trees was strictly prohibited, therefore considered a serious offence while collection of dead wood for firewood was permitted to all. In

order to fell a living tree—either for the construction timber or to cut and dry for fuel- it is necessary to obtain permission from the headman of the local clan group on whose land the tree stands, and pay a fee of Rs. 2 for each tree.

(iv) Indigenous management of *Jangal* in the Upper Arun Valley (Daniggelis, 1992)

Sherpas and *Rais*in the Upper Arun Valleyhave/had developed their own indigenous management of resources, including those identified as *Jangal* (meaning forests*)* which is very adaptive in nature.Under this system whenever there is a problem regarding management of the communal *Jangal* and its resources, a meeting is called. When *Malingo* (a variety off small bamboo) became scarce resource, they decided strict prohibition of grazing and its harvest through general consensus. Once the *Malingo* became mature enough and was no longer edible, the prohibition on the use of *Jangal* was removed. The *Rais,* who are very dependent on *Malingo* for making *Bhakari,* were asked not to collect in this area. A *Ban Pale* (forest watchman) was chosen to impose fines on whoever would break the agreement

(v)Mukhiyas and Katuwal System of Forest Management in Jomsom, Mustang (Bhattachan, 2002

This system is practiced in Jomsom VDC of Mustang district. Under this system the local community form a village council to manage and use natural resources- mainly water and forests- among people residing within the VDC in a more sustainable and equitable way The committees included two *Mukhiyas* (village headmen) representing both Thini and Jomsom villages and nine Bhaladmis (representatives) from each ward. The committee thus formed was assisted by eight other people, known as *Katuwal*s. The *Mukhiya and Bhaladmi* were normally elected for two years but could be re-elected based on their performance. The primary responsibility of the *Mukhiya* was the management of the irrigation system, community forests, and drinking water supply and that of the *Bhalamdmis* was to assist the *Mukhiya* in his work. These were selected by the general consensus at the village general meetings. They used to be usually senior and influential people of the villages.

These indigenous institutions have developed a unique system of employing Katuwals (forest guards/watchers). The *Katuwals/Katwals*were selected from each household in turn for a period of one year. Every household in the village was required to provide one economically active male household member to work as a *Katuwal* in their turn or pay enough money to find a substitute person for replacement, unless a particular household did not have such as household member. One *Katuwal* used to be designated as head *Katuwal.* The *Katuwals* were responsible for maintaining the irrigation systems, informing villagers about important events such as village level general meetings, and watching forests and croplands. While the *Mukhiyas* and *Bhaladmis* did not receive remuneration for their services, the *Katwals* were compensated from the fines levied for the abuse of forest, irrigation and livestock grazing regulations and from half of the user fees received from two public water-powered grinding mills in the VDC. *Katuwals* were also paid by a system known as *mana-pathi,* in which they used to receive four *Manas* (about 2 kgs) of naked barley and eight *Manas* (3kgs) of buckwheat annually from each household in their corresponding ward at harvest time.

In case of pasture management they have their own rules and regulations. For an example In Upper Mustang, the rules and regulations for animal movement from one pasture to another, pasture management, harvesting of naturally grown grasses form communal land and harvesting of grasses/legumes from cultivated land are administered and implemented by the officially designated as *Mukhiya,* the village leader, while in lower Mustang the Lete VDC, the group of villagers formed a somewhat formal *Bheda Goth Samiti* (Sheep Herders Committee) to decide on the schedule for the use of pasture and harvesting of forages.

***(vi) Tarami Magars riti-thiti* systems of Tara Khola Baglung**

(Based on Gurungs, 1999)

A clan based system of forest management known as *Rithi-thiti* system is still common and effectively managed by the Tarami Magar of Tara Khola in aglung district .It is clan based forest management system. Until the introduction of Panchayat (non-party) system in 1961, natural resources were controlled

and regulated through the council of village heads called *Satthari.* The village head assisted by the members of the *Satthari* was a powerful authority at the local level and played the key regulatory role in controlling and distributing natural resources in the village. In fact, the village head derived his authority from the council of *Satthari*, and his authority was legitimized on the basis of land allocation to the individual households. The *Satthari use to call village assembly* to frame the community rules with regard to resource distribution, utilization, and management. Final decisions about when to open and fence the closing of grazing land where to to go firewood and fodder/forage collection were taken after listening the opinions and views of each and every households or the members of *Satthari.* This ceremonial meeting was called *Chhape Basne,* literally meaning "to sit to put seal on the community rules.

(vii) Forest conservation in a landscape: Chepang commons ((Jana and Sharma, 2010)

A total of 103 households *of Chepang*shave been managing forest landscape as commons in the village of Hapani-7, Kauley, Chitwan, in the central mid-hills of Nepal. The 300-hectare forest landscape stretches over six hills. There are forest patches within the landscape that are considered sacred and some portions of the forest are restricted from use. For example the 'Hapani' hill, where Chepangs perform rituals in a small temple made of sacred stones, is considered sacred. Only fallen wood is collected in the area while the chopping of trees is prohibited. There is a common belief associated with the 'Syaulochuli' hill forest, where Ban Jhankri (forest shaman) would harm and bring misfortunes to those who access forest products from the hill.

The forest is now being conserved as Akala Devi Community Forest with an informal forest management committee that mostly consists of local *Chepang* youths. Informal rules concerning access of forest resources are in place. Grazing; harvesting of medicinal herbs and wild fruits; wild yam, leaves and fallen dried woods are available for all the locals in the village. Seasonal harvesting of Katus (*Castanopsis indica)* seeds sold in the local markets is also free to all the locals. Felling of trees without prior permission of the local forest management committee or mutual understanding of the villagers is restricted. Locals can access timber for the construction of a house with prior information to the ad hoc committee for locals. The slash-and-burn cultivation practice has also been controlled to conserve forest cover.

(viii) **Dura Community Forest Management system Lamjung**
(Based on Pasang and Manadhar, 2015)

Sindure and Neta VDCs of Lamjung is the home of Duras- one of the marginalized indigenous nationalities in Nepal. Of their total population(5314) in Nepal more than 59 % (3185) *Duras* live in these two VDCs alone (CBS, 2011). They have their own distinct language, religion, culture, traditions and identity in the community and are living in close affinity with their neighbourers the *Gurungs,Magars, Tamangs and Bahuns/Chhetris*.

In the past *bhasme/khoriya* agriculture system was practiced, however, they have been settled permanently, and nowadays no *Bhasme* agriculture system does exist in their territory.

Agriculture and animal husbandry are the major source of livelihoods of Duras. However, in recent years, with more Dura youths joining Nepal, British and Indian armies, their involvement in agriculture and livestock production is on the decline.

Forest Resources

The territory where Duras community have been settled is rich in forests. There are a total of 14 forest patches with defined names and boundaries and are distributed over seven wards of the VDC. Of them Sallagahri ban situated in the lower elevation or the foot hills of 108 ha in size has been handed over as community forests to the local community of ward no 1 in 2013 by the District Forest Office, Lamjung. And remaining 791 ha of forests (13 patches) of their territory is under customary management regime (Sherpa and Manandhar, 2015).

Customary Forest Management Practices

Similar to other indigenous nationalities of Nepal, they were administered and governed by their own customary laws, practices and social institutions. Despite drastic changes in the socio-cultural, political,

physical and economic environmental local as well as national levels, they have continued their traditional system of governance which have always help them to establish a intra and inter community coordination, cooperation, social harmony and strong cohesion, and maintain the ecological balance of the environment they live in and derive their means of livelihoods.

Some of the major features of their customary forest management practices over three political periods are briefly discussed in the following section

A. Before 1957

Customary Institution

The Duras have their own traditional governance system in the conservation and sustainable management of natural resources in the community.Similar to other areas of the country Jimmuwal appointed by the state was the head or leader of the village and the forest resources were collectively managed, conserved and usedunder his leadership. The Jimmuwal was assisted by two forest watchers, one from each neighbourhood, were deployed for regular supervision and monitoring of the forests and Katuwal under *manipathi* system (tradition where the members of a village predetermined quantity of locally available cereals as a salary to a person employed by the community) who used to work as a messenger of the entire village. And his job was to communicate the information and decision about the meeting, opening and closing of forests for harvesting and other important messages from the Jimmuwal.

Rules, Regulations and Decision making Process

The decision making process was participatory and democratic. Prior to collecting fodder, firewood from those forests, the villagers used to gather and collectively decide as to when and how long the forests should be opened for villagers. The date and the duration of forest opening and closing for harvesting used to be notified to the villagers by the *Katuwal*. Normally, the forests were opened for villagers from mid-September to mid-May, the next year for fodder, while the public had the access to the forests from mid September to mid April, the following year, for firewood. When somebody needed timber for building houses, the person used to request for logs by presenting the *Jimmuwal* with gifts, such as *Raksi* (home-brewed liquor), *Roti*, cash and *Theki* (wooden pot). Then he used to decide on the request, consulting his aides and considering the need.

Jimmuwal was also responsible to settle down social disputes/brawls and forest offenses and give his final decision. In those cases he used to call meeting, including both the disputing parties and other community members and take necessary action or hand out penalty, taking into consideration the nature of the case and the damage caused. A certain portion of the fine so collected used to be spent on the community development works. However, this system completely abolished with the abolition of Jimmuwal and Mukhiya system of local governce in 1964.

B. Between 1957-1990

Emergence of new local institutions

Customary institutions remained mostly passive, and forest became relatively open access resources and consequently converted into a depredated forests. Looking in to the continuous degradation of forests and realising the socio-cultural and other values of the forests to their survival, the Duras community, in 1980s decided to resume their customary practices of managing forest resources. At first an ad hoc committee of forest management was formed which started the process of establishing various sub-committees at village or ward level for the conservation/protection of forests of their areas.

C. After 1991

In these period major efforts was put on strengthening the local institution and managing the forests in a better planned and sustainable way. Of the total forest some part (108 ha) consisting the major Sal forests has been handed over to local forests including Duras community users as a community forests and for the management of the remaining 13 patched of forests the measures have been taken.

After the abolition of *Mukhiya/Jimmuwal* system in 1964 the Duras are giving continuity to their traditional conservation and sustainable management of forests through a new institution known as the forest committee (*Ban Samiti*) The new institutions comprising 7-9 members representing all the villages and elected anonymously at each villages are in place and they are authorised to continue their

traditional practices of forest management by the community. And each committee in addition to their forests of their villages has also been given special responsibilities for the management of forests.

Forest Protection and Monitoring

- A special *Gharlauri* forest patrolling system has been intimated where two persons from two households go on patrolling on rotational basis.
- The overall responsibility of supervision and random checking and monitoring of forests and implementation status of local rules and regulation has been given to the Dura community of ward no 4 ; and people of ward no 1 who are mostly the users of the community forests are requested to adopt a self-discipline approach.

Forest Harvesting and Utilization

- Season of forest opening and harvesting is set and is strictly followed;
- A household is allowed to access a bundle of 2.5m3 of fuel wood with a maximum of 40 bundles a year. The deficit amount has to be managed from the house gardens or trees in the agricultural land.;
- Use of firewood for cooking purpose is significantly reduced because of use of electricity and improved cooking utensils; for example, rice cookers, pressure cooker and water heaters etc; and
- And the forest products are collectively harvested and then subject to the bidding.

Conservation of water sources

The Duras have been collectively conserving the sources of water in the forest. They have put a restriction on felling trees and collecting firewood in the vicinity of the water sources.

The cutting down of the nearby trees for conservation of water sources that is eventually contributing to the conservation of the entire forest. Those who breaks the rules, is consider an offense and penalized or fined.

Change in Forest Cover

Analysis of time series images between 1996 (topo maps used), 2008 (land sat images used) and 2013 (land sat images used) of Sindure VDc of Lamjung , Sherpa and Manandhar (2015) report that there is a significant change in the landuse system in the VDC. Forests area has been increased by 35% @2 ha/year from 605 ha in 1996 to 815 ha in 2013 while agriculture land has been decreased @ of -2.5 ha/year almost by 43 % from 487 to 277 ha over the same period of time. The reason behind change in landuse system is shortage of agriculture labour, uses of alternative source of energy, low herds size, but improved livestock compared to the past and migration. Moreover, number of trees on farmland has also been significantly increased, at present they have almost converted the farm lands to agro forestry plots multiple use values tree species.

Similarly, stocking and productivity of forest has also been increased significantly. Almost all forests (96%) are dense falling in to 71-100% crown converge category where the proportion and distribution of major principle species is also satisfactory.

B. Indigenous Forest Management Practices between 1957-1990

This is the period when state efforts were focused developing forestry sector legislations (Acts and regulation) and expansion of organisation across the country. New Forest Acts 1961 and Special Forest Protection Act 1967 were formulated to manage the forests and provide legal rights to control forests. However, the government lacked the human, financial and other resources needed to put all accessible forest under proper management, or even simply to protect the forest from wanton exploitation., therefore much efforts were focused on Tarai forests a, clear felling and providing forest lands for resettlement. Thus, there was a distinct institutional gap in the hills and mountains. They provided the indigenous institution of these region further consolidated and strengthen their system as p[er the changed socio-political context. Most interestingly, new institutions or systems were emerged or indigenous forest management system expanded scaled up in areas. As a result of this local control over forests remained in places where strong local leadership had excluded Government interference. In these areas, forests were protected through local action to ensure that local people could continue to meet their needs from the

forest, and the Act appears to have had little effect (Mahat et al 1984; Gilmour and Fisher, 1991; Dahal 1995, Loughhead, *et al.*, 1994).

Indigenous forest management institutions became more active and responsive when the government developed a Forest Development Plan sought adopting participatory of approach of forest management in place of conventional command and control. Panchayat Forests and Panchayat Protected Forests (a community forestry where the forest was handed over with a forest management plan to the concerned Village Panchayat) and community forestry programme was initiated with massive plantation. As most of the position in the Village development Committee, the chief of the indigenous institutions were elected or nominated, indigenous forest management system thrived well in areas where they were active in the past. In many parts of the country where the presence of the government was almost absent, for an example in remote hills and High Mountain, the indigenous institutions of forest management were functional as they used to be earlier.

C. After 1990

Except in remote areas of Midhills and High mountains where residual national forests are still dominant, no indigenous institutions or forest management practices as such do exist now in Nepal, they have been almost replaced by new formal institutions such as Community based forestry and their institutions such as s Community Forests Users Groups Buffer Zone Community Forest Users groups, Protection Forests User4s Groups, Leasehold Forests Users groups and Conservation Area Management Committee/sub Committee.

3.4 Customary Pasture Management Systems

A number of customary pasture or grazing management practices varied in types, region, location and extent do/did exist across the country from Tarai to High Himal and from east to west. However, very few major pasture management systems particularly pasture management system in the high altitude areas have been studied largely as compared to other areas of the country.

Customary pasture management practices are adopted by various herders and utilised by different grazers. These two major players play an important role in the habitats conservation. Management of ruminants in particular is governed by factors such as cropping intensity, availability of forest resources, animal species and productive stage, labour availability, and animal production per household. While rearing of the ruminants, in specific, is dependent upon overall farming system of the area, the farming systems at different altitudes are dependent upon temperature, irrigation, and other interrelated factors which vary from areas to areas.

Three systems of grazing are practiced in the country: Sedentary, Sedentary cum transhumance and Transhumance (Pariyar, 2014).

I. Sedentary System of Grazing in Tarai (<500 masl)

This system is practiced in Tarai region where winters are not to severe too post serious problems of feed scarcity. Cattle, sheep and oats are the main grazing animals. These livestock are grazed year long on all land except agricultural filed under crops, on roadsides, , on cultivable land, forest near Siwaliks, on cultivable land after harvest and on fallow land, privately or communally owned grazing and forests lands. Small herds of sheep, goats and cattle set out to graze in the morning and return in the evening after 5-6 hours of grazing in summer and 6-7 hours in winter.

Improved cattle (Jersey and Holstein cross breeds) and lactating buffaloes are stall fed. These animals are supplemented with concentrate feed including rice bran, maize flour and common slats while sedentary population which consist predominantly of working oxen, dry buffaloes and a small number of cattle are maintained on nutrients available from grazing.

II. Sedentary cum transhumance system of grazing in Hills (500 m-2500masl)

In hills region the sedentary system of grazing prevails at the lower altitude (up to 1000masl) while transhumance grazing system of grazing prevails from 1000-2500masl. Cattle, buffalo and goats are the

main grazing livestock. Working oxen, dry buffaloes and cattle kage breed of sheep in the lower hills set out to graze in the morning and return in the evening after 6-7 hours in summer and 8-9 hours in winter. These animals graze in the forest, on cultivated land after harvest and on fallow land, on roadsides, on privately or communally owned grazing land and forests lands.

Baruwal sheep and Sinhal goats are migratory and follow annual movements along with cattle, buffalo and goats in the range of 1500-2500masl. These animals graze high altitude rangelands from April-August (winter pasture of Yaks) and return back to settlement area from September-March. In the settlement area sheep and goats grazed on terraced after the paddy harvest, manures the terrace land and housed at night in temporary shelters (goats) on the terraces.

Only lactating buffaloes and improved cattle are stall fed. These animals are supplemented with concentrate feed including rice bran, maize flour and common salts.

III. Transhumance system of grazing in Mountain (>2500masl)

The seasonal movement of the animals from lower altitude to higher altitude and vice versa characterises as transhumance system. This system is practiced in the mountain region where winters are very severe to post serious problem of feed scarcity. Cattle (Lulu bulls, cows and calves) yaks, naks, and chauries, sheep, goats,, and horses are the main grazing animals. These animals move in an annual cycle according to grazing availability at different altitudes. Cattle move up to alpine pasture at about 28000-33300 masl during summer pasture at 4000-5000 masl in summer and back down to 160002100 m (Rasuwa) for the winter. Sheep and goats move to alpine pasture at 4000 m in summer and back down to 1000-1500 mals (Rasuwa) for the winter (Shrestha and Bastola, 2006)

Some of the mostly studied customary pasture/grazing management system of Nepal are:

A. Before 1957

(i). The transhumance grazing systems in Dolkha and Sindhupalchowk Region (Kalinchowk and Bhairabkunda regions (Alirol, 1979. Messershimdt and Rayamajhi, 1995, Baral, 1996; Baral 2000, Baral et al 2102),

Transhumance is the seasonal movement of people with their livestock between fixed summer and winter pastures. High altitude transhumance is common from east to west in Nepal, along the foothills of the Himalayan range and Trans-Himalaya where herds of yak, chauri, sheep, goat and horse migrate from one place to another throughout the year. Depending on the availability of the pasture, animals are kept moving from one place to another. Nowadays, most of the movement is restricted within the district; however some farmers also bring their animal to adjoining district.

This is one of the most common grazing systems practiced in the northern area of Nepal. The annual cycle of transhumance migration of grazing animals begins from mid March, moving from sub-tropical grazing areas to temperate pasture or lekhali kharka by mid May. The cattle and *pahadi* (temperate) goats remain at the higher altitudes until September, while sheep, Chyangara lekhali goats), and yaks are moved further up to himali (subalpine and alpine pastures).

Informal institutions known as councils represented by all the permanently settled households of a village are formed which are responsible topromulgate the rules for the management of natural resources, usually by consensus. Often the councils may elect one or several of the households for specified period (usually one year) to act as the“enforcer” of rules meant for the management of natural resources. These rules range from formal to informal, depending on the local communities and conditions of the land. In order to apply clearly-defined rights over pasturelands, the indigenous pasture management systems inculcate a number of well-defined rules. The grazing rights are/were guarded by delimiting areas of pasture for exclusive use by particular groups of villagers or villages and are/were guarded by delimiting areas of pasture for exclusive use by particular groups of villagers or villages. First and foremost, the rules restrict the number of animals per particular pasture area for a specific time period. They are strictly imposed to control the stationing and movement of animals and to discourage overgrazing of local pastures. Second, the rules are set to effect equitable access to pasture resources so that all the members of

the herding group, including the weaker and poorer individuals, have equal access to the land. Third, the rules define liabilities such as animal taxes, so they may be borne equitably. Owners of larger herds pay more taxes. Fourth, the rules provide the basis for arbitration in case of disputes

(ii). The "shinggi nawa system of forest and pasture management (Furer Haimendorf, 1979, cited in Stevens 1997; Stevens and Sherpa 1993)

The "shinggi nawa */Shingo naua* system of forest and pasture management in Khumbu region

The Sherpa of Khumu region from time immemorial have always demonstrated that they are highly aware of the sustained use of the common property resources in their ecosystem. They have established some institutions to regulate men's relations with nature. They have developed an integrated village governed and enforce system forest and pasture management known as *Shinggi nawa*. Under this system an "Official" known as *nawa/ naua* is chosen by the community whoheads the institutions of pasture management (known as *shing-nawa* The process of nominating the nawa is highly democratic . The Nawas are selected annually on a rotational basis from the households of the village, generally form lottery system, where the former Nawa has no right to offer candidacy. So each member households get turn in each rotation. However, in practice, if a *'Shingo Naua'* who could enjoy the confidence of villagers might hold his office as long as 12 years. These are of two types; Osho Nawa and Shingi Nawa (Shingi is for timber or wood and Nawa stands for people who look after forest). Osho Nawa's responsibility is to coordinate the villagers' agricultural activities and to prevent damage to crops. Shingi Nawas are responsible for NRM but also look after agriculture and livestock management (Haimendorf, 1979). The nawas are unpaid or socially motivated and highly dedicated voluntarily working village officials.

According to Haimendorf (1979) "*The Shingo Nauas are responsible for the protection of the reserved forest close to the village, and three to four men are appointed to serve simultaneously because vigilance is needed to prevent wood-cutters from encroaching on forest growth in the prohibited areas. It is within the Shingo Naua power to permit the limited felling in the protected forest for special interfere with the cutting of the wood required for funeral pyres. Their mandate is not confined to the punishment of the offenders in the act of cutting wood in a reserved area or of carrying such wood to the village, but they also inspect the stocks of wood in people's houses and demand an explanation for the unusual quantity. The maximum fine for felling a tree in the protected forest (Keapshing) is Rs. 15, but such fines are imposed only in extreme cases."*

Decision making process

With villager's consensus the Shingi nawas decide on norms, timings and sequence of rangeland for grazing and forest use. It can be used to take measures to preserve grazing land or other natural resource that minimize erosion and increase resilience. The Nawa's in consultation with community enforce strict rules of management. The rules include no entry toforest except in the 10 days allowed, no livestock in village during summer and spring. For an example, permission to cut timber required for the construction purposes or even for replacing wood shingles must be obtained from the forest wardens, the *Shingo nawas*. Similarly, they set time of livestock movement, decide both summer and winter pastures pasture to be used or protected and provide tools such as rotational grazing, sequencing and coordinating the grazing time and seasonal calendar depending on social and climate condition including fining and punishing the violators. For an example when someone is found guilty or report the *nawa* the about the break of the social rules and regulations they call the villagers to a meeting in the public assembly place, and the person committing forest offence has to bring a bottle of bear and confess his or her offence in public to the *Nawa*. If the offence is of minor nature such as cutting of a green branches in an area where only dead wood may be collected, the beer is accepted as an adequate fine, but cash fines are imposed only for more serious breaches of law. The beer brought on this occasion is known as *Shingina-chaua* (wood fine). It is at once consumed by the assembled villagers. The financial resources generated from instituting fines are used in community development activities such as the repair of trails and tracks, and the construction of community structures (Sherpa, 1993).

Grazing systems. Transhumance grazing system with well defined herders, arae of pasture season and duration of movement and stay with well developed rules of grazing is adopted. The movement of livestock and rotation depends on altitude and season, the highest during summer, mid altitude during springs and lowest in winter. This practice provides each rangeland with sufficient time to regenerate.

(iii) Customary pasture management in Pungmo, Lower Dolpo (Aumeeruddy-Thomas *et.al*. 2004; Ghimire and Parajuli 200 cited in, Jana and Sharma 2010).

Pungmo, one of the two major settlements in Phoksundo village, located in the upper part of Lower Dolpo has around 159 inhabitants exhibits another kind of landscape based integrated pasture management system. Landscapes managed for the purpose of grazing and mobile settlements have also been documented as sacred sites, valuable for biodiversity conservation and maintaining watersheds, as well as for sustaining traditional local livelihoods. They have traditionally demarcated their territories into various land-use units or ecosystems in the form of forests, pasture, Rocky Mountains and snow mountains, with are further subdivided into management units such as forest and pasture, biodiversity conservation, socio-cultural sites, and soil and water conservation based on physical nature, cultural values and ecology. Pastures have also been sub-divided into various zones and units based on the nature of resource use and utilization, such as rotational grazing and pasture harvest

The pasture management system in Lower Dolpa presents a good example of maintaining carrying capacity of a pasture through regulation of grazing and herd management. To regulate the grazing system rotational grazing is imposed, whereby the animals are regularly moved from one rangeland to another. Calculation of the carrying capacity of the rangeland is also part of an indigenous management system.where the herding households maintain only the number of animals that the quantity of winter fodder can feed. to maintain the vigor of grass, and productivity of rangelands and eradicates parasites fire is set to rangeland areas during the dry season.

