

“विकासको लागि योजना”

विकास

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सम्पादकीय

विद्यमान बेरोजगारी, गरिबी र असमानता लगायतका समस्यालाई सम्बोधन गरी दिगो विकास र आर्थिक सम्भाव्यताको खोजमा अग्रसर हुनपर्ने चुनौती एकातर्फ छ भने देशको समुन्नत विकासका लागि शान्ति सुरक्षा, राजनैतिक स्थिरता, सुशासन र जनसहभागीता पनि उक्तिकै आवश्यक छ । तर विगत केही वर्षदेखि विद्यमान राजनैतिक अस्थिरता, देशको संक्रमणकालिन अवस्था र असुरक्षाले गर्दा विकासको लक्ष हासिल गर्ने प्रयासमा अवरोध सृजना भएको छ । यसर्थ यी समस्याहरूलाई यथाशिघ्र समाधान गरी बेरोजगारी र गरिबी निवारणका लक्ष्य प्राप्त गर्न ठोस प्रयासको आवश्यकता देखिएको छ ।

आर्थिक योजना, विज्ञान तथा व्यवस्थापनमा विविध पक्षहरूलाई समेटेर राष्ट्रिय योजना आयोगको सचिवालयले “विकास” पत्रिका नियमित प्रकाशन गर्दै आएको कुरा यहाँहरूमा विदितै छ । हामी प्रकाशनको ३३ सौ वर्षमा छौं । “विकास” लाई यहाँसम्म ल्याइपुऱ्याउन यहाँहरूले गर्नु भएको सहयोग र दर्शानुभएको मायाप्रति हामी आभारी छौं ।

अन्तमा, यस अंकमा आफ्ना अमूल्य लेख रचनाहरू उपलब्ध गराई सहयोग पुऱ्याउनु हुने विद्वान लेखकहरूलाई सम्पादक मण्डल हार्दिक धन्यवाद ज्ञापन गर्दछ । साथै अगामी अङ्कहरूमा पनि योजना र विकास लगायतका पक्षलाई संबोधन गर्ने लेख रचना उपलब्ध गराई सहयोगको सिलसिला जारी राख्नु हुने छ भन्ने विश्वास लिएका छौं ।

नयाँ वर्ष, २०६९ को हार्दिक शुभकामना ।

प्रकोप र यसको व्यवस्थापन

हरिदत्त पाण्डेय *

"A carriage may be sturdily built, comfortable and elegant; but if the pin is missing from a wheel, it will tip over."- Lao Tze.

प्रकोप

मानवीय नियन्त्रणभन्दा विपत्तिपूर्ण बाहिरका घटनालाई दैवीप्रकोप प्राकृतिक प्रकोपका भनिन्छ, प्राकृतिक प्रकोप (दैवीप्रकोप) जोखिम र सम्बेदनशीलताको संयुक्त अवस्था हो जुन मानवीय नियन्त्रणभन्दा बाहिर हुन्छ । प्रकोपलाई दैवी प्रकोप अथवा प्राकृतिक प्रकोप समेत भन्ने गरेको पाइन्छ । यस लेखमा यस कुरालाई मनन गर्दै दैवी प्रकोप र प्राकृतिक प्रकोपलाई जनाउने गरी प्रकोप शब्दको मात्र उल्लेख गरिएको छ ।

विद्वानहरूले प्रकोपलाई विभिन्न किसिमले परिभाषित गरेका छन् । Concise Oxford Dictionaryमा प्राकृतिक प्रकोप(Natural Disaster)को अर्थ "आकस्मिक ठूलो दुर्भाग्य अथवा विपत्ति" भनी उल्लेख गरिएको छ । यसैगरी Webster's Dictionaryमा "ठूलो विकृति, नोक्सानी र विपत्ति ल्याउने गरी आकस्मिकरूपमा उत्पन्न हुने प्राकृतिक घटनालाई प्राकृतिक प्रकोप(Natural Disaster) भनिएको छ । नेपालमा दैवी प्रकोप (उद्धार) ऐन, २०३९ ले दैवी प्रकोपलाई परिभाषित गर्ने क्रममा भूकम्प, आगलागी, आधिबेहरी, बाढी, पहिरो, भारीवर्षा, सुख्खा, अनिकाल, महामारी रोग र यस्तै अन्य प्रकोपलाई दैवी प्रकोपको रूपमा लिएको छ । साथै, यस ऐनले उद्योग/कलकारखानामा कुनै प्रकारको विस्फोट अथवा अन्य प्रकोपबाट सिर्जित दुर्घटनालाई समेत दैवी प्रकोपको रूपमा लिएको छ ।

Disaster=Hazard+Vulnerability

विश्वमा समय-समयमा विभिन्न प्रकृति/स्वभावका प्रकोपका घटनाहरू घट्ने गर्दछन् । भूडचालो, आधिबेहरी, तुफान, सुनामी, ज्वालामुखी, पैहो, बाढी, आगलागी, अतिवृष्टि, अनावृष्टि, सूख्खा, संक्रामक रोग आदि जस्ता प्रकोपहरूबाट वर्षेनी लाखौं व्यक्ति र पशुहरूको ज्यान गएका दुर्घटनाहरू सुनिन्छन् । यसैगरी वर्षेनी यी प्रकोपहरूका कारणबाट लाखौं व्यक्तिहरू घाइते एवं घरविहीन हुने गर्दछन् । प्रकोप जुनसुकै ठाउँमा जुनसुकै समयमा पनि आउन सक्दछ तापनि भौगोलिक एवं राजनैतिक कारणले ठूला प्राकृतिक प्रकोपका घटनाहरू प्रायजसो मकर रेखा(Tropic of Cancer) र कर्कट रेखा(Tropic of Capricorn)क्षेत्रमा हुने गरेको देखिन्छ ।

एशिया तथा प्रशान्त क्षेत्रका अधिकांश मुलुकहरू प्रकोपका घटनाहरूको बढ्दो संख्याबाट आक्रान्त छन् । विश्वमा प्रकोपका करीब ७० देखि ८० प्रतिशत घटनाहरू विकसित देश बाहेकका मुलुकहरूमा हुने गरेको पाइएको छ (क्वारेण्टेली, १९९१, पृष्ठ ११७, एर्टुना (१९९१, पृष्ठ ९३) का अनुसार एशिया तथा प्रशान्त क्षेत्रले समय-समयमा ठूला-ठूला प्राकृतिक प्रकोपहरू (विशेषगरी जलवायु परिवर्तन तथा भूकम्पबाट सिर्जित) को सामना गर्नु परिरहेको छ । शर्मा (२०१०, पृष्ठ १२५) का अनुसार विश्वभरिमा

* श्री पाण्डेय लोकसेवा आयोगमा सह-सचिव हुनुहुन्छ ।

मानव प्रकोपहरूबाट मानव मृत्युको संख्या अध्ययन गर्दा ९५ प्रतिशत मृत्यु प्रकोपबाट र प्रकृतिजन्य प्रकोपबाट ९० प्रतिशत मृत्युका घटनाहरू विकासोन्मुख देशहरूमा हुने गरेको छ ।

बढ्दो क्रममा उत्पन्न भइरहेको र यिनका कारणबाट भइरहेको ठूलो क्षतिले विश्व समुदायलाई चिन्तित तुल्याएको छ । प्रकोपबाट सुरक्षित रहनको लागि अपनाउन सकिने र अपनाउनु पर्ने उपायहरू वारे जनतालाई सुसूचित गर्ने उद्देश्यले संयुक्त राष्ट्रसंघले सन् १९९० को दशकलाई International Decade for Natural Disaster Reduction (IDNDR)को रूपमा घोषणा गरेको थियो । यसैगरी विश्वभरि प्रत्येक वर्ष अक्टोबरको दोस्रो बुधवारको दिनलाई International Day for Natural Disaster Reductionको रूपमा मनाइन्छ ।

प्रकोपका प्रमुख कारक तत्वहरू

प्रकोपका एक अथवा एकभन्दा बढी कारक तत्व हुन सक्छन् । सामान्यतया निम्न कारक तत्वहरूलाई प्राकृतिक प्रकोपका प्रमुख कारक तत्व मान्न सकिन्छः

- अनियन्त्रित र अत्यधिक जनसंख्या वृद्धि
- आर्थिक विकासमा लाग्ने भट्काहरू
- आर्थिक विकासको होडवाजी
- आणविक शक्तिको होडवाजी
- ठूला-ठूला भौतिक संरचनाहरूको निर्माण
- हासोन्मुख वातावरण
- जंगलमाथिको अतिक्रमण
- अनियन्त्रित वसाइसराइ
- जैविक विविधताको विनास
- अवैज्ञानिक कृषि प्रणाली
- पहिरो, हिमपहिरो, तूफान, असिना, भूकम्प, ज्वालामुखी, बाढी आदि ।

प्रकोपका प्रमुख स्वरूपहरू

प्रकोपका प्रकृति तथा यसको उत्पत्तिलाई दृष्टिगत गर्दा यसका स्वरूपहरूलाई देहायनुसार वर्गीकरण गर्न सकिन्छः

- (क) प्राकृतिकः भूकम्प, ज्वालामुखी विस्फोट, सामुद्रिक तूफान/सुनामी, आधिबेहरी, बाढी/पहिरो, आगलागी, खडरी, बज्रपात, हिमपहिरो, आदि ।
- (ख) मानवसृजितः युद्ध, आतङ्कवाद, प्रविधिको दुरुपयोग, औद्योगिक जोखिम, आदि ।
- (ग) जटिलः वतावरणीय प्रदुषण, जलवायु परिवर्तन, महामारी, मरुभूमिकरण, आदि ।
- (घ) आकस्मिक प्रकोपहरू
- (ङ) पुनरावृत्त भइरहने प्रकोपहरू

प्रकोपका मुख्य विशेषताहरू

प्रकृति, स्वरूप आदिको आधारमा प्रकोपका मुख्य विशेषताहरू देहाय अनुसार उल्लेख गर्न सकिन्छः

- यो अकास्मिक रूपमा उत्पन्न हुन्छ ।
- प्रकोपको घटनाहरू पुनरावृत्त हुन सक्छन् ।
- यो अनियमित भएर पनि यसको व्यवस्थापन गर्न सकिन्छ ।
- यसको असर सीमित/व्यापक/दुवै प्रकारको हुन सक्छ ।

- यसले मानव जीवन, अर्थतन्त्र, प्राकृतिक तथा भौतिक संरचना एवं वातावरणमाथि क्षति पुऱ्याउनुका साथै सामाजिक संरचनालाई खल्वल्याउछ ।
- यसको कारणबाट प्रभावित समुदायलाई गास, वास, कपास, औषधि उपचार तथा सामाजिक सुरक्षाको शक्त आवश्यकता पर्दछ ।
- यसले सामाजिक एवं व्यक्तिगत तनाव बढाउदछ ।
- यसले विकासको गतिलाई प्रभावित गर्दछ ।
- यसको प्रभाव अल्पकालीन/दिर्घकालीन दुवै प्रकारको हुन्छ ।

प्रकोपका प्रभावहरू

- आर्थिक प्रभावहरू
- सामाजिक प्रभावहरू
- राजनैतिक प्रभावहरू
- सांस्कृतिक प्रभावहरू
- मनोवैज्ञानिक प्रभावहरू
- वतावरणीय प्रभावहरू
- भौतिक प्रभावहरू
- अन्य प्रभावहरू (व्यवस्थापकीय, नीतिगत, आदि)

प्रकोप व्यवस्थापनको औचित्य

सामान्यतया प्रकोपका कारण छिन्नभिन्न हुन सक्ने आर्थिक, सामाजिक तथा भौतिक संरचनाहरूलाई व्यवस्थापन गर्ने योजनावद्ध प्रयासका लागि प्रकोप व्यवस्थापन आवश्यक पर्दछ । प्रकोपबाट हुनसक्ने क्षतिको संभावनालाई नियन्त्रण गर्न अथवा क्षतिको असरलाई न्यूनीकरण गर्न प्रकोप व्यवस्थापन आवश्यक पर्दछ । प्रकोप व्यवस्थापन अर्न्तगत सम्पादन गरिने क्रियाकलाप/गतिविधिहरूले देहायका पक्ष हरू

लाई पोषण गर्ने गर्दछ ।

क. नागरिक सचेतता अभिवृद्धि मार्फत धनजनको क्षतिको संभावनालाई न्यूनीकरण गर्नु:

- पूर्व सजगता,
- पूर्वसूचना प्रणाली,
- प्राविधिक दक्षतामा सुधार,
- योजना निर्माण,
- प्रकोप नियन्त्रण योजना तर्जुमा, आदि ।

ख. दिगो विकासको आधार तय गर्न:

- संरचनाको दिगोपन,
- वतावरणीय दिगोपना कायम,
- उपयुक्त नीति तथा कार्यक्रम तर्जुमा,
- उपयुक्त प्रविधि उपयोगको लागि क्षमता अभिवृद्धि,
- प्रकोप अवरोधात्मक संरचनाको निर्माण, आदि ।

प्रकोपको प्रभाव कम गर्ने उपायहरू

- प्रकोपमा पर्न सक्ने क्षेत्रको भूगर्भशास्त्री, जलवायु विज्ञानका विशेषज्ञ, हाइड्रोलोजिष्ट, इन्जिनियर, भू-भौतिकशास्त्री, भूगोलवेत्ता, कृषि र वन विशेषज्ञ आदिको सहयोग, समन्वय तथा सहकार्यमा नक्शाङ्कन गर्ने ।

- प्रकोपको अत्याधिक संभावना रहेका क्षेत्रहरूबाट मानववस्तीहरू सुरक्षित ठाउमा सार्ने ।
- वर्तमान परिप्रेक्ष्यमा प्रकोप उद्धार कार्यमा व्यापकता ल्याउनु जरुरी भइसकेको हूदाँ निम्न चरणबद्धरूपमा कार्यान्वयन गर्न आवश्यक छ । यी सबै चरणहरूमा के-कस्तो उद्धार कार्य गर्ने भन्ने सम्बन्धमा स्पष्ट मार्गनिर्देशनको यथोचित व्यवस्था हुनु समसामयिक देखिन्छः
- प्राकृतिक प्रकोप आउनुभन्दा पूर्वको चरण
- पूर्वचेतावनी दिने चरण
- आकस्मिक उद्धार गर्ने चरण
- पुनर्स्थापन गराउने चरण
- पुनर्निर्माण गराउने चरण
- प्रकोप को प्रभावबाट वच्न/ प्रकोप न्यूनीकरण गर्न/प्रकोपको घटना घटेपछि स्वयंको वचावट र अन्य प्रभावितहरूको उद्धार सम्बन्धमा जनचेतना अभिवृद्धि गर्ने प्रयोजनका लागि तालिम, गोष्ठी, सेमिनार आदिको प्रभावकारी सञ्चालन गर्ने ।
- वैज्ञानिक आवास विकास कार्यक्रमहरू सञ्चालन गर्ने ।
- प्रकोपबाट पीडित परिवारलाई बढि सुरक्षित ठाउमा राख्ने ।

प्रकोप व्यवस्थापनको अवधारणा

प्रकोपको न्यूनीकरणका निम्ति दिगो विकास, वातावरण संरक्षण, मानवीय सचेतना अभिवृद्धि, जस्ता कार्यहरूलाई योजनाबद्ध तरिकाले कार्यान्वयन गर्ने गराउने प्रयास तथा प्रकोपका घटना भइसकेपछि त्यसबाट प्रभावित पक्षलाई समयमा नै राहत/उद्धार गर्ने कार्यलाई व्यवस्थापनको क्षेत्रमा प्रकोप व्यवस्थापन(Disaster Managemet)भन्न सकिन्छ । कार्टर (१९९६) ले प्रकोप व्यवस्थापनलाई निम्न शब्दमा परिभाषित गरेका छन्: “Disaster Manganemetn is an applied science which seeks, by the systematic observation and analysis of disaster, to improve measures relating to prevention, mitigation, preparedness, emergency response, and recovery.” यसै प्रकारले मिश्र (२००१) ले प्रकोप व्यवस्थापनलाई विभिन्न अन्तर्सम्बन्धित क्रियाकलापहरूकोContinuumको रूपमा उल्लेख गर्दै भनेका छन्: “Disaster Management is not a series of discrete activitices that start and stop with each disaster occurence. It is a continuum of a number of inter-linked activities.”

मथिका परिभाषाहरूबाट स्पष्ट हुन्छ कि प्रकोप व्यवस्थापन खासगरी प्रकोपको कारणबाट सिर्जना हुने जोखिमलाई न्यूनीकरण गर्ने वा जोखिम पन्छाउने कार्यसंग सम्बन्धित हुन्छ । अर्को शब्दमा नागरिक संरक्षणको उद्देश्यले प्रकोपको कारण सिर्जना हुने आपत्कालीन स्थितिको योजनाबद्ध व्यवस्थापन सम्बद्ध कार्यहरू नै प्रकोप व्यवस्थापन हो ।

असल प्रकोप व्यवस्थापनबाट विकासलाई सहि गन्तव्यमा पुऱ्याउन मद्दत पुग्न जान्छ अन्यथा विकास समेत प्रकोपयुक्त हुने सम्भावना रहिरहन्छ । असल व्यवस्थापन गर्न सकेमा कतिपय प्रकोपहरूलाई नियन्त्रण गर्न सकिन्छ भने कतिपयको न्यूनीकरण गर्न सकिन्छ ।

प्रकोप न्यूनीकरण सम्बन्धी विश्व सम्मेलन

कूनै एक मुलुकमा उत्पन्न प्रकोपले अन्य मुलुकहरूमा पनि प्रभाव पार्नसक्ने भएकोले यस्ता प्रकोपहरूको व्यवस्थापन गर्न विश्वव्यापी प्रयास निरन्तर चलिरहेछ । यस्ता प्रयासहरूमा ह्यागो घोषणापत्र २००५ तथा योकोहामा रणनीति १९९४ लाई लिन सकिन्छ ।

ह्यागो घोषणापत्र २००५

सन् २००५ को जनवरी १८-२२ मा प्रकोप न्यूनीकरण सम्बन्धी विश्व सम्मेलन जापानको कोबे शहरमा भएको थियो । यसलाई ह्योग्यो घोषणापत्र (Hyogo Declaration) पनि भनिन्छ । यसका मुख्य घोषणाहरू देहाय अनुसार छन्:

- सहश्राब्दि विकास लक्षहरू सहित अन्तर्राष्ट्रिय समुदायहरू सहमत भएका विकासका लक्षहरू पूरा गर्ने परिप्रक्षमा सम्बन्धित अन्तर्राष्ट्रिय प्रतिबद्धता र संरचना तयार गर्ने ।
- प्रकोप न्यूनीकरण, दिगो विकास र गरिबी न्यूनीकरणका लागि सबै सम्बन्धित सरोकारवालाहरू, सरकार, क्षेत्रीय तथा अन्तर्राष्ट्रिय संगठनहरू, आर्थिक सस्थाहरू, नागरिक समाज, गैरसरकारी सस्थाहरू, स्वयंसेवीहरू, निजी क्षेत्र, र वैज्ञानिक समुदाय समेतको गहन सहसम्बन्धको आवश्यकता पहिचान भयो ।
- प्रकोप व्यवस्थापनका लागि प्रकोपपूर्व रणनीति तयार गर्नुपर्ने कुरा पहिचान भयो । मानव समुदायलाई कति खतरापूर्ण अवस्थामा रहनु परेकोछ सोको जनकेन्द्रीतरूपमा जानकारी गराई प्रकोप न्यूनीकरणका चक्रहरू अनुसार नै क्रियाकलाप गर्नुपर्ने सहमति भयो ।
- जनता र सम्पत्तिको सुरक्षा गर्ने पहिलो जिम्मेवारी सरकारकै भएकोले राष्ट्रिय नीतिमा प्रकोप न्यूनीकरण गर्न उच्च प्राथमिकता दिने र क्षमता तथा श्रोतको व्यवस्थापन पनि सोही अनुरूप गर्नुपर्ने, सामुदायिक तहमा प्रकोप न्यूनीकरणका लागि क्षमता बृद्धि गर्नुपर्ने, एवं प्रकोपको प्रहार गरिबमा बढी पर्ने हुँदा विकासोन्मुख मुलुकको संवेदनशील क्षेत्रमा कार्य गर्नुपर्ने आवश्यकता पहिचान भयो ।

योकोहामा रणनीति १९९४

सुरक्षित विश्वका लागि योकोहामा रणनीतिको रूपमा सन् १९९४ मा प्राकृतिक प्रकोप न्यूनीकरण गर्ने सम्बन्धमा पूर्वतयारी, उपचारात्मक कार्यहरू र प्रकोप न्यूनीकरणको कार्ययोजना तयार गरियो । यस रणनीतिले प्रकोप न्यूनीकरणका सम्बन्धमा देहाय अनुसारका विशेष चुनौती र कमीकमजोरीहरू पहिचान गरियो ।

- Governance: organizational, legal and policy frameworks,
- Risk identification, assessment, monitoring and early warning,
- Knowledge management and education,
- Reducing underlying risk factors,
- Preparedness for effective response and recovery.

यी क्षेत्रहरू २००५-२०१७ शताब्दीका लागि Framework for Action का रूपमा रहेका छन् ।

प्रकोप व्यवस्थापनका सम्बन्धमा केही भ्रमहरू

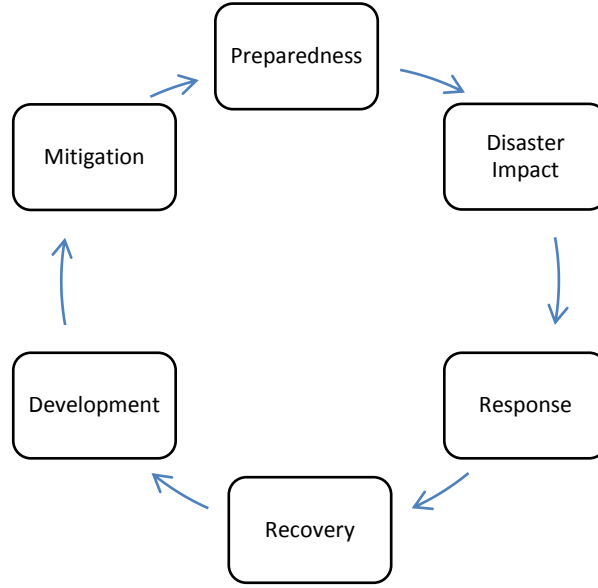
प्रकोप व्यवस्थापनका सम्बन्धमा हाम्रो समाजमा तल दिइए जस्तै केही परम्परागत भ्रमहरू विद्यमान छन् । यी भ्रमात्मक सोचहरूबाट मुक्त हुनु नितान्त आवश्यक छ ।

- विकास र प्रकोप बीचमा कुनै सम्बन्ध छैन ।
- प्रकोप दैवी शक्तिका कारण उत्पन्न हुन्छ, यसको नियन्त्रण/ न्यूनीकरणमा मानवीय भूमिका गौण हुन्छ ।
- प्रकोप उत्पन्न भएपछि यसका प्रभावहरूलाई कम गर्न अथवा प्रकोपको प्रभावहरूलाई राहत उपलब्ध गराउने प्रयोजनको लागि मात्र प्रकोप व्यवस्थापनको आवश्यकता हुन्छ ।
- प्रकोप व्यवस्थापन गर्ने जिम्मेवारी सरकारको मात्र हो ।

- साधन र स्रोत नभई प्रकोप व्यवस्थापनको कुनै पनि कार्य गर्न सकिन्न ।

प्राकृतिक प्रकोप व्यवस्थापन चक्र

प्राकृतिक प्रकोप व्यवस्थापनसम्बन्धी विभिन्न क्रियाकलापहरूलाई चरणबद्ध रूपमा सञ्चालन गर्नुपर्दछ । यस्ता क्रियाकलापहरूलाई तलको चक्रबाट स्पष्ट पार्न सकिन्छ ।



चित्र नं.१: प्रकोप व्यवस्थापन चक्र

तयारी

प्रकोपका घटनाहरू जुनसुकै ठाउँहरूमा घट्न सक्ने भएको हुँदा यस्ता घटनाहरूबाट जोगिनको लागि जनसाधारणमा चेतना अभिवृद्धि गर्ने काममा प्रकोप व्यवस्थापन निरन्तररूपमा सक्रिय रहन' पर्दछ । साथै कुनै पनि प्रकारको घटना घट्ने वित्तिकै प्रभावित पक्षको उद्धारको लागि प्रकोप व्यवस्थापन सदैव चनाखो, सजग र तयारी अवस्थामा रहन' पर्दछ ।

प्रकोपको प्रभाव

प्रकोपको घटनाबाट जनधन, पशु, कृषि, उद्योग, भौतिक एवं सामाजिक संरचना आदिमा के-कस्तो प्रभाव पऱ्यो भन्ने प्राकृतिक प्रकोप व्यवस्थापनले तत्कालै बृहत अध्ययन गरी अभिलेख राख्नुका साथै सरोकारवालालाई यस सम्बन्धमा तथ्यपरक सूचना प्रवाह गर्नु पर्दछ ।

प्रतिक्रिया

प्राकृतिक प्रकोप व्यवस्थापनले प्रकोपवाट पीडितहरूको जिउ बचाउन, सम्पत्तिको रक्षा गर्न, प्रकोपवाट उत्पन्न हुन सक्ने वातावरणीय प्रदूषण एवं रोगहरूलाई नियन्त्रण गर्न एवं प्रकोपको प्रभावलाई नियन्त्रण गर्न अविलम्ब प्रयास थालनी गर्नुपर्दछ ।

उपचार

प्रकोपको घटनावाट पीडित व्यक्तिहरूलाई पुनर्स्थापन गर्न र भौतिक विकासका कार्यहरूमा पुगेको क्षतिको मर्मत एवं पुनर्निर्माण कार्य थालनी गरी ५/१० वर्षको अवधिभित्र प्रकोप पीडित/प्रभावित जनतालाई प्रकोपवाट पीडित हुनुभन्दा पूर्वको अवस्थामा ल्याइसक्नु पर्दछ ।

विकास

प्रकोपको न्यूनीकरण गर्न प्रकोप प्रतिरोधक संरचना निर्माण, प्रकोपवाट हुन सक्ने क्षति एवं प्रकोपवाट बच्न सक्ने उपायका वारेमा सचेतना विकास तथा प्रकोपवाट पीडितको उद्धार गर्नको लागि बहुआयामिक संस्थागत तथा प्रविधिगत विकासलाई गतिशील बनाउनु पर्दछ ।

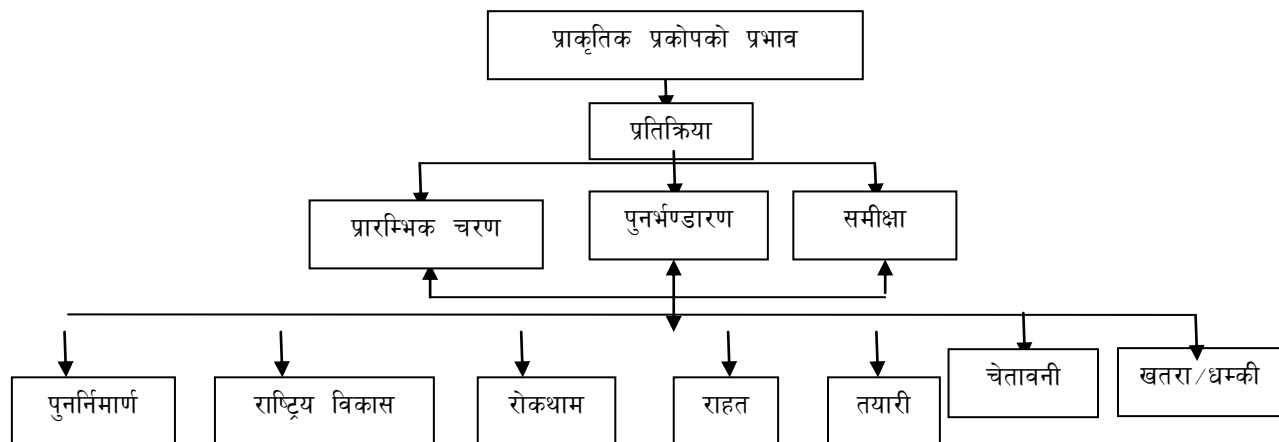
रोकथाम

उपचार गर्नुभन्दा रोगको रोकथाम गर्नु बढी राम्रो हो(Prevention is better than cure)भने भै सकभर प्रकोपको घटना हुन नदिने प्रयास गरिनुपर्दछ । उदाहरणको लागि नदी कटानवाट हुने जन/धन, भूमि आदिको क्षतिलाई रोक्न नदी कटान नियन्त्रणका प्रभावकारी उपायहरू अवलम्बन गर्नुपर्दछ ।

राहत/नियन्त्रण

प्रकोपवाट पीडित व्यक्तिहरूको उद्धारको कार्य घटना घटने वित्तिकै आरम्भ गर्नुपर्दछ । यस अवस्थामा प्रकोप पीडितहरूलाई स्वास्थ्योपचार र वित्तीय तथा आर्थिक सहयोगको साथै सामाजिक स्नेह, ममता, सहानुभूति जस्ता भावनात्मक सहयोगको खाँचो हुन्छ । यसका साथै प्रकोप दोहोरिने संभावना पनि सक्ने भएकोले यस्ता संभावनालाई मध्यनजर गरी भविष्यमा यी घटनाहरू दोहोरिएको अवस्थामा क्षति नहोस् अथवा कमभन्दा कम क्षतिहोस् भन्ने प्रयोजनले प्रकोप नियन्त्रणको लागि व्यवहारिक उपायहरू अवलम्बन गर्नु आवश्यक देखिन्छ ।

प्रकोप व्यवस्थापनका चरणहरूलाई निम्न चित्रवाट समेत स्पष्ट पार्न सकिन्छ:



प्रकोप व्यवस्थापकले प्रकोपबाट हुन सक्ने क्षतिको सघन तथा विश्लेषणात्मक अध्ययन गनु महत्वपूर्ण मानिन्छ । Response / Recoveryको चरणमा यसको यथार्थ जानकारी हुन सकेमा व्यवस्थापन चक्रको सबै चरणहरूका क्रियाकलापहरूलाई प्रभावकारीरूपमा कार्यान्वयनमा ल्याउनको लागि आवश्यक स्रोत र साधन जुटाउन सहज हुन्छ ।

नेपालको सन्दर्भ

प्रकोप व्यवस्थापनको विद्यमान अवस्था

नीतिगत व्यवस्था

नेपालमा देहाय अनुसारको नीतिगत व्यवस्था गरिएको छः

- दैवी प्रकोप (उद्धार) ऐन, २०३९
- स्थानीय स्वायत्त शासन ऐन, २०५५
- स्थानीय स्वायत्त शासन नियमावली, २०५६
- भू तथा जलाधार संरक्षण ऐन, २०३९
- नेपाल भवन ऐन, २०६४
- वातावरण संरक्षण ऐन, २०५३
- वातावरण संरक्षण नियमावली, २०५४
- प्रधानमन्त्री दैवी प्रकोप उद्धार कोष सञ्चालन नियमावली, २०६३
- प्रधानमन्त्री दैवी प्रकोप उद्धार कोष संचालन नियमावली, २०६३
- भवन संहिता, २०६०
- प्राकृतिक प्रकोप जोखिम व्यवस्थापन राष्ट्रिय नीति, २०६६
- राष्ट्रिय कृषि नीति
- राष्ट्रिय आवास नीति
- राष्ट्रिय शहरी विकास नीति
- राष्ट्रिय जल योजना
- जलश्रोत नीति
- भूउपयोग नीति

- राष्ट्रिय जलश्रोत रणनीति
- राष्ट्रिय जल उत्पन्न प्रकोप व्यवस्थापन नीति, एवं स्वास्थ्य क्षेत्रसंग सम्बन्धित नीति/रणनीतिहरू
- दैवी प्रकोप व्यवस्थापनको राष्ट्रिय कार्ययोजना