(iv) Indigenous practice of pasture management Solukhambhu (Uprety 2005)

This system was widely practiced in Solukaumbhu among the high altitude herders. Community level organizations were established and empowered to to mange pasture which included defining tenure, use rights and formulating formal or informal rules and enforcement of sanctions. Deepening on the productivity of pasture under their jurisdiction and availability of fodder access to certain pasture is restricted during the winter months when large amount of fodder is needed to feed livestock. And to maintain the productivity and ensure the availability of adequate amounts of forage in pastures at different altitudes rotational grazing of pasture was also regulated on regular basis. The transhumance was the most common mode of animal movement .The herders used to go to alpine pastures in the monsoon and move down the low altitudes in the winter seasons. The movement from one pasture to another and from village area to grazing lands was usually determined by the general consensus of all villagers

(v) Indigenous forest and pasture management of Jirel (Acharya, 1990)

A typical indigenous forest and pasture management system under a kipat land tenure system did exist among the *Jirels* in the Jiri valley of Dolkha district. *Jirles* own the natural resources in different ways such as joint ownership and co-operative ownership. Their property rights depend upon the local perception of the resources. Their system of cognitive categorization of resources such as ground, fodder trees, non-fodder trees, renewable and non-renewable resources have made them easier to partition forest resources. According to this arrangement, several people own different kinds of resources within the same forest areas. The ground/land would be owned jointly, but an individual can own the tree by number, species, age and size. The other interesting feature of this system is that each individual gets a share of forest resources. Those who do not own animals or graze lesser animals than others receive their proportional share of pasture rent from those who graze more animals. Those who do not have ownership rights of forest resources due to non-providing communal obligations or patrilineal inheritance problems or late migration in the village enjoy usufruct rights.

(vi) Grass Cutting Day in Taplejung (Uprety, 2005)

A typical customary practice of grassland management was common Pholey and Gunsa of Leplep VDC of Taplejung district during the last 1990s. Given the fact that the grasses are grown in the public land as the common property resources, the communities had established an institution of "Grass Cutting Day" to regulate the behavior of the resource appropriators. This "Grass Cutting Day" was the function of two reasons: (i) scarcity of fodder/grasses in the private and public land, and (ii) and the community intention of ensuring the equity in the distribution of communal grass resources. Every year, the "Grass Cutting Day" used to be fixed in the month of Bhadra (August-September). The day used to be fixed by the ward member in consultation with the community. In most cases, the days for cutting grass could be three-four days without interval. Within these days, each household had to cut grasses and fetch at homes. In so doing, each household could have the equitable share of the communal grass resources. Indeed, the communities crafted this institution to control the perennial over-exploitative attitude of some members of the communities and thereby establish egalitarianism with respect to the communal resource use. Stated somewhat differently, had there been the cornucopia of the fodder/grass resources, it would not have arisen in the communities

(vii) Sheep Transhumance in Humla

(Fisher 1987, Haimendorf 1975, Manzardo 1984 and Gurungs, 2008)

The indigenous people of Humla comprises of two main cultural groups: Bhotia-Lama and Khas. Bhotia-Lamas are of Mongolian origin and direct descendants of Tibetans. There is distinct difference in lifestyle and socio-cultural practice between these groups. Bhotia-lamas reside in northern part of the district, while Khas people dwell predominantly in the southern reaches

To a majority people in Humla, livestock is an inalienable livelihood pursuit. Sheep, goat, cow, buffalo, yak, horse, and mule are the important livestock reared in Humla. Amongst them, sheep holds a significant position in Humla's economy. For centuries, upper Humlis have been involved in trans-Himalayan trade, between Tibet and Nepal, using sheep caravan following a transhumance pattern.(Fisher 1987; Haimendorf 1975; Manzardo 1984). The trade was based on exchange of food grains from the mid-hills of Nepal for salt in Tibet and consequent bartering of Tibetan salt for grain in Nepal again. Humlis used to bring salt on the back of sheep from Purang (Taklakot), in Tibet, some of which they consume and the surplus exchanged with food grain in Accham, a district in the plains

During the winter, most of the pastures in Humla are unavailable for grazing caravan of sheep because of cold weather and snowfall. Hence sheep are taken to rangelands on low lying plains, which are located in the districts south of Humla. Herders usually leave their village in November and reach their respective camps in Accham in January, stay there for two months, their after to further come down to lowlands such as Bajura, Kalikot, Accham and Kailali, and then return back home by April-May. Though different villages have different camping sites and grazing areas, all of the Humlis followed more or less same seasonal calender. This round trip journey for winter grazing takes about six months.Whereas in the summer April May to August/September, herds are grazed on high altitude rangelands of Humla that stretches as far as the Tibetan border. This grazing season determined the trans-Himalayan trade schedule. The herders trade goods in the mid-hills of Nepal during winter and in Tibet during summer.

Herd management system

To manage large flocks of sheep (earlier size of herd per household was between 300-500) and reduce them into manageable size as well as use of locally available scarce labour force efficiently , the transhumance farmers had had developed a typical herd merging system maintaining the herder sheep ratio to manageable size for an example 1:150 1; 200 or 1:350. Before 1970s on average the size of sheep per farmers was more than 500 and the sheep and herder ratio was about 1: 350, however, after the 1980s the herd size has been drastically reduced and herder sheep ratio has also been significantly recued down to 1: 140-200 are generally formed in recent years. Household with smaller herds merge their sheep

with the herd of farmers having simialr size to form one big herd. The merger normally takes among kins from the same village and a person from each household is assigned to look after their herds.

(viii). Transhumance grazing system in Jumla

(Based on Field Observation, 2015)

Pasture management and grazing system in Jumla closely resembles with the system of its neighbouring districts Humla, Mugu, and Kalikot however, there is some variation in the types of livestock and using trans boundary pastures. Sheep followed by horses and mules were the dominant livestock while selected HHs have Chauri/yaks and their transhumance grazing was limited within Nepal. Each village have their own well defined territory, rules and regulations of grazing, maintaining herd size, dos and not dos administered and governed by the indigenous institutions the Mukhiyas. Horses were left in subalpine pasture, mostly valley during the rainy season while the sheep go to higher altitude to subalpine and alpine and pasture up to Mugu. By the end of August or first week of September herds start moving down gradually and finally reach at Midhills during the entire winter period. Finally the cycle restarts again**.** The case study of Lekhpar village further illustrates the transhumance grazing system of Jumla district.

Lekhapar Chakpande Kot Bayalkatia Grazing system of Jumla

Similar to other farmers of Karnali region, the people of Lekhapar village of Kanak Sundari VDC-8 have also been practicing village grazing and transhumance grazing system from generation. Sheep, goat, horse and cattle and buffalo are the major animals commonly kept by almost each of the households. Under the village grazing systems, farmlands, public land and forests close the forests commonly known as village pasture are used year round for grazing of specially defined animals such as buffalo, milking cows, kidding goats/sheep, and other livestock that are not physically healthy to go for transhumance grazing. The village pasture is also the winter pasture of transhumance livestock and is mainly used during the summer when the transhumance livestock go to sub-alpine and alpine pasture during the summer months (Shrawan-Bhadra). The Grazing system of the village is known as Bayalkatiya and is characterised by the following features.

Customary Institutions and Decision making process

The system is administered and governed by the Mukhiya of the village who is assisted by a Noral appointed by the villagers. Village assembly is called (before cropping season (Chaitra-Baisakh) to assess overall performance or compliances of the existing rules and regulations regarding forest harvesting, and grazing as well as discuss about the overall, condition of forests and pastures (productivity), problems or barriers encountered and measures to be taken for the coming years. After listening the views of the villagers and the Norals, along with the views of elderly and knowledge respected persons of the village, the Mukhiya finally announces its decisions on the new set of the norms and rules of forest harvesting (seasons duration and quantity per households and the name of the forests for collecting firewood, pirol and timber) and grazing norms (name of the pasture and households, herd size, duration, schedule and date of movement primarily to summer and winter pastures). The process starts again for the next year.

Grazing Schedule

The season-wise grazing schedules is as follows.

Pre-summer Pasture (Jestha Ashad): Village grazing and farm manuring: During this period livestock remain in the village where the farmland and local forests are used for grazing. This is the period for manuring the farmland through rotational panning of livestock. From the early morning about 5 AM to 10 AM the livestock got to the forests and they come back to farm land before noon, graze over there and panned at farm land till next morning. The next day the cycles start again but the site of panning is changed. Panning sites varies across the size of livestock and farmlands. Generally, the whole farmland is manured like this during the period of about one and half month;

Summer pasture (Shrawan-Bhadra):Grazing at Sub-alpine and Alpine pasture.

Immediately after Ashad or fourth week of Ashad, the livestock starts moving to high altitude pastures locally called Patan.. The first month i.e. for the month of Shrawan two Patans (pasture) named Hale Khola, Dhandhkharka, both falling into their own VDC- the Knak Sundari, while Kaya Khola Patan of Birat VDC are used for grazing for the month of Bhadra. During that period herds from other VDCs (Birat VDC and Panegufa) also join with them, however, they use separate pasture (goth).

Pre-winter pasture: Herds starts ascending down to Village through Rata danda Tal Odar Dhetali pasture which fall into the territory of Kanak Sundari VDC and reach at the village by the Mid Ashwin (just befoire Dashain festival). The herds remain in the village for about a month (15 Ashwin to first week of Kartik (between Dashai and Tihar festivals

Herd Management

Before moving to high altitude patans or the summer pastures or moving down to Mid-hills districts for winter pastures they make a sizeable herds of 250-300 sheep/goats/herd and for each herd two goth (pasture areas) in case of summer pasture are allocated for grazing. But when the herds come to village or in the pre-winter pastures they are again split into their original size i.e. each farmers take care of their own herds or livestock.

Pregnant and sheep/goats with very young kids and milking cows are kept in the village, and arrangement for the next move (making herds of appropriate size, deciding districts and villages etc) are made ready.

Pre-winter Pasture: Moving down to neighbouring Midhills districts: Immediately after Tihar or between first week of Kartik to 2nd week of Kartik, the herds start moving down towards south in the neighbouring districts vigorously through Mugu (Khatiyad VDC), Bajura, Dailkeh, Jajrkot and Surkhet. The herds reach the first village or forests at the Midhills by the first week of Mangsir, and move down gradually to lower elevation till Chaitra and comeback again to village by the end of Baisakh. And from Jestha onwards the same grazing cycles restarts again

Developing a special kinship with Midhills farmers

The village where to go and what forests to be used for grazing are set and fixed from generations. Each stock farmer has established a typical relationship with the farmers of each of the neighbouring districts. Sheep/goats when they come back from forests after grazing are kept on farmlands on rotational basis at night for direct manuring. This process of keeping herds at farmland during the night time continues till the land of the farmers who have developed a special relationship with them are completely manured. On behalf of the concerned farmers provide them the maize/wheat or millet flour for food.

Between 1957-1991

The farmers continued their indigenous system of grazing as usual. As majority of the members in the VDC/s were the chief and other members of the customary institutions, the VDC chiefs were very much supportive and cooperative to the farmers and the customary institutions

After 1991

With the restoration of democracy in 1990 and enactment of New Forests Acts 1993 and Regulations (1995), community forestry rapidly expanded in the districts., customary institutions of forests and pasture management have been completed replaced by new institutions known as Community Forests Users Groups (FUGs) and its executive body known as Community Forestry Users Committee/s.(FUGCs). Handing over of forests excluding the traditional users from the users of CF and restricting them from use of forests, even for basic needs such as firewood, pirol (leaf litter) and winter pasture, have seriously threatened the century old grazing system and it has resulted in severe socio-political conflicts between the two neighbourers who remained in cordial relationship and harmony before the handover of the forests in community forests**.**

(ix). Customary livestock and pasture management system inthe high altitude area of Knachnjagha Conservation Area (KCA)8

(Based on Brown 1994; Uprety 1994; Aryal et al, 2010)

Similar to other areas of Nepal most of the rangelands in the VDCs are under ***communal tenure while t***he herds and flocks are private. Although communally grazed, there are different levels of tenure and grazing rights. Village areas are grazed in common by the villagers, but outsiders are not allowed to graze in many local pasturelands. Strong and well respected village chiefs are able to provide reasonably high levels of management, even rotational grazing but stocking rates are rarely regulated. Before the promulgation of 'Pastureland Nationalization Act, 1974' the rangelands were owned and utilized by traditional societies like *Kipat* holders, *Mukhias*, *Talukdar* and so-on. In these systems, authorized persons used to collect tax from villagers, especially the herders and make rules regarding their uses.

Pasture management systems in the Kangchnejunga Conservation Area (KCA), are as old to *bhasme/khoriya* cultivation, and are strongly linked to the ethnicity of the communities. The Limbus and Rais in Yasang, Lawajin and Langluwa hold at least one or two cows, goats, sheep or pigs for subsistence purposes, and which form an integrated part of their farming system. The *Sherpas* of Sherpagaun village, however, have *chauris* (crossbreed of yak and cattle) in larger herds, and their dairy production (milk, churpi and ghee) are a major source of cash income.

Communities have a tradition of keeping their livestock in what are traditionally called *kharkas*, which are common grazing areas, with clearly defined boundaries. Traditionally most pastures in Yamphudin VDCs were under a land tenure system called Kipat, a type of communal land ownership historically prevalent among the Limbus and Rais. In the past the people in the area developed this system of herding cattle during the crop grown season. There are a number of such grazing fields in the area, managed by a Subba (traditional leader in Limbu villages). Each family who has number of cattle brings the cattle to the *kharkas* and leaves them for entire season. Generally, herd size in a *kharkas* is up to 100. As a rule there is no fee for the use of summer *kharkas* if the herder is from the local community but if the user is from outside the community a fee is collected on either per head or per herd basis.

In village areas, some range is reserved as special use for high value animals such as milking cows, work oxen or lactating cows. Community pastures near the villages tend to have year round grazing but, most often as winter grazing.

Current Management System (after Mid 1980s)

Nowadays, the grazing land in the area is much reduced, because the *kharkas* are no longerlegally recognised, and are converted to community forestry or used for *chiraito* or cardamom production. Therefore, people generally send their cattle there during spring and early rainy season Feb-July. They come once or twice a week to see their livestock, sometimes rotating who carries out this task. If cattle are producing milk this is collected more regularly. However, they have to pay grazing fees to the community forest Users group and Conservation committee. The residents of Sherpagaun of Yamphudin reported that they pay an average of NRs 55 to the land owner per head of cattle for right to graze in the summer months. However, people in Yamphudin VDC reported that they are doubly charged as they have to give the money to the KCAP Committee as well.

(x) Indigenous Pastureland management in Rasuwa district

(Based on Dong et al , 2009)

Upland farmers of Rasuwa district in the northern Nepal, who are mostly the herders are practicing their indigenous system of forests and pasture management system from generations. They use a transhumance

8The case study is taken from study of Aryal et al , 2010 in four villages of three VDCs of the KCA :Yasang, Tapethok VDC-9; Lawajin and Langluwa , Lelep VDC 3 and 6; and Sherpagaun, Yamphudin VDC-2

grazing system in which different migratory routes and pastures have been established for different grazing animals, such as yak and *chauri* (yak-zebu hybrid). Their indigenous system is largely guided by the physical features of the landscape and their climatic conditions, the animals' demand for forage and availability of pastureland. The grazing animals are moved to high alpine pastures in the summer monsoon season and to lower pastures or forests during the winter. Mobility of herds is mainly driven by demand for forage needed for maintenance, movement, growth, production, and reproduction of livestock.

Pasturelands are classified and rated in terms use value to livestock and their suitability using different parameters associated with availability of forage plants and feeding preferences of the livestock. Seasonal pasturelands such as summer, winter, or transitional pastures are defined and rotationally grazed for a period of 10–15 days based on the amount of grass cover. The same sites can be repeatedly grazed in the same season after the cover and height of the grasses have recovered to an acceptable level.

The carrying capacity of a pasture (how many animals can utilize a pasture for how long). is determined by herder groups using a local knowledge and experiences (body weight, average milk production/milking animal, recovery period of pasture, productivity and site quality of the pasture etc) . Finally, the herd size is maintained by estimating the number of animals that can be sustained by the available winter food supplies (forage and fodder).

Well-organized local organizations and effective traditional rules and regulations have evolved to promote the sustainable development of pastureland resources. There are basically two sets of local organizations involved in rangeland management: community committees at the community level and civil associations at the group level. The community committee comprises of 11-12 members elected by all community members and acts as the leader, decision-maker and representative for an entire community. The civil associations are self- identified groups of farmer households that have common interests or the households who utilize the same resource pool (e.g., livestock, crops or forests). They make decisions specific to their interests, such as grazing sites or herd movement. These two sets of local organizations have greater social impact on these pastoral communitiesthan administrative and political institutions.

(xi). Pasture Management in Limi VDC of Humla

(Based on Goldstein, 1975)

Limi is a high, narrow mountain valley that runs northeast-southwest and contains three villages, two along the main river and a third a short way up one of its tributaries. The three villages from east to west are called *Tasng (mdzang), Alzhi (wa rtse), and Til (til)* are respectively 12900 ft, 121000 ft and 12700 ft elevation. Geogrpahically, Limi is totally cut off from the rest of Nepal for the winter season, while access to Tibetan region of China exists throughout the year. Both agriculture and pastoral nomadism are the two basi subsistence economy of the VDC.

Trashumance pastoralism is one of the major dimensions of rural livelihoods after agriculture in Limi. Limi has excellent pasture east, northeast and southeast of the main valley. Sheep and Yaks are kept in large number while small numbers of Cows, hybrids (*dzo* etc) and horses and goats are also found. There are about 5000 sheep and 1000 yaks in the area[9]. Herds of sheep and yak are moved periodically to different pastures in Limi and Tiber with the herders living with the animals throughout the year in traditional black yak-hair tents. The animal movement cycles includes pasture area in Tibet and Limi with the animals migrating to Tibet in October for the winter and returning to Limi in late My or June for the summer.

The pasture areas in Limi are communally owned and each year lots are picked to determine which families use which pasture areas. In general there are three main moves during the summer period. First, the more southern areas (such as Nying and Talung) are used and then, in late June, all the animals move across the Piguu Pass (15,500 ft asl) to the higher pasture area nearer to the Tibetan border. In late August-early

9The very severe winter of 1972/73 reduced the Limi herds substantially and these figures are on the low side

September, the animals return briefly to the pasture areas and from there, by mid October, go to their winter pastures in Tibet. Since the early 1960s, the Limi herders have been restricted to the use of only one pasture in Tibet; this is not of a quality comparable to what they obtained before that. While still better off than most of the northern people of Nepal who are no longer permitted winter pasture in Tibet.

(xii). Transhumance Pasture Management in Nar and Phu Valley of Manang

(Based on Gurungs and Mc Veigh, 2002)

Like most of Nepal's highland pastoralists, herders from Nar and Phu practice a form of seasonal transhumance whereby animals are moved between winters (Gunsa) and summer (Yarsa) grazing areas. Unlike other areas in Nepal and elsewhere, however, there is not great altitudinal variation between the winter and summer pastures of Nar and Phu (approximately 3600 to 4200 masl).

Pasture are classified into summer pasture and winter pasture taking into account the climate and their accessibility, Summer pasture lie in the higher elevation which remain under snow during the winter month therefore are inaccessible during the winter months, while winter pasture naturally lie in the vicinity of the settlement Both the pastures are divided in to sub-pasture or pasture units taking into account their productivity, area, size of herds etc and time for movement, duration of grazing are decided anonymously prior to the movement of herds.

Two types of grazing method differed grazing and rotational grazing are employed and the movement of livestock between summer and winter pasture areas is strictly (von Furer-Haimendorf 1983). Animals are not brought down from the summer pastures until the crops and winter grasses have been harvested. Livestock remain a few days in the the harvested crop fields after they they move down to lower winter pasture lands. After this, animals are allowed into crop fields to feed on crop residues for some time before being brought into the lower winter grazing lands. Those who do not adhere to the dates set by the community are penalised and fined according to a prescribed set of sanction.

To avoid overgrazing and to maintain forage productivity and range condition, herders from Nar and Phu rotate their animals from pasture to pasture, both in their summer and winter herding areas. To maintain the availability of forage and time to recover the pasture main pasture area is divided into sub areas or grazing units with well defined boundary, for an example, stone wall at the boarder of the village or the natural features such as big stones , trees or rivers where livestock are moved within a given period of time, and no animals (including yak) are allowed to come down into the village and/or winter pastures between the first week of June and the first week of September in case of Nar and 2nd week of October in case of Phu.If any animal crosses these lines during the summer, the owner of that animal is fined. However there are some variations in grazing period and livestock movement.

In Nar, no animals (including yak) are allowed to come down into the village and/or winter pastures between the first week of June and the first week of September. Whereas in Phu yak are moved into the winter pastures, usually in the second week of October where the harvest is completed only about a month late to Nar.. Unlike Nar, Phu does not distinguish between the winter pastures, nor are yak divided into separate groups for winter grazing. Instead, Phu residents can move their yak herds to any winter pasture they choose.

(xiii) Tarami Magar's Sat Thari Mukhiya System of Forests and Pasture Management

(Based on NEFIN 2012; and 2013)

The *Riti Thiti* system of *Tarami Magar* has unique kinds of customary institution known as *Sat ThariMukhiya* Systems. This was the system of established for the overall governance and administration of the whole *Magar* community as well as the natural resources of their territories. The word sat denotes the number seven and *Thari* represents the ethnicity of the *Maga*r community. It means the institutions

comprise seven members from various sub ethnic group of their community. Of the seven number the chief is called the Mukhiya (the leader of the village/community and this post is reserved for Adrashi group, *Chautare*. representative of the whole *Magar c*ommunity (local elite group/Abhijat class and comes from *Kanchhibare*) , Jetho buda from the matured elderly person of the *Rokka group*, *Thar*i, -the decision maker (justice) and the post is reserved for the *Bajhyang*i group; Baidar- secretariat or administrative clerk locally known as ***l****e*khandas (*writer expert in writing legal documents a local lawyer*) elected from Kanchibare Rokka group; *Burauli* and *Katuwa*l the Messenger coming from Rupani group.

Decision making process

Mukhiyas with the help of other members used to call a generally assembly where each and every households residing in their territory were invited. Decisions were taken with consensus of all the members of the community. The system of decision making in Magar language is called *Chappe basne* ((Stamped the decision made to ensure its legibility or making the decsion obligatory or commitment of implementing the decision)

With due respect to the nature and considering land resources a communal and inalienable property of the community, decision for managing and the use of lands, forests and pasture were done. The decisions were made based on seasonal calendar and strong rules and regulation and monitoring system with well defined roles and responsibilities of each of the members of the institutions used to be in place.

Decision that was commonly taken regarding land resources (farm lands, forests, pasture, including water sources) consisted:

- Fencing of village pasture/grassland (where and why);
- Grazing system (season , duration);
- Bhasme cultivation (site, cropping phase, fallow period etc);
- Collection of firewood and timber (season duration quantity per households and objectives, name of the forests etc);
- Collection NTFPs, forage/fodder and leaf litter (Forests, quantity season and collection/harvesting methods);
- Management of wild honey;
- Management of wetlands having fishery values (Maintenances, and harvesting season); and
- protection of cultural and religious sites.

This customary institution was functional till 1961, remained moderately active till Mid 1970s and finally collapsed after that period i.e. after 1970s

(xiv) The Dhapu and Dhebu System of managing land resources (farmlands, forests and pasture) of Dolpo Community in Dolpa (Based on Parajuli, 2001; Thomas et al,, 2004**)**

There were four indigenous institutions and practices of managing land resources (farmlands, forests and pastures) namely: *Chikyap, Gowa, Dhapu* and *Dhebu*, in local languages they denote leaders of the village or elderly and respected persons (*Jetho/budho*) , however the first two collapsed with the inception of Panchayt Regime in (2017 BS) while last institutions and practices are still functional.

Under the leadership of *Dhebu* and *Dhapu* four *Rolbu* (assistants) are nominated/elected each year from the general assembly of the villages through consensus, and thus formed five member committee is known as *Heyulpon Chokpa*. The geenrally assembly which is generally held on before the cropping season i.e. before the month Chaitra (April/May) choose the leaders- *Dhebu and Dhapu* from each housed every year on rotation while the assistant members are elected among the villagers; The tenure of the committee is fixed at one year and they are given the responsibility of overall administration and governance of the natural resources, socio-economic and cultural/religious catties of the community. Thie maon function is to work for the welfare of their communities, maintain intra and inter community harmony and sustainable management of natural resources. The administration and governance system of the Heyulpon Chokpa is guided by the following five categories of customary laws.

(i) Relung Chasid-laws related to ban on hunting and killing of wildlife including birds;

(ii) Rigalingya- laws related to killing of animals;

(iii) Chathim- laws related to managing and regulating grazing of pasture lands;

(iv) Nghothim- laws related to agriculture system or crop management; and

(v) Thakthim- laws related to offenses and punishment upon breaches of customary laws;

Regulation of grazing systems

Transhumance livestock being their one of major stay of economy pastures are divided into four category follwing the seosnal calendar; (i) *Yarsa Kharka or Barsad/*rainy season or summer pasture (Ashad-Shrawn/Bhadra), (ii) *Dhunsa or Hiude* /winter pasture (Paush-Falgun); (iii) *Soisa or Basant*/Spring) pasture- Chaitra-Jestha) ; and *Tonsa- Sarad* /Autumn pasture (Ashwin-Mangsir). Local name to each of major pasture sub-pastures is given and duration of grazing for each of the pasture areas is re-evaluated taking into account the herd size area and and productivity of the pasture;

Regulation of crop depredation

Strong reregulation's locally (considering the climatic condition limited cropping season and the values of crops could be the major reasons behind these strong regulation on crop protection) to protect crops from the depredation of animals (livestock) are made. For an example if a big animal(cows/yak/horse) simply enters into the crop land the owner of the livestock has to pay one kg of cereals (wheat/barley) while in case of small animals (sheep or goats) the compensation is reduced by four fold i.e. one quarter (250 gm) of the big animals. This is called *Nepri* in local language. The compensation for crop depredation increases on the maturity of crops and amount damaged. The compensation charge /fees when the crop is matured and ready for harvesting is called *Thokyan.*

Regulation of forest harvesting

Forests in the territory of areas of each village are given separate names or large forests are divided into blocks taking natural features rivers, ridges, trail etc with a name to each forest blocks. Condition of forests (status of major species and overall productivity) is monitored regularly and harvesting schedule, quantity per household's seasons and duration of harvesting and areas or species to be protected or conserved are decided accordingly. In either cases cutting of live trees, forest encroachment for cultivation, setting forest fire, hunting/poaching of wildlife and birds, harvesting of products for commercial purposes and harvesting of forest products against the annual harvesting schedule are considered serious forest offences and penalised; forest encroachment, cutting of live trees for timber and firewood (other than prescribed spp of shrubs or trees) , poaching or hunting of wild animals including birds are strictly prohibited and considered a serious offence. Similarly, haphazard wood harvesting, setting fires or harvesting of products other than in permitted areas also fall under serious forest offenses.

Supervision and Monitoring System

Members of the *Heyulpon Chokpa* being responsible to implement the customary laws, assess their overall effectiveness (compliances or performances). They regularly visit the villages, forests and pastures. However, to assess the implementation status of each of the customary laws discussed earlier, two spies or special investigator locally known as Sowa are employed secretly by the *Heyulpon Chokpa.* The S*owa* presents the overall report to theHeyulpon Chokpa and also presented in the generally assembly for necessary actions (punishment and reforms in the laws).

Decision making process

As discussed earlier each year The *Heyulpon* Chokpa is constituted by the general assembly and all the households living the various villages of their territory are invited, in fact their participation is obligatory, special invitation is given to elderly person and subject matter specialist of their villages for participation in the general assembly. The general assembly is held on the month of Chiitra when the farmers come to village for cropping.The *Suwa* presents their the annual report covering all aspects of customary laws

they are discussed, offenders are given chances for clarification and expressing their views, opinions and views of elderly person are well respected and finally decision is given by the *Dhapu or Dheubu*. Laws that were found impractical or implementation of which could have severe socio-economic and ecological consequences are revised or reformulated or alternate options are looked for. Cash and kinds received from penalties are deposited in community fund and spent on various community development activities such a trail improvement, maintenance of irrigation canal or water sources construction of monastery or *stupa* or c*haitya* as well annual salary of the two *Suwas*.

(xv) The*Dhaba Shyarbaa and Mithewa system of managing natural resources (farmlands, forest and pastures) of the* Ngisyang Valley (Upper Manang10)

(Based on NIFIN 2012)

The Dhaba Shyarbaa and Mithewa system of natural resource management is operating in the *Ngisyang valley (box below)* from about 300 years ago. The objective of this institution is to maintain a social harmony as well as manage the natural resource of the valley and is based on equalitarian principle. The *Dhaba Shyarbaa* has shaped the socio political structure of the valley. The word *Dhaba Shyarbaa* in local language means main person or leader of the village. In fact the Dhaba Shyarbaa is an institution consisting a total of five members, one *Dhaba* (*Khamcha*, the leader) and four *Shyarbaas* (Assistants) nominated or r elected as per the tradition of the community Locally Dhaba Shyarbaa is also known as *Khamcha Lhenji*.

Box: Introduction to Ngisyang Valley

Located in the upper part of the Mustang district at altitude 3600 m to 4900 m asl the Ngisyang valley comprises about 38% of total population of Manang and covers seven VDCs.. Of the seven VDC Manang has the largest population (630 HH) while Gyaru has the lowest population (71HH). The population is dominated by two ethic caste the *Ghales* and *Gurungss.* Subsistence agricultre and pastolism is their main occupation, however they have been largely involved in foreign trade and business when they receive a special royal decree from then king in 196211

The valley is rich in natural resources particularly on forests pasture and natural beauties.. Valley slopes are also rich in forests. All VDCs have some patches of forests but the Pisang VDC comprises large areas of natural forests. Forests of the valley fall in three major types Thansing (Salla- Abies and Pine forests), *Khelsing (*Brich or *Bhojpatra* forests) and *Sangsing* (*Dhupi* (Cupressus and Juniper forests).

Water for both drinking and irrigation is one of the scarce resource, they dependent entirely on snow and glaciers. The VDC Khadsar and Gyaru face acute shortage of water as they depend mainly on rainfall.

Source: NIFIN, 2012)

Tradition (set of norms, rules and belief system) of nominating or electing *Dhaba Shyarbaa* is well defined. Main persons of each individual household of age between 18 to 70 years are eligible for the *Dhaba Shyarbaa* and they are nominated or elected on rotation i.e each household turn by turn must become the *Dhaba* and the cycle continues again once each household complete his tenure of *Dhaba*. *Dhaba* is selected or nominated for one year among the eldest person of the community. While the *Sharyaps* are nominated by the *Phobe* of the community (sub-ethnic group known as <u>*Khalak or*</u>

10Geographically and socio-culturally Manang is divided into three distinct regions: Upper Manang locally called Ngisyang valley and Lower Manang known as *Ghyal Sumdo* in local language and the Trans-himlayan region known as Nar and Phu valley. The upper mustang comprises seven VDCs: Khadsar, Tanki Manang, Manag, Bhakra, Dawal, Gyaru, and Pisang), five VDCs namely: Chame, Tachhai Bagrchap, Dharapani, and Thoche fall in Lower mustang and two VDCs Nar and Phu in the Trans-himalayn region (NIFIN, 2012.

11*The Ngasyang community had received a special provision of trade in South and South Asian Countries from then government in 1962 but it ended by the year 1976 after that the community is heavily involved in tourism business, the valley was restricted to foreigner till that time and it was opened up in 1977 and finally the Nar phu in 2001. Now the whole district has become one of the destination of foreigners which now falls under the territory of Annapurna Conservation Area (Gurungs 1976 cited in NIFIN 2012).*

Thari).Once a person is selected or nominated as *Shyarbaa*a he automatically becomes eligible for Dhabu for the next years or becomes potential candidate of Dhaba. However, there is a special reservation for the post of *Dhaba and Shyarbaa*.

Selection of *Dhaba Sharybaa* is basically guided by the structures (*Phobe-khalak/Thari*) and population of the community and efforts are made to make the institution more inclusive democratic. Therefore, nomination process differs across the VDCs as the structure and population of the community varies across the VDCs. For an example there are three *Phobe* namely *Sankrong* (*Gurungss*), *Puene* and *Thate* (*Katuwal*- the messengers or watchman of the whole village or community) in Pisang VDC. Of them two *Dhaba Shyarbaa* from *Sakrong* and remaining two from are nominated from *Puene* community. No *Dhaba Shyarbaa* from *Thate* community is selected because they have been designated from generation to work as *Katuwal* of the village.

The process of selection/election of new *Dhaba Shyarbaa* starts with the famous events of the *Ngasiyang* community known as *Mitha* (An Arrow competition -*Tir hanne* in Nepali) in the month of Chaitra, Households of each *Phobe* community organise a meeting, discuss about the potential candidates and finally select or nominate their representatives. The Katuwalknown as *Chau* disseminate this information to all the villagers and finally a general assembly of the village is organised where representatives of each households living in the valley come to the assembly with local *raksi*, *food* and *khada.* After offering the *Khada and raksi* (local wine) to the new *Dhaba* and *Shyarbaa,* whole villagers enjoy the local *raksi*and food, and finally the nomination/election of new *Dhaba Shyarbaa* for next one year is completed.

Functions of Dhaba Shyarbaa and Mithewa

Major functions of *Dhaba Shyarbaa* and *Mithewa* include:

- Administration and governance of the whole community and natural resources of the areas;
- Maintaining social harmony, cohesion, cooperation among the communities and their neighbours;
- Develop norms, rules and regulation of using natural resources (lands, forest, pastures and water sources) for their conservation, management and uses and maintain the productivity of land resources;
- Promotion of economic activities and develop community infrastructures such as trail, irrigation, drinking water schemes, construction of monastery or stupas etc;
- Protect and continue the socio-cultural festivals, rituals and events;
- Resolve local conflicts and mediate to resolve conflicts and disputes with neighbouring villagers or neighbours beyond their territory;
- Work as a mediator between the community and the government; and
- Enforcement/implementation of customary laws in a more transparent, democratic and participatory way and recommend to revise or reformulate the laws based on the knowledge and experiences learnt.

General Features of Dhaba Shyarbaa and Mithewa systems

Lands and Nginsyang community

Lands for Nginsyang community denote farmlands, forests, pasture, the rivers and wetlands system and the landscape beauties as well. Therefore, the customary laws and institution established in the valley are holistic and integrated in nature and deal all aspect of socio-economic development and management of natural resources.

Each village have their own ancestral forests, and pasture lands designated and ensured by their customary laws. Users are identified and rules and regulations of forest harvesting, uses and managemetn are in place. Moreover, the provision of employing envoys or special monitoring persons guarantee the rights to natural resources as well as compliances of the customary laws.

Non Ngasyangs and rights over natural resources

A number of non Ngasyang ethnic groups such as *amang, Chhetris, Kami, Rai* and *Magars* are also living in the valley however, they have no rights to buy private land and settle there permanently, they live there as temporary resident on rents or as a labour or small businessman. However, the local community provides them the access to natural resources for their domestic use similar to the local residence, provided s/he has to get permission from the *Methewa*. Outsiders who want to stay in the valley, work as a labour or run a small business s/he has to approach to the *Mithewa* with a bottle of local Raksi (wine) *Khada* requesting him grating to say in the village, the *Mithew*a after consultation with his members, finally grants permission but chare certain amount of money Rs 5000 to 30000.0) .There is no discrimination among the castes in the valley each ethnic groups are treated equally and no touchable or non touchable issues do exist.

Decision making process

The decision making process involve democratic process. Each year existing rules and regulation are reviewed, after a detail discussion and based on the experience and lesson learnt they are revised or new laws are developed. Besides this, if a new decision is to be taken, and a an emergency meeting or general assembly is to be held, the date or season of social cultural events is chosen where almost all villagers participate and celebrate the function. In this case the *Katuawl12* or the *Chai* inform all the villagers to participate in the social-cultural events and agendas of the meeting.

Dhaba Shyarbaa institution of Manang VDC was the most credible institutions' among the other similar institution of other VDCs. Any dispute or issues that could not solved the concerned Dhaba Shyarbaa of the village or VDC used to refer the case to Manang *Dhaba Shyarbaa*, Similarly, offenders who want to challenge the decision of his *Dhaba Shyarbaa* used to file a petition to them also. And decision made Manang VDC *Dhaba Shyarbaa* was considered the final decision. The Manang *Dhaba Shyarbaa* had also authority to deal with the administrative and legal case of the other two Trans-himlayan VDC Nar and Phu. Thus, Manang *Dhaba Shyarbaa* was considered the supreme local institutions of the upper Manang area. However, the role of this institution now is taken by *Mithewa* institution and their role has been limited as an advisory body. The *Mithewa*in local language also denote elderly and respected person of the society. The *Mithewa* comprises of nine members of various posts, one *Falsin* (the justice), four *Khamchi* (executives), two*Mihitis*(messengers) and two *Shyarbaas (*policeman). The nomination or election process is quite similar to the *Dhaba Shyarbaa*, however, person of age 15-60 can only be eligible for candidacy.

The *Khamcha* being responsible for overall implementation of the customary laws and take legal actions against their noncompliance, In case *Khamchi* could not settle the issues they refer the case to *Falsin.* However, the *Mithewa* have taken the role of *Khamch*a and *Lhenji.*

I. Forest Management systems

Each village have their own forests and access to these forests to outsiders (people of other VDCs) is strictly prohibited. However, if the concerned *Mithewa or Dhaba Shyarbaa* recommends the Mithiwa/ *Dhaba Shyarbaa* of other VDCs or villages rich in forests for certain forest products a special permit upon the payment of fees or charge of the products is provided to the outsiders.

Forests for collection of firewood, forage fodder, lead litter and timber for local uses and forests to be strictly protected are decided and required rules and regulation for their management, conservation and regulations of forest products harvesting along with strong monitoring system are developed or decided each year during the annual general assembly.

12*Katuwal* is the messengers who communicate message between the *Dhabu Shyarbaa* and the farmers/villagers.

The concerned *Dhaba Syarpu* or the *Mithewa* of seven VDCs have declared a total of 14 patches of natural forests of *Tansing* (*salla*/pines) , Swuapa (dhupi) and *Kahati* (birch or *Bhojpatra*) and *Khe* (*Kalo salla-Abies spp*) as protected forests or conservation forests. In majority of forests collection of dead wood mainly for firewood, leaf litter and grass and fodder collection is all wed however, cutting of green or live trees for wood is strctly prohibited and considered a sever offense. However, *Dhaba Shyarbaa* of Tanki Manang and Dawal VDCs has banned collection of these prodcuts from their Tensing forests.

The *Mithewa* takes special permits are issues after in depth discussion and consultation with elderly people of the village for harvesting timber required for the construction of community infrastructures such schools VDC building, wooden bridge, maintenance of monastery or *stupa* etc**.**

II. Management of Pastures

Transhumance grazing is being practices in the valley from generation. The movement of livestock from the village starts right just before the cropping season and return back again to the village for a short period of time before the winter when crops are harvested and agriculture land remain fallow.. Each VDCs have their own pastures at various altitudes which are used as per the season on rotation.

Milking cows, claves, sheep or goats with young kids, injured and very old livestock and horses of tow important person the Chief Lama and head of the Mithewa are kept in the village and use village pasture while all other animals must go for transhumance grazing. Except these defined livestock no other animals are allowed to keep in the village and use village pasture. In case if household who want to use his horse for transportation and want to stay a night or few nights in his home he has take permission from the Mithewa. Permits are generally issues in these cases but the owner of the horse have to keep the horse in an open area and must be stall fed. The same rules also apply to the two most important persons: the Chief Lama and the Mithewa.

The General features of of the customary pasture management system

Grazing Schedule

Livestock have to be moved from the village between the last week of Baisakhto second week of Jestha i.e. before the cropping season starts as per the following grazing schedule The livestock come down to village and graze in the village pasture during the winter months.

Dawal VDC

First week of Jestha: Ngyolchong Puchubol pasture

2nd week of Jestha-:Ist week of Ashad: Lomqyo Phopache pasture

From 2nd week of Ashad to Ashwin/Kartik: Any pastures of Subalpine and alpine araes

Ashwin/Chaitra: Village pasture

Bhakra VDC

Ashad to 3rd week of Ashwin: Jhulna pasture just across the village for the Ashad then move to Chengache- Tangema and finally reach to the village by the first week of Kartik

Pasang VDC has huge productive pasture land. After the final harvest of agriculture Kartik crop livestock are moved from the pasture close to the villages and reach at higher pasture in the rainy season and come back again to village in Kartik.

The *Mithewa* take decision of the grazing schedule date of movement, distribution of pasture to herders, duration of stay at each pasture and time to come back to the village and the *Katuwal* communicate about the detail of the grazing schedule decided by the *Mithewa*

Employing Chiowas (Village guard/s/watchers/assistants)

To protect the crop depredation from livestock the four to seven *Chowas* are employed in consultation with the farmers and the number of *Chowa* depends on the size of agriculture lands, and livestock population. The main duty of the *Chowa* is protect agriculture crops from grazing or loss from browsing;

In addition to these to take care of transhumance livestock such as sheep and horses at least 2 additional *Chowas* for each herd of sheep, horses and cattle are also employed. *Chowas* employed for sheep, horses and cattle locally are known as *Ta Chen, Ra Chen andMay Chen* respectively. Selection of these additional *Chowas* is also done by the Mithewa in consultation with the transhumance farmers.

After their election/nomination the *Chowas* sit together and divide their roles and responsibilities and remain on duty twenty four hours. Their main duties are to monitor the agriculture crops, livestock, catch the animals if they found entered into the crops or farmers breaching the local laws of grazing and submit to the *Mithewa* for further action. This work continues till all crops are harvested and lands remain fallow.

In addition to *Chowas* each members of the Mithewa used to supervise the grazing system as well as activities of each of the farmers on regularly.

Compensation for crop depredation

Because of limited season available for agriculture, the villagers have made a very strong rules and regulation for protecting agricultural crops from livestock depredation and given full authority to enforce the rules and take strong actions against the offenders the household who breach the local laws. Amount of fines depends on the extent of damages and types of animals and also varies across the VDCs. The amount set for crop depredation as a compensation by the *Mithewa's* of Manang VDC for an example includes:

If a horse just enters in to the crops the fine the owner has to pay Rs 10-100.0; in case of cattle/chauri it ranges between Rs 5-50.0, and for yak the amount of fine varies between Rs 5-100 while the fine the same offense to goat/sheep is Rs 3-10. However for the outsiders the amount of fine is just double to the local farmers. Moreover, when the damage is big and size or numbers of animals damaging the crop is bigger or larger, the *Mithewa* themselve go for supervision, assess the damage and set the amount of fine and compensation

Uses/mobilisation of fines

Uses/mobilisation of fine thus collected varies across the VDCs. In some VDCs the fine is given to the owner of crop land or distributed among the *Chowas*. However, in some villages some portion of the fine is deposited in the village fund and spent on community development works.

Between 1957- 1991

The customary institutions of Manang district played significant roles. Despite number of political changes in the past and had been able to exhibit their strong solidarity among the communities. The decentralised and bicultural approach of social and natural resource governance; focussed on welfare of the community, communal management of natural resources, fair and just benefit sharing mechanism were the strengths that enabled them to place their positions strongly to the various government of Nepal while maintaining a strong social cohesions and harmony, solidarity and keeping the natural resources base intact in their territory. Therefore, they remained almost in isolation from the main political system of the country until the government (the Panchaya**t** system) provided a special provision of issuing Passport and foreign trade to South East Asia), In other words the people of Manang were mainstreamed in to the national political system of Nepal only after end of 1970s or they aware actively involved on the local elections resuming the various positions in the local government systems. Majority of the positions of the VDCs were taken by the members of the Dhaba *Shyarbaa and Mithewa* and the VDC executive bodies used to work in close consultation and collaboration with the chief of their customary institutions. Actually speaking, it was the *Dhaba Shyarbaa and Mithiewa* who after discussion with their communities decides the lists of person to be elected in the VDCs. Therefore, there are very few instances where VDC representatives are elected through voting, most ofg the VDCs chiefs and other members are elected anonymously. Therefore, it can be said that VDCs executive bodies and the Dhaba *Shyarbaa and Mithewa a*re synonymous with each other.

After 1991

The customary institutions are still functional, the VDC chief with the consent of their customary institutions develops linkages with the government organisations and other development partners, while the the customary institutions implement annual plans and programmes of the government for an example community forestry, construction of village roads, drinking water sachems' and irrigation canal etc as per their customary laws. At present the whole areas of Ngasyang community falls under the territory of Annapurna Conservation area. The ACA has not recognised the customary institutions but they work in close consultation with them. Moreover, in absence of elected VDC government (no election has been held since last about two decades) the Dhaba Shyarbaa and Mithewa are playing the roles of the VDCs providing providing various Services of VDCs to local communities.

(xvi) 'Kabra' Rithithiti System of Gurungss

(Based on Khasur Village of Bnajhakhet VDC Lamjung, NIFIN, 2012,)

Gurungss are one of the unique indigenous nationalities of Nepal who have their own language culture, life style and ancestral territory different from other Tibeto-Burman ethnic groups (see box below).*Gurungs* are rich in socio cultural assets and indigenous knowledge on natural resource management. Similar to other indigenous peoples and other local people they have also established various customary institutions to preserve their socio-cultural assets , enhance and maintain social cohesion, harmony and conserve and manage the natural resources (lands, forests, pastures and water and landscapes) as a stewards or custodians of the natural systems through integrating or mainstreaming their socio-cultural events (from birth to death) and livelihoods activities with the management/conservation of natural resources in and around the environment they live in. To them natural resources are not the private property to be harassed for profit making but a communal property to be used only for the community and other living creation of the nature. Various cultural events festive, and rituals , social norms values rules and regulations of administering these events have always become a part of their lifestyles even today show their deep respect, beliefs with the law of nature insisting them to act as the custodians or stewards of the nature in general and the natural resources upon which they are dependent in particular.

Box: Introduction to Gurungss

There is no written history about their origin but they believe that they were migrated from the Northern himalayan region about 300 years ago. At present, they are settled largely in the North west of Lamjung, Kaski, Mustang, Gorkha Manang, Parwat and Tanahun. They are Buddhist by religion however, before that they were followers of Bon religion. Till 19th century Gurungss were shifting cultvators . They adopted subsistence agriculture and livestock husbandry and military services after the unification of Nepal

Gurungs society is divided into two hierarchical and endogamous caste like moieties each of which is made up of a cluster of clans. The reputedly higher status group, the *Char Jat*(4 clans) includes the village elite (chiefs, tax collectors and large landowners) . Memebrs of the reputedly lower status group, the *Sorha jat*(16 clans) are often bound to the wealthy elite by a strong patron-client ties not unlike the well known jajmani relationship between members or India Hindu castes

(Source: NIFIN 2013)**.**

Similar to other indigenous peoples the Gerung's community have also their own indigenous system of Forests and pasture management known as *Rithithiti* system. The system is administered and governed by the head of the village locally called *Kabra.* In addition to *Kabra Nogar and Rodhi* are also the famous institutions established with specific purposes and functions by the Gurungs community from generations.

Customary Institutions of Gurungs Community

Kabra , Nogar and Rodhi of Gurungs's of Western Nepal

Kabra is the head of the Rititihiti management system of forests and pasture of *Gurungss* community. In local language *Rititihiti* means *'Pay-chaya and Ptna-lhu-tna .Pay -chaya* denotes over all traditions and governance system while *Ptna-lhu-tna* implies socio-cultural traditions and rituals and festive. And *Kabra* is the leader of the village or the chief of the Rititihiti institution who in fact represents the elderly/ matured, respected and gentleman locally known as *Chiya* and *Tawa .Kabra* in Nepali can also be termed as a *Mukhiya*. Thus, Rititihiti is an institution that is responsible for the overall administration and governance system of the Gurungs Community and the natural resources of the their territory.

The nomination or election of Kabra is done by village assembly, locally called Riti Thiti Phewa (rules and regulations formulation day) through consensus where at least on chief of the households (male or female) are present .However, before electing or nominating the Kabra in depth discussion is done among the villagers, and finally a respected, well mannered, matured person among the *Chiyaa and Tawas* of the community is nominated to govern the community for two years

Nogar of Gurungs

(*Based on Messewrschmidth, 1992*)

Nogar is a temporary, village level association of *Gurungs*'s youth engaged in cooperative agricultural field work on a seasonal or task-special basis. Nogar is an elaborated form common *parma*system (reciprocal labour exchange in agriculture) widely practiced by the Gurungss of western Nepal since generations. *Nogars* are generally comprised of from 10-20 youths (male and female) Several *Nogars* operate within a village at one time and their number varies across the season and volume of work

The primary purposes are to plant maize, millet and transplant rice seedling and weed and harvest and store these main crops. Cutting and hauling of firewood and hauling of farmyard manure are sometimes also included among *Nogar a*ctivities

Nogars are generally comprised of from 10-20 youths (male and female) Several *Nogars* operate within a village at one time and their number varies across the season and volume of work. Generally in a typical *Gurungs* village of 125 households Messerschmitt (1992) documented five *Nogars* over a one year period while Macfarlane (1972) in other village found 8 Nogars in operation over the same period of timer.

Members of *Nogar*generally laugh, joke and sing while they work, stopping only for lunch. After the last day of work, they join together in a feast then disband.

Nogars were actively functional till Mid 1980s but now it is limited to some rural areas. Because of out migration of youths for better life and income in urban areas and abroad as well as urbanisation of many rural area it is no longer in practice where it was the dominant farming system in *Gurungs* community about two half decades ago.

Rodhi

(Based on Messewrschmidth, 1992, NIFIN, 2013)

Rodhi is a socio-cultural institutions established particularly to decide and establish norms and values of socio-cultural events among the youths and handover skills, knowledge and experiences of elderly and matured members of the the community to younger generation (NIFIN 2012, 2013). The institution consists of a total of eight members of them four are *Budauli* (eldest/elderly person) one *Didtha* (person expert in legal issues) and one *Pere* of same age and two matured male and females as the representative of youths (one male and female each) as volunteers. *Budauli* play the role of decision makers *Ditha* is responsible for monitoring the effectiveness of customary laws related to *Rodhi* while *Pere* is responsible for the implementation of rules and regulations. And the two volunteers work as assistants of the institution. All youths (boys and girls) automatically become the member of the Rodhi

Rodhi is the nucleus of considerable intra-village and inter village social and economic activity (Messerschmidt, 1992). The Rodi also serves as the central institution around which a variety of cooperative activities are organised, its most important economic function being the catalyst for organising nogars (Anders, 1974)

The place where Rodhi is held is called *Rodhi h*ouse which is more or less fixed permanently. The parents of the owner of the house (the father is called *Rosheba* and the mother *Roshe Ama*) are equally respected as their own father and mothers. Every night, *Rodhi* starts after the night meal when all members assemble in the *Rodhi*. After the evening meal all youths assemble to the *Rodhi* houses where some of them share their personal experiences on farm, forests and pastures and other livelihoods activities, some adults and matured ones tell them the story. After sharing experiences and hearing story, youths (girls and their boyfriends) sing and dance and socialize freely and sometimes intimately. During that time the elders become busy in weaving Radi Pakhi **(**Mattress and blanket made of sheep and goats wool), spinning allo, weaving Bhangra (a typical cultural dress of Gurungs's made from *allo* fiber) or making various types of bamboo baskets. Finally, The Rodhi is closed, generally before 10 PM (time is fixed by the Budauli), till the next day.

Until Mid 1980s Rodhi was most active, it stated weakening after1990. Nowadays Rodhi is no longer functional the way it was established by their ancestors.

Main features of *Kabra* Rithithit system

Farming System

The farming system of *Gurungss* community is entirely based on the institution known as*Nogar*(an association of youths devoted to exchange of labour among each other for any kinds of works from cropping to harvesting and from construction of house to their repair). All villagers irrespective of their socio-economic well were entirely depending on *Nogars* for all kinds of domestic and cultural works or chores.