आवधिक योजनाहरू

नेपालमा आवधिक योजनाहरूको अध्ययन गर्दा पहिलो पटक नवौं योजनाको आधारपत्रमा प्रकोप व्यवस्थापन विषय समावेश गरिएको थियो तर यस योजनाको पूर्ण दस्तावेजमा यो विषय समावेश भएको पाइँदैन । जेहोस्, प्रकोप व्यवस्थापन सम्बन्धी नीति/कार्यनीति पहिलो पटक दशौं योजना (२०५९/६०-२०६३/६४) मा समावेश गरिएको पाइन्छ ।

दशौं योजनाको परिच्छेद १७ मा सिंचाइको क्रममा उत्पन्न हुन सक्ने प्रकोप एवं जल उत्पन्न प्रकोप नियन्त्रण सम्बन्धी नीति/रणनीति/कार्यनीतिहरू समावेश गरिएका थिए भने वाइसौं परिच्छेदमा जनसंख्या व्यवस्थापन, वातावरण संरक्षणका साथै प्रकृतिजन्य प्रकोप एवं मानव क्रियाकलापबाट हुन सक्ने प्रकोपहरूको व्यवस्थापन सम्बन्धी नीति/रणनीति/कार्यनीतिहरू समावेश गरिएका थिए ।

तीन वर्षीय अन्तरिम योजना (२०६४/६५-२०६६/६७) मा प्रकोप व्यवस्थापन सम्बन्धी नीति तर्जुमा, संस्थागत संयन्त्रको सुदृढीकरण, प्रकोपको न्यूनीकरण, प्रकोपबाट पीडितहरूको उद्धारको लागि समन्वयात्मक प्रयास गर्ने एवं जलवायु परिवर्तनलाई समेत प्रकोपका कारक तत्वको रूपमा हेरी प्रकोप व्यवस्थापनलाई बढी प्रभावकारी बनाउने सम्बन्धमा नीतिगत व्यवस्था गरिएको थियो ।

- त्रिवर्षीय योजना (२०६७/६८-२०६९/७०) ले प्रकोप व्यवस्थापनलाई प्रभावकारी बनाउन विभिन्न नीति, रणनीति तथा कार्यक्रमहरू अघि सारेको छ । यस योजनाले विभिन्न क्षेत्रगत रणनीतिको रूपमा देहाय अनुसारका रणनीतिहरू अवलम्वन गरेको देखिन्छ :
- ग्रामीणस्तरमा जल उत्पन्न प्रकोपका न्यूनीकरण, उर्जा विकास, वातावरणमैत्री पूर्वाधार निर्माण तथा उपयुक्त सरसफाई योजना कार्यान्वयन वातावरण संरक्षण तथा आर्थिक अवस्थामा सुधार ल्याउने ।
- स्थानीयस्तरको नेतृत्वमा स्थानीय पूर्वाधार रणनीतिक कार्ययोजना अनुसार श्रममूलक एवं वातावरणमैत्री प्रविधिमा आधारित क्षेत्रगत अवधारणाका आधारमा कार्यक्रमहरूको तर्जुमा र कार्यान्वयन गरिनेछ ।
- जलविद्युत आयोजनाहरू वतावरणमैत्री र जलवायु अनुकूल समेत हुनेगरी दिगो तथा लागत प्राभावी बनाउने ।
- सुरक्षित, किफायती र वातावरण अनुकूलका आवासहरूको विकास गर्ने ।
- वतावरण तथा सामाजिक दृष्टिकोणबाट उपयुक्त वस्ती तथा शहरहरूको विकास गर्ने ।
- प्रयोग भइरहेका प्रविधिहरूको कार्यान्वयनलाई सहजीकरण गर्ने तथा पूर्वाधार संरचनालाई दिगो, वातावरणमैत्री, सुरक्षित तथा किफायती बनाउने ।
- प्राकृतिक प्रकोप तथा जलवायु परिवर्तनका कारणले परेका प्रभावहरू न्यूनीकरण गर्न पूर्वसूचना प्रणाली संयन्त्रको विकास गर्ने ।
- वातावरणीय नीति नियम सम्बन्धी संयन्त्रको सवलीकरण र संस्थागत क्षमता विकास गर्ने ।

- विकास कार्यक्रममा वातावरण व्यवस्थापनलाई आन्तरिकीकरण गरी विकास कार्यक्रमको अभिन्न अङ्गको रूपमा सञ्चालन गर्ने ।
 - जनस्तरमा वातावरणीय चेतना र सावधानी जगाउने कार्यक्रम सञ्चालन गर्ने ।
 - राजधानी लगायतका ठूला शहरमा रहेका नदीहरूको प्रदूषण न्यूनीकरण गर्ने तथा जल, जमीन, ध्वनी तथा वायुको प्रदूषण रोकथाम गर्ने ।
 - प्रकोप जोखिम न्यूनीकरण, गरिवी न्यूनीकरण तथा वातावरणीय उत्प्रेरणालाई निरन्तरता दिई जलवायु परिवर्तनलाई अनुकूलितवनाउने र प्राकृतिक श्रोत साधनको दिगो संरक्षण तथा व्यवस्थापन गर्ने ।
 - मौसम भविष्यवाणी प्रणाली भरपर्दो बनाउने ।
 - वातावरण प्रवर्द्धन तथा जलवायु परिवर्तन सम्बन्धी अध्ययन/अनुसन्धान गर्ने ।
- उपर्युक्त रणनीतिहरूका साथै चालु योजनाले प्रकोप जोखिम व्यवस्थापन रणनीति, २०६६ को कार्यान्वयन गर्न, एवं हिमनदी, हिमताल र बाढको खतरा रहेका नदी तथा स्थानहरूमा पूर्व सूचना पद्धतिको विकास गरी योजना तर्जुमा तथा कार्यान्वयन जस्ता विभिन्न क्षेत्रगत कार्यनीतिहरू निर्देश गरेको छ ।

संस्थागत व्यवस्था

- नेपालमा प्रकोप व्यवस्थापन एवं दैवी प्रकोप (उद्धार) ऐन, २०३९ को कार्यान्वयनको प्रमुख जिम्मेवार निकायको रूपमा गृह मन्त्रालय रहिआएको छ ।
- केन्द्रीय दैवी प्रकोप उद्धार समिति (मा. गृहमन्त्रीको अध्यक्षतामा)
- क्षेत्रीय दैवी प्रकोप उद्धार समिति (क्षेत्रीय प्रशासकको अध्यक्षतामा)
- जिल्ला दैवी प्रकोप उद्धार समिति (प्रमुख जिल्ला अधिकारीको अध्यक्षतामा)
- स्थानीय दैवी प्रकोप उद्धार समिति (गठन गर्न सक्ने व्यवस्था)

उपर्युक्त निकायहरूका साथै देहाय अनुसारका निकायहरूको समेत प्रकोप व्यवस्थापन सम्बन्धी काममा विशेष संलग्नता रहेको देखिन्छ :

- राष्ट्रिय योजना आयोग
- अर्थ मन्त्रालय
- सिंचाई मन्त्रालय
- रक्षा मन्त्रालय
- उर्जा मन्त्रालय
- स्वास्थ्य तथा जनसंख्या मन्त्रालय
- भौतिक योजना तथा निर्माण मन्त्रालय
- वातावरण मन्त्रालय
- विज्ञान तथा प्रविधि मन्त्रालय
- स्थानीय विकास मन्त्रालय
- सूचना तथा सञ्चर मन्त्रालय
- भूमिसुधार तथा व्यवस्था मन्त्रालय
- अन्य मन्त्रालयहरू
- नेपाली सेना
- सशस्त्र प्रहरी बल
- नेपाल प्रहरी
- समाज कल्याण परिषद्

- जल उत्पन्न प्रकोप नियन्त्रण विभाग
- खानी तथा भूगर्भ विभाग
- जल तथा मौसम विभाग
- भूसंरक्षण तथा जलाधार व्यवस्थापन विभाग
- नापी विभाग
- अन्य विभागहरू
- सामाजिक संघसंस्थाहरू (नेपाल रेडक्रस, नेपाल स्काउट लगायत स्वयंसेवक संस्थाहरू)
- तलिम केन्द्रहरू
- स्थानीय निकायहरू
- गैरसरकारी संस्थाहरू
- सञ्चार माध्यमहरू
- नागरिक समाज, आदि

अन्तर्राष्ट्रिय एजेन्सीहरू

- Japan International Co-operation Agency (JICA)
- Asian Disaster Reduction Center (ADRC)
- Asian Disaster Preparedness Center (ADPC)
- United Nations Development Program (UNDP)
- International Centre for Integrated Mountain Development (ICIMoD)
- International Red Cross Society (IRCS)
- Co-operation for American Relief Everywhere (CARE)
- OXFAM
- World Food Program (WFP)
- Save The Children Fund (SCF)
- Technical Co-operation of the Federal Republic of Germany
- Lutheran World Service, etc.

प्रमुख चुनौतीहरू

- प्रकोप सम्भाव्य क्षेत्रहरू (Disaster Prone-Zones) को पहिचान गरी प्रकोप प्रभावित क्षेत्रमा तत्काल उद्धार कार्यको थालनी र प्रकोप पीडितहरूलाई राहतको अनुभूति गराउनु ।
- प्रकोप न्यूनीकरणका व्यवहारयोग्य नीतिगत व्यवस्था एवं संस्थागत व्यवस्थाको सुदृढीकरण
- पर्याप्त साधन श्रोत (मानवीय, वित्तीय प्रविधिगत)को उपलब्धता
- सुदृढ सूचना व्यवस्थापन/सूचना प्रचार-प्रसार
- यातायात व्यवस्थापनको सुदृढीकरण
- सरोकारवालाबीच प्रभावकारी समन्वय
- जिम्मेवारीको स्पष्ट बाँडफाँड
- भण्डारणको पर्याप्त व्यवस्था
- योजनावद्ध/वैज्ञानिक वस्ती विकास र वसाइसराइ
- भू तथा जलाधार एवं वातावरण संरक्षण

- प्रकोप प्रतिरोधक संरचना निर्माण
- जलवायु परिवर्तनका प्रभावहरूको समयमा योजनावद्ध व्यवस्थापन
- वैज्ञानिक कृषि प्रणाली
- राजनैतिक स्थिरता
- अनुमानयोग्य राजनैतिक निर्णय
- जनचेतना
- गरिवी निवारण
- भ्रष्टाचार निवारण
- नीति, योजना र कार्यक्रमहरूको प्रभावकारी कार्यान्वयन
- सुदृढ अनुगमन तथा मूल्यांकन संयन्त्र

विद्यमान समस्याहरू:

- सूचनाको कमी
- पर्याप्त जनसचेतनाको अभाव
- पूर्वचेतावनी दिने प्रक्रियाको अभाव
- साधन र स्रोतको अभाव
- उपयुक्त प्रविधिको अभाव
- क्षतिग्रस्त हुन सक्ने सम्भावित क्षेत्रको पहिचान गर्न नसक्नु
- समन्वयको अभाव र प्रकोप व्यवस्थापन सम्बन्धी निकायतग स्पष्ट जिम्मेवारीको अभावमा कार्यहरूको दोहरोपना देखिएको, प्रकोपका घटनाहरू घटेपछि मात्रै समन्वय र साधन-स्रोत संकलन र परिचालनमा जोड दिइन्छ ।
- संरचनागत व्यवस्था अपर्याप्त छ । गृहमन्त्रीको अध्यक्षताको समितिले प्रकोप पछिको अवस्था हेरे पनि पूर्व अवस्थाको समन्वय गर्न सकेको छैन ।
- दक्ष जनशक्तिको अभाव
- प्रकोप व्यवस्थापनलाई वैज्ञानिक तरीकाले व्यवस्थापन गर्न नसकेको तथा प्रकोप नियन्त्रण एवं व्यवस्थापन कार्यलाई राष्ट्रिय एवं स्थानीय विकास कार्यक्रमहरूमा अपेक्षित तरिका र माध्यमबाट समाहित गर्न नसकेको । Preparedness र Capacity Building मा सहयोगको अभाव रहेको ।
- जनसंख्या व्यवस्थापनलाई प्रभावकारी बनाउन नसकिएको
- अनियमित बसाइसराइ
- वातावरणीय हासोन्मुख स्थिति
- योजना तर्जुमा र कार्यान्वयन प्रभावकारी हुन नसकेको
- परम्परागत कृषि प्रणालीमा सुधार ल्याउन नसकिएवाट भू-क्षय लगायतका समस्याहरू बढ्दै जानु
- स्थानीय निकायहरू जनप्रतिनिधिविहीन अवस्थामा रहनु
- अनियन्त्रित वनफडानी
- जलवायु परिवर्तनका प्रभावहरूलाई यथासमयमा व्यवस्थितगर्न नसकिएको
- दिगो विकासका प्रयासहरूले मूर्तरूप लिन नसकेको, आदि ।

चुनौती तथा समस्या निराकरणको लागि अपनाउनुपर्ने उपायहरू:

- प्रधानमन्त्रीको अध्यक्षतामा प्रकोप उद्धार परिषद् गठन गरिनु पर्ने जसले गर्दा सम्बद्ध सबै निकायहरू बीचको समन्वय प्रभावकारी हुन सक्छ ।
- केन्द्रीय दैवीप्रकोप उद्धार समितिको कार्यक्षेत्रलाई उद्धार कार्यसम्ममात्र सीमित नराखी विस्तार गरिनुपर्ने ।
- Hazard Specific Intervention हुनुपर्ने, यसका लागि विज्ञको आवश्यकता पर्ने भएकोले विभागीय आधारमा योजना तयार गरी राष्ट्रिय कार्यक्रमसंग आबद्ध गर्ने ।
- जिल्ला दैवीप्रकोप उद्धार समितिबाट प्रकोप पूर्वतयारी वार्षिक योजना तर्जुमा गराउने ।
- प्रकोपबाट उत्पन्न हुनसक्ने समस्याहरूबाट सर्वसाधारणलाई जोगाउने उद्देश्यले सञ्चार माध्यमहरूसंगको सहकार्यबाट सचेतना विकास गराउने ।
- प्रकोप उद्धार एवं पुनर्निर्माणको सन्दर्भमा संकट व्यवस्थापनका आधुनिक प्रविधिहरू प्रयोगमा ल्याउने ।
- विकासका पूर्वाधार (लोकमार्ग/सडक, पुल, जलविद्युतका बाँडफाड, विमानस्थल, भवन, आदि) लाई प्रकोपबाट बचाउन सकिने दूरीमा निर्माण गर्न लगाउने ।
- प्रकोपको लागि प्रर्याप्त साधन-स्रोतको व्यवस्था गर्ने ।
- प्रकोप पीडित पक्षलाई यथोचित सुरक्षा प्रदान गर्न तथा उनीहरूको उद्धार गर्नको लागि उपयुक्त प्रविधिहरू प्रयोग गर्ने र सम्बन्धित कर्मचारीहरू एवं स्वयंसेवकहरूको क्षमता विकास गर्ने ।
- प्रकोप व्यवस्थापनको कार्यमा सरकारी/अर्धसरकारी निकायहरूका साथै गैरसरकारी संस्था, निजी क्षेत्र, सामुदायिक संस्था, धार्मिक संस्था, नागरिक समाज लगायत विकासका सबै साभेदारहरू Proactive हुनुपर्ने ।
- गैरसरकारी संस्थाहरूलाई लक्षित वर्गमा पुऱ्याउन विशेष नीति तर्जुमा गरी कार्यान्वयन गनु पर्दछ ।
- जनसंख्या व्यवस्थापनका प्रभावकारी कदमहरूको थालनी गर्ने ।
- प्रकोप व्यवस्थापनका प्रत्येक क्रियाकलापहरूमा समुदायलाई अनिवार्यरूपमा सहभागी बनउने ।
- वातावरण संरक्षण, जलाधार संरक्षण तथा व्यवस्थापनमा विशेष जोड दिने ।
- भौतिक संरचना निर्माण तथा उद्योग स्थापना गर्नु पूर्व र गरेपश्चात् Initial Environmental Assessment / Environmental Impact Assessment अनिवार्यरूपमा गर्ने ।
- अल्पकालीन, मध्यकालीन र दीर्घकालीन योजना तयार गरी योजनावद्ध प्रकोप न्यूनीकरणका प्रयासको थालनी हुनुपर्ने ।
- स्थानीयस्तरदेखि राष्ट्रियस्तरसम्म सशक्त अनुगमन तथा मूल्यांकन संयन्त्रहरू निर्माण गर्ने ।
- दैवी प्रकोप (उद्धार) ऐन, २०३९ मा समय-सापेक्ष परिमार्जन गरी सोको कार्यान्वयनलाई प्रभावकारी बनउने .