Socio-cultural system

The socio-cultural system of the *Gurungss* is well defined, organised and pay high respect to the nature. They consider the whole landscape -the forests. pasture, steppe slopes and rocks etc the living place of gods and workshop these natural entities in many ways throughout the year say, A number of *Sachi Sildo* (cultural events and rituals) such as workshop of *Bhirs* (steppe and rocky area within forests, *Simi bhume* are annually organised . And institutional arrangement under the leadership of *Kabra* have been made to organise these events are also in place. For an example , the *Sime-bhume* (means worship of land and nature), is organised twice a year one before the move of herds to the higher altitude known as *Tarum/Udaunli* and other when they come back to village known as locally *Targum/ Udhaunli*.

Management of Natural Resources (forests and pastures)

Gurungs community consider the forests and pastures and managed them as symbol of social unity and group cohesion and an inspiration of adopting a dynamic and innovative livelihoods.. Transhumance livestock is their major means of livelihoods after agriculture providing them many essential goods and services from farmyard manures and to natural fibers and cash income.

Realising the value and importance of forests and pastures to their existence and livelihoods the community have divided various forests products in to five major categories. (i) Wood; (ii) Non-timber Forest products (NTFPs) (iii) Food products (iv) Medicinal and aromatic plants (MAPs) and Forage. Grass and have developed conservation. Management and uses related rules and regulation accordingly. Some of the major rules and regulation are;

- Species and their quantity per household for each of these categories of forest products discussed are clearly defined along with their harvesting season, and duration. Harvesting of trees or other products other than specified species is considered an offense and penalised;
- The *Kabra* makes a strong institutional rearmament for the enforcement and monitoring of these rules and regulation
- Each and every households are obliged to comply with the grazing scheduled announced by the *Kabra*; Non compliance of this is also considred a serious offense.

- The high altitude forests are strictly protected and virtually closed for the six months or till the period of *Tarum/Ubaunli*, when the livestock come down to village and *Turgum/Udhaiunli* festval is celebrated or over

Decision making and implementation process

The decision making process is decentralised participatory and decision are made by the general assembly. Although no voting is done to elect the leader- the *Kabra*, he is always selected from the most respected, knowledgeable and matured senior person of the community after a detail discussion and conscious of the whole villagers. They have also the provisions of a village council. Representing all villagers and sub-ethnic groups the *Kabra* nominates the most respected and knowledgably person the member of the village council from each village.

The village council/general assembly is called at least twice a year. Customary laws that are in practice are reviewed and their overall performance and impacts on local community as well as forests and pasture are assessed. Finally based on the experiences and lesson learnt new rules and regulation are formed and responsibility of implementing these rules regulation is given to the *Kabra.* Based on the decision made by the general assembly or the new set of customary laws, the *Kabra* decided the date of opening and closing forest fore harvesting forest products and grazing schedule of pastures

Kabra also follows a very participatory way of taking action against breaching of the customary laws locally known as *Tekipong*. When some person of the community is found guilty or breaching the customary laws s/he is immediately reported to the *Kabra.* Upon the call of *Kabra*, the offender approach to him with a bottle of local wine requesting for excuses. Based on the nature and scope of offense the *Kabra*, listening the explanation given by the offender and also respecting the views of elderly person of the community he finally gives his verdict and announce the amount of fine. However, before the decision is made the *Kabra* provides the offender enough time to defend his charges, provide or submit evidences and explanation/clarification of charges against him/her.

Indigenous knowledge of Natural Resource management

The *Gurungs* community are also rich in indigenous knowledge of resource management and their value additions. They are good in masonry and wood carpentry. They are expert of making a number of bamboo/*nigal*o products. They are innovative and entrepreneurs too. They derive their basic needs largely for the forests and pastures. In summary, they are the champions of managing a society and the natural resource in the changed socio-political and economic contexts.

The wool they obtain from sheep and goat is used for making warm clothes such as shawls, blankets and mattresses known as *Pachaura, Radhi and Pakhi.* Moreover, the natural fiber from which the famous cultural dress Bhangra of Gurungs community is made comes from the wild plant called allo.

Bamboo and nigalo are the other products extensively used for making essential agricultural implements, and temporary cattle shade and various types of baskets and implements. Making Nepali Kagaj (handmade paper) from a shrub known as lokta/baruwa (Daphne spp) was their another off farm income sources. They also use a number of wild edible fruits and plants as food materials, and until recently there heavily dependent on natural herbs for treatment against various kinds of diseases.

Between 1957 and 1991

The customary practices of both forest and pasture in Khasur village remained relatively active despite nationalisation of private forests, and abolition of Birtalnad and nationlisation of pasture in 1974. The Kbara were actively functional. However, with the expansion of forest organisation across the dsitrct and implementation of community forestry programme in the district cases of conflicts between the villagers and the District Forest Office (DFO) on the use of forest and its resource then began to start. More than 24 innocent farmers were arrested and jailed on charges of prohibiting a licence holders, who was aelite from neighbouring village, from their forests managed under customary laws. This made the villager very desperate and helpless for a few years. But soon they united together and approached the DFO requesting

for handover the responsibility of managing all the forests and pastureland of their terrotry to the local community.

After 1991

The Khasar Community in 1992 organised general assembly (Nalsabha) of 11 villages consisting more than 90 representatives to discuss about the privatisation of their ancestral pastures (given by the Rana with a royal decree called Sand or *Lalmoha*r) and find out ways to revert back them to communal ownership. The general assembly continued for three days and ended with a formation of *Sanghrsa Samittee* (Struggle Committee) of .members to continue their struggle unless the issues is resolved The committee after a series of meeting with the District Forest Office, finally it was decided to hand over forests and pasture lands of Khasur village as a community forests. Ultimately, the forest (337 ha including their summer pastures) was handed over to community in February 1992. Since then the forest is managed by the local community incorporating all customary laws of managing forests and pastures in to their c and operation plans of community forestry.

The khasur community have divided their forests into five blocks. The blocks are further divided into nine compartments allocating each compartment to the nine *toles* (village). And a total of nine subcommittees have been formed under the main committee. Operational plan for the management of each block and compartment has been prepared and the responsibilities of implementing the plan is given to the concerned sub-committee while the main CF committee monitors and supervises the overall implementation status and takes action against the offenders.

Some of the major rules and regulation of the Forest and pasture management are:

- No cutting of live trees for next five years;
- Annual permits for firewood and timber are issues not more 33 (4-33 HHs)
- Strict prohibition of harvesting firewood and timber and other forest products for commercial uses; and
- The Sub committees responsible for day to day supervision and employing a forest watchers to the forest of their part.
- **Seasons of Forest Harvesting**
  - Firewood and Timber= Magh-Chitra;
  - Thatching grass= Paush-Fal;gun;
- **Grazing schedule**
  - Temperate (lekh) pasture (Uvalui) (Turgum)= Chitra-Baisakh to Bhadra;
  - Winter pasture (Margum) (udauli) = Mansir-Paush.

(xvii). The sedentary cum transhumance grazing system of GhoksilaPokhari Gaun, Sindhuli

(Based on Perosnnel Expereinces)

The people of Ghoksila Pokhari Gaun of Baseshore VDC, Sindhuli have developed their own grazing system. They practice the kind of sedentary cum transhumance grazing system that is the representation of the indigenous grazing system widely practiced in the Midhills of Nepal. Grazing land or pasture as suchdo not exist in the Midhills. So, forests are intensively used for grazing and the sloppy and steppes grasslands not accessible for cattle grazing are used for grass/forages harvesting. Most of the villages in the Midhills and upper Midhills have their own patches of forests that are conserved from generation to generation for their basic uses of timber, firewood and grasses/ and grazing. The forests of Gokhsila Pokhari Gaun from uses point of view uses can be devided into three seperate big clusters namely Daduwa- Swara Khola; Lampate and Jagarbote; and Chakre danda[13]and the total area of these two

13 Ghoksliaa Gaun consists 10 distinct settlements: Jimmawal Tole, Jyamire , Pokhrel Tolele, Pokhare tole, Bhimthane tole and Dadhenli Tole and Dandaghar Tole and Dware Danda and Damai tole, sarki Tole and Kami tole with a total population of about 80-90 households. The Daduwa/Swara Khola forests, being close to the first four toles were allocated to use and manage the forest while Chakredanda, extending from Dware Danda to

blocks/cluster is about 200 ha. The Daduwa cluster consists of Jimarkate, Karune, Gaurikholsa, Phalnate, Daduwa, Archale, mainly by three toles, Chetpa, Jyamire, Jimmawal tole and Pokhrel tole); Swara khola (Gahate, Sarandanada, Ghaderi maqinly used by Pokhare tole), Lampate and Jagarbote (mainly used for timber and grasses (cut and carry). In addtion there are number of small pactehs of forest 2-5 ha in and around each villages which are used by the concerned villagers.

Villagers have built cattle trails and catchment pond (Ahal) in each block of forest used from grazing, which are maintained on a regular basis. Forests are generally used for grazing during the monsoon period for about 3-4 months (from Shrawan to Kartik or June /July to September/November)when there is crop on farmland. After harvesting of crop, farmlands are open for grazing till Falgun (mid March) incase of Paddy land and till the onset of pre-monsoon in Baisakh (end of April) in case of bari land. Grazing on forests is stopped during crop harvesting and processing period as most of the family members remain busy. After the harvest of crops (paddy and maize/millet and beans) and storage of grains, cattle including milking buffalo used tomove down to inner Tarai and Chure, which are rich in forage/fodder, for about three to six months (buffalo for three months Pausgh to Falgun (January to March) and cattle till the end of Ashad (June/July). The next year the grazing cycle used to restart again.

Farmers after the harvest and the storage of paddy and winter crops meet together and decide about the date of moving the herds. The place for night stay used to be at Majhuwa, Marin khola (inner Tarai located in the foot hills of Chure at the bank of river Marinkhola- one of the tributaries of Bagmati river) are set and necessary arrangements (communication to the Majhis at Maghuwa, Marin Khola and information about the condition of trails enough for buffalos to walk). After threedays the herds reach at the destination (Majhuwa of Marin khola about 20 km west to SindhuliMadi). Cattles are kept in open in the bari land of Majhi while temporary huts are made for living and keeping buffalos and their calves. The Majhiused to provide the herders certain quantity of rice (one mana per farmer -about 250 gm) formanuring their land and the herders provide them the youghurt, butter, and milk free of costs.Each farmer used to have developed a special kind of social relationship with the individual male members of the Majhi, locally known as *MitLagune* (kinship). The farmer leaves his cattle to his *'Mit'* who brings them after the end of Ashad. In return he gets Rs 2-3 /cattle and a set of new cloths as a gift.

The mobile herding was not done simply for meeting the forage deficit and protects the forests from over grazing. There were other multiple objectives.First, herds were kept in the foot hills of Chure nearby a market place, from where the midhills farmers used to sell ghee and buy salt, iron for making agriculture implements (axe, dove, sickles, knifes etc), spices, brown sugar and cloths and other basic items required for the daily uses. Second, a significant of quantity of natural fiber is required to make ropes and corals for cattle. Chure and inner Tarai being rich in Bhorlo (*Bauhinea vehlii*, locally known as *Rato pat* or *pat*) and *seto pat/udal*(*Sterculia Spp*), they have had the benefits of collecting these essential goods during that period. Another most important indirect benefit of mobile herding was cross breeding of cattle with bulls from Tarai and Inner-tarai.

After 1957-1991

This system of grazing continued to decline from Mid 1970s and completely stopped after 1985. Because with the increased access to road the Majhi at Marin khola now use chemical fertilisers, majority of forests used for grazing have been converted into cultivation land and shortage of grazing land, and majority of farmers with relatively large herds of cattle have already been migrated to Tarai. Finally the indigenous system of mobile grazing ended by the Mid 1980s.

Af**ter 1991**

With the increased plantation programme and high rate of migration of local people down to Tarai, shortage of labour, and availability of chemical fertilisers as a substitute of farmyard manure the farmers

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Sunkoshi river, were jointly used by the rest of the toles particularly for grazing, firewood and small timber (construction of goth and temporary cattle shed (Jhapro). While for construction of timber Daduwa and Swara Khola, and Lampate forests (not used for grazing) were used used for bigsized timber.

have reduced their livestock herd size significantly low. Livestock population at present is less than 2/HH while it was on an average 10-15 HH in 1960s and 1970s. Except oxen very few households have milking cows and 3-4 goats. Most interestingly population of oxen has also gone down significantly. However, households with milking buffalo have been increased as compared to the past. Nowadays they practice sedentary grazing during the winter and springs and in other seasons they are mostly stall fed. Forests that were used for grazing have already been handed over in community forests, therefore managed by forest users groups where grazing is permissible.

B. Overall Indigenous Pasture Management between 1957-1990

The Nationalization of forests and pasture and abolition of the *Birta* land and annexation of kipat land into national land tenure *Raiker* system have had little impacts on the customary practices of pasture management or grazing in Nepal. As there was no distinct indigenous system of grazing in Tarai herders continued grazing in the public land or in remaining patches of forest close their settlements. However, farmers of Midhills and mountains enjoyed their traditional system of grazing or pasture management without any hindrance from the sate till the end of 1980s. However, closure of Tibetan pasture to Nepalese herders by the government of China transhumance graziers along increased access to plains and flow of iodized salt into the hills and mountain areas changed their grazing route and salt trade of livestock and forest products. Although the existing political system provided the legal responsibilities to the chief of the Village Development Committee (then Village Panchayat), majority of position in the VDC were also taken by the chief of the indigenous institutions, no major changes were observed.

Similarly, the sheep transhumance in Humla functioned well until 1980s even after the nationalization of forests and pasture and Abolition of Birta. There were also little impacts of the Panchayat governance systems and disruption of salt trade with Tibet. Although chief of the village development committee (then Village Panchayat) and wards has taken various positions in the VDC, majority of them were also the chief of the indigenous institutions, therefore they continued their traditional system of managing pastures and forests without any hindrance.

However after the increased road networks and access to education and development of new economic frontiers (market, towns and cities, industries), and resettlement programme of the government in Tarai, majority of hill farmers migrated in Tarai and Inner tarai, a major change occurred in the grazing system. Furthermore, migration of youth to cities and urban areas for better life and their de-motivation or lack of interest to continue farming and massive plantation of the government in the Midhill under community forestry the sedentary cum transhumance pasture or grazing system converted to sedentary grazing system. However, the transhumance grazing system in the upper Midhills and mountain areas continued their indigenous practices.

C. Overall Indigenous Pasture Management after 1990

With rapid expansion of community forestry across physiographic region of the country, significant changes in the indigenous pasture or grazing management practices were observed. With the restoration of democratic government in 1990/91 majority of political persons who were mostly the chief o of the various indigenous institutions became relatively inactive and their position were taken by highly politically empowered members of various political parties. Moreover, forest users group particularly, the community forests users groups were also united and actively involved in the management of forests, special efforts were made to regulate open grazing. Gradually, sedentary practice of grazing or pasture management was replaced by stall feeding or limited to natural forests or public land in the vicinity of villages.

For transhumant herders of Humla, forests located in districts to their south, such as Bajura, Kalikot, Accham and Kailali, have been their winter grazing land. With the expansion of community forestry in these distracts (winter pasture of sheep) and ban on herding sheep in Community Forestry or levying heaving tax during the winter season, the Sheep transhumance lifestyle in Humla is at the verge of extinction. Majority of herders have already abandoned their traditional life style. By the end of 2008, of 1227 total HHs in Bragaon VDC only 30 HHs (l2.44%) have been found engaged in transhumance sheep

farming. And the size of herds on an average has reduced down to 72, with the most frequent size being 40, whereas the size of herd before 1980s was 150-500/HH.

However, the expansion of community forestry as well as protected area systems largely in the high altitude areas, the century old transhumance livestock or pasture management system is greatly disturbed and jeopardized. Winter pasture of transhumance herders being handed over to Midhills farmers without acknowledging the traditional rights of using the forests as winter pastures significant number of herders have already abandoned their life styles. Moreover, expansion of protected areas in the territories of transhumance farmers, new economic opportunities such as tourism and Hotel Business, and migration of youth to aboard and urban area for better life, number of herders adopting traditional livestock husbandry the number of farmers and size of herds have been significantly reduced. At present very few farmers of high altitude areas have adopted transhumance grazing system, the indigenous institution do exist but are loosely organized and least active. The community Forest s users group and users group or committee formed under the protected arae system has almost replaced the indigenous institutions.

3.5 Customary /Indigenous Forest and Pasture Management Practices in Tarai

(Based on Regmi, 1978; 1999; Gautam 1993: Whelpton ,2005).

Nepal was divided into many small principalities across the country, including in the Tarai region, which were usually involved in fighting with each other. The forests in the Tarai were still retained as a form of natural defensive barrier against any enemy aggression, mainly by pre-colonial Indian rulers and British invasion (Whelpton, 2005). To maintain the integrity of Tarai forests as a natural defence, royal decrees were ordered for decolonization of the Tarai in various occasions, notably in 1817, 1824 and 1826, which would ban settlements and cultivation (Gautam, 1993; Regmi, 1978).

Many places in the hills of Nepal have, without outside guidance, 'indigenous forest management'. However, information or documentation of indigenous practices of forest and pasture management in tarai is virtually absent. Review of a few available literatures (Regmi, 1978, Guneratane, 1996 and Whelpton, 2005 reveals that the Tharus of before the Unification of Nepal used to practice Bhasme/khoriya cultivation when they enjoyed the life styles of a tribe. The Tharus relied heavily on the collection of forest products such as wild fruits and vegetables and medicinal plants. Their traditional resource use included burning, medicinal plant collection, hunting deer, rabbit and wild boar, fishing, planting crops such as rice, mustard, corn, millet and lentils. They harvested a variety of species of grass; and collected wild fruits and vegetables.

After the unification, particularly during the Rana regime, the state for a longer period of time prevented them from owning forestland and practice Bhasme/khoriya cultivation. Jamandari system was enforced to collect revenue and the Amenders only protected the forests for the sake of revenue collection. Tharus were employed as non-paid watchers. Firewood was a free however, prior permission from the Jamindar was necessary for small quantity of timber for construction. For large quantity of timber they had to pay the fee fixed by the Jamindar. In addition they have to provide free labour, one person per household for work such as clearing forests to construct roads, and irrigation canals or as a agriculture labour.

Unification period (1744-1846)

By 1744 for the king of Gorkha Prithvi Narayan Shah, Tarai was the prime motivation for:

- Revenue generating resources such as elephants, herbs, timber and land;
- Timber Export Regulations of 1811 came into existence to support exports of timber to India;
- Tharus were kept to work on an unpaid and compulsory basis;

- Government administrators or agents were employed to collect taxes and revenue. government administrators or agents;
- In 1861, Jamindari system was introduced in the Tarai by the Ranas to make revenue collection work easier; and
- The Tarai people could not cultivate these lands without prior consent of the local Jamindars or without paying sufficient allocated taxes to them.

During Ranas Rule (1846-1951)

In 1846, Jung Bahadur Rana became the prime ministers of Nepal and became successful in implementing hierarchal prime ministership. To obtain the support of the British in India for their political survival, they started to exploit *sal* from Tarai forest for the expansion of the railway network in India.

- the Ranas adopted "privatization of forest" policy for their own family members in the form of *birta* and *jagir*:
- to obtain the support of the elites forests were given to religious institutions in a separate grant called *guthi* regime;
- about one third of the forestland was under *birta* tenure (with three quarters of this to Rana families);
- in 1854 he decreed that *birta* owners could cut trees on their land but *raikar* (land owned on a private basis and obtained by purchase) and *jagir* owners could not do so without permission.
- After 1918 *birta* owners were only able to cut old and dry trees without permission from the state:
- approximately 55,000 ha of forestland was reclaimed in 1897 in Kailali and Kanchanpur by 346 families:
- encouraged communities to expand their farms in the Tarai:
- community-owned woodlots were given as private property. Tharus were used as compulsory labor:
- left for cultivation by tenants. Land grants thus wiped out indigenous management practices and were detrimental to the community management of resources (BhatTarai et al 2002); and
- Land grants thus wiped out indigenous management practices (Bhattarai et al 2002).

After 1950: Nationalization of Forests

- Private forest was nationalized in 1957 through the Private Forests Nationalization Act;
- Deprived local people from the use of forest resources upon which they depended;
- New idea of settlements and cities in certain areas of the Tarai was developed;
- State agencies for supply of timber and fuel-wood came into existence. Such as The Timber Corporation of Nepal (TCN), the Fuel-wood Corporation and Forest Products Development Board;
- The state took the sole responsibility of forest protection; and
- By 1984, five national parks and wildlife reserves were established in the Tarai.

3.6. Indigenous knowledge and practices of use of forest and pasture biodiversity

Before 1957

The biodiversity contained in the forests and pasture ecosystems provide human beings a number of goods and services namely Provisioning services (direct use products such as wood, biomass and Medicinal and Aromatic Plants), Supporting services (conservation of natural habitats) Regulatory Services (regulating water cycle, natural hazard regulation, and climate regulation) and Cultural and Religious regulations (CBD, 1992). These goods and services in terms of use values are divided into two major categories: Direct use values and Indirect use value. Direct use value is further divided into

consumptive use values (goods or products that are consumed locally and do not enter into the market chain), productive use value) goods or product that are commercially harvested for exchange in formal markets. Indirect use values consists Non compute use value, options values and existence values. Non consumptive refers to all ecosystem services other than provisioning services; Option Value refers to the value of retaining options available for the future, such as yet-undiscovered new crops and medicines.Ethical or moral value or Aesthetic value refers to the value of ethical feelings for the existence of nature (McKenney and Sarker, 1994; Dlamini, 2007; Kengen199;, Campbell and Luckert 2002, Bishop, 1999; Lette and De Boo 2000).. Conventionally, in forestry for the simplicity of forest management of these various values only products having direct use values are taken into account. And they classified into two broad categories: (i) Major Forest Products (Wood/timber) and (ii) Minor or Non timber forest products. This section discusses in brief about the indigenous knowledge of forest dependent rural and indigenous people in the use of some of the selected most consumptive as well as productive services of Non timber forest products of Nepal.

In simple terms Non-timber forest products (NTFPs) are any product or service other than timber that is produced in forests including pastures. They include fruits and nuts, vegetables, fish and game, medicinal plants, resins, essences and a range of barks and fibres such as bamboo, rattans, and a host of other products. They are used for a number of purposes including but not limited to: household subsistence (food, shelter, fabric, medicines forage/fodder, and other inputs to agriculture etc) , maintenance of cultural and familial traditions, and scientific learning and income to a sources of raw materials for industries ranging from pharmaceutical companies to micro-enterprises centred upon a wide variety of activities, such as basket-making, woodcarving and the harvest and processing of various medicinal plants

Review of contemporary literature on indigenous people, their life styles and means of livelihoods reveals that almost all indigenous nationalities are environmental friendly and rich in indigenous knowledge and governed by their own social institutions. For an example the *tharus*are administered by *Badghar* system, while *Santhals*or the *Satar* community have their own strong and well defined social institution known as *Majhi Hadam* Administrative and Legal System while *Rajis* and *Rautes* are governed by *Mukhiya* system. Some have institutionalised their IK into systems such as Raniban, establishing*Bhumesthan* (A Religious sites of hill tribes) or thaan (shrines), incorporating the value of nature and biodiversity into their spiritual and cultural festive such as *Maghi (Tharus*), *bhume puja and ban devi puja*, planting trees of highly religious and medicinal value in and around temples and cultural sites and public places are some of example of respecting the nature, biodiversity conservation and handing over their knowledge to the younger generation. While other uses their knowledge in maintaining their livelihoods as a medicine, as an input to agriculture or as food materials.

Until recently use of medicinal plants and traditional healing practices were the major means health care system in Nepal of uses of medicinal. For an example the *tharus* communities uses a total of 45 different plant species of plants belonging to 31 families and 42 genera. Out of total species used for medicinal value, majority are trees (42%) followed by herb (27%), shrub (18%) and climber (13%).The Aimchi medicine system is entirely based on indigenous knowledge. Moreover, use of wild edible plants, tubers, honey, mushroom are still common in many rural areas. For an example a total of 29 wild fruits and 10 wild vegetable are often used by the Raute community.(CSVFN, 2011, Sneha, 2012). Most of the Bote and Mjahi communities of Chiwan use more than 13 herbal and frut species and 18 wild plant for vegetables. (Acharya, 2010) Similarly, a total of 198 plant (mainly wild) and 14 animal species are used in the treatment of different ailments among Kirat community of which . 130 wild plant species are used as edible fruit, curry, spices and other various livelihood purposes. The Kirat shaman an indigenous institution practicing herbal medicine using indigenous knowledge from the time immemorial (Maden et al 2008)

After 1957

No much change on their life styles were seen among many indigenous communities such as *Rajis, Bankariya, RauteThrus and Rajbansi, Bote and Majhi* till the Mid 1970s. As *Tharus, Rajnbasi and*

*Satars/Santhals*had already adopted subsistence farming and permanently settled, the other semi hunters and gathers communities such as *Rajis, Bote and Bankariya* continued their traditional life style of fishing, boating and honey hunting, and manufacturing of agricultural tools and basket and bartering with cereal with the local farmers even after changed in the political system. However, the nomadic *Raute* tribes have not changed their rigid way of life for decades. And they do not want any changes. They emphasize that they wish to remain full-time foragers and not assimilate into the surrounding fanning population (Shrestah 2015, Rana 2010).

Drastic chnages among the lifestyles of amajority of other indegenous communties have been found after the 1980s. With increse in road networks and construction of bridges over the rivers, loss of forests in their territories and resettlemnt of hill migrants, expansion of Protected area system and handover of remaining patches of forests as community forests to hill migrants and ban on fishing, honey hunting and collection of forest prodcuts, life of many other indegenous communties is in miserable condition

However, with pace of development of physical facilities such as construction of bridges over rivers, expansion of National Parks, deforestation (clear felling of forests for resettlement) and expansion of road network, they began to settle in different plain areas but along river sides of their tradtional terrotories. Thousands of forest were cleafelled and dsitrbuted to hill migrants under the government reseetlemnt programme , unfrunately Rajis could not get land because they did not like to settle down permanetly at one place and start farming but enjoy their tradtional life (Maskey 2006; Sah 2011; Thapa *et al*, 2103)).

And *Rautes* have gradually adopted to change from Nomadic to sedentary life system. For an example 333 households of *Rautes* living in two VDCs (Jogbuda and Shrisha) of Dadeldhura districts have already changed their lifestyles into sedentary farmers.(Shrestah 2015, Rana 2010) Similarly, community forests Users groups have employed a *Raute* as a forest Watched in Surkhet district (Personnel communication with DFO Surkhet Mr Shambu Prasad Chaurisiya). They are also receiving money from the government under social security scheme of the government.

3.5 Management of Non-timber Forest Products

A. Before 1957

(i) Indigenous Management of Allo Chhantyal community in Gurga Khani VDC of Myagdi
(Based on Pun, 2011 and Field Observation/expereience**)**

Chhantyal is one of the indigenous communities of Nepal. They have their own language, history, culture, religion, territory and way of living. One of the most interesting occupations in the past of this community was copper mining. They have been living at the lap of the *Mahabharat range* and at the peripheral hill area of the present *Dhaulagiri* zone of *Myagdi* and *Baglung* district. Myth and reality suggest that, this community's history is closely related to the mining occupation. However with the abdoned of mining and increases relationship with Thakali who used to supply different item of food and used to take copper for business and Magars they started the agriculture as their main occupation

Chhantyal community has been managing Allo in their own way since time immemorial. The Allo plant occurs in most of the high mountain regions of Nepal at the altitude of 1,200 and 3,000m. It is short herb about 2-3 m high, belonging to the family Urticiaceae (Deokata and Chhetri 2009) and 1200-3500 meter in elevation (Manandhar 2002). It is called Himalayan Giant Nettle in English and its scientific name is Girardinia diversifolia. Locally it carries several names: Puwa, Sisne Puwa, Allo, etc. This is categorized under Non Timber Forest Product (NTFP) and found inside and outside of the jungle. Chhantyal community calls Moin Puwa to Allo.

Simialr to other realtves the Chhnatyal community also celebrate the Maghe Sankranti for first three days of the Magh Month (first three days ofthe third week of February). On this occasion, the *Mukhiya, Jimmawal*of the village, who were called village head in the past, used to call a meeting of the villagers and decide about rules and regulation of harvesting and sale of Allo from forests. However, after te erdacation of *Mukhiysa and Jimmawal* system, the village head follows the same system and hold

meeting of the villagers during the same period and the*Katuwal (messenger of village elected by the villagers)* informed the entire villager about the decision.

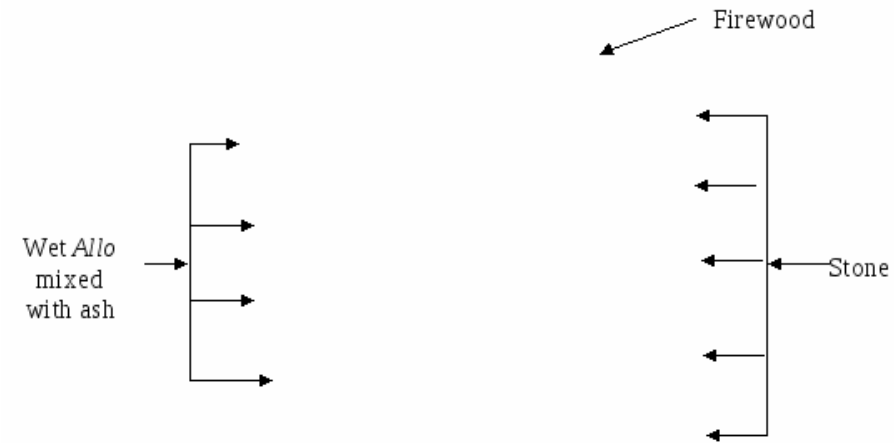
Season of harvesting.*Allo*is harvested after the celebration of the*Maghe Sankrant* by the community mostly after the after the snowfall[14]. Allo is harvested at least for five month. But rest of the seven months is its germination and grown up period. They automatically start to end the harvesting when it begins to germinate

Peeling and processing of Allo

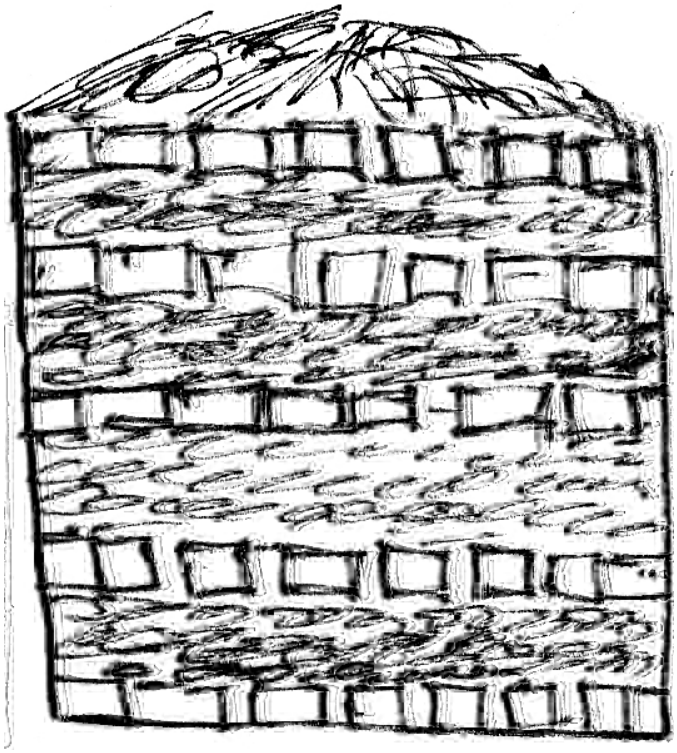
Peeling is done at forests. At first a cut is made at the top part of the *Allo*, the middle part is cracked down making it into two pieces and bark is peel up accordingly. The peeled bark is carried in bundles to the houses and stored in a safe place inside house or *goth* with proper shade. Tarpa Halne method was generally used to process the allo fiber.

Tarpa Halne Method[44]

The ancestor of Chhatnyal had developed a very typical, efficient and productive method of allo processing. They call is Harpa Halne Method. Under thsi method, a small necessary land is dugout at the side of a river or stream. They needed a special kind of flat stone which was found in the riverside. It needed much firewood and water for cooking. At first, flat stones are kept at the bottom of the pit known as K*hadal*. Then allo bark (puwa) soaked in water mixed with ash is put upon the stones and again pressed with stone. The same process is repeated again and again until the whole bark of allo is finished. The top of Khadal is covered with thick layer of soil firewood and leaf litters and a fire is set for three days. After three days the bark is disintegrated into fibers and cleaned in river. However, this traditional method of allo processing no longer exists among Chhnatayl community. Now a days they cook the bark of allo in metal vessels, and use chemical (Caustc soda) in place of ash is also in increasing trend.



14When snow falls, it makes its root soft , presses and lay down allo plants on the ground , therefore, does not need to cut down with shackle and knife. The snow also makes the stem and leaves and thorns on them soft and easy to peel barks



Common Methods of Allo Processing

Allo bark is cooked in water and ash is mixed for facilitating early decomposition of bark into fibers. Once the whole bark is decomposed into fibers, the cooked bark is then carried to the river or stream side for washing. Beating and washing go on simultaneously. The outer layer being inferior in fiber quality is removed and thus cleaned fiber is dried on the sun. The dried fiber is again mixed with a mixture of water of rice husk and maize flour and again dried on sun. After that the fiber is again washed in water. Thus cleaned and dried fiber is ready for spinning different items or making clothes. This is the most common methods adopted in most of the country.

Trade of Allo fiber

Allo fiber was on eof the major source of income after the agriculture and livestock husbandry. Fibers made from allo was used for manufacturing local costumes and accessories such as Bhangra, Kahdi, Fancho and Thailo and Jalalan and surplus fiber was used to exchange with cereal in the neighbouring villages under typical barter system known as Gharpati (and Sangina[15.]

In the process of *Allo*fiber exchange, the Chhyantal community of Myagdi had developed a kind of social relation at the surrounding villages known as *Gharpati*and*Sangina.* Exchange of allo fiber with cereals in the neigbouring Magar villages was a regular business of the Chhantyal community for which they had to stay in the village for a quite longer period. to get rid of this problem they developed a kind of social relation with owners of the household (Gharpati), where they stay for the exchnage, of fiber so that they could develop a relationship that make them easy to exchange*Allo*in the future without their presence. They used to come with allo fibre, say a few days the house of Gharpati. And if the*Allo*exchange did not finish, they used to leave remaining quantity of fiber to the Gharpati suggesting him to take responsibility

15 This is a kind of kin relation between female. They are treated as same member of the household. for an example sangina refers to relation of father mother, brother sister what they suit

for exchange. On behalf of it they used to provide allo fiber as a gift to the Gharpati. This relation still exists in the village to some extent.

Conservation of Allo.

Allo is conserved for seven months. It starts when it begins germination normally after the premonsoon shower in Mid Jestha tolast *Paus*month.The peak growing season of allo is the*Ashoj and Kartik*month and fully matured by the second week of Paush.Since then it starts flowering. If any one of the village collects within this period they are punished as a rule broker. People punished him/her holding the meeting among the villagers.

(ii) Indigenous knowledge of manufacturing Nepali Paper (Neplai Kagaj)

Since ages, Lokta[16] has been used for making varieties of products like ropes, letters, documents, manuscripts, publication of mantras, tracts and books of a religious and secular nature, festival decorations, warping papers and incense etc. It was also used as a fodder for goat and as cordage. The history of paper making as a rural based cottage industry in Nepal can be traced back to at least the 12th century A. D (HMGN, UNICEF, 1884; Jeanrenaud, 1984).

Methods of making Nepali Paper

Traditional method of papermaking is divided into three steps as follows It it is an extremely labour intensive and time consuming process. Becuase all works are carried out by hands.

Harvesting: Harvesting of bark generally follows the transhumance grazing cycle[17] and seasons i.e from the late spring to mid May (Kartik to Jestha) with two months' break in the coldest months of mid December to mid February (Paush and Magh) (Jackson, 1994).[18.] Generally, the livestock farmers, mostly the women are heavily involved in harvesting. The harvested raw bark is carried out to Goth or other station for fur further processing

Soaking and rinsing: To wash out the greasy, water soluble organic matter and to remove dirt and foreign matter a bunch of Lokta bark is soaked in water for at least six hours then ringed and repeatedly cleaned in cold water.

Pulping: At first wood ash[19] is mixed with clean water, allowed it for some to percolate and then filtered remove dirt particles and other insoluble materials. The liquor is then heated into a metal cauldron, to boiling point over a wood fire or stove then the previously soaked and cleaned bark (approximately equivalent to the quantity of liquid) is placed and boiled continuously until the bark is softened enough and ready for making pulp. The softened bark is then beaten with a mallet or stone pestle until it reduced to homogeneous dough like pulp[20.] It is then placed in another vessel containing pure water and stirred until it loses all stringiness and will spread out quite easily when shaken under water.

16An evergreen shrub species of the genera Daphne , found largely in the broad leaved temperate forests and moist confer forests of the Himalayan region of Nepal at above 1600 m to 3600 m asl Two species of Daphne :*Daphne bholua and Daphne papyracea*is are common in Nepal . The fibrous inner bark (bast) of these species is used for paper making which is widely known as Nepali Kagaj . For many rural people paper it is one of the major incomes generating NTFPs of Nepal. and handmade are popular and have high demand in international markets

17 Daphne species mostly fabour moist conifer and broad-leaved forests of the temperate Himalayan forests (Quercus, Rhododendron, Hemlock (*Tsuga demosa*) or Fir (*Abies* species Forests) Jeanrenaud, 1984 ; HMGN and UNICEF 1984; FSRO,1984) These forests extensively used by the transhumance herders

18 Until 1992 no permit from Distrct Forest Offce was required for harvesting lokta bark and however licence for manufacturing Neplai paper is given to registered firm.

19 Nowadays caustic soda is used inplace of wood ash

20Nowadays, most of the groups and companies have started to use beater machine instead

Sheet formation: A wooden frame along with a finely knitted net is placed slightly below the surface of water, and the measured amount of pulp is poured into the frame (amount of pulpdepends on the desired thickness of the paper). After agitating the pulp water mixture, theframe is gently lifted from the water, allowing excess water to run through the screen,forming the sheet of the paper. The pulp is then dried on the frame for a few days and removed after drying;

Finishing: Irregular edges can be trimmed with a sharp knife and polishing accomplished by placing the sheets in a flat board and rubbing it vigorously with a smooth stone or similar object.Each sheet is then folded and paper is usually sold in bundles of Kori (one Kori equals to 200 sheets of paper) at local markets mostly district headquarters and Kathmandu.

(iii). Traditional knowledge and practices on Bamboo and Rattan Bamboos and rattans[21] are an integral part of rural farming system as they play a critical in maintaining rural livelihoods. Until recently (before the entry of industrial synthetic or plastic products) rural life could not be imagined without bamboos. In the process, some ethnic groups in the Tarai and hills and mountains from generation to generation are/ were heavily involved in making and supplying a number of bamboo and rattan products as an major economic activities. In the process, they have developed various skills and technologies of manufacturing products as per the needs of the local communities and resources availability.

Bamboos are used in more than 293 ways in Nepal. They are used for construction of houses and huts , walling, roofing, agriculture tools and utensils such as various forms of baskets (*doko. dalo, bhakari*, fishing basket, winnow, brooms etc) and utensils and kitchen ware (drinking vessels, *tumba;* Tea sleve, spoon/fork, serving tray), various kinds of furniture's (chairs, tables, Beds Racks, Book shelf and Sofa set etc), hunting materials such as arrow and Sling (Gulali); various kinds of musical instrument (Madal, Bin, Flute, *damfu* etc, and a number of handicrafts. A total of 33 products (construction, woven, handicrafts, furniture, implements) with 86 designs, made in 293 ways in practice has been documented by DFRS. Similarly, a total of 17 products of rattan with 34 designs have also been documented by DFRS (DFRS, 2011).

Bamboo and Rattan based economic activities were an intrinsic part of both rural and urban socio-economic life of Nepal especially in the mountains areas (Karki and Karki 1996). A considerable number of poor, socially and economically disadvantaged people also known as occupational castes, mostly the indigenous nationalities is involved in bamboo and rattan crafting. Among them Pahari, Rai, Limbu, Tamang, Magar, Sarki of hill and mountain communities and Dom, Bin, Tharus, Rajbansi and Dunwar are the major ethnic groups involved bamboos and rattan crafting. Almost all Dom communities of Central Tarai region still derive their livelihoods needs from bamboo crafting (Marik, 2003 cited in DFRS, 2011)

3.6.2 Indigenous knowledge and practices of use of forest and pasture biodiversity of some other indigenous peoples

Review of contemporary literature on indigenous people, their life styles and means of livelihoods reveals that almost all indigenous nationalities are environmental friendly and rich in indigenous knowledge. Some have institutionalised their IK into systems such as Rani Van, Bhumestahn (A Religious sites) or than (shrines) while other uses their knowledge in maintaining their livelihoods as a medicine, as an input to agriculture or as food materials. Here an attempt has been made to explore the IK of uses of

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of beating by hand for pulp making

21 Bamboos (big sized bamboo or big bamboo and small bamboo locally called Nigalo and Malingo) are found both on farmlands and in the natural forests. Big bamboos now are found in limited districts of Churia hills while small bamboos are found only in the upper hills and high mountain areas. Similarly, rattan once abundant in Tarai regions, now has been confined on commercial scale in Farwestern region mainly in Kailali district of Nepal. Similarly, Malingo small bamboo bigger than Nigalo) is generally found on farmlands of upper Mid-hills (Baral, 2010; DRFS, 2011).

variousgenetic resources and biodiversity of forests and pastures by some of the indigenous nationalities of Nepal.

I. Tharus of Nepal

Representing more than 7 % of total poplation of Nepal and 15% of that of Tarai the Tharus are a culturally and linguistically diverse ethnic group of Tarai region and are also believed to be the first people to occupy the Tarai region (Meyer & Deuel, 1998). They are found in more than 14 districts spreading over from, Kanchanpur, to Japha Kalalai, Kanchanpur and Dang are three districts dominated by Tharus. After the malaria eradication in 1960s, the Tarai region became the densely populated with the immigrants from higher elevations. But, the Tharus have been maintaining their ethnic and socio-cultural practices (Bista 1967; Regmi, 1978).

The Tharu people themselves say that they are a people of the forest. They have lived in the forests for hundreds of years practicing a short fallowBhasme/khoriya cultivation. They plantrice,mustard,cornandlentils, but also collect forest products such as wild fruits, vegetables,medicinal plantsand materials to build their houses; hunt deer,rabbitandwild boar, and go fishing in the rivers and oxbow lakes (Mc Lean, 1999)

Tharus were the only inhabitants and landlords of Tarai. However, with the emergence of the Rana regime in 1846 and their birta systems of land tenure accelerated the appropriation of vast areas of Tarai. The birta holders the Rana families and their allies were mostly absentee landlords, who used the peasants (Tharus or olcal inhabitants) as tenants, and, 'subject', in order to cultivate their lands for them and to reap a substantive share of the produce. Because of low population and shortage of adequate labour for feeling trees and expansion of agriculture land , these Biratwals encouraged the migrants from hills and India to settle their and a number of institutions such as jamindars, ijara, chaudhary, parganna, etc., who by their political alliance used legal and extra legal means to appropriate lands and economic surplus in Tarai. Forests were clear felled, timber exported to India and agriculture expanded.This led to a further encroachment of Tharu terrotry/land (where they were already settled) (Perosneel experience)

In the process, the Tharus also settled down in these reclaimed lands where they were promised entitlement with security (Dhakal et.al.2000). This continued during the Panchayat regimes. As the population in Trai mostly the Naya Muluk (Dang deokhuri, Bnake, Bardiya, Kaliali and Knachanpur) was very low, The jamindars and landlords developed another most exploitative system of using poor Thaurs as a bonded labour known as Kamaiya system to solve the probles farm labour. However, the democratic government outlawed the Kamaysa system in 2000 by that time majority of Tharus had already become landless in their own terriotories once they were the landlords (Perosneel experience)

Social Institutions

Tharus from the mid west and far west of Nepal have been practicing the *Badghar*system, where a *Badghar* is elected chief of a village or a small group of villages for a year. The election generally takes place in the month of Magh (January/February), after celebrating the*Maghi Festival (the first day of the Month Magh)*and after completing major farming activities. In most cases, each household in the village which engages in farming has one voting right for electing a*Badghar*. Thus the election is based on a count of households count rather than a headcount. The role of the*Badghar*is to work for the welfare of the village. The*Badghar*direct the villagers to repair canals or streets when needed. They also oversee and manage the cultural traditions of the villages. They have an authority of punishing those who do not follow their orders or who go against the welfare of the village. Generally the*Badghar*has a Chaukidar to help him. With the consent of the villagers the*Badghar*may appoint a"Guruwa" who is the medic and chief priest of the village (Kaauskopff, 1995).

Traditional healing practice of Tharu Community

Tharu community has developed their own unique system of using plants for medicinal uses. The ethnic communities have significant customary knowledge on utilization of plant and plant parts and there is a long tradition of transferring this indigenous knowledge from generation to generation. Altogether 45 different plant species of plants belonging to 31 families and 42 genera were documented and majority of them are trees. In terms of plant and plant parts use, seed or fruits and leaf are in top priorities. . Out of total species used for medicinal value, majority are trees (42%) followed by herb (27%), shrub (18%) and climber (13%). These plants are used to treat different ailments ranging from gastro-intestinal to headache and fever, respiratory tract related problems to dermatological problems, snake bite to ophthalmic and cuts and wounds(Tahap, 2001; Acharya and Acharya, 2009).

II. Bankariyas of Nepal

(Based on Bista, 1967; and Regmi, 1978, Shrees Magar, 2007; Thapa et al, 2013)

Bankariya are environment-friendly nationality of Nepal and their livelihoods was/is entirely based on land/ forest resources. Knowledge on medicinal herbs seems to be rich among the Bankariya people and use medical herbs for\the treatment of diseases of both human (from a simple fever to Jaundice and fracture) and livestock (from indigestion, diarrhoea and dysenteryto fractureand and foot and mouth disease such as - khorat) control pest in agricultural crops. Their knowledge on food biota (food grains, wild edible plants and fruits) is rich. They are also rich in wood and bamboo crafting and making agricultural implements and tools such plough and joke and various types of bamboo baskets.

Bankariyas are equally very sensitive to biodiversity conservation. They perceive that *bandevi* (forest goddess) reside on the trees) while water sourcess are the home of *Jaldevi(*the *goddes of water)* . *Establishing thaan (shrines) o*n the roots of the large trees in a forests and conserving vegetation and prohibition of uses of any kind of bioresources in and around the thaan and water resources, plantation and conservation bar (*Ficus bengalensis*) and *peepal* (*Ficus religiosa*) within the compound of their deities reveals their cocnrens of biodvetrsity and water source conservation

III. The Santhals's Majhi Hadam Adminstartve and Legal Systems

(Based on Bista, 1967; Regmi, 1978; Tumbahanfe, 2012)

Santhal is an inhabitant group of eastern Tarai. They have different culture, tradition, religion, languages and identity than the other groups. They are highly marginalized group in the context of facilities provided by the society and the country. Most of them live far away from towns and markets surrounding the periphery of forests.

Traditionally this community was relying on hunting and fishing as their livelihood however the modernization of the society and geo-political changes forced them to shift into other occupation mainly working as daily wage laborer in agriculture, tea garden and other areas.

Santhals were expert in cutting trees and clearing the forest. So the hill people used to use this group to deforest this area. The land occupied by this community is also handed over to this group. Therefore the trees cutting group became landless in this area.

The Santhals's Majhi Hadam Legal System

Santhals have different types of traditional adminstatrve and legal justice system known as Majhi Hadam Legal System. The Majhi Hadam is the chief of the village council elected among the most reputed fair elderly person of the community through consensuses. Village council is the institution that settles all the disputes of the villages. Majhi Hadam looks after the overall administrative and legal systems related to maintain the law and order of the community and their the overall well being .He is assisted by a number of institutions comprising persons from various disciplines such as Paranik, Jagmanjhi, Jagparanik, Naike, Gudit, etc (Box 3) , who work in their respective fields to solve various kinds of problems.

The snathals had a very decentralized judiciary systems. There are three stages of justice system in traditional Santhal community. The first court is known as court of Majhi Hadam which is infact is the village council itself. As per their traditionwomen are not illegible to hold any social posts and participate in the meeting all male household heads participate and act as judge. Cases such as moral sexual offence and other problem of the village are settled in it. In the assembly, the prosecutor comes forward and explains the case to all present there and then the defendant is also given a chance to express to all. Then the assembly will find out who is guilty and what punishment should be given to him. The final words are from the Manjhi hadham. The second is the court of. Desha Majhi established to deal with the cases when Majhi Hadam court fails to solve the dispute and give decision. Finally, the third is Lobir known as the supreme court of traditional Santhal community and delas the cases when both the lower courts fail to give justice to the victims after an appeal from the victims or abused person. Such court is settled in the jungle. Dehari a person in the scoiety havinf devine power manages the court. And the he decision given by the Dehari becomes finale and the abused person cannot appeal in other court after his decision

Box : Traditional Institutions of Santhal Community

Majhi Hadam is a head of the village. He is the chief of the executive, judicial and all other functions within society.

Paranik: The principal assistant to *Majhi* and representative of *Majhi*. If Majhi dies without any male issues or brothers, then *paranik* will get the office in charge

Jog Majhi: The superintendent of the youth of the village and deals withy youth issues such as wedding ceremonies and arrangement of festival and dances.

Jog Paranik: An institution created to run their traditional customs and traditions.

Godit: The secretary to Majhi Hadam and work as a messenger.

Naeke (head village priest) : The head of village priest responsible for organising rituals and common festivals

Kudum naeke (Assitant to village priest): An assistant of the head priest in the village. Specially, his duty is to take care of the domestic animals of the village.

Desh Majhi Prganna. Appellate court of Santhal community

Lobir: Lobir is known as the supreme court of Santhal community

IV. Yadav of Nepal

The Yadav are a caste comprising of milkmen, cowherds, cattle breeders and laborers. Their traditional occupation is animal husbandry and selling its products. The Yadav consist of both landowning and landless people (Bista, 1967).

V. DOM Traditional Occupation

The Dom is considered the lowest untouchable caste groups of the Tarai. Making a variety of baskets from the bamboo, grave digging, cremating dead bodies is their traditional occupation and main source of earning a livelihood. Nowadays young Doms like to do work as a sweeper in GOs, NGOs, or INGOs and some of them are working as a sweeper in GO (Bista, 1967).

VII. Amchi Medicine

(Based on Gewali, 2008)

Transmitted from India to Tibet between the 7th and 12th centuries, during the first and second dissemination of Buddhism In general, amchi medical practice is also identified by the name sowa rigpa, The term sowa rigpa which means “science of healing” in classical Tibetan as well as in regional Himalayan and Central Asian languages and dialects. The word amchi means “doctor.” This system of medicine is a spiritual practice, a science, and an art that dates back thousands of years. Historically, amchi would begin their medical training at an early age. Their knowledge andskills have been transferred

from teacher to student, often from father to son. Thus, lineages of amchi families exist throughout the Tibetan cultural worl.Wwhile this sytems of medcine is common remote high altitude areas of Nepal, including those from the districts of Dolpa, Mustang, Gorkha, Sinduwapalchowk Mugu, and Humla. Amchi possess a great deal of knowledge about the use, trade, history, and current situations of medicinal plants, from lowland species to the highaltitude species found in Nepal

Review of contemporary literature on indigenous people, their life styles and means of livelihoods reveals that almost allindigenous nationalities are environmental friendly and rich in indigenous knowledge. Some have institutionalised their IK into systems such as Rani Van, Bhumestahn (A Religious sites) or than (shrines) while other uses their knowledge in maintaining their livelihoods as a medicine, as an input to agriculture or as food materials. Here an attempt has been made to explore the IK of using various forest resources by some of the indigenous nationalities of Nepal.