उपसंहार

प्रकोपहरूले प्रत्यक्षरूपमा अर्थतन्त्र, खाद्यान्न सुरक्षा, स्वास्थ्य, पानी, सरसफाइ तथा जैविक विविधता, वातावरण एवं भौतिक संरचनाहरूमा नकारात्मक प्रभाव पार्दछ । यी कारणहरूले गर्दा प्रकोपको न्यूनीकरण गर्नु सबै विकासोन्मुख राष्ट्रहरूको प्राथमिक चासोको विषय भएको छ । फलस्वरूप वर्तमान

समयमा प्रकोप व्यवस्थापनको महत्व बढ्दै गइरहेको छ । प्रकोप व्यवस्थापनको प्रभावकारी सञ्चालनमा सरकारी, गैरसरकारी, निजीक्षेत्र, दातृनिकाय, व्यक्ति, समुदाय एवं सामुदायिक संस्थाहरू लगायत विकासका सबै साभेदारहरूको सक्रिय साभेदारी अपरिहार्य हुन्छ । नेपालमा प्रकोप व्यवस्थापनका सन्दर्भमा विभिन्न नीतिगत तथा संस्थागत व्यवस्था हुँदै आएको भएता पनि अपेक्षित मात्रामा प्रकोपको न्यूनीकरण हुन सकेको छैन । प्रकोपका अति संभाव्य क्षेत्रहरूको पहिचान गरी प्रकोप न्यूनीकरण गर्न एवं प्रकोपका घटना घटेको अवस्थामा तत्काल पीडित पक्षको उद्धारको लागि प्रभावकारी व्यवस्था मिलाउन राज्यका सम्बन्ध सबै निकायहरूका साथै निजीक्षेत्र, गैरसरकारीक्षेत्र, सामाजिक संघ-संस्था, नागरिक समाज, आदिको समष्टिगत अवधारणा अनुरूप सक्रिय सहभागिता परिचालनका लागि यथाशीघ्र पहल गर्नु जरूरी छ ।

सन्दर्भ सूची

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गोपीनाथ मैनाली *

विषय प्रवेश

प्रत्येक आर्थिक वर्षको मध्यपछि मन्त्रालय तथा विभागका प्राविधिक समूह अर्को वर्षको बजेट कार्यक्रमका लागि जुट्ने गर्दछ। विशेषतः यस सिलसिलामा अर्थ मन्त्रालय, राष्ट्रिय योजना आयोग र विषयगत मन्त्रालय/सचिवालयहरू आगामी आर्थिक वर्षको बजेट तथा वार्षिक विकास कार्यक्रममा सक्रिय रूपमा जुट्ने गर्दछन्। कुनैपनि मुलुकका लागि बजेट यसकारण महत्वपूर्ण छ कि यसले आगामी एक वर्षका लागि सरकारका क्रियाकलापलाई पूर्णरूपमा निर्दिष्ट गर्दछ। यो सरकारको सर्वाधिक महत्वपूर्ण नीति संयन्त्र हो जसमा आधारित नभै सरकारका कुनैपनि कार्यक्रम तथा नीतिहरूले क्रियाशीलता हासिल गर्दैनन्। सामान्यतः उल्लिखित निकायहरू पौष/माघदेखि बजेट तथा वार्षिक विकास कार्यक्रमको औपचारिक प्रक्रियामा संलग्न हुने गर्दछन्। माघतिर स्रोत तथा बजेट समितिले निर्धारण गरे अनुरूपको बजेट सीमा तथा कार्यक्रम तर्जुमाको मार्गदर्शन राष्ट्रिय योजना आयोगले केन्द्रीयस्तरका विभिन्न निकायमा पठाई आगामी वर्षका लागि कार्यक्रम तथा क्रियाकलाप प्रस्ताव गर्न निर्देशन दिन्छ। बजेट तर्जुमा मार्गदर्शन अनुसार (सामान्य अवस्थामा) अषाढ महिनाको दोस्रो हप्तासम्म नेपाल सरकारले संसदमा बजेट प्रस्तुत गर्नुपर्ने भएकाले पनि चैत्रको दोस्रो हप्तादेखि बजेटका प्रमुख पात्रहरू राष्ट्रिय योजना आयोग, अर्थ मन्त्रालय र विषयगत मन्त्रालय/सचिवालयहरू प्रस्तावित कार्यक्रमलाई अन्तिम रूप दिन जुट्ने गर्दछन्। प्राविधिक रूपमा भन्दा यो चरण बजेट नेगोशिएशन (बजेट वार्ता) को चरण हो जुन बजेट प्रक्रियाको जग पनि हो। तर नेपालको बजेट तथा कार्यक्रम तर्जुमाको चरण व्यावहारिक भन्दा पनि औपचारिक रूपमा अभ्यास हुँदै आएको छ। स्रोत आँकलन, मार्गदर्शन तर्जुमा, स्रोत निर्धारण एवं वितरण र बजेट छलफल तर्जुमा चरणका महत्वपूर्ण कार्य हुन्। यस चरणमा केही मूलभूत कुराहरूलाई ध्यानमा नराखी बजेट कार्यक्रमलाई वास्तविक र नतिजामुखी बनाउन सकिँदैन।

केही सवालहरू

बजेट तर्जुमाका सन्दर्भमा राष्ट्रिय योजना आयोग र अर्थ मन्त्रालय प्रमुख नीतिशिल्पी (पोलिसी आर्किटेक्ट) का रूपमा रहन्छन्। स्रोत साधन परिचालनका सन्दर्भमा अर्थ मन्त्रालय र नीति, उद्देश्य एवं प्राथमिकता निरूपणका सन्दर्भमा राष्ट्रिय योजना आयोगको सक्रियता निर्णयक रहने गर्दछ, विश्वका अरू मुलुकहरूको पनि प्रचलन यही नै हो। नेपालको बजेट प्रवृत्ति हेर्दा आन्तरिक स्रोत निकै सीमित र त्यसमा पनि तलब, भत्ता, निवृत्तिभरण, सावाँ व्याज भुक्तानी जस्ता प्रतिवद्ध खर्चको दायित्व प्रतिवर्ष बढ्दै गएको छ। सीमित आन्तरिक स्रोतमा प्रतिवद्ध खर्चको दावी बढ्दै जानु, त्यसमा पनि सालवसाली दायित्व (सुरक्षा, प्रशासन, प्रोत्साहन आदि) धान्नै नसकिने गरी बढ्दै जानु बजेट व्यवस्थापनको सन्दर्भमा निकै जटिल विषय हो। यस विषयलाई २०५७ सालदेखि औपचारिक कार्यसूचीमा प्रवेश गराइए पनि बजेट तर्जुमाका समयमा भने त्यति धेरै महत्व दिइएको छैन। यसप्रकारका चालु खर्चको आयतन कुनैपनि आधारमा एकपटक विस्तार भएपछि यो वा त्यो नाममा त्यसप्रकारको खर्च दीर्घकालसम्म रहिरहने भएकाले प्रतिवद्ध खर्च घटाउने सीमित उपाय मात्र सरकारसँग रहन्छन्। यसप्रकारको खर्च नियन्त्रण आन्तरिक रूपमा

*श्री मैनाली राष्ट्रिय योजना आयोगको सचिवालयमा सह सचिव हुनुहुन्छ। Email: mainaligopi@gmail.com.

अप्रीय र चुनौतीपूर्ण पनि रहने गर्दछ । साथै साधारण खर्च नियन्त्रणका उपाय अवलम्बन गर्दा त्यसका नतिजा तत्काल नदेखिनपनि सक्छन् । तर आन्तरिक कार्य व्यवस्थित नगरिकन पूजीगत खर्च भने बढाउन सकिदैन । त्यसैले बजेट तर्जुमाका सुरुवाती दिनदेखिनै दीर्घकालीन दृष्टिकोणका साथ खर्च तथा विनियोजनका मानकहरू स्थापना गर्ने, सालवसाली खर्च र पूजीगत खर्चका अनुपातको कति हुनुपर्दछ सो निर्धारण गर्ने र सरकारी खर्चको पुनसंरचना गर्ने कार्य गरिनुपर्दछ । अन्यथा बढ्दो सरकारी खर्च धान्न सकिने स्थिति समेत नरही सरकारको वैधतामा आँच आउनसक्छ । विशेषतः सरकारी सङ्गठन संरचना, त्यसमा पनि सुरक्षा सङ्गठन संरचनालाई पुनःपरिभाषा गरिनु आवश्यक छ । नीतिशिल्पीका भूमिकामा रहेका राष्ट्रिय योजना आयोग र अर्थमन्त्रालयले आफ्नो शिल्पकारिता यसतर्फ देखाउन सक्नुपर्छ ।

दोस्रो, आवधिक योजना र वार्षिक विकास कार्यक्रम बीचको आवद्धताको सवाल हो । आगामी वर्ष चालू त्रिवर्षीय योजना (२०६७/६८-२०६९/७०) को अन्तिम वर्ष पनि हो । आवधिक योजनाका उद्देश्य, नीति तथा प्राथमिकताले बजेट तर्जुमाको प्रक्रियालाई पूर्णरूपमा निर्दिष्ट गर्नसक्नु पर्दछ, अन्यथा आवधिक योजनाले निर्धारण गरेको उद्देश्य स्वतः पाखा लाग्छन् । यस योजनाले आगामी दुई दशकभित्र नेपाललाई अतिकम विकसित मुलुकबाट विकासशील मुलुकमा पुऱ्याउने दीर्घकालीन सोचअनुरूप रोजगारी केन्द्रीत, समन्यायिक तथा समावेशी विकासमार्फत गरिवी निवारण र दिगो शान्ति प्राप्त गर्ने उद्देश्य स्थापित गरेको छ । जसलाई संवोधन गर्न पूर्वाधार विकास, रोजगारी सिर्जना, समावेशीकरण, सुशासन, जलवायु परिवर्तन अनुकूलन र आमजनतालाई प्रत्यक्ष राहत पुग्ने राष्ट्रिय रणनीतिका विषयलाई प्राथमिकताको सूचीमा राखेको छ । त्यसैले बजेटलाई अन्तिम रूप दिँदा यिनै विषयलाई केन्द्रविन्दुमा राखिनु पर्दछ । त्यसो भएमा मात्र आउँदा दिनमा गरिने बजेट अभ्यासलाई पनि आवधिक योजनाका प्राथमिकतासँग आवद्ध गर्न प्राविधिक रूपमा सहज हुँदैजान्छ ।

तेस्रो, छिटो प्रतिफल दिने आयोजना र व्यवस्थित कार्यसूचीका आधारमा योजना प्रक्रियामा प्रवेश गरेका योजनालाई प्राथमिकता दिनुपर्दछ जसले आवधिक योजनाको भावनालाई प्रत्यक्षरूपमा समेट्न सक्छ । स्रोतसाधन छर्ने प्रवृत्तिले 'धेरै आयोजना तर थोरै उपलब्धि' को विरोधाभाषमा नेपालको योजना प्रणाली पर्दै आएको छ । विगत केही वर्षदेखि साना सडक, खानेपानी, पुलपुलेसा, सिचाई, नदी नियन्त्रण, सम्पदा संरक्षण, सार्वजनिक भवन, विभिन्न प्रकृतिका समिति एवं प्रतिष्ठान तथा सामुदायिक विद्युतीकरण क्षेत्रका कार्यक्रमको अत्यधिक माग हुँदै आएको छ । प्राविधिक रूपमा चाहेर पनि यी मागलाई वेवास्ता गर्न सकिने अवस्था छैन, राजनैतिक लोकप्रियताका कार्यक्रम पनि यिनै हुन् । तर यस्ता मागमा कार्यान्वयनका लागि संस्थागत तथा प्राविधिक क्षमता, सामाजिक सहयोग, वातावरणीय अनुकूलनता, दिगोपना जस्ता पक्षमा ध्यान दिने गरिएको छैन । त्यसैले अव्यवस्थित कार्यसूचीका आधारमा, स्रोत साधन निश्चित नभै पकेट योजनाहरू रातो कितावमा प्रवेश गराउने प्रवृत्तिलाई निरूत्साहित गरिनुपर्दछ । त्यसो भएमात्र वास्तविक योजनाको पहिचान हुन गै आवधिक योजनाले निर्दिष्ट गरेका नीति प्राथमिकतालाई कार्यान्वयन गर्न सकिन्छ । यसो गर्न प्राविधिक अभ्यासलाई राजनैतिक समुदायको सहयोग पनि आवश्यक छ । उनीहरूका माग तथा ज्ञापनहरू केवल आवश्यकता पहिचान र संभाव्यता अध्ययनका लागि ध्यानाकृष्ट गर्ने माध्यमका रूपमा मात्र लिइनुपर्दछ । राजनैतिक समुदायबाट अव्यवस्थित कार्यसूचीका आधारमा आउने माग तथा दवावलाई संवोधन गर्नुपर्ने कार्यक्रमका लागि संसद विकास कोष वा क्षेत्रगत निक्षेपणको सिद्धान्त अनुसार यस्ता कार्यक्रमहरूलाई कार्यान्वयन गरी केन्द्रीय योजनालाई व्यवस्थित र अनुशासित बनाउनु पर्दछ ।

चौथो, धेरै नयाँ आयोजना/कार्यक्रमलाई वार्षिक विकास कार्यक्रममा समावेश गराउनुभन्दा सम्पन्न गर्न सकिने आयोजनालाई प्राथमिकता दिई आगामी आर्थिक वर्षभित्र सम्पन्न गर्न स्रोत साधन विनियोजन गरिनु पर्दछ । अहिले पनि पुल, खानेपानी, सिचाई, नमूना वस्ती, सडकका सैयौं क्रमागत कार्यक्रमहरू सम्पन्न गर्न वर्षौं लाग्ने अवस्थामा छन् । तीमध्ये कतिपयको बहुवर्षीय ठेक्का व्यवस्था समेत भैसकेको छ