VIII. Rajis of Nepal

Raji is one of the endangered indigenous tribe of Nepal. From the very beginning, settlements of the Rajis have been found on the river banks of Karnali, Bheri, Babai, Rapti and Seti rivers nearby the jungle. In the past they were nomandic groups like Rautes, who used to move from one place to another in search of wild animals, fish, wild yams and fruits. In the past they were nomandic groups like Rautes, who used to move from one place to another in search of wild animals, fish, wild yams and fruits. Rajis have their own languages (without script) and ethnic identification – specifically in term of festivals, dress, dance, deities and life cycle rites. Hunting, fishing, honey-hunting, and ferrying were there traditional occupations (Maskey 2006, Sah 2011)

Similar to other indigenous nationalities Rajis are also rich in IK, particularly that relating to the use of biodiversity. The Rajis use a wide variety of natural resource and they have deep love of nature. These communities manage the environment as an integrate system rather than separate ecosystem. A total of 43 species of 40 genera and 29 families were recorded as medicinal plants used traditionally by indigenous Raji people of Nepal for treatment of gastrointestinal disorders. Raji are also skillful in term of art, craft and technology (Thapa *et al*, 2013). They are expert in boat making and rowing. and making agriculture tools and equipment such as various types bamboo baskets (Doko, dalo, Bhakari, Naglo etc). The 'V' shaped plough (halo) and leveler (Dande) of Rajis are some of typical instrument developed by Rajis.. Furthermore, they were not farmers but they have their own system of maintaining soil fertility, irrigation and moisture conservation practices and managing agricultural paste and diseases (Maskey 2006). The Rajis are expert in honey-hunting. They collect honey from the wild bees. They have their own equippments and dresses for honey-hunting. They also like honey very much.

Between 1957-1990/91

No much change on their life styles were seen among Raji Communities during end of 1970s. They did not give up their tradition occupations of fishing, boating and honey hunting. Wild edible plants were their major sources of foods and nutrients. Manufacturing of agricultural tools and basket and bartering with cereal with the local farmers were enough to maintain a living However, with pace of development of physical facilities such as construction of bridges over rivers, expansion of National Parks, deforestation (clear felling of forests for resettlement) and expansion of road network, they began to settle in different plain areas but along river sides of their tradtional terrotories. Thousands of forest were cleafelled and dsitrbuted to hill migrants under the government reseetlemnt programme , unfrunately Rajis could not get land because they did not like to settle down permanetly at one place and start farming but enjoy their tradtional life (Maskey 2006; Sah 2011; Thapa et al, 2103)).

After 1990

With increse in road networks and construction of bridges over the rivers, loss of forests in their territories and resettlemnt of hill migrants , expansion of Protected area system and handover of remaining patches of forests as community forests to hill migrants and ban on fishing, honey hunting and collection of forest prodcuts, life of Rajis communities is in miserable condition. They are living below the poverty line. They do not have lands for cultivation, therfore, they are earning their breads by working as labourers and farmworkers and some people go to the cities or to neighbouring country, India in search of work while afe are still derve their livelihoods from fishing. In summary, their indegenous knowldge of managinf natural resource is almost vansihed and their tradtional lifestyles and idettity is in enedgangered.

VIII. **Raute the last the last hunter-gatherers,tribes of Nepal**

Raute are a nomadic ethnic group officially recognized by the Government of Nepal. They roam around the thick hilly forest of **Dailekh, Jajarkot, Surkhet, Salyan, Kalikot, Achham, Jumla, Darchula, Baitadi** districts.. They speak a Tibeto-Burman language called Khamchi but generally tend to converse in Nepali. They love, respect and duty towards kids, ladies, old members and leaders. Socialism is very strong in this community and they feel proud on their way of living. They donot drink water of canal, drink water of only origin, not waster time by gossiping and chatting, not collect money, not speak forgery, not cheat, not look behind while walking straightly from one place are features of Rautes. Axe and Basila (to cut small wood) are their main equipments. They cut trees of Tuni, Khirro and Simal and make pot like saw, trunk and sell and live their life (CSVFN, 2011)

They are known especially for their hunting of langur and macaque monkeys for subsistence. The hunt for monkeys is an important part of Raute life, and their traditional hunting technique is spectacular (box 4) Other male activities are the production of the wood utensils such as chests, trays and bowls which they barter in the neighbouring villages in exchange for food grains iron, cloth, and jewellery. And when they come back with their earnings from the village, their earnings are collected in front of their chief (Mukhiya), afterward everything is equally shared in the community.(Bista, 1967; Rana, 2010; Sneha, 2012, Shrestha, 2015)

They use wood from making various types of utensils but they just cut a part of the tree and leave the rest of it alive. They also gather wild forest tubers, fruits, and greens on a regular basis. A total of 29 wild species of fruits and 10 wild vegetables have been recorded. Collection of wild fruits and edible plants is done by women. They do no gardening, farming, or work for others as tenants or wage labourers nor they sell, bushmeat, wood and other non wood forest products such as medicinal and aromatic plants (Rana, 2010; Sneha, 2012).

Depending on the location and available resources, they stay at one place between one week and one month before they leave and return in the same place for 12 to 15 years. Upon departing they set fire to their huts (made of out of leafs, branches and pieces of old clothes that melt with the dense semi tropical jungle), burning them to the ground. But they never set fire to the jungle itself(Rana, 2010; Sneha, 2012).

Rautes are administered by the Mukhiya, the chief of their community elected among the senior most aged male raute through consensus by the community. The Mukhiy's major roles and duties are social security of their community, meeting with outsiders, and setting date for next move, resolving disputes among the individuals and organising cultural ceremonies and festivals. Knowledge of how to live successfully in Raute society is passed on through stories and oral histories (Rana, 2010; Sneha, 2012).

1957-1990

The nomadic Raute tribes have not changed their rigid way of life for decades. And they do not want any changes. They emphasize that they wish to remain full-time foragers and not assimilate into the surrounding fanning population.

Box4 : Methods of hunting monkeys

The hunt for monkeys is an important part of Raute life, and their traditional hunting technique is spectacular. When a group of monkeys are spotted in the jungle, they quickly go to the place. Then, they pray before they hunt. To trap the monkeys, they put nets on the ground under the trees where the monkeys dwell and surround the area. The Rautes make a loud sound to scare the monkeys, who leave their trees and get caught in the nets on the ground. Hunting takes about one third of their total time

Source; Sneha, 2012.

After 1990

No signfciant chnages, excpet chnage in their population, have been observed in the lifestyles of Ruates even after the drastic chnages in socio-politcal systems of the country. Population of Rautes has declined from 2,878 in 1992 AD to 128 in 2011 (Suprabha, 2011). Rautes have continued largely their life styles. However, with handover of forrests in their territories as community forests to local communiies and loss of msot of forests in the foot hills of Chure and Midhill or the innter Tarai , and uses of industrial plastic and metal utensil such as boxes , bowls etc for grain storage, exchnage of wooden utensil with grains has been serously disturbed. Nowa days, very few farmers do exchnage food grains with their wooden untesil. Morever, CF users groups have put ban on feeling treees for making wooden utensil and also using small poles and brudhwood fro making their temoprary huts in forests.

Known to be nomadic, Rautes never resorted to any commercial activities for livelihood. But with increased awareness, access to education health and other income generating activities initiated by a number of development agencies, government and local NGOs along with increasing deforestation and restriction of using their traditional territories by the the community forest authorities , the Rautes, feeling no longer safe and secured in the jorests have started to migrate from the woods to human settlements in pursuit of a better life.

Rautes have gradually adopted to change from Nomadic to sedentary life system. For an example 333 households of Rautes living in two VDCs (Jogbuda and Shrisha) of Dadeldhura districts have already changed their lifestyles into sedentary farmers. They live now on 1.5 ha of forest land provided by the government for their residence (Rana 2010). Now they derive their livelihoods from daily wages (agriculture) sand and stone quarrying, skilled labor such as carpentry, masonry and fishing (including weaving fish nets), A group of 61 Raute, have started vegetables farming, planting fruit trees such as mango and banana and a few them have also involved in commercial vegetable farming (Shretsha 2015).

Fish smoking and bamboo products and vegetable are the major micro enterprises products of Rautes that have already entered itn the local market. They have also started keeping small livestock such as goats and cows. They have formed groups for enterprise development and have been involved in number of micro-enterprises such as vegetable farming, goat farming, and skilled based income generating activities such as carpentry and masonry. They have been organised into groups and formed an Association named Nepal Development Association which is also affiliated with NIFIN (Shrestah 2015, Rana 2010) Similarly, community forests Users groups have employed a Raute as a forest Watched in Surkhet district (Personnel communication with DFO Surkhet Mr Shambu Prasad Cahurisiya). They are also receiving money from the government under social security fund.

IX. Rajbansi of Nepal

The Rajbanshi people of Nepal can be found predominantly within the Jhapa and Morang districts in the southeastern corner of the country. The Rajbanshi society is patriarchal, the father is the head of the household and the sole authority and everyone act according to his/her (father's) directions"(Gautam 1994:178).

Although the Rajbanshi are, for the most part, agriculturalists and pastoralists (Epple et al, 2001) their indigenous systems of managing forest and pasture are not found documented by any contemporary literatures related to them. As they live in the Jhapa and Morang, their indigenous system of managing forests and pasture must have also been lost along with the rapid loss of forests in these two dsiticts during the 70s and 80s. However, they are rich in indigenous knowledge of using medicinal and armaotc plants for the treatment of a number of diseases including fracture. A total of 117 species of angiospermic plants with ethnobotanical values, used by Rajbansi and Dhimal ethnic groups of Jhapa and Morang Districts (Shiwakoti *et al*, 2005)

Annex IV: Time line of landuse and forest policy and impacts on customary institutions and land management practices

Time period	Major Policy (Land, forest and pasture)	Effects/Outcomes
I. Before 1957		
(i) Pre-unification of Nepal before 1768	Natural resources were considered inalienable communal property governed by customary laws. Indigenous peoples having autonomous governance systems;	Natural resources (agriculture, forests pastures, water sources mines and whole landscapes) were managed under communal resource management.
1846 to 1951 (Rana Regime)	Landuse policy provisioned by Civil Code Acts 1854. . Two systems major land tenure Raikar (state owned with alienable land rights) and Kipat (communal with inalienable rights; Organisations/institutions such as *Ban janch, Kath Mahal*, Eastern and Western Wings were established before 1939. The Department of Forests was established in 1942 followed by promulgation of Forest service Acts in 1943 and forest organisations (Circles and Ranges) were established in Tarai,	Except Kipat of EDR (Limbus and Rais) all communal lands (kipat) were abolished and annexed into Raiker and Guthi. New local institutional arrangements namely Jimmawal and Mukhiyas were introduced as representatives of the state weakening the century old customary institutions and laws. The Kipat system of the Kiranti Community remained unaffected except change in the name of the customary institutions (Subbas were nominated as Jimmawals and Mukhiyas or and Pagari subbas) Natural resources were converted into private and state property. Large area of forests in Tarai and pasture of the High mountains and forests were also given to the kins and local elites under the Birta tenure. Major emphasis was given to clear fell the Tarai forests and convert them into agriculture land and export timber to India for revenue.
Interim democracy period (1951-1960)	Nationalisation of forests in 1957 and Abolition of Birta land in 1959. Ministry of Forests was established in 1959 and forest organisations in the regions and districts to fill the institutional gaps, giving top priority to forests of Tarai were also expanded accordingly	More than one third of forests and agriculture land was under Birta tenure with governingfeudal system. All forests were nationalized in 1957 and abolished Birta land in 1959. All customary institutions of forest management (in the hills and mountains) that were functional in many cases seriously weakened and in some area paralysed.
II. Panchayat Period 1961-1991		
Forest Acts and Regulation 1961 (2018); Special Forest Acts and Regulation 1967 (2024)	The Acts and regulation provided the legal measurers to protect forests and sanction forest offenders. Role of people in the management of and utilisation of the forest was not acknowledged; Forest Officials were considered as the custodians of forest resources.	A period of classical forestry; i.e. a command and control approach of forest management. Efforts were made to expand government organisation throughout the country and demarcate government forests, but could not complete. Much emphasis was given to manage the forests of Tarai. In the hills and mountain customary institutions continued their system of forest and pasture management. Villages (Midhills and inner-Tarai (valleys) where indigenous system was not in practice also established their own system of forest management.
Land Reform Act 1964 and Land	The Acts recognised only two types land tenure systems: raiker (State and privately own lands)	The Acts abolished the century old Kipat system of the EDR and annexed in to Raiker. The feudal local institutions Jimmawal and Mukhiyas were also abolished

Administration Acts 1967	and Guthi; and abolished Kipat and other sub-tenancies;	Cadastarl survey and land registration initiated. However, most of the famers could not registered all Kipat lands, particularly those plots that were under fallow forests, therefore were surveyed and recorded as national forests. The role of the customary institutions (Jimmawal, Mukhiyas and Subbas etc) were taken by the chief of the new political local bodies (The Pardan Panch and ward chief). Customary laws continued in many areas as usual in informal way.
Pasture Nationalisation Policy 1974	Pasturelands of Nepal irrespective of various landuse system all were nationalised and put under direct state control	Grazing land/pasturelands of Tarai were mostly distributed by the government under its resettlement programme whereas the pasturelands in the hills and mountains despite nationalisation of the pasture, the customary institutions continued to exercise their customary rights and mange the pasturelands. No significant impacts were observed during this period on pasturelands.
Wildlife Protection Acts 1972 and Wildlife Conservation Acts 1973 and their Regulations	Provides full authority to the state to declare National Parks, Wildlife Reserves and conservation areas in any part of the country without prior consent of the local communities.	A number of National parks, wildlife reserves and conservation Area were established largely on the ancestral areas of indigenous peoples (Tarai and High mountains). Significant number of indigenous and local people were displaced from National parks and Wildlife reserves and resettled in entirely new areas. Restriction imposed on many customary practices. The conservation area adopted participatory approach of conservation but did not recognise the customary institutions and their laws giving priority to form new institutions and new interventions (tourism and community development). High rate of deforestation was observed in the Midhills..
National Forest Development Policy/plan 1976	Respected and recognised the roles of local people in forest resource management.	Laid strong foundation for community based forestry and revision of Forest Acts and Regulation 1961/1967 in 1978. The new forest policy encouraged many customary institutions of the Midhills that had remained passive to reactivate and participate to restore and conserve forests through plantation and protection.
The Master Plan for forestry Sector 1987	A long-term (25 years) decentralised and participatory development plan of the forestry sector with well defined priority programme, implementation proposals and investment needs	Institutionalised "Community forestry" and "Participatory Protected Area Management system". Laid strong foundation for the new Forest Acts 1993 and Regulations 1995, restructuring of forest sector and people centred of approaches of forest planning and service delivery. However, the plan was silent about the various pertaining issues of indigenous people.
National Conservation Strategy 1988	Provides a holistic framework of managing natural resources of Nepal in line with the principles of sustainable development developed by WCED, 1987	Respected and recognised the indigenous knowledge of indigenous peoples on natural resources management;
III. Multiparty democracy 1990-2006		
New Forest Acts 1993 and Regulations 1995	Provides a comprehensive decentralised framework of managing National forests outside Protected Areas System and sanction forest offenders. The Acts and Regulation is silent about	Community forestry expanded rapidly at first in the Midhills and then gradually to Tarai and High Mountains and comprises about one third area (33%) of national forests and about 40% of total government managed forests. Deforestation in the Midhills checked and forests in terms of area coverage and productivity increased. CFs

	Indigenous people and their customary practices The Acts recognised community Forest Users groups an autonomous body for managing and utilisation of community forests	where users and forest operational plans have been prepared in line with the norms, rules and regulation established by the customary institutions and practices. However, expansion of CF in high mountain areas undermined customary laws, institutions and practices resulting into severe socio-economic and ecological conflicts. Exclusion of distant users in CFs in majority of Tarai region has restricted the access of forests to the Madeshi communities who live far away from the forests.
Buffer Zone Management Regulation 1996	This provides legal procedures to declare area (national forests as well as other landuses along with settlements) in and around a National Parks and Wildlife Reserves as a buffer zone	Majority of settlement of indigenous peoples, their cultivated lands and remaining patches of forests and village pasture fell under the new category of protected areas system. The regulations introduced the concept of Buffer Zone Community forestry and provide 30-50% of total revenue generated from the park to state sponsored institution/s called Buffer Zone Management Committee/s. Access to forest resources is strongly regulated by the park authorities and limited to basic uses. Customary institutions are often ignored but seek their cooperation and support when the park authority fails to address the socio-cultural issues and pressure to park resource and wildlife hunting/poaching resources
National Parks , Wild life Reserves and Conservation Areas Regulations (1991 till to date)	There exists a number of a separate regulation for each of the National Park and Conservation Area established after 1991which provides legal measures to govern wildlife, protected area management including tourism and mobilise revenue or income generated and sanction offenders	Protected Management Areas have been expanded significantly from 8.44% before 1990 to more than 23 % of total land area of Nepal and more than 17% of total National forests. More than 45% of high altitude areas, the home of indigenous people and indigenous forest management system now fall under protected areas management system. A few Protected Areas system have given some space to customary institutions at local level decision making process otherwise the state sponsored institutions largely represent the local communities. Access to park and rights to use park resources in majority of Protected Areas as given by the customary laws (such as practicing Bhasme/khoriya cultivation, transhumance grazing) are often prohibited, however, a small quantity of wood for timber and firewood and leaf litter and regulated transhumance grazing and collection of NTFPs for commercial purposes (which was strictly prohibited by the customary laws) taking prior permit (obtained upon the payment of revenue) from the PA Authorities is permissible.
Forestry Sector Policy of 2000	Guided by the objectives of basic needs satisfaction, sustainable utilization of forestry resources, participation of people in decision making and socio-economic development the policy provides strategic framework for the participatory commercial management of Tarai forests and address the issues of distant users.	The policy introduced another form of community based forestry known as Collaborative Forest Management. Collaborative forestry became the major forestry sector programme in the Tarai while hand over of community forests and harvesting wood from CFs was restricted.
Nepal Biodiversity Strategy 2002	The strategy provided strategic options for the conservation of biological resources of the	The strategy has fully acknowledged IPs and their knowledge's of managing biological resources and strongly recommends to provide optimum benefit to local

	country	indigenous communities
Leasehold Forestry Policy 2003	The policy clarifies and simplifies the process of handing over of institutional/corporate leasehold forestry and Group/pro-poor leasehold forestry	Defines potential leasehold forests, simplifies handover process and emphasizes to integrate the programme with other community development programme of the government. The policy has clearly identfied the indigenous people (poor and marginalised)as one of the potential bona-fide users of the leasehold forestry but it remained silent about the issue of costmary land tenure.
National Foundation for Development of Indigenous Nationalities (NFDIN) Act 2002	The Act provides a legal framework for the social, economic and cultural development of the indigenous peoples of Nepal	The act defined indigenous peoples of Nepal and aims to protect promote language and culture of indigenous peoples and mainstream the IPs in national development. The act also aims to conserve and promote their indigenous/traditional knowledge's. The Act provides the IPs to organise and federate into foundation or association. The IPs have been united into various organisations at the national level. An umbrella national level autonomous organisation known as Nepal Federation of Indigenous Nationalities (NIFIN) has been established. A number of acts, regulations and ordinances developed which provide special provisions to indigenous peoples in education, civil services policy services, and constituent assembly. Similarly, IPs that fall under the highly endangered group such as *Raute, Hayu* have also been covered under the Social security programme of the government.
The Ninth (1997-2002) and Tenth Five Year Plans (2002-07)	Both periodic plans had acknowledged the role of indigenous people in Natural resource management and national development	A National Committee for Development of Nationalities was established in 1996. Various awareness raising, research on their cultural heritages, capacity enhancement programme were launched that were aimed at eliminating existing social disparities, conserving their culture and indigenous knowledge and mainstreaming them in the nation building. This plan laid a strong foundation to develop a separate national Acts of Indigenous People The Tenth Five Year Plan (2002-'07) continued to protect, promote and utilise the traditional skills, technology and special information (knowledge) of indigenous nationalities.
IV. After 2006: Federal Democratic Republic of Nepal		
The Interim Constitution 2007	The Interim Constitution 2007 has emphasized for sustainable use of forest, vegetation and biodiversity and equitable distribution of forests benefits.	The constitution has made several special provisions to safeguard and promote the rights and interest of different sectors of the country, IPs and ethnic groups and sates that 'the state shall pursue a policy regarding indigenous knowledge, skill and practices existing in the country.
Three year interim plans (2007-2010; 2011-2013 and 2014-2016)	The various periodic development plans (from tenth to recent three year plan (2014-2016) have given due consideration to the issues of the IPs and have various plans and programmes for their overall development.	The plans emphasize to maintain forest cover by 40% of total land area by combating deforestation and forest degradation through community based forestry and bringing forests resources under the broad framework of sustainable forest management and pro-poor benefits sharing mechanism. The plans have not explicitly specified the concerns of the indigenous peoples in the forestry sector plans though commits to support poor indigenous peoples , documentation of indigenous knowledge and their optimal use in the management of forests resources including biodiversity and watershed management.

The National Rangelandpolicy, 2012	A national policy for the first time provides strategic options/actions for the management and conservation ofrangeland resources	Although the policy highlights importance of rangelands, analyse the existing issues and stresses for holistic rangelands management, it is almost silent about the century old indigenous pasture/rangelands management systems and the roles played by the IPs in managing the forests and pasture of Nepal.
Nepal Biodiversity Strategy and Action Plan (2014-2020)	It provides a strategic a framework for management of biodiversity at the local level for the period 2015-2020. especially design to meet the Aichi Target 2020	The NBSAP 2014 respects and ensures local and indigenous peoples' legitimate rights over resources and emphasise to indigenous traditional knowledge, skills and practices for conservation and use of biodiversity including agro biodiversity. It has proposed a number of strategic actions for their capacity building, social empowerment and livelihoods improvement.
Draft Forest Sector Strategy (FSS) 2014	Envisions to optimise the potential of forest ecosystems, biodiversity and watershed for people's prosperity. The strategy provides a detailed decentralised, practical, cost effective and site specific strategic guidance on seven thematic areas for addressing the contemporary issues of the forestry sectors.	The FSS (draft) 2014 recognises and respects the traditional and customary use-rights and needs of vulnerable groups including minority *janajati* groups (IPs) (such as *chepangs* and *rautes)*, transhumant graziers of the high altitude areas and in all modalities of forest management; it also proposestheir proportional inclusion and representation at all levels of leadership and decision-making processes forests resource management.
Revised Community Forestry operational Guidelines 2014	Provides a detailed framework with well defined phases from identifying forest users group to preparation of forests operational plans and handover of forests to the local community or forest users groups	Defines various categories of users including indigenous peoples and provides guidelines for their identification. Acknowledges indigenous knowledge and management practices of indigenous peoples and local people and stresses to incorporate them into operational plans; Provides a clear cut guideless for distribution of income from community forestry in favour of poor women and marginalised community including the indigenous peoples. Strongly recommends to revisit FUGs constitutions and their forest operation plans in line with the revised guidelines.
Forest policy 2015	The policy aims to contribute significantly to prosperity of the nation and livelihoods improvement of the poor and marginalised forest dependent people through sustainable management of forest resources and provides an overall strategic framework for managing forest resources of Nepal	Emphasises developing pro-poor benefits sharing codes and ensures access, use and benefits/incomes of forests to poor and marginalized. Emphasise documentation of indigenous knowledge and mainstreaming them into forest resource management, capacity of poor marginalised, women *dalits* and indigenous peoples to increase their access to economic and income generation activities required for their livelihoods improvement.
REDD + Strategy (draft) 2015	A REDD + national policy instrument that provides detailed strategic options for implementing REDD + initiatives in the country	The draft strategy has recognised and respected the indigenous knowledge and customary practices of managing forest resources and has strongly recommended a set of social and environmental safeguards with clearly defined strategies focussing on land tenure, carbon rights and ensure fair and just REDD + benefits sharing mechanism, and representation of indigenous peoples in various institutional arrangements.
International policy and Legal instruments of	International policy instruments that are fundamental to forests/pasture and biodiversity	With the advent of these policy and legal instrument in the last two decades , particularly after the UNCED/CBD, 1992, the recognition of the need to respect, preserve and

lands (forests/pasture) biodiversity, and other NRs Environmental management and Development and Climate Change (Indigenous and Tribal Peoples Convention 1989 (No. 169, CBD, 1992,	conservation and Indigenous peoples and Climate change are WCED, 1987; the ILO 169, 1989; Forest Principles of the UNCED, 1992, CBD,1992 ; ITTO Guidelines on Tropical Forests, 1992 and Biological diversity criteria ,1996 UN REDD Safeguards, The UNFCCC, 2010 (REDD+ Safeguards and the Cancun Agreements). All these international policy and instrument have addressed the issues/concerns of forest dependent people, women and vulnerable groups and indigenous people with respect to forests resources management, biodiversity conservation and REDD + activities and benefits distribution system.	maintain knowledge, innovations and practices of indigenous and local communities embodying the traditional lifestyles relevant for the conservation and sustainable use of biological diversity has received due respect and consideration. To these the UNFCC (2010) has further elaborated the values and roles of IPs and their system of natural resources in REDD + suggesting special provisions in national REDD + policy and legal instruments to safeguards the rights, concerns, values systems of IPs and local people regarding land, forests and biodiversity conservation and management. National policy and legal frameworks of Nepal particular on forest, biodiversity and REDD+ have been developed with due consideration of these international obligations and commitments.