। यी योजनाहरूमा राज्यको दायित्व सिर्जना भैसकेको हुँदा यिनलाई सम्पन्न गर्न सकेमा यसबाट अर्थतन्त्र र समाजले तत्काल प्रतिफल पनि पाउँछ भने खर्चको गुणस्तरीयता बढाउन सकिन्छ । पाँचौँ, केही नयाँ योजनाहरू लिनुपर्दा यसले समग्र अर्थतन्त्रमा पार्ने प्रभाव, आर्थिक गतिशीलता र सामाजिक एकीकरणमा खेल्ने भूमिका, अन्य उपक्षेत्रलाई गर्ने योगदान जस्ता पक्षलाई विचार गरिनुपर्दछ । जस्तो कि नेपालको भाग्य निर्माणका लागि मध्यपहाडी लोकमार्ग, उत्तर दक्षिण कोरिडोर, हुलाकी मार्ग जस्ता राणनीतिक महत्वका सडकमा लगानी गर्दा यसले आर्थिक संभावना दोहन, आसपासका क्षेत्रमा शहर विस्तार र बस्ती विकास, उर्जा तथा पानी उपयोग, पर्यटन तथा कृषि विकासलाई एकसाथ संवोधन गर्नसक्छ । यसबाट अन्य औद्योगिक तथा व्यापार व्यवसायलाई पनि योगदान पुग्नेहुन्छ । छौँठो, कार्यक्रम कार्यान्वयनको एकीकृत पद्धति अवलम्बन गरिनु त्यत्तिकै जरूरी छ । जस्तो कि नेपालमा बढ्दो उर्जा सडक, बढ्दो खाद्य सडक र खानेपानीको अभाव, वातावरण र जलाधार संरक्षणको आवश्यकतालाई बहुउद्देश्यीय आयोजनाबाट एकसाथ संवोधन गर्न सकिन्छ । समाज र अर्थतन्त्र दिनपरदिन उर्जासघन भएर गएको छ, जनसङ्ख्या बढ्ने क्रमले खाद्यान्न तथा खानेपानीको माग विस्तार गरिरहेको छ । भेरी बबई डाइभर्सन, गण्डकी-कमला-कोशी डाइभर्सनबाट एकसाथ जमिन सिचाई, उर्जा उत्पादन, खानेपानी आपूर्ति, जलाधार तथा वातावरण संरक्षण र जैविक विविधता संरक्षण गर्न सकिन्छ । यस प्रकारको एकीकृत पद्धति अवलम्बनबाट आयोजना लागत घट्ने पनि प्रशस्त संभावना रहन्छ । तर बहुउद्देश्यीय आयोजना सञ्चालनका लागि परम्परागत सोच, विभागीय आग्रह र कर्मचारीतन्त्रीय शैलीबाट माथि उठ्नु अत्यन्त जरूरी पर्दछ । त्यसैले बजेटमार्फत नै बहुउद्देश्यीय आयोजना सञ्चालन तथा समन्वयको संयन्त्र घोषणा गरिनु उचित हुन्छ ।

सातौँ, नेपालमा कुनैपनि क्षेत्रमा सूचनाको व्यवस्थित आधार छैन, त्यो नीति निर्माणको पक्षमा होस् कि विकास व्यवस्थापनमा होस् । प्रत्येक वर्ष कुन क्षेत्रको माग कति हुन्छ, उत्पादन र उपयोग कति हुन्छ, त्यसबाट अर्थतन्त्रमा केकस्ता प्रभाव पर्दछन्, के कस्ता जोखिमहरू के कुन अवस्थामा आउन सक्छन् आदि क्षेत्रमा सूचना आधार (नोलेज वेस) स्थापित नगरीकन लगानी, प्राथमिकता जस्ता पक्षमा ध्यान दिदा त्यो राणनीतिक नभै तदर्थ हुने गरेको छ । जस्तो कि जलवायु परिवर्तनबाट नेपाललाई केकस्ता सकारात्मक वा नकारात्मक असर पर्दछन् भन्ने निश्चय गर्न जलवायु परिवर्तन सम्बन्धी नोलेज वेस नभै हुँदैन । पानी उपयोगका विषयमा कुनै पक्षसँग वार्ता गर्न वा राणनीतिक योजना बनाउन खास नदी आधार (रिभर वेसिन) को सम्पूर्ण जानकारी नभै हुँदैन । यस्ता विषयमा प्रत्येक क्षेत्रमा सूचना आधार स्थापित गरी केन्द्रीय सूचनामा बैंक (नोलेज इन्भेन्टी) बनाउन थोरै भएपनि विनियोजन गरिनु आवश्यक छ । सबै प्रकारको नोलेज वेसको केन्द्रीय सुरक्षा (व्याक अप) राष्ट्रिय योजना आयोगमा रहनु पर्दछ । किनकी आवधिक योजना र वार्षिक विकास कार्यक्रमको प्राधिकार निकाय यही नै हो ।

आठौँ, केही क्षेत्रमा नीतिगत सुधार मात्रैबाट पनि मुलुक लाभान्वीत हुनसक्छ । विशेष गरी पूर्वाधार क्षेत्रमा वर्षेनी अत्यधिक माग बढ्दै गएको छ तर सरकारी बजेट विनियोजनबाट मात्र यो माग पूरा गर्न सकिने अवस्था छैन । निजी, सार्वजनिक र सामुदायिक क्षेत्रको संभावना उपयोग गर्न र जोखिम साभेदारी गर्न निजी-सार्वजनिक साभेदारीका क्षेत्रमा अग्रगामी कार्यक्रमहरू ल्याइनु आवश्यक छ । सडक, सिचाई, उर्जा, बस्ती विकास, रेल्वे लगायतका वैकल्पिक यातायात, खानेपानी, फोहरमैला व्यवस्थापन, सामुदायिक अस्पताल जस्ता क्षेत्रमा साभेदारीको नीति अवलम्बनका पाइलटिङ् गरी एक क्षेत्रमा राम्रो नतिजा ल्याउने कार्यक्रमलाई अर्को क्षेत्रमा अनुवाद (रिप्लिकेट) गरिदै लैजानु पर्दछ । सूचना प्रविधि, पर्यटन, शहरी क्षेत्रका संस्थागत विद्यालय र स्वास्थ्य केन्द्रहरूको सफल साभेदारीबाट अन्य भौतिक पूर्वाधारमा पनि शिक्षा लिन आवश्यक छ । यस प्रकारको कार्यका लागि निजीक्षेत्र तयार पनि भैसकेको छ । जस्तो कि हेटौडा-काठमाडौँ सुरुङ्ग मार्गका लागि आवश्यक हुने ठूलो प्राविधिक क्षमता र अर्बौँ रूपैयाको लगानीका लागि निजीक्षेत्रले उत्साहका साथ अनुमति माग गरिरहेको छ, रोपवे, केवलकार, फनपार्कका क्षेत्रमा पनि निजी क्षेत्र उत्साही देखिएको छ ।

नबौ, योजनाको प्रभावकारी कार्यान्वयनका लागि अनुगमन र नीति प्रभावकारिताको लागि मूल्याङ्कनलाई आयोजना व्यवस्थापनको अभिन्न भागका रूपमा स्थापित गरिनु त्यत्तिकै आवश्यक छ । समयमा कार्यक्रम कार्यान्वयन नहुने, कार्यक्रमले बजेट र योजनाको भावनालाई नसमेटी सोबाट विषयान्तर हुने, कार्यक्रममा राष्ट्रिय तथा प्राविधिक मापदण्डलाई नअपनाउने, एक क्षेत्रमा विनियोजन भएको रकम अन्यत्र रकमान्तर गर्ने, गैरबजेटरी खर्च हुने, खर्चको गुणस्तर र योजना अनुशासन अवलम्बन नगर्ने जस्ता प्रवृत्तिबाट छुटकारा पाउन योजना तहमा, मन्त्रालय तहमा, तेस्रो पक्ष तथा लाभग्राही तहमा अनुगमन मूल्याङ्कन गर्ने कार्यलाई बजेटले उच्च प्राथमिकतामा राख्नुपर्दछ । अहिले अनुगमन तथा मूल्याङ्कन भन्ने विषय औपचारिक रूपमा लिइने, राष्ट्रिय योजना आयोगले मात्रै गर्ने भन्ने विषय तर्फ लक्षित हुँदै गएको छ । यसका लागि संस्थागत क्षमता र अग्रसरता पनि छैन । अनुगमन तथा मूल्याङ्कनका प्रतिवेदनलाई सार्वजनिक गरी प्रत्यक्ष जवाफदेहीता निर्वाह गर्ने परिपाटी वसाल्नु आवश्यक छ । यसले समग्र सुशासनलाई समेत बढावा दिन्छ ।

दर्शौ, पूर्वाधार संरचना निर्माण र विकास व्यवस्थापनमा सामाजिक तथा वातावरण सुरक्षा प्रणाली (Safeguard System) को मुद्दा राष्ट्रिय एवं अन्तर्राष्ट्रिय रूपमा निकै ज्वलन्त भएर आएको छ । वातावरणीय प्रभाव अध्ययन र जग्गा प्राप्ति तथा पुनर्वास सम्बन्धी नीति एकीकृत मात्र नभएको होइन कि नीति नै छैन भन्ने पनि हुन्छ । वातावरणीय प्रभाव अध्ययनको कानून छ तर यसलाई औपचारिक रूपमा मात्र लिने गरिएको छ । वातावरणीय प्रभाव अध्ययन गर्दा र नगर्दा भिन्न नतिजा आउँदैन भन्ने अध्ययनका नाममा आयोजना/कार्यक्रमलाई ढिलो मात्र किन गराउने ? त्यस्तै सार्वजनिक निर्माणमा जग्गा प्राप्ति र पुनर्वास सम्बन्धी आन्तर्राष्ट्रिय प्रतिबद्धता एकातिर छ, नीति निर्माण र कानूनको सामयिक सुधार गर्न सकिएको छैन । यस विषयले पटकौ मन्त्रिपरिषदमा प्रवेश पाए पनि हालसम्म स्वीकृति पाउन सकेको छैन । अर्कोतर्फ भएको कानूनको मनोगत व्याख्या गरी धेरै अवास्तविक क्षतिपूर्ति दिने/लिने र आयोजना क्षेत्रको जग्गा अतिक्रमण हुने काम समेत भएको छ । अन्तर्राष्ट्रिय रूपमा सामाजिक तथा वातावरण सुरक्षा प्रणाली (Safeguard System) लाई सवै मुलुकहरूले आफ्नो प्रणालीमा Harmonised गरिसकेको अवस्थामा नेपाल यस विषयबाट अलग रहन संभव छैन । साथै विकास साभेदारहरूले समय समयमा यस कुरालाई जोडदार रूपमा उठाउने र सहायता शर्तका रूपमा लिने गरेकाले पनि बजेटमार्फत यस विषयलाई नीतिगत रूपमा संवोधन गरिनु आवश्यक छ । पहिला सामाजिक तथा वातावरण सुरक्षा प्रणालीको सुनिश्चितता पछि मात्र बजेट तथा कार्यक्रम प्रस्ताव गर्ने परिपाटी भएमा मात्र आयोजना/कार्यक्रमले अनावश्यक उल्फन भोग्नु पर्दैनथ्यो र यसबाट परियोजना तथा सरोकारवालाले दोहोरो लाभ (Double Dividend) पाउने थिए ।

एघारौँ, आगामी वर्षदेखि नेपाल सरकारले जलवायु परिवर्तन बजेट सङ्केतको नयाँ विषयलाई थप गर्दैछ । जलवायु परिवर्तनको विषय निकै जल्दोवल्दो भएर आएको छ भन्ने यसलाई संवोधन गर्न सार्वजनिक क्षेत्रबाट भएको योगदानलाई बजेटले स्पष्ट पजुल्याउन नसकेको तथा के कस्ता खर्चलाई जलवायु परिवर्तनमा भएको खर्च हो भन्ने आधार पनि नभएकोले बजेट तर्जुमाको क्रममा सोको स्पष्ट आधार निर्धारण गरी आगामी वर्षदेखि त्यसलाई अवलम्बन गर्ने कार्य हुँदैछ । यसले वातावरण र जलवायु परिवर्तनमा नेपालले गरेको प्रतिबद्धता र जलवायु परिवर्तन सम्बन्धी राष्ट्रिय तहका कार्यक्रम र नीतिलाई संवोधन गर्न सघाउने देखिन्छ । यस प्रकारको बजेट अभ्यास गर्ने संभवत नेपाल विश्वको पहिलो मुलुक हुन गैरहेको छ । यसले अन्तर्राष्ट्रिय तहमा पनि नेपालको छवि विस्तार गर्न र सहायता परिचालन गर्न थप बलपुर्ने देखिन्छ । यसर्थ, यसलाई सम्वद्ध मन्त्रालय तथा क्षेत्रगत क्रियाकलापमा आन्तरिकीकरण गर्न आवश्यक छ ।

वाञ्छी, बजेट तर्जुमाका समयमा सरकारी संस्थान, समिति र स्वायत्त संस्थाहरूको उद्देश्य र ती उद्देश्य पूरा गर्न ती संस्थाहरूले अवलम्बन गरिआएका विधि-रणनीतिलाई सामयिक रूपमा पुनर्वोध गर्नु आवश्यक छ । सरकारी अनुदानमा सञ्चालित संस्थान-संस्थाहरू सरकारको अनुदानको मात्रा बढाउन माग गरिरहेका छन् भने कतिपय संस्थाहरूको अदक्षताको मूल्य जनताले भुगतान गरिरहेका छन् । ती संस्थाहरूले के बुझ्नु आवश्यक छ भने सरकारी नीति र कानून नै ती संस्था सञ्चालनका आधार हुन् । यिनीहरूको असफलता चाहि धेरैहदमा कमजोर कार्यकुशलता जिम्मेवार छ । कतिपयसंस्थाहरू विगतदेखिको व्यवस्थापन असफलताका कारण भन्ने कमजोर बन्दैछन्, कतिपय संस्थाहरूमा नीति हस्तक्षेप र कर्मचारी यूनियनवाद पनि यसमा जिम्मेवार छ । जनकल्याणकारी राज्य कुनैपनि मूल्यमा सवेदनशील संस्थाबाट हात भिक्न सक्ने अवस्थामा छैन । जस्तो कि राष्ट्रिय प्रसारण निकायका रूपमा रहेको रेडियो नेपाल, नेपाल टेलिभिजन, राष्ट्रिय प्रकाशन संस्थाका रूपमा रहेको गोरखापत्र, समाचार समिति आदि । तर यी संस्थाको एकीकरण, पूर्वाधार साभेदारी, रणनीतिक योजना, सम्पत्ति व्यवस्थापनबाट छरितो र कार्यप्रभावी बनाउन सकिन्छ । बजेट माफतका नीति कार्यक्रम यस्तै कार्यमा सार्थक हुनुपर्दछ । तदर्थ सहयोग र अनुदानबाट संस्थाहरू केही दिन त बाँच्छन् तर दीर्घकालमा त्यो नै मन्द विष भैदिन्छ । साथै नाफामा सञ्चालित केही सार्वजनिक संस्थानहरू आफ्नो नाफा र आर्जनलाई अतिरिक्त बजार तथा व्यवसाय विस्तारमा लगाउन बजेटले रणनीतिक निर्दिष्टता गर्न सक्नुपर्छ । कानून अनुसार स्थापित कुनैपनि निकायको आर्जित नाफाको उपयोगलाई सरकारले हेर्ने र अभै नाफामूलक बनाउन व्यवसाय विस्तार गर्न लगाउने र सामाजिक जवाफदेहिता बहन गर्न लगाउने नीति संयन्त्र बजेट नै हो । स्वायत्त निकाय भन्दैमा सार्वजनिक चासोबाट यस्ता निकाय पृथक रहन सक्तैनन् । नेपाल टेलिकम, नेपाल दूरसञ्चार प्राधिकरण, नागरिक लगानी कोष, कर्मचारी सञ्चय कोष लगायतका संस्थाहरू नाफामा छन् तर यिनीहरूको भविष्यको योजना के ? नेपालको बजेट प्रक्रियामा त्यो देखिदैन । केवल विनियोजन मात्र बजेटको काम होइन । यस प्रकारको सन्देश सबै संस्थाहरूमा जानु पर्दछ ।

तेह्रौं, ढिलो वा चाँडो मुलुक संघीय संरचनामा जाँदैछ । यसको राजनैतिक सहमति भैसकेकोले पनि राज्यले अहिले गर्ने खर्च/आम्दानी, शुरू गर्ने योजना र नीति संरचनाले राष्ट्रको त्यो सोच र सामर्थ्यलाई प्रतिकूल प्रभाव पार्नु हुँदैन । प्रमाणित भएको कुरा के हो भने प्रशासनिक मनोवृत्ति संरचना (खर्च) विस्तार गर्ने खालको हुन्छ । राज्य पुनसंरचनापछिको प्रशासनिक संरचना कस्तो हुने भन्ने विषयमा प्रशासनले नै अध्ययन गर्दा उसले संरचना घटाउने भन्दा आफ्नै साम्राज्य विस्तारमा उर्जा खर्च गर्नु स्वाभाविक पनि हो । तर नेपालमा राजनैतिक पदाधिकारी पनि खर्च अव्यवस्थित रूपमा विस्तार गर्न उत्साहित छन् । के अहिले हात हालिसकेका सामान्य प्रकृतिका कार्यमा पुनसंरचना पछिका राज्य संरचनाले हात हालैपर्ने वाध्यात्मक स्थिति खडा गर्न मिल्छ ? तर कतिपय रणनीतिक संरचना जुन पुनसंरचनापछि संघ वा प्रदेश दुवैलाई आवश्यक हुन्छ, त्यसमा लगानी नगरिरहनु जाहेज हुन्छ ? न यसको अहिलेसम्म छलफल अधि बढेको छ न कुनै दृष्टिकोण नै राखिएको छ । साथै अहिले हात हालिसकिएका (दायित्व सिर्जना हुने क्रममा रहेका) आयोजनाहरूको संक्रमण र विकास (exit) कहिले सम्म हुने ? त्यसको Transition & exit plan पनि बनाइएको छैन ।

चौधौं, राज्यले आठौं योजनादेखि उदारीकरण र अब साभेदारीको नीति अवलम्बन गरेको छ । यसको मतलव निजीक्षेत्र गर्नसक्ने, गर्न हुने र गर्नपर्ने क्षेत्रमा राज्यको संलग्नता र हिरहनु कति पनि आवश्यक होइन भन्ने हो । तर यो विषय ओभेलमा परेकोले एकातर्फ सरकारी खर्च संरचना विग्रेर गएको छ भने अर्कोतर्फ निजीक्षेत्र पनि कार्यउत्साही हुन सकेको छैन । निजीक्षेत्रलाई काम गर्न वातावरण बनाउन निजीक्षेत्रले भनेका कार्यहरू सरकारले तत्काल पूरा गर्ने र निजीक्षेत्रको कडा अनुगमन गर्ने सामर्थ्य विकास गरिनु आवश्यक छ । अन्यथा न हाँसको चाल न कुखुराको चाल हुने देखिन्छ । अहिले पनि समिति, परिषद, आयोग वा यस्तै नाममा संस्थान वा संस्थान प्रकृतिका संरचना सिर्जना हुँदै आएका छन्

। केही अधि दशवटा जाति प्राधिकरण प्रकृतिका निकाय गठनका लागि तयारी भएको थियो । राष्ट्रिय योजना आयोगको असहमतिका कारण मात्र त्यो रोकियो ।

पन्ध्रौ, नेपालको बजेट संरचनामा चालू र पूँजीगत खर्चको संरचना असन्तुलित हुँदै गएको छ । चालू आवको बजेटकरिव रू.३८५ अर्बमा आन्तरिक स्रोतको हिस्सा केवल रू. २४१ अर्ब मात्र हो जसमा २६६ अर्ब चालू खर्च र सावाव्याज भुक्तानी एवं वित्तीय व्यवस्थाका लागि रू ४५ अर्ब छुट्यापछि, पूँजीगत खर्चमा विनियोजन केवल रू. ७२ अर्ब मात्र छ । पूँजीगत खर्चमा विनियोजन भएको रकम आन्तरिक ऋण र वैदेशिक सहायताले मात्र धानेको छ । आगामी वर्षको कूल बजेट सीमा रू ४२९ अर्ब हुने अनुमान गर्दा पनि केवल रू. २८१ अर्ब मात्र आन्तरिक स्रोत हुने देखिन्छ । यसले आगामी केही वर्षसम्म चालू र पूँजीगत खर्चको सन्तुलनलाई व्यवस्थित गर्न नसकिने सङ्केत दिएको छ । साधारण खर्चलाई सीमित गर्न विशेष सोच नराखिएमा केही वर्षपछि धान्ने नसकिने भयावह स्थिति सिर्जना हुन गै वित्तीय दिगोपन नराम्ररी खल्वलिन सक्छ । सीमित रूपमा पूँजीगत खर्चमा गरिएको विनियोजन पनि समयमा बजेट पारित नहुने र बजेट पारित भैसकेपछि पनि कार्यान्वयनमा उदासीनता रहने स्थिति आगामी वर्षहरूमा आउन नदिन बजेट तर्जुमा कै समयदेखि ध्यान दिनु जरूरी छ ।

सोन्धौ, नेपालको बजेट खर्च क्षमता पनि साँघुरो देखिन्छ । बजेटमा प्रस्ताव भएका खर्चहरूमध्ये नेपाल सरकारको स्रोत तर्फको भने भन्दा पनि बढी खर्च हुने वैदेशिक सहायता तर्फको प्रतिवद्धता मात्र हुने र सोको निकै सानो अंशमात्र खर्च हुने, खर्चका समयमा स्रोतान्तर भै नेपाली स्रोतको दायित्व बढ्दै गएको छ । यसले खर्च सन्तुलनको दिगोपनालाई चुनौती दिने थप आधार विस्तार गर्दै गएको छ । बजेट निर्माणका समयमा नै स्रोत निश्चित नभएका आयोजनालाई स्थान नदिने, खर्च प्रतिवद्धता कार्ययोजना लिने र कार्यान्वयनको सन्दर्भमा कार्यक्रम संशोधन एवं स्रोतान्तरण नगर्ने कार्यलाई कडाईका साथ लागू गरिनु पर्दछ ।

सत्रौ, एउटा गम्भीर समस्या के पनि छ भने कतिपय सरकारी निकायहरूमा कार्यक्रम कार्यान्वयनका क्रममा नियमित संरचना हुँदाहुँदै परामर्श/out sourcingमार्फत काम गराउने परिपाटी छ । प्रायगरी प्राविधिक निकायहरूले गर्नुपर्ने अध्ययन, डिजायन, लागत अनुमान, सुपरिवेक्षण जस्ता कार्यमा वाह्य सेवा र संयन्त्रको उपयोग गरिनाले एकातर्फ ठूलो धनराशी अपव्यय भैरहेको छ भने अर्कोतर्फ सम्पादित काममा सरकारी निकायको अपनत्व नरहने, संस्थात्मक संभ्रना कायम नहुने र कामको गुणस्तरमा समेत प्रश्न उठ्ने गरेको छ ।

अठारौ, प्रतिवर्ष बजेट शीर्षकहरू बढ्दैछन् । नयाँ विभाग स्थापना हुँदा वा वैदेशिक सहायता शुरू गर्दा अलग प्रकृतिको कामका लागि छुट्टै बजेट शीर्षक आवश्यक हुन्छ, तर सामान्य प्रकृतिका कार्यका लागि आवश्यक हुँदैन । एक पटक अलग शीर्षक भएपछि चालू प्रकृतिका सालवसाली खर्चहरू लामो समयसम्म गरिरहेने मनोवृत्ति सरकारी निकायहरूमा रहँदै आएको छ । यसलाई नियन्त्रण गर्न बजेट शीर्षकहरूको पुनरावलोकन (revisit) गरिनु आवश्यक छ । साथै नयाँ शीर्षक दिने मापदण्ड तय गरिनु पर्दछ ।

उन्नइसौं, खर्च गर्ने विषयगत निकायहरूले अध्ययन/प्रतिवेदन/डिजायन जस्ता कार्यमा कार्यक्रम प्रस्ताव गर्ने उत्साह देखाउँदै आएका छन् । यसो हुनु पछिको मनोविज्ञान यी कामहरू वाह्य संरचनाबाट गरिने भएकाले प्रगति हासिल हुने, खर्च गर्न सजिलो हुने र कतिपय अवस्थामा प्राविधिक सहायता उपयोग गर्न सकिने भएकोले हो । तर विडम्बना के देखिएको छ भने अध्ययन धेरै आयोजनाको गर्ने तर कार्यान्वयनमा नआउने परिस्थितिका कारण केही समयपछिको परिस्थितिमा आयोजना कार्यान्वयनमै लैजान पर्दा पनि पुनः त्यही काम दोहोर्‍याउन पर्ने अवस्था देखिन्छ । यसले स्रोत र समयको मात्र वर्वादी गरेको छ । यसर्थ स्रोत सुनिश्चित हुने र कार्यान्वयन प्रतिवद्धता नभएका आयोजनामा अध्ययन/डिजायनमा महत्वाकाङ्क्षी

देखिनु हुँदैन । जस्तो कि पुल, रेल्वे, वागमती सुधार, तटबन्धन तथा सिचाई, विजुलीमा अध्ययनको थाक देखिन्छ, कार्यान्वयन गर्ने सामर्थ्य त्यही छैन ।

विसौ, अर्को समस्या वैदेशिक सहायता उपयोगमा पनि देखिएको छ । पेरिस सिद्धान्त तथा आक्रा कार्ययोजना अनुसार सहायता राष्ट्रिय प्रणालीमा आएको छैन, यसको पुष्टि महालेखा परीक्षकको प्रतिवेदनले मात्र होइन, अर्थ मन्त्रालयको हालैको प्रकाशनले पनि गरेको छ । त्यसैले नेपालको नाममा आएको ठूलो धनराशी नेपालको नीति प्राथमिकतामा छ छैन भन्न नसक्नु, राष्ट्रिय प्रणालीको आंशिक मात्र प्रयोग हुनु, बजेट प्रणाली बाहिर रहेर परियोजना अवधारणा अनुरूप खर्च हुनु र खर्चको ठूलो अंश कार्यक्रम खर्च नभै नरम प्रकृतिको हुनु र खर्चमा जवाफदेहिता र सुशासन पक्ष कमजोर हुनुले गरिव मुलुकको गरिवी घटाउने नाममा आएको धनी मुलुकको करदाताको सहयोग त्यहाँका करदाताको भावना अनुसार प्रभावकारी उपयोग नभएको स्पष्टै छ । दाताहरू प्रवेश गर्ने धेरै ढोकाहरू भएकाले सजिलो ढोका खोज्ने गर्दछन् । सरकारले बजेट प्रक्रिया र नीति प्राथमिकता अन्तर्गत लिएका सहयोगहरूमा पनि वहिर्गमन योजना (Exit Plan) लाई ध्यान दिएको छैन । आयोजना सकिएपछि त्यसको निरन्तरता र दिगोपना कसरी निर्वाह गर्ने भन्ने प्रश्नको उत्तर खोज्ने चेष्टा गरिएको छैन । साथै कार्यक्रम/आयोजनाको अध्ययन र प्रस्ताव तयार पार्ने प्रक्रियामा नै दाताहरू संलग्न रहनाले सहायता वार्ता हामीले गर्नुको औचित्य के रहन्छ र ? भन्ने प्रश्न उठिरहेको छ । प्रायगरी सहायता परिचालनमा संलग्न अर्थ मन्त्रालय, राष्ट्रिय योजना आयोग र विषयगत मन्त्रालयका पूर्व पदाधिकारी त्यस प्रस्ताव तयार गर्न संलग्न रहने स्थितिले पनि त्यसको प्रभाव आयोजनाको लागत, गुणस्तर जस्ता पक्षहरूमा रहेको देखिन्छ । अर्थ मन्त्रालय र राष्ट्रिय योजना आयोगले मस्यौदा वैदेशिक सहायता नीतिलाई अन्तिम रूप दिई सहायता परिचालन र आयोजना छनौटको मापदण्ड निर्धारण गर्नु आवश्यक देखिन्छ ।

एक्काइसौ, चालू आर्थिक वर्षको अन्ततिर विभिन्न वहानामा सिधै रकम निकासी दिने सजिलो बाटो अवलम्बनको प्रक्रिया केही वर्षदेखि बढ्दै गएको छ । कहिले जनसहभागीताको नाममा, कहिले विशेष क्षेत्र विकासका नाममा त कहिले बीचैमा नयाँ योजनाका नाममा यस कार्यले मलजल पाउँदै आएको छ । यसले एकातर्फ गैरबजेटरी खर्च बढाउँदै र वित्त अनुशासन विगाडै आएको छ भने अर्कोतर्फ खर्चको गुणस्तर पनि गिराउँदै लगेको छ । गम्भीर कुरा के हो भने योजना प्रणाली र संसदीय पद्धतिलाई पनि यसले नजानिदो रूपमा उपेक्षा गरेको छ । सबैभन्दा गम्भीर प्रश्न भनेको राज्यप्रतिको विश्वास र वैधतालाई यसले सिधै चुनौती दिएको छ । यस खाले प्रवृत्तिका कारण विकास निर्माणमा निगरानी निकाय र स्वायत्त संस्थाहरूको अनपेक्षित सक्रियता पनि बढ्दै गएको छ ।

विभिन्न निकायका प्रतिवेदनको विश्लेषणबाट निष्कर्ष निकाल्न सकिन्छ कि आर्थिक अनुशासनका दायरामा बजेट निकायहरू नबाधिँदा गैरबजेटरी खर्चले कहालीलाग्दो रूप धारण गरिसकेको छ । राजनैतिक सहजताका आधारमा आर्थिक वर्षको बीचमा आयोजना प्रवेश गराउने र सिधै रकम निकासी दिने प्रवृत्ति बढ्दै गएको उदाहरण स्पष्ट देख्न सकिन्छ । केही वर्ष अधिसम्म करोडमा रहने यो सीमा आ.व. ०६५।६६ देखि अबै देखिन पुग्यो । आर्थिक वर्षको अन्ततिर निकाय तोकेर रकम निकासी दिने कार्यले राष्ट्रिय प्राथमिकता र वित्तीय अनुशासनलाई चुनौती दिएको छ । आषाढ लागेपछि कुन शीर्षकमा बजेट बाँकी छ भन्ने थाहा पाउन र सरकारका निकायलाई रकमान्तर वा अनुदान स्वीकृत गराउन मन्त्रालयहरूमा प्रभावशाली व्यक्तिको ताती लाग्ने गरेको छ । यस प्रवृत्तिले बजेट र योजना प्रणालीको सिद्धान्त एवं संसदीय परिपाटीलाई पनि उपेक्षा गरेको छ र 'जसको लट्ठी उसैको भैसी' भन्ने कहावत सिद्ध भएको छ । यसरी रकम वितरण गर्दा खर्चको गुणस्तर कायम हुन सक्तैन भनी अडान राख्ने सचिव (जो प्रमुख वित्तीय उत्तरदायित्व वहन गर्ने प्रमुख पदाधिकारी पनि हो) लाई विभिन्न कोणबाट दुरुत्साहन गर्ने काम समेत हुँदा प्रशासनभित्र अनुचर प्रवृत्तिको विकास हुन गै भविष्यमा वित्तीय अनुशासनहीनतालाई भन्ने प्रोत्साहन गर्ने वातावरण बनेको छ । आषाढको अन्ततिर विना योजना क्षमताविहीन स्थानीय निकायमा

सिधै रकम निकास गनुं भनेको अप्रत्यक्ष रूपमा भ्रष्टाचारलाई नै बढावा दिनु हो । संसदीय समितिमा तत्कालीन अर्थमन्त्रीले ठीकै त भने 'सर्वदलीय संयन्त्र भनेको कुनै निर्वाचित निकाय होइन, जुन पारदर्शी पनि छैन । त्यस्तो निकायबाट वर्षको आठ अर्बको दरमा अहिलेसम्म ४० अर्बभन्दा बढी रकम राम्रोसँग उपयोग हुन नसकेको यथार्थ हो ।' त्यसमा पनि आषाढको अन्ततिर त्यत्तिकै रकम खर्च गर्न दिनुको आशय के ? आ व ०६५।६६ मा मात्रै अर्बौं रूपैया आषाढमा सिधै स्थानीय निकायमा पठाइयो । आ व ०६६।६७ मा पनि ठूलो रकम यही परिपाटीबाट निकास गर्ने कसरत राष्ट्रप्रति संवेदना राख्ने केही सचिवको अडानको कारण रोकियो । विगतमा भएका यस्ता कार्यलाई न निगरानी निकायले नै हेर्न पुगे, न महालेखाले नै कैफियत औल्यायो । यसरी नीतिगत तहबाटहुने गरेका अनुशासनहीनता नहेरेर ससाना खर्चको रूजुवेरूजुमा ध्यान दिँदा वित्तीय जवाफदेहिताको आशय कसरी पूरा भएको मान्ने ? संसदीय लोकतान्त्रिक व्यवस्थामा बजेट नै यस्तो संयन्त्र हो जसले निश्चित अवधिको कारोबार र नीति कार्यक्रमलाई जवाफदेही बनाउने गर्दछ । बजेटलाई नै वाइपास गरिएका खर्च/आम्दानीबाट त्यो आशय पूरा हुन सक्तैन ।