Annex V: List of workshop interaction meetings participants and other person contacted

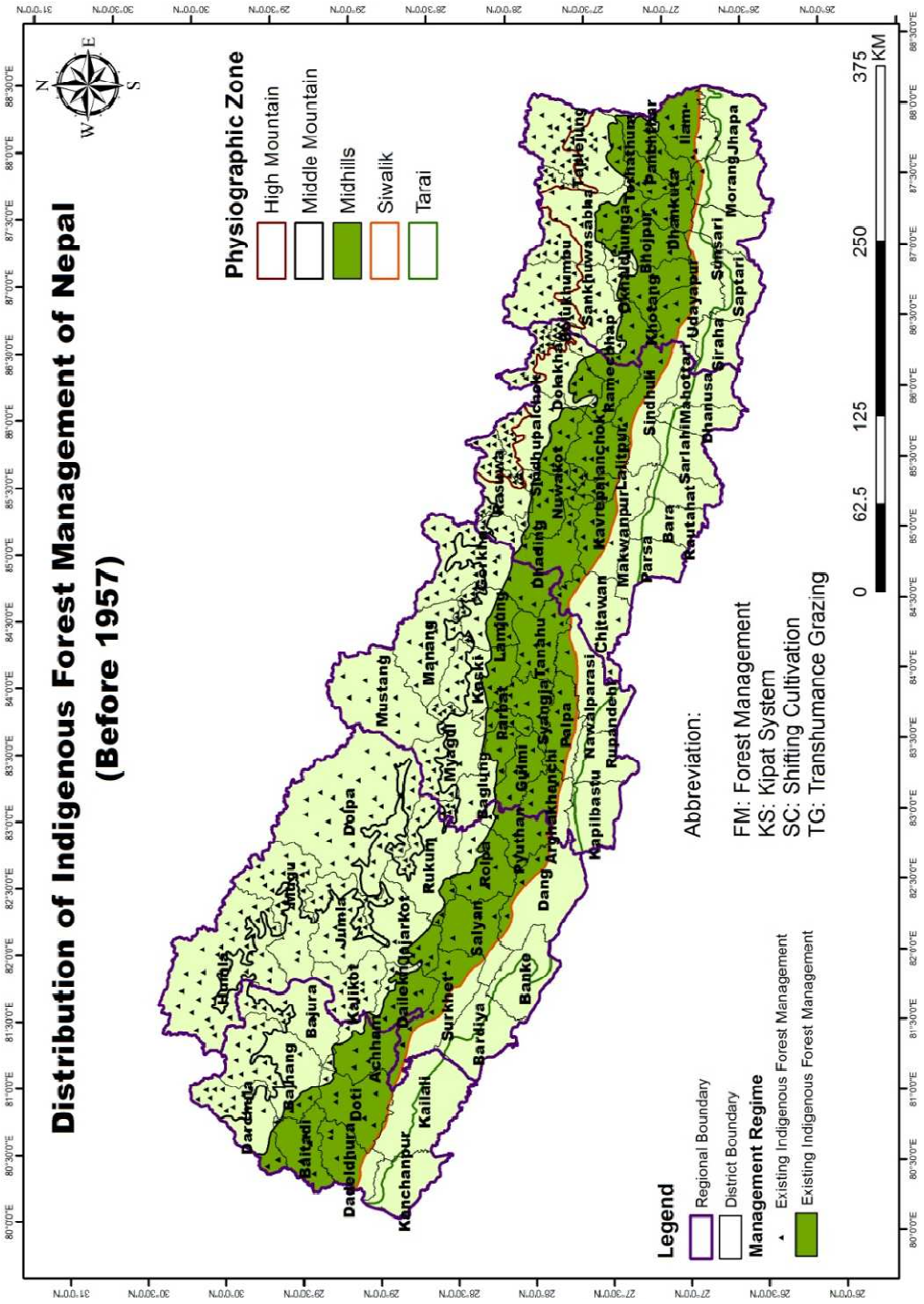
SN	Name	Organization and Address
A	**Sindhupalchowk**	
1	Ms Nirmala Sapkota	CFUG Melamchi
2	Mr. Rameshore Pande	Civil Society Melamchi
3	Mr. Puskar Prasad Dhital	CFUG Bansbari
4	Mr. Bal Bahadur Karki	CFUG, Sano Pakhar
5	Mr. Rant Bahadur Thapa	CFUG Thumpakhar
6	Mr. Netra Prasad Dhital	FECOFUN Chautara
7	Mr. Ram Chandra Basnet	Chairperson FECOFUN Sindhupalchowk
8	Mr. Ngwamande Sherpa	Chauri farmer, Tatopani
9	Mr. Ngeni Sherpa	DO
10	Mr. Keshav Khadak	Farmer, Golche
11	Mr Singhe Sherpa	Chauri farmer, Tataopani
12	Mr. Bahadur Sherpa	Ex Chairperson Naduk LIPING CFs Tataopani
B	**Dolakha**	
1	Mr. Phurgeli Sherpa	Shyama VDC
2	Mr. Tendi Sherpa	do
3	Mr. Krishna Bdr Pakhrin	Chauri herder Kalinchowk -5.
4	Mr. Brauli Thami	Farmer, Kalinchowk
5	Mr. Akal Bahadur Tamang	Farmer, Kalinchowk
6	Ms Mithi Maya Jirel	Farmer, Jiri Dhunge
7	Mr. Dawa Tsring Cherpa	, Sailung CF Dadauwa
8	Mr. Prem Lal Magar	FUG, Rakcha CF, Doramba-9
9	Mr Karma Sherpa	FUG Kalinchowk CF, Kalinchowk
10	Mr. Mitra Jirel	AFO Dolakha
C	**Ramechap**	
1	Mr. Aaangdukpa Sherpa	Chuari farmer , Chuchure, Ramechap

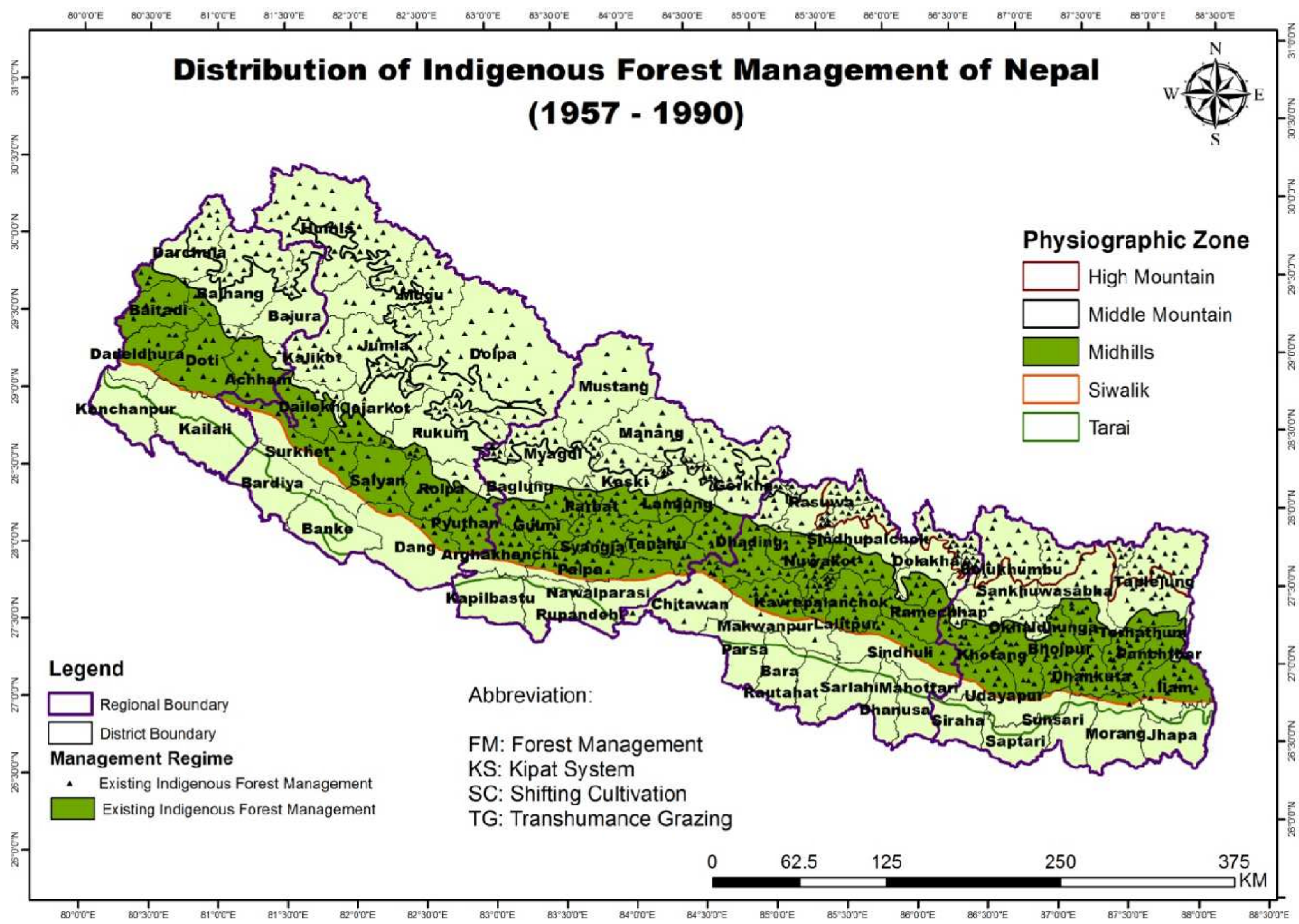
2	Mr. Chiri Sherpa	do
3	Mr. Pemba Sherpa	Bamti, Chauri farmer
4	Mr. Pasang Sherpa	do
5	Mr. Pasang Neema Sherpa	Cahuri farmer, Gumdel, , Ramechap
6	Mr. Tenji Sherpa	Do
7	Mr. Kasmi Sherpa	Do
D	**Sankhuwasabha**	
1	Mr Chering Jenjen Bhote	Damdang BZ CF, Yasu VDC
2	Mr. Sang Pin Bhote	DO
3	Mr. Chiring Lengdup	DO
4	Mr. Aanchupa Bhote	Chepuwa VDC-4
5	Mr. Khau Bhote	DO
6	Mr. Lakpa Bhote	DO
7	Mr. Penjar Bhote	DO
8	Mr. Kancha Bhote	DO
E	**Panchthar**	
1	TejBdTamang	Medhuli Devistahn CFUGs
2	MrJhamkaBirRai	ChintangDevi LFUGs
3	Mr.ShreedhojYoganghang	Thulo Nangihan LFUGs
4	MsBimala Tamang	MahilaLaliGurnas CFUGs
5	MsSanuDeviRai	SolhanfKha LFUGs
6	Mr.RamKumarNemwang	Mahabharat CFUGs
7	Me RudraPaudel	Bharpa
8	Mr.BijayaShrestha	Ranke
F	**Gorkha**	
1	Mrs. Nikita Chepang	FUG Tanglichok-9 Gorkha
2	Mrs. Chnja Kumari Chepang	FUG Tanglichok
3	Mrs. Tirimaya Chepang	FUG Tanglichok
4	Mrs. Manimaya Chepang	FUG Tanglichok
5	Mrs. Manmaya Chepang	FUG Tanglichok

G	**Chitwan**	
1	Mr. Krishna Raj Gurung	FUG Chandbhyang VDC
2	Mr. Laliman Gurung	
3	Jiwan Gurung	Member
6	Dhan Lal Gurung	Chairperson
H	**Nawalparasi**	
1	Mr. Bir Singh Soti Magar	Hupsikot-1,
2	Mr. Bhosh Bahadur Soti	Hupsikot-1,
3	Mr. Gam Bahadur Sutari	Hupsikot-1,
4	Mr. Yam Bahadur Soti	Hupsikot-1,
5	Mrs. Chhamaya Sutari	Hupsikot-1,
I	**Jumla**	
1	Mr. Hem Aryal	DFO Jumla
2	Mr. Gobinda Mahat	Livestock Officer, DLSO
3	Naresh Singh Thapa –	Planning Officer, DLSO
4	Gyaljang Buda Chhetri –Top Bahadur Buda Chhetri – Chotra	Sheep herder, Chotra
5	Dhanjit Buda	Retired Livestock Offcer and Ex Jimmawal , Kanksundari -9
6	Dr ...Tiwari	Chied Gaithichaur Sheep Farm, NARC
7	Mr. Khem Mahat	Forest Assistant, DFO Jumla
J	**Kailali**	
1	Mr. Omprakash Sapkota	Musirya
2	Mr. Bijay Shrestha	Bhajani
3	Mr. Lalu Chuadhary	Dhnagdi Municipality
4	Mr. Bal Ram Adhikari	Regional Forest Director, FWDR Forest Directorate, Dhnagdai
5	Mr. Murai Prasad Pokhrel	DFO, Kailali
6	Mr Ram Chandra Subedi	AFO, Kailali
K	**Myagdi and Baglung**	
1	Gyan Bhadur Garjuba	Ghar CFugs Chairperson

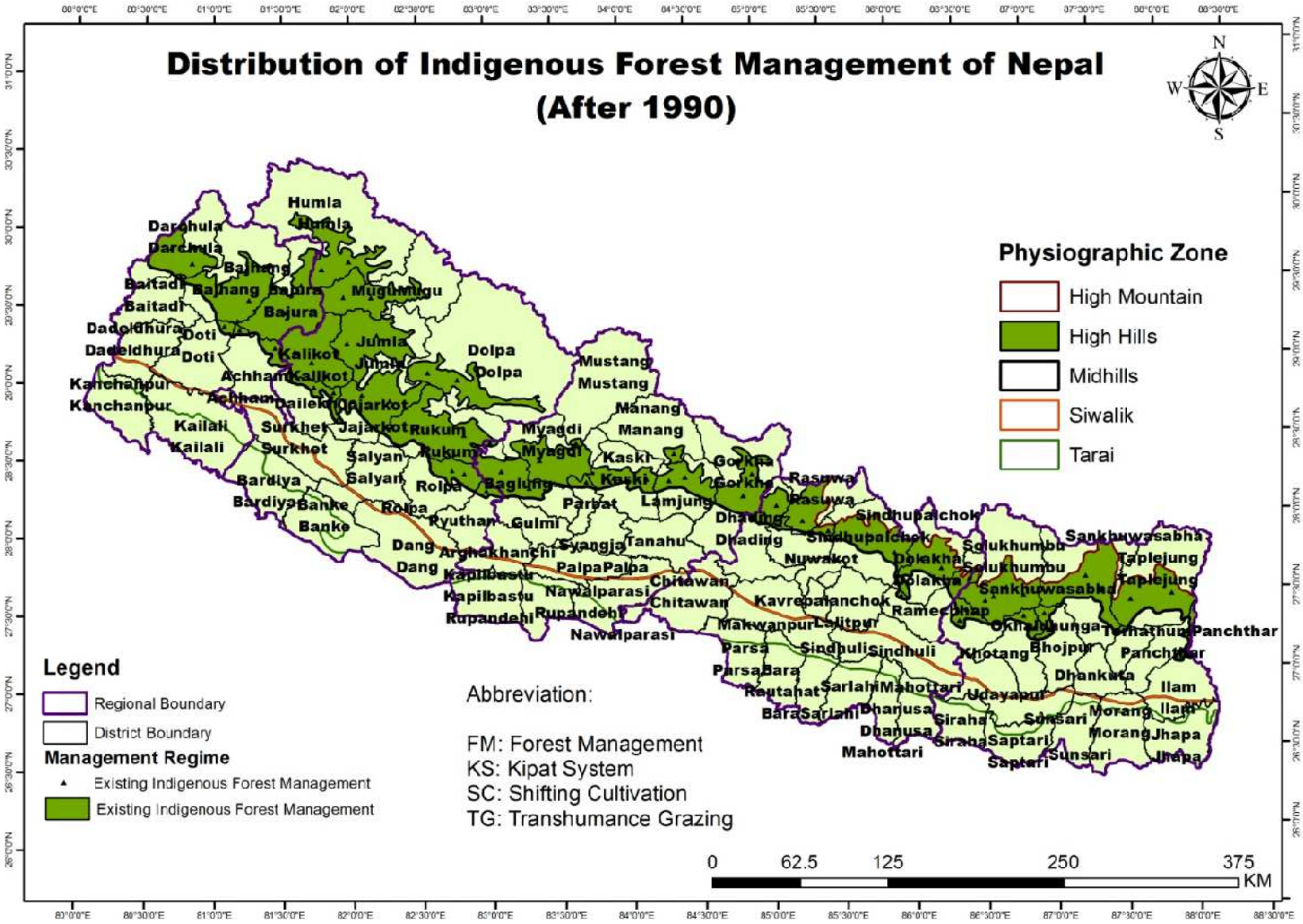
2	Mrs. Jugdevi Pun	Ghara Ghodepani Chair person of Ama Sumah
3	Mr. Raju Sherchan	Ghodepani, Ghara, Forest Users Group Sub-committee
4	Mr. Bam Bahadur Pun	do
5	Mr. Dipak Aidai	DhorPatan, Baglung Chauri Kharka Users Group
6	Mrs Dil Kumari Chnatyal	Dhorpatan, Farmer
7	Mr. Sonal gurung	do
8	Mr. Saroj Panthi	Dhorpatan Hunting Reserve
	Kathmandu	
1	Mr Tunga Rai,	NEFIN, Kathmandu
2	Mr. Rajendra KC,	REDD IC, R Package Study Team
3	Dr. Dhruba Prasad Acharya,	REDD IC, REDD + Strategy Study Team
4	Dr. Pasang Sherpa,	Lecturer, TU and NEFIN
5	Mr. Man Bahadur Khadka	Chief, REDD IC
6	Dr. Narendra Chand,	REDD IC
7	Mrs Sushma Bhattarai,	DDG, Department of Plant Resources
8	Dr Nabin Joshi	ANSAB
9	Dr. Kamal	REDD IC

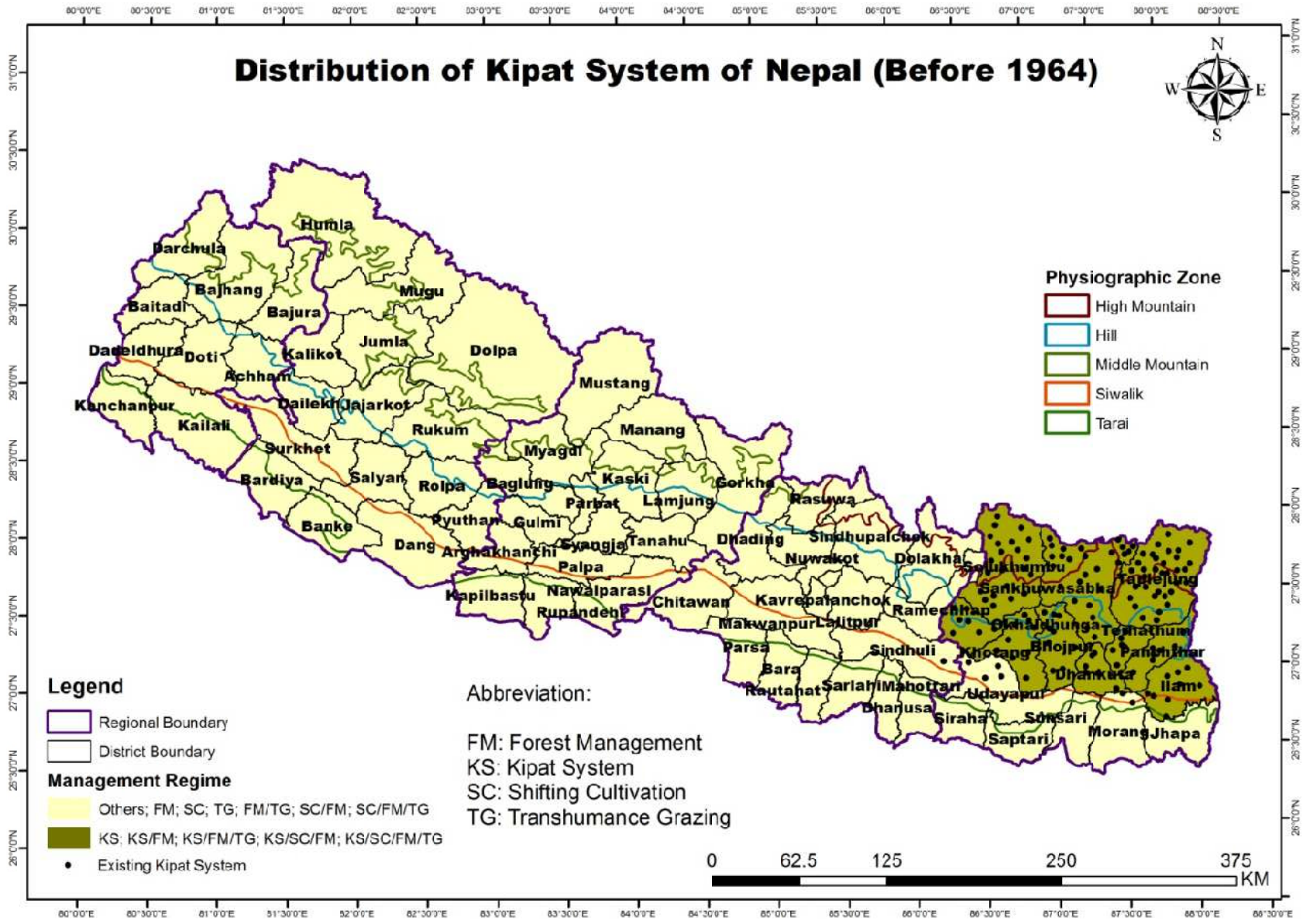
Annex VI. MAPs showing distribution of IFPM Systems over the various periods of time