वाइसौ, विद्यमान बजेट संरचनाका पनि केही कमजोरी छन् जसलाई बदल्नु आवश्यक छ । पूँजीगत प्रकृतिका कामलाई चालू खर्च र चालू प्रकृतिका क्रियाकलापलाई पूँजीगत खर्चमा राख्नुपर्ने बाध्यताले बजेटको वास्तविक श्वरूपलाई बढ्याएको छ भने वित्तीय जवाफदेहितालाई पनि चुनौती दिएको छ । उदाहरणका लागि वार्षिक अर्बौंको अनुदान दिने बैकल्पिक उर्जाका कार्यक्रमहरू चालूतर्फ परेका छन् तर यसले प्लान्ट स्थापना र उर्जा उत्पादन गर्दछ, जुन पूँजीगत कार्य हो । बजेटको विनियोजन र कायमको प्रकृति भिन्न हुनु हुँदैन । यस्ता उदाहरण स्वास्थ्य, शिक्षा, स्थानीय विकासतर्फ पनि भेटिनसक्छ ।

तेइसौ, बजेट अभ्यासको अर्को कमजोरी स्रोत निश्चित भै नसकेका आयोजनालाई रातो किताबमा प्रवेश गराउनु पनि हो । स्रोतबिना नीति तथा कार्यक्रम कार्यान्वयन हुन सक्तैनन् । स्रोत निश्चित गर्नका लागि थुप्रै अभ्यासगत चरणहरू पार गर्नुपर्ने हुन्छ । यस पक्षमा अर्थ मन्त्रालयले ध्यान दिनुपर्ने हुन्छ । साथै पछि निकास दिने गरी अर्थभैपरीमा रकम राख्ने परिपाटी अझै कायम छ । जसले गर्दा अनावश्यक रूपमा मन्त्रालयहरूले अर्थ मन्त्रालय धाउनु पर्ने, मन्त्रालयहरूमा अर्थको हैकम रहेको अनुभूति हुने र कार्यक्रमलाई अपनत्वबोध समेत नहुने स्थिति रहिआएको छ । भैपरीमा रकम राख्ने प्रवृत्तिले राजनैतिक प्रभाव र अनुशासनहीनतालाई पनि आमन्त्रण गर्दछ । रातो किताबमा प्रवेश पाएका र संसदले अनुमोदन गरिसकेका विषयहरूमा पुनः अर्थ मन्त्रालयको सहमति लिनुपर्ने अवस्था रहिरहनु हुँदैन । यसले बजेट तथा योजनाका सिद्धान्त तथा मान्यतालाई समेत उपेक्षा गर्नपुग्छ । एकपटक संसदले अनुमोदन गरेको विषयमा निगरानी निकाय बाहेक अन्य निकायको बर्चस्व रहनु अनावश्यक बोझ मात्र हो, यसले निकायगत सहसम्बन्धको मनोविज्ञानलाई समेत नकारात्मक पार्दछ ।

चौविसौ, सहायता लिने सन्दर्भमा उत्साह देखाउने तर कार्यान्वयनमा सक्रियता नरहने स्थितिको विद्यमानतालाई बजेट तर्जुमा प्रक्रियामा ध्यान दिने गरिएको छैन । मन्त्रालयहरू जसले कार्यान्वयनको जिम्मेवारी लिन्छन्, धेरै कार्यक्रम सञ्चालन गर्न र राष्ट्रिय योजना आयोग तथा अर्थ मन्त्रालय ठूलो आकारको बजेट/आयोजना बनाउनमा रमाउने गरेका छन् । तर आफ्नै क्षमताको प्रश्नलाई सहायता परिचालन र कार्यक्रम तर्जुमाको आधार बनाउदैनन् । परिणामतः नेपालमा वैदेशिक सहायता योजना धेरै देखिने तर लामो समयसम्म सम्पन्न नहुने स्थिति देखिएको छ । बजेट कार्यक्रम तर्जुमा गर्दा मात्र होइन, सहायता वार्तामा पनि यस पक्षलाई ध्यान दिइदैन । साथै ऋणमा भन्दा अनुदानमा प्राथमिकता दिने प्रवृत्तिले सहायतालाई सजिलो र सित्तैको वस्तुको रूपमा हेरिन्छ जसले उपलब्धि व्यवस्थापनमा नकारात्मक प्रभाव पार्दै आएको छ । त्यसमा प्राविधिक सहायताको अंश, त्यो पनि बजेट बाहिर राखेर कोष प्रवाह गर्ने प्रवृत्ति अत्यधिक छ । यसलाई विषयगत मन्त्रालयले मात्र होइन, अर्थ मन्त्रालयले पनि

सहयोग पुऱ्याएको छ । नेपालका लागि आउने, नेपालको गरिव जनताका लागि आउने कुनैपनि नाम र माध्यमको सहायतामा नेपाली जनताको सार्वभौम नियन्त्रण कुनै पनि हालतमा पातलिनु हुँदैन ।

पच्छिसौ, कार्यक्रम कार्यान्वयन मापदण्ड विना नै कार्यक्रम प्रस्ताव गर्ने प्रवृत्ति छ जसका कारण कार्यक्रम सञ्चालन र उपलब्धि मूल्याङ्कनमा बाधा परिरहेको छ । बजेट कार्यक्रमलाई वास्तविक बनाउन कार्यक्रम प्रस्ताव गर्दा अमूक कार्यक्रमको सञ्चालन प्रक्रिया र कार्य मापदण्ड पनि प्रस्ताव गरिनु आवश्यक मानिन्छ । यसप्रकारको प्रक्रिया र मापदण्ड क्रमागत आयोजनाका लागि पहिले नै निर्धारण गरिएको हुन्छ भने नयाँ आयोजना/कार्यक्रममा भने प्रस्तावका साथ राखिनु पर्दछ । त्यो राखियो कि राखिएन, उचित हो वा होइन भन्ने समीक्षा बजेट वार्तामा गरिनु पर्दछ, यस्तै औचित्य पुष्टिका लागि नै बजेट छलफल गरिनुपर्ने हो । तर सजिलो रूपमा कार्यक्रम प्रस्ताव गर्ने र बजेट पारित भएपछि प्रक्रिया र मापदण्ड बनाउने भन्ने कौफियत जनाएर बजेटलाई अन्तिम रूप दिने गरिएको छ । जस्तो गणतन्त्र स्तम्भ/स्मारक, जनताको तटबन्धन, जनता आवास, जनताको जलविद्युत, पर्यटन सडक आदि । जसका कारण कार्यक्रम कार्यान्वयनमा विलम्ब हुने, कार्यक्रमप्रति कार्यान्वयन निकाय र नीति निकायबीच समन्वय नहुने स्थिति देखिदै आएको छ ।

अहिलेको अर्को समस्या स-साना स्थानीय स्तरका आयोजनालाई पनि केन्द्रीय स्तरका आयोजनामा समावेश गराउन नीतिप्रभावी व्यक्तिको चाख पनि हो । साना सडक, साना खानेपानी, साना सिंचाइ-कुलो, मठमन्दिर, सार्वजनिक भवन, पुलपुलेसा जस्ता विषयहरूमा केन्द्रीय तह अलमलिनु पर्ने अवस्थाले ध्यान दिनैपर्ने क्षेत्रहरूमा यी निकायहरूको ध्यान जान सकेको छैन । निक्षेपणको सिद्धान्त र यसअघि विभिन्न समयमा गरिएको प्रतिबद्धता अनुरूप पनि निश्चित सीमासम्मका आयोजनाहरूलाई स्थानीय निकायमा निक्षेपण गरी विकासलाई कम खर्चिलो र सहभागितामूलक बनाउनु आवश्यक छ । स-साना परिमाणका आयोजनामा मन्त्रालय/विभागहरूको प्रत्यक्ष संलग्नता रहेसम्म विकास भन्ने कुरा राज्यको मात्र हो भन्ने मनोविज्ञानले काम गरिने रहने हुन्छ, जुन दिगो विकासको पनि बाधक हो ।

र, अर्को व्यावहारिक विषय बजेट तर्जुमाको पक्षलाई केवल सैद्धान्तिक र कानूनी आधारबाट हेरिनु हुँदैन । यसको प्राविधिक पक्ष सैद्धान्तिक भन्दा महत्वपूर्ण छ । सैद्धान्तिक तथा कानूनी पक्ष भनेका बजेट तर्जुमाका खाका मात्र हुन, वास्तविक रूपमा बजेटले काम गर्न सक्छ, सक्तैन, क्षमता कति हो, के कस्ता व्यावहारिक कठिनाई आइपरेका छन् र तिनलाई दोहोरिन नदिनका लागि लिनुपर्ने कदमहरू के के हुन सक्छन् भन्ने पक्ष प्राविधिक हो । अर्थ मन्त्रालयको बजेट महाशाखा र राष्ट्रिय योजना आयोगका क्षेत्रगत महाशाखाहरू प्राविधिक होइन, सैद्धान्तिक पक्षमा ध्यान दिन्छन्, जुन उनीहरूकोलागि सजिलो पनि छ । जसले गर्दा बजेट विश्वासिलो नीति संयन्त्रको रूपमा स्थापित हुने सकेन । विषयगत मन्त्रालयमा बजेट अभ्यासलाई व्यवस्थित गर्न स्थापित गरिएका भनिएका कार्यदलहरू (MTEF Taskforces) प्रति मन्त्रालयकै बुझाई प्रष्ट छैन, केवल कार्यक्रमको निर्धारित फाराम भर्ने र प्रमाणित गर्ने लेखापालको काम मात्र त्यहाँबाट हुने गरेको छ । MTEF Taskforceको अवधारणा बृहद र वैज्ञानिक थियो जसको अभ्यास नै यी संरचनाबाट हुन पाएन । बजेट वार्ताका क्रममा सम्बद्ध पदाधिकारीबाट आफ्नो भूमिकाप्रति अनभिज्ञता देखाइन्छ । बजेट समीक्षा र मूल्याङ्कनका सन्दर्भमा पनि सतही दृष्टिकोण राखिनाले यो व्यवस्थापकीय पक्षलाई वेवास्ता गरिदै आएको छ । के बजेटमा संलग्न पदाधिकारीहरूमा सामान्य प्रशासनिक क्षमता भएपुग्छ ? के जो कुनैको तदर्थ शैलीले बजेट जस्तो गहन विषयवस्तुलाई सजिलै व्यवहार गर्न सक्छ ? यी प्रश्नहरूको उत्तर खोज्ने गरिएको छैन ।

उपसंहार

विश्वमा बजेट प्रथा शुरू भएको पौने दुई सताब्दी पछिमात्र सार्वजनिक आय व्ययलाई जनता समक्ष प्रस्तुत गर्न थालिएको नेपालमा बजेट सुधारका प्रयासले पनि पछिल्ला दिनमा मात्र महत्व पाउन थालेको हो । लोकतन्त्र र संसदीय अभ्यास नहुने समाजमा सार्वजनिक स्रोत साधनलाई व्यवस्थित गर्ने प्रयास भयो भनिए पनि त्यो औपचारिक मात्र देखिन्छ । राजाको सक्रिय अधिनायकत्व रहेको पञ्चायती शासनकालमा त्यसैले सुधारका प्रयासहरू वास्तविक बन्न सकेनन् । जनआन्दोलन भाग एक पछिको निर्वाचित सरकारले सुधारका कार्यसूचीलाई राष्ट्रिय प्राथमिकतामा राखेपछि सार्वजनिक वित्तलाई पनि व्यवस्थित बनाउने प्रयासले महत्व पायो । नवौं योजनामा सार्वजनिक खर्च व्यवस्थापनका सन्दर्भमा लिइएको प्रतिवेदन यस क्षेत्रमा छलाड् मार्ने पहिलो प्रयास थियो । सार्वजनिक खर्च व्यवस्थापनलाई सुधार गर्न यसले १४८ वटा सुझावहरू दिएको थियो । ती सुझावहरूमध्ये साधन विनियोजन तथा आयोजना प्राथमिकीकरणका आधारले वित्तीय दिगोपन कायम गर्न महत्वपूर्ण भूमिका खेल्ने आशा गरिएको थियो । त्यो वित्तीय जवाफदेहिता कायम गर्न र साधनको पूर्वानुमानयोग्यता निर्धारणको पनि संयन्त्रका रूपमा रहने विश्वास गरिएको थियो ।

आवाधिक योजनाका उद्देश्य तथा लक्ष्यहरू पूरा गर्ने महत्वपूर्ण आधारका रूपमा बजेट (वा वार्षिक विकास कार्यक्रम) रहने गर्दछ । वार्षिक बजेटमा संवोधन नभए आवाधिक योजनाका रणनीति र प्राथमिकताहरू निष्प्रभावी र निस्काम हुने गर्दछन् । त्यसैले वार्षिक विकास कार्यक्रम वा बजेट नै त्यस्तो संयन्त्र हो जसले निश्चित आर्थिक वर्षको नीति तथा कार्यक्रमलाई चलायमान बनाउने गर्दछ । वार्षिक विकास कार्यक्रम र आवाधिक योजनाबीच उपयुक्त सम्बन्ध स्थापना हुन अत्यावश्यक मानिन्छ । मध्यम अवधिको खर्च संरचना नै त्यस्तो संयन्त्र हो जसले आयोजनालाई प्रतिफलमुखी र प्राथमिकतामा साधन विनियोजनको सुनिश्चितता दिने गर्दछ । यसले बजेटलाई वास्तविक समेत बनाउने गर्दछ । साधनालाई नतिजामुखी बनाउन दशौं योजनादेखि शुरू गरिएको नीति सोचको अवधारणालाई भर्खरै सम्पन्न तीनवर्षीय अन्तरिम योजना र यसअन्तर्गतका तीन आर्थिक वर्षका वार्षिक विकास कार्यक्रमले अपनाउन पुग्यो । खास आर्थिक वर्षका विकास कार्यक्रमहरू अन्तर्गतका आयोजनाका प्राथमिकताक्रम, त्यसले संवोधन गर्ने आवाधिक योजनाको रणनीतिक स्तम्भ, गरिवी निवारणमा गर्ने योगदान र लैगिंक समानताका लागि गर्ने सहयोगको स्तरको स्पष्ट खाका तयार पार्ने अभ्यास यस अवधिमा भयो । साथै प्रस्तावित योजनाको कूल लागत, सो अन्तर्गत संचालन हुने प्रमुख क्रियाकलापहरू, त्यस आ.व.सम्मको स्थिति र प्रस्तावित आ.व.मा सम्पन्न हुने प्रमुख क्रियाकलाप एवं त्यसबाट प्राप्त हुने नतिजा पनि वार्षिक विकास कार्यक्रममा समावेश गरेर सो को आधारमा वार्षिक विकास कार्यक्रम स्वीकृत गर्ने परिपाटी अन्तरिम योजनामा वसालियो । अन्तरिम योजनाको अन्तिम आर्थिक वर्षमा वार्षिक विकास कार्यक्रम स्वीकृत गर्दा कार्यक्रम कार्यान्वयन कार्यतालिकालाई पनि अनिवार्य गरियो र रातो कितावका साथ त्रिवर्षीय खर्च खाकालाई प्रकाशन गर्ने परम्परा वसालियो । यी प्रयासको एक मात्र अभिप्राय विकास कार्यक्रमलाई नतिजामुखी अभिमुखीकरणमा लैजानु हो । यी यस्ता प्रयास हुन जसले नेपाल सरकारले खर्चको सानोभन्दा सानो परिमाणको रकमबाट जनताका अनुभूत तहको समस्यालाई समाधान गर्न सकोस । जनताले देख्न सकिने गरी प्रतिफल प्राप्त गर्न सकियोस ।