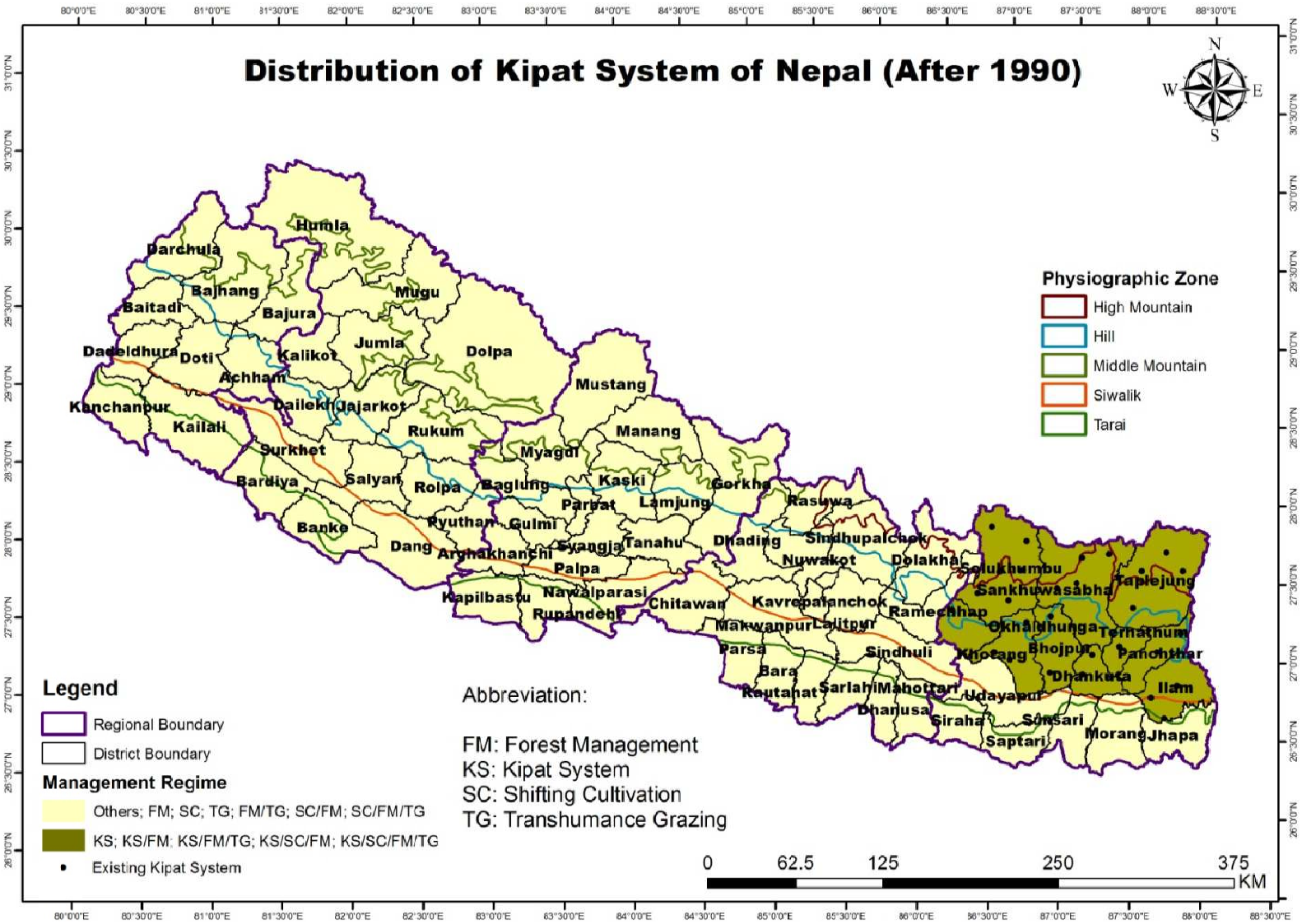


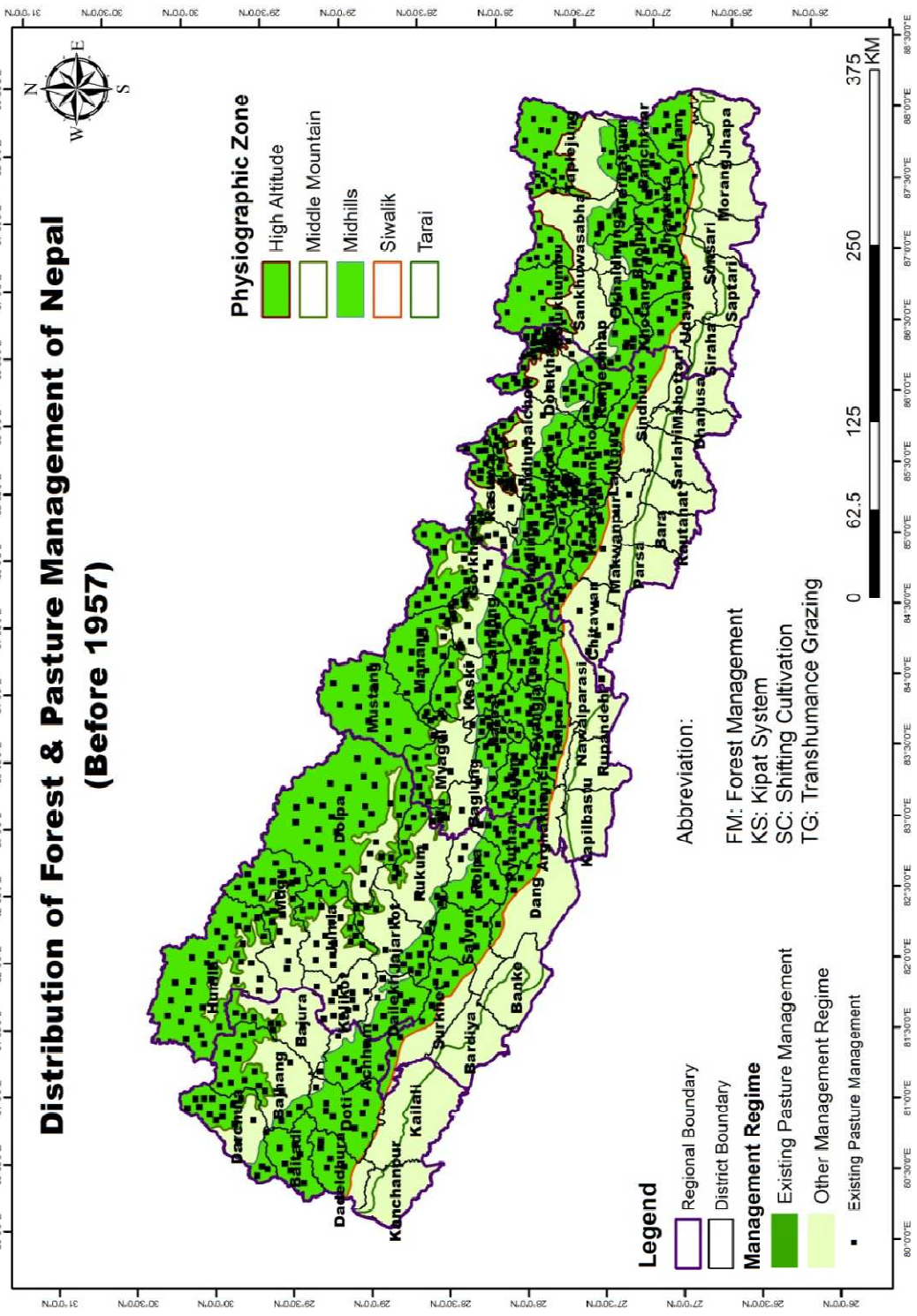
Distribution of Indigenous Forest Management of Nepal
(1957 - 1990)
N
W
E
S
Physiographic Zone
High Mountain
Middle Mountain
Midhills
Siwalik
Tarai
Legend
Regional Boundary
District Boundary
Management Regime
Existing Indigenous Forest Management
Existing Indigenous Forest Management
Abbreviation:
FM: Forest Management
KS: Kipat System
SC: Shifting Cultivation
TG: Transhumance Grazing
0
62.5
125
250
375
KM
Humla
Darchula
Bajhang
Baitadi
Bajura
Mugu
Dadeldhura
Doti
Achham
Kalikot
Jumla
Dolpa
Mustang
Kanchanpur
Kailali
Dailekh
Jajarkot
Rukum
Manang
Surkhet
Myagdi
Bardiya
Salyan
Rolpa
Baglung
Kaski
Gorkha
Banke
Dang
Pyuthan
Gulmi
Syangja
Tanahu
Lamjung
Rasuwa
Dhading
Palpa
Nuwakot
Dolakha
Solukhumbu
Kapilbastu
Nawalparasi
Rupandehi
Chitawan
Kavrepalanchok
Sankhuwasabha
Taplejung
Ramechhap
Makwanpur
Lalitpur
Parsa
Sindhuli
Khotang
Bhojpur
Bara
Rautahat
Sarlahi
Mahottari
Udayapur
Dhankuta
Ilam
Dhanusa
Siraha
Sunsari
Saptari
Morang
Jhapa

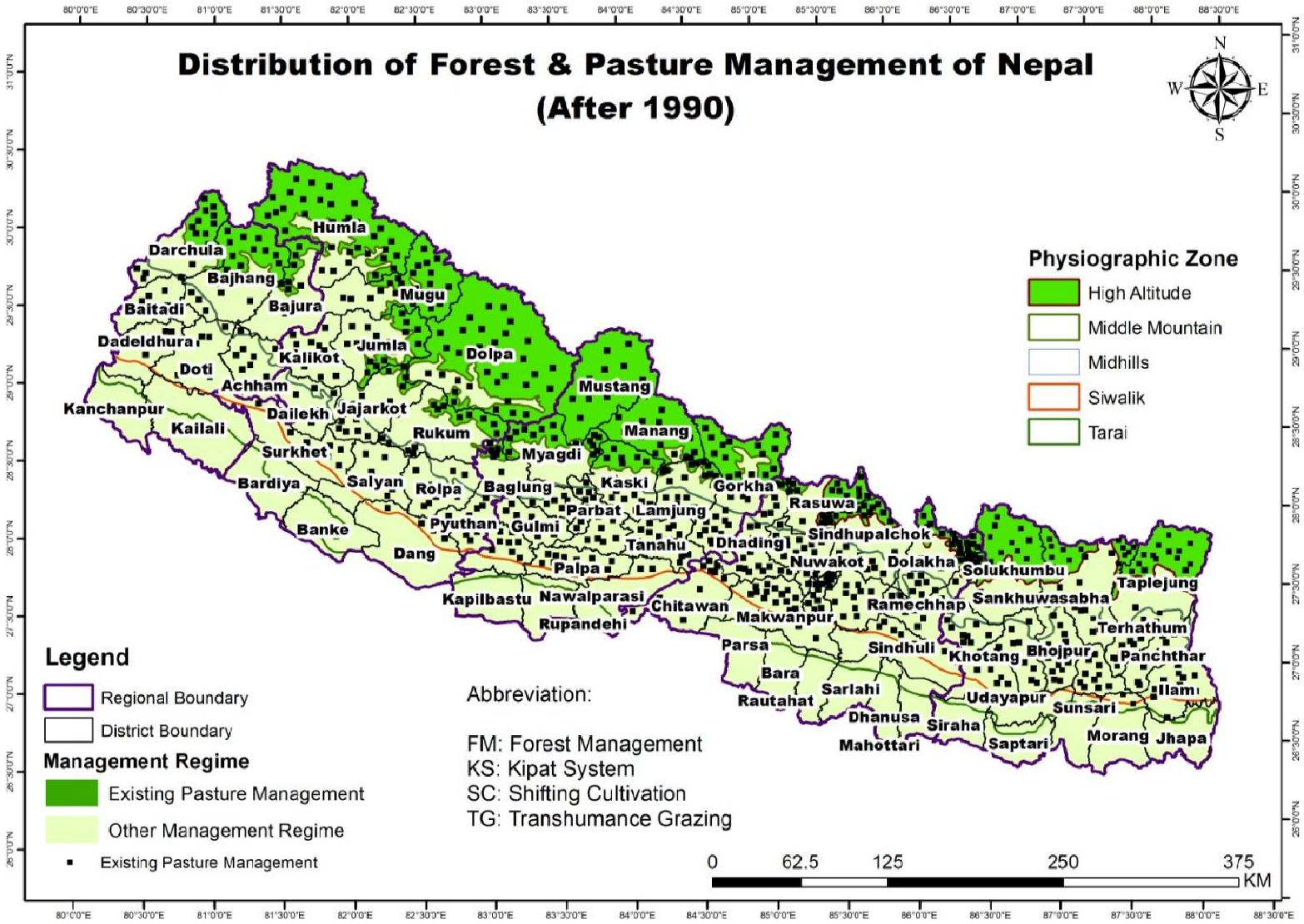

Distribution of Indigenous Forest Management of Nepal
(After 1990)
N
W
E
S
Physiographic Zone
High Mountain
High Hills
Midhills
Siwalik
Tarai
Legend
Regional Boundary
District Boundary
Management Regime
Existing Indigenous Forest Management
Existing Indigenous Forest Management
Abbreviation:
FM: Forest Management
KS: Kipat System
SC: Shifting Cultivation
TG: Transhumance Grazing
0 62.5 125 250 375
KM

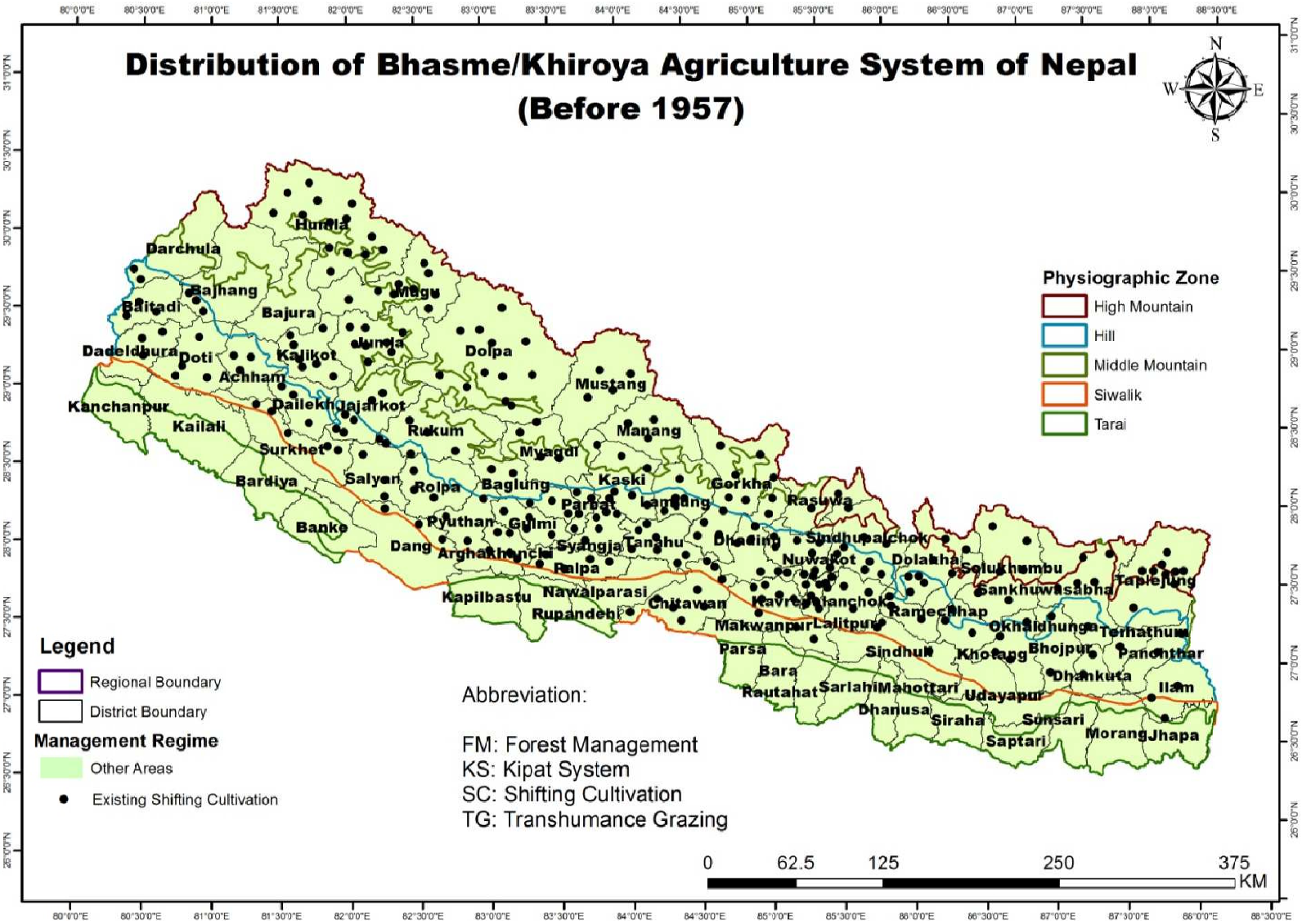

Distribution of Kipat System of Nepal (Before 1964)
N
S
E
W
Physiographic Zone
High Mountain
Hill
Middle Mountain
Siwalik
Tarai
Humla
Darchula
Bajhang
Mugu
Baitadi
Bajura
Jumla
Dolpa
Dadeldhura
Doti
Kalikot
Achham
Mustang
Kanchanpur
Dailekh
Jajarkot
Kailali
Rukum
Manang
Surkhet
Myagdi
Bardiya
Salyan
Rolpa
Baglung
Kaski
Gorkha
Parbat
Lamjung
Rasuwa
Pyuthan
Gulmi
Banke
Dang
Arghakhanchi
Syangja
Tanahu
Dhading
Sindhupalchok
Palpa
Nuwakot
Dolakha
Kapilbastu
Nawalparasi
Rupandehi
Chitawan
Kavrepalanchok
Ramechhap
Makwanpur
Lalitpur
Parsa
Sindhuli
Bara
Rautahat
Sarlahi
Mahottari
Udayapur
Dhanusa
Siraha
Saptari
Sunsari
Morang
Jhapa
Ilam
Legend
Regional Boundary
District Boundary
Management Regime
Others; FM; SC; TG; FM/TG; SC/FM; SC/FM/TG
KS; KS/FM; KS/FM/TG; KS/SC/FM; KS/SC/FM/TG
Existing Kipat System
Abbreviation:
FM: Forest Management
KS: Kipat System
SC: Shifting Cultivation
TG: Transhumance Grazing
0
62.5
125
250
375
KM

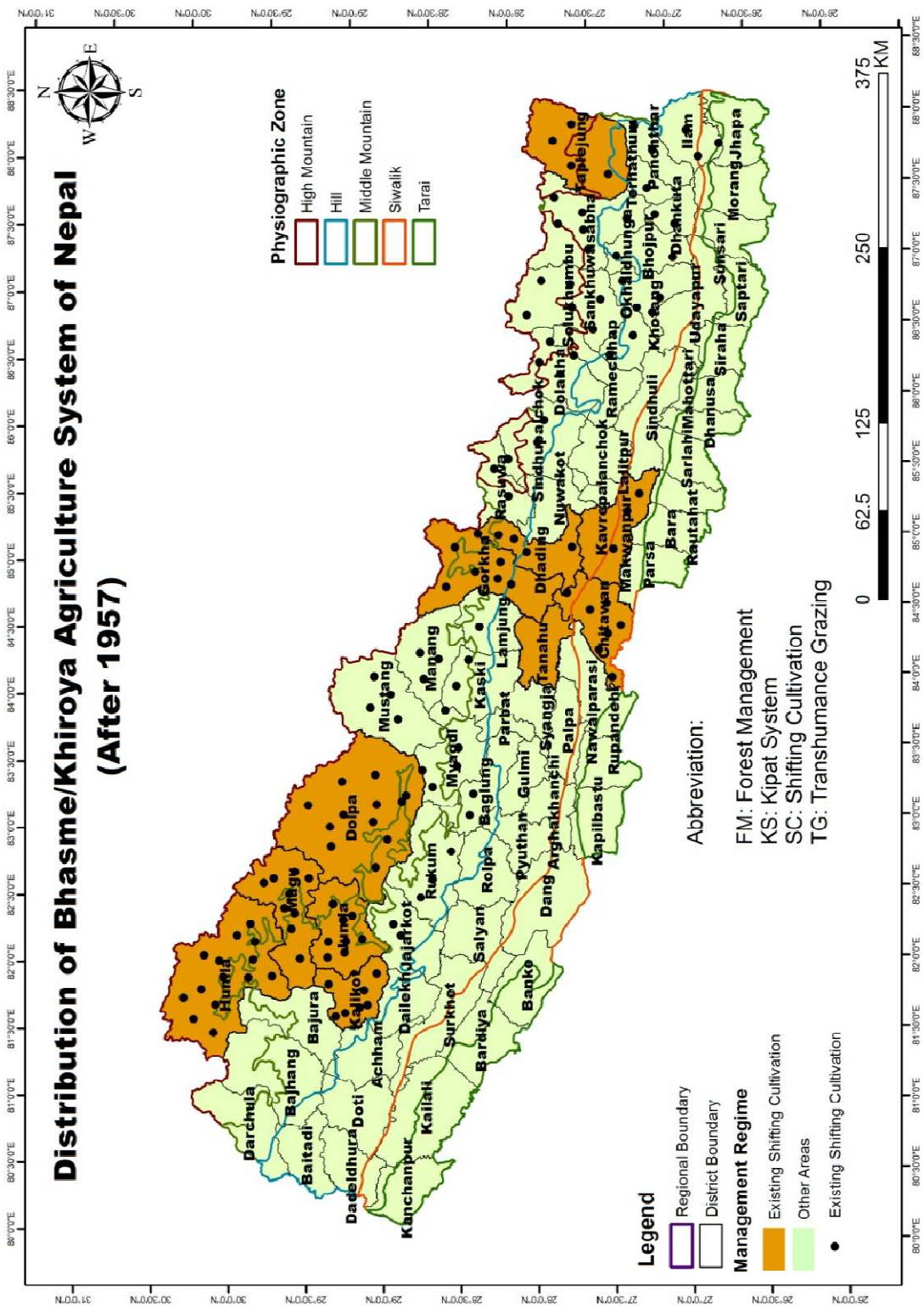

Distribution of Kipat System of Nepal (1964-1990)
N
S
E
W
Physiographic Zone
High Mountain
Hill
Middle Mountain
Siwalik
Tarai
Humla
Darchula
Bajhang
Baitadi
Bajura
Mugu
Jumla
Dolpa
Dadeldhura
Doti
Achham
Kalikot
Mustang
Kanchanpur
Kailali
Dailekh
Jajarkot
Rukum
Manang
Surkhet
Myagdi
Gorkha
Bardiya
Salyan
Rolpa
Baglung
Kaski
Lamjung
Rasuwa
Parbat
Pyuthan
Gulmi
Syangja
Tanahu
Dhading
Sindhupalchok
Banke
Dang
Arghakhanchi
Nuwakot
Dolakha
Solukhumbu
Palpa
Sankhuwasabha
Taplejung
Nawalparasi
Kapilbastu
Chitawan
Kavrepalanchok
Ramechhap
Rupandehi
Makwanpur
Lalitpur
Okhaldhunga
Terhathum
Parsa
Sindhuli
Khotang
Bhojpur
Panchthar
Bara
Dhankuta
Rautahat
Sarlahi
Ilam
Udayapur
Dhanusa
Mahottari
Siraha
Sunsari
Saptari
Morang
Jhapa
Legend
Regional Boundary
District Boundary
Management Regime
Others; FM; SC; TG; FM/TG; SC/FM; SC/FM/TG
KS; KS/FM; KS/FM/TG; KS/SC/FM; KS/SC/FM/TG
Existing Kipat System
Abbreviation:
FM: Forest Management
KS: Kipat System
SC: Shifting Cultivation
TG: Transhumance Grazing
0
55
110
220
330
KM


Distribution of Kipat System of Nepal (After 1990)
N
W
E
S
Physiographic Zone
High Mountain
Hill
Middle Mountain
Siwalik
Tarai
Humla
Darchula
Bajhang
Mugu
Baitadi
Bajura
Jumla
Dadeldhura
Doti
Kalikot
Dolpa
Achham
Mustang
Kanchanpur
Dailekh
Jajarkot
Kailali
Rukum
Manang
Surkhet
Myagdi
Bardiya
Salyan
Rolpa
Baglung
Kaski
Gorkha
Parbat
Lamjung
Rasuwa
Banke
Ryuthan
Gulmi
Dang
Arghakhanchi
Syangja
Tanahu
Dhading
Sindhupalchok
Nuwakot
Dolakha
Palpa
Solukhumbu
Sankhuwasabha
Taplejung
Nawalparasi
Kapilbastu
Rupandehi
Chitawan
Kavrepalanchok
Ramechhap
Makwanpur
Lalitpur
Okhaldhunga
Terhathum
Parsa
Sindhuli
Khotang
Bhojpur
Panchthar
Bara
Dhankuta
Ilam
Rautahat
Sarlahi
Mahottari
Udayapur
Dhanusa
Siraha
Sunsari
Morang
Jhapa
Saptari
Legend
Regional Boundary
District Boundary
Management Regime
Others; FM; SC; TG; FM/TG; SC/FM; SC/FM/TG
KS; KS/FM; KS/FM/TG; KS/SC/FM; KS/SC/FM/TG
Existing Kipat System
Abbreviation:
FM: Forest Management
KS: Kipat System
SC: Shifting Cultivation
TG: Transhumance Grazing
0
62.5
125
250
375
KM


Distribution of Forest & Pasture Management of Nepal
(Before 1957)
Physiographic Zone
High Altitude
Middle Mountain
Midhills
Siwalik
Tarai
Legend
Regional Boundary
District Boundary
Management Regime
Existing Pasture Management
Other Management Regime
Existing Pasture Management
Abbreviation:
FM: Forest Management
KS: Kipat System
SC: Shifting Cultivation
TG: Transhumance Grazing
0
62.5
125
250
375
KM


Distribution of Forest & Pasture Management of Nepal
(After 1990)
N
W
E
S
Physiographic Zone
High Altitude
Middle Mountain
Midhills
Siwalik
Tarai
Humla
Darchula
Bajhang
Mugu
Baitadi
Bajura
Dadeldhura
Jumla
Dolpa
Kalikot
Doti
Achham
Mustang
Kanchanpur
Dailekh
Jajarkot
Kailali
Rukum
Manang
Surkhet
Myagdi
Bardiya
Salyan
Rolpa
Baglung
Kaski
Gorkha
Rasuwa
Parbat
Lamjung
Pyuthan
Gulmi
Banke
Tanahu
Dhading
Sindhupalchok
Dang
Nuwakot
Dolakha
Solukhumbu
Palpa
Taplejung
Kapilbastu
Nawalparasi
Chitawan
Ramechhap
Sankhuwasabha
Makwanpur
Rupandehi
Terhathum
Parsa
Sindhuli
Khotang
Bhojpur
Panchthar
Bara
Sarlahi
Ilam
Rautahat
Udayapur
Sunsari
Dhanusa
Siraha
Morang
Jhapa
Mahottari
Saptari
Legend
Regional Boundary
District Boundary
Management Regime
Existing Pasture Management
Other Management Regime
Existing Pasture Management
Abbreviation:
FM: Forest Management
KS: Kipat System
SC: Shifting Cultivation
TG: Transhumance Grazing
0
62.5
125
250
375
KM


Distribution of Bhasme/Khiroya Agriculture System of Nepal
(Before 1957)
N
W
E
S
Physiographic Zone
High Mountain
Hill
Middle Mountain
Siwalik
Tarai
Humla
Darchula
Bajhang
Mugu
Baitadi
Bajura
Jumla
Dolpa
Dadeldhura
Doti
Kalikot
Achham
Mustang
Kanchanpur
Dailekh
Jajarkot
Kailali
Rukum
Manang
Surkhet
Myagdi
Bardiya
Salyan
Rolpa
Baglung
Kaski
Gorkha
Parbat
Lamjung
Rasuwa
Pyuthan
Gulmi
Banke
Dang
Syangja
Tanahu
Dhading
Sindhupalchok
Arghakhanchi
Nuwakot
Dolakha
Solukhumbu
Palpa
Sankhuwasabha
Taplejung
Kapilbastu
Nawalparasi
Chitawan
Kavrepalanchok
Ramechhap
Rupandehi
Makwanpur
Lalitpur
Okhaldhunga
Terhathum
Parsa
Sindhuli
Khotang
Bhojpur
Panchthar
Bara
Dhankuta
Rautahat
Sarlahi
Mahottari
Udayapur
Ilam
Dhanusa
Siraha
Sunsari
Morang
Jhapa
Saptari
Legend
Regional Boundary
District Boundary
Management Regime
Other Areas
Existing Shifting Cultivation
Abbreviation:
FM: Forest Management
KS: Kipat System
SC: Shifting Cultivation
TG: Transhumance Grazing
0
62.5
125
250
375
KM


Distribution of Bhasme/Khiroya Agriculture System of Nepal
(After 1957)
Physiographic Zone
High Mountain
Hill
Middle Mountain
Siwalik
Tarai
Legend
Regional Boundary
District Boundary
Management Regime
Existing Shifting Cultivation
Other Areas
Existing Shifting Cultivation
Abbreviation:
FM: Forest Management
KS: Kipat System
SC: Shifting Cultivation
TG: Transhumance Grazing
0
62.5
125
250
375
KM