राम्रो वा प्रभावकारी बजेट त्यत्तिकै बन्दैन । बजेट अभ्यासलाई संरचित र व्यवस्थित बनाउने कार्य आगामी आर्थिक वर्षका लागि बजेटसीमा वितरण गर्ने समयदेखि नै शुरू हुन्छ । बजेटसीमा वार्षिक विकास कार्यक्रमको जग हो । बजेटसीमा वितरण आवाधिक योजनाको रणनीतिक लक्ष्य, प्राथमिकता र उपलब्धिसंग सरोकार राख्ने विषय हो । अर्को अर्थमा यो धेरै सावधानी अपनाउनु पर्ने प्राविधिक कार्य पनि हो जसका आधारमा बजेट छलफल हुने गर्दछ । बजेट सीमा भित्र आयोजना प्राथमिकीकरण गर्नु विषय मन्त्रालयको कार्य हो जसमा राष्ट्रिय योजना आयोग र केही हदमा अर्थ मन्त्रालयले सहकारी भूमिका खेल्नुपर्ने हुन्छ । राष्ट्रिय योजना आयोग र केही हदमा अर्थ मन्त्रालयले कार्यक्रम अन्तर्गतका

आयोजनाहरूको दोहोरोपना भएका कुराहरू हटाउन र नीति तथा कार्यक्रम तहको समन्वय ल्याउने कामहरू गर्नुपर्ने हुन्छ । साथै आयोगले विगतका ती कार्यक्रमबाट भएको उपलब्धिको मूल्यांकन गरी क्षेत्रगत, भौगोलिक र विषयगत सन्तुलन समेत गर्नुपर्ने हुन्छ । तर बजेट छलफलका समयमा यस्तो प्राविधिक अभ्यासहरू नभै संक्षिप्त औपचारिकतमा सबै निकायहरूको ध्यान गएको देखिन्छ । पर्याप्त अभ्यास र तथ्यांक आधारबीना कार्यक्रम प्रस्ताव गर्ने गरिएकोले पनि बजेट तर्जुमा र छलफलमा कार्यक्रमले पाउनपर्ने जति महत्व पाउन सकेको देखिदैन । विषय मन्त्रालयसंग आयोजना तयारी गर्ने, त्यस आयोजना अर्को आयोजनाभन्दा यो आधारमा प्रतिफलमुखी छ भन्ने स्पष्टता समेत देखिदैन । जसका कारण वैयक्तिक प्रभाव र सम्बन्धका आधारमा साधन विनियोजन र निकास हुने गरेको छ । यसले वार्षिक विकास कार्यक्रमलाई भनिएजस्तो प्राविधिकभन्दा पनि सनातनी र राजनीतिक अभ्यास गर्न नै बल पुऱ्याएको छ भनेर भनिरहन परोइन ।

बजेट प्राविधिक विषय हो तर यसलाई दिशाबोध गर्ने र प्राविधिक अभ्यासलाई वैधानिकता दिने कार्य भने राजनैतिक हुने गर्दछ । यी दुई पक्षबीच उपयुक्त सन्तुलन ल्याउन नसक्दा न यसले प्राविधिकता पाउन सक्छ न वैधानिकता नै । नेपालको अहिलेको अवस्था नै यही हो । विषयगत मन्त्रालय गंभीर हुन नसक्नु, अर्थ मन्त्रालय र राष्ट्रिय योजना आयोगको एकै स्वर हुन नसक्नु र कार्यक्रम निर्माणको पक्षमा स्थापित आधार र प्रक्रियालाई राजनैतिक प्रभावले अतिक्रमण गर्नु जस्ता कार्यले नेपालको बजेट अभ्यास व्यवस्थित हुन सकेको छैन । वार्षिक कार्यक्रम र बजेट राजनीतिको प्रभावका कारण तदर्थ बन्दै गएको छ । राजनैतिक अस्थिरता र संक्रमणको मार पनि यसमाथि थुप्रै गएको छ । यसर्थ, राष्ट्रिय योजना आयोगले राष्ट्रिय लक्ष्य र प्राथमिकतामा, अर्थ मन्त्रालयले बजेटरी अनुशासनमा र विषयगत मन्त्रालयले राष्ट्रिय आवश्यकता र बजेटबीच तालमेल ल्याउन अडान लिन सकेमा मात्र वास्तविक बजेट (वार्षिक विकास कार्यक्रम) बन्नसक्छ । बजेटशिल्पी (कर्मचारी) र राजनैतिक कार्यकारिणीले के भुल्नु हुँदैन भने प्रत्येक बजेट अधिल्लो वर्षको भन्दा उत्कृष्ट हुन सक्नुपर्छ । यसो भन्नुको मतलब प्रति रूपैया खर्चको महत्तम मूल्य सिर्जना यस वर्षभन्दा अर्को वर्ष बढी गर्न सक्नुपर्छ । दृष्टिकोण दिनसक्ने प्रतिनिधि र अडान राख्नसक्ने प्रशासनबाट नै यो कार्य सम्भव हुन्छ

Economic Analysis of Renewable Energy Technologies in Nepal

Prof. Govind Nepal, PhD*

Background

Economic analysis shows the returns to the society from the investment of national resources. Contrary to the financial analysis, economic analysis should also take into account all the externalities-both external benefits and costs. We need to make valuations of all the benefits and costs in monetary terms so that they can be compared and presented in terms of various economic indicators-like Net Present Value (NPV), Internal Rate of Returns (IRR) and Benefit Cost Ratio (B –C Ratio).

The economic literature on economic cost benefit analysis clearly mentions that one needs to deduct the taxes (custom duty, Value Added Taxes etc.) from and add the subsidy or grants to the financial price while determining economic price. This has been followed in practice. In the economic analysis of renewable energy of Nepal, the same approach is followed. But one question is always overlooked in methodological perspective. In the composition of the subsidy given to the renewable energy sector, there is foreign grant component and local component. Government contribution, as a counterpart fund, comprises about 15 to 20 percent of the total subsidy fund and the rest 80 to 85 percent is donor's money. Therefore 80-85 percent of the subsidy is not cost to the Nepalese society but cost to the society of development partners. This raises a question should all subsidy related to the renewable energy scheme be included in the economic cost or only the part born by Government of Nepal? The answer would be if the economic analysis is from global perspective, then the entire subsidy should be included in the economic cost, but if the analysis is from the national perspective only the part of government contribution to the subsidy fund should be included. Despite the agreement on the above argument, general and text- book approach has been followed while conducting economic analysis of renewable energy technologies (RET) of Nepal.

There are a number of RETs at different levels of development in Nepal. The most popular among them are Micro-hydropower (MHP), Solar Home Systems (SHS) and Biogas plants. While MHP and SHS primarily provide lighting solutions, the biogas provides solutions for cooking energy. Both are equally important to transform traditional energy based lifestyle to modern one and make especially women and girls partially free from drudgery. The annual installation data demonstrate their popularity among households located at different parts of the country. Against the background of

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low road connectivity and transmission networks, the RET is a low cost solution to Nepal for increasing access to modern energy services to the people. In the context of climate change, this sector has got extra importance. Development partners are more interested to support renewable energy initiatives from the climate change perspective. From this reason, Nepal can hope for increasing supports from the development partners in the days to come.

Limitations in the economic analysis of RET

The costs are more direct and visible but the benefits are not much visible and quantifiable in monetary terms. In the above analysis too not all benefits have been captured due to the lack of comprehensive study covering all ecological belts and development regions of the country. If all benefits are valued, the renewable energy projects are equally economically feasible in very remote areas as in other areas. There is limitation of determining economic prices of energy sources due to the unavailability of data transpiration costs:

Economic analysis of solar home systems

A Solar Home System (SHS) kit usually consists of a PV module, controller, battery, and several fluorescent lamps, along with cables and support structure. Electricity available from a PV system is proportional to the size of the PV module(s) and the availability and brightness of sunlight. Each household or facility has its own unit.

Electricity is stored in a rechargeable battery for use when needed. The simplest approach is to assess economic benefits as the avoided costs of the services in unelectrified households that would be replaced by the PV system. These services include lighting (provided largely by kerosene lamps and some by candles and torch cells), and television and radio (provided largely by dry cells and rechargeable batteries). Such an analysis provides a lower bound for the economic benefits, because it does not account for the fact that the PV system provides a greater level of service. For example, a 20 Wp system is capable of providing 10 times as many lumens of better quality light as the kerosene lamp(s) it replaces¹.

In Nepal the SHS equipments are imported and assembled in Nepal. The customs on the import is just 1 percent. There is no VAT on such equipment in Nepal. The management and labor incurred in assembling are local inputs. Therefore, to derive the economic cost, the financial cost is adjusted with certain Standard Conversion Factor 0.9. For deriving economic benefits, the replacement of kerosene, batteries, and emission reduction benefits are considered. A survey household in Baglung and Kavre districts showed on average a household uses 2.1 liters of kerosene a month for lighting and 3.3 units of dry cell batteries per month². In addition to this, the CO₂ benefits per

¹ Peter Meir, Economic Analysis of solar Home Systems: A case study of Phillipines, 2003

² Survey findings of REDP in the context of MHP Benefit Assessment Study of UNDP

plant per year are 0.22 ton³. For each ton of CER in case of biogas, the kFW offers 9.8 Euro as per agreement⁴. The exchange rate for 1 Euro is NRs.105.73. This mean the CO2 benefits of per year per plant is NRs. 23.26⁵.

Kerosene lighting also contributes to indoor air pollution damage costs, whose avoidance is a benefit to the PV system. The incremental contribution to indoor pollution levels from kerosene lighting may be difficult to identify, given the much higher contribution from wood-based cooking stoves, but it is certainly not zero. Kerosene lighting also causes a significant number of burn injuries, house fires, and related deaths

In Nepal, the SHS of various capacities are being used. Generally, the SHS used for lighting. Therefore SHS replaces mainly kerosene and batteries. For economic analysis SHS with 20Wp has been selected. For the analysis the 10 % discount rate and 15 years of technical life has been used.

The cost of SHS is gradually decreasing over the years so it is not necessary to conduct sensitivity analysis assuming increase in cost by certain percentage. The benefits also do not seem to decrease in the context increasing obligations of international communities to meet emission reduction targets. So no sensitivity analysis has been carried out in case of SHS.

Table 1: Cost of SHS (20Wp) equipments, kerosene, batteries, and emission reduction benefits by installation areas

Amount in NRP

Installation Area	Cost of SHS	Economic Price of Kerosene	Economic Price of Batteries	Emission Reduction Benefit
Accessible Area	16333	75	30	23.3
Remote Area	16800	93.75	37.5	23.3
Very Remote Area	17284	112.5	45	23.3

³Chaulagain N.P. and Laudary Raju (2010) The environments of the poor in the context of Climate change and the green economy- Alternative Energy linking climate and environment consideration. Paper presented in a National Conference.

⁴Office record of the Biogas Support Programme Nepal

⁵Assessment of Development Benefits from Expanding Access to Electricity, Example of micro hydro power in rural Nepal UNDP, draft 2010.

Table 2: Results of Economic Analysis of Solar Home Systems

Area of SHS Installation	EIRR		NPV in NRP		B-C Ratio	
	Using same price of Kerosene and batteries	Using different price of Kerosene and batteries	Using same price of Kerosene and batteries	Using different price of Kerosene and batteries	Using same price of Kerosene and batteries	Using different price of Kerosene and batteries
Accessible Area	12.3	-	1268	-	1.08	-
Remote Area	11.5	18.6	871	5272	1.05	1.31
Very Remote Area	10.8	24.2	460	9262	1.03	1.53

Note: To reflect the economic cost of transportation price of kerosene and batteries have been increased by 25% for remote areas and 50 % for very remote areas.

Table 2 shows that at the discount rate of 10 %, in all installation area –accessible, remote and very remote, the SHS projects are economically feasible. Due to the cost differential of the SHS equipments, when same price for kerosene and batteries are used, naturally the economic indicators are better in accessible areas. But when the varied cost of transportation of batteries and kerosene is considered the scenario is different. The installation in very remote areas is much economically beneficial than in other areas.

Economic analysis of biogas plants

The economic analysis of biogas plants takes into consideration all costs and benefits incurred by society as a whole. A study entitled "Financing Biogas Plants in Nepal" prepared by Nara Hari Dhakal for SNV Nepal in 2008 provides an exhaustive analysis of economic costs and benefits of biogas plants located at Hill and Terai region. The findings of the study are useful to understand the valuation of benefits of biogas plant to the Nepalese society.

In this study, economic cost includes the plant construction, repair and maintenance costs and cost due to loss of time. The subsidy provided to households, and the technical assistance costs are also additional costs to the society. So they are also included to derive economic costs. In this report, the technical assistance cost has been values at the rate of US\$ 15 per plant have been considered.

In valuing benefits, savings in cost of medicine, firewood saving, kerosene saving, chemical fertilizer saving, time saving and GHG reduction were considered. The CO2 savings is valued as US\$ 7 per ton per plant.

The economic analysis has been done three economic ratios: Net Present Value at 12% discount rate, Benefit Cost Ratio at 12% discount rate and Economic Internal Rate of Return (EIRR).

Table 3: The structure of cost and benefits used for the economic analysis of biogas plants

S. No.	Particulars	Amount in NRP
1	Capital Cost of the plant*	
	Terai	40108
	Hill	42180
	Remote	51827
	Very remote	170482
2	Technical Assistance**	1080
3	Fuel wood saving**	6768
4	Fertilizer saving**	1584
5	Medication cost**	504
6	Co2 Saving ***	3403

Sources of data:

* Biogas Support Programme (BSP), Approved Quotation for the Fiscal Year 2067/68 (2010/2011)

** Adopted from the study entitled "Financing Biogas Plants in Nepal" prepared by Nara Hari Dhakal for SNV Nepal in 2008

*** Recently approved CER is 3.29 ton CO₂ per biogas plant. For each ton of CER, the kfW offers 9.8 Euro as per agreement

Note: The exchange rate US \$ 1 = NRP 72 and for Euro 1= NRP 105.56

The economic analysis conducted based on the above data revealed following results:

Table 4: Results of economic analysis of biogas plants (4 M3) by ecological region and accessibility

Installation	EIRR	NPV	B-C ratio
Terai	31.0	95980	2.4
Hills	29.4	44027	2.29
Remote area	23.3	34933	1.87
Very remote area	Negative	-78916	0.56

In the very remote area, the Biogas plants are not economically feasible. The reason is that the investment cost is too high – more than four folds of the costs of plants located in Terai and Hill regions. The economic indicators related to the projects located in Remote areas, Hill and Terai demonstrate that it is highly beneficial to the society to invest in biogas programmes.

Economic analysis of micro-hydro projects

Micro-hydropower in Nepal provides mainly lighting services to the people. However, it is also possible to use surplus energy for productive end uses. Despite the policy prescription for the use of 10 percent energy from MHP is productive end uses, the achievement is insignificant. The reason behind this is that energy is only one factor for the promotion of end use. There are other co-operant factors like availability of labour, raw materials, capital and more importantly entrepreneurship and market. Not all these are available in the areas where there is surplus energy from Micro-hydro.

For economic analysis, it is necessary to determine economic costs and benefits. To derive economic cost, we use the financial cost of the micro-hydropower plant and adjust it by Standard Conversion Factor (SCF) 0.9⁶. This adjustment is considered for converting financial prices into economic prices. In case of benefits, the avoided cost will be used. On top of this, the benefits that a micro-hydropower can get from carbon financing will also be added to derive total economic benefits from the project. The technical life of the project has been assumed 15 years. The discount rate, which used for converting future costs and returns into present worth, will be 10 percent. A survey in Baglung and Kabhre district conducted by REDP for determining the annual benefits for a household showed that reduced expenditure due to the availability of electricity amounted US \$ 25, income received from the alternative use of the saved time amounted US \$ 40 and the CO₂ benefits emission reduction was estimated US \$ 4. The total annual benefits for a household from use of electricity for lighting were US \$ 69. Converting this benefit at the rate of US \$ 1 = NRs. 72, the total annual economic benefit for a household comes to be NRs. 4968. This figure has been used for calculating project level economic benefits. For economic analysis, projects located at different

⁶In ADB supported energy projects in Nepal SCF 0.9 is being used for project analysis.

ecological and development regions as well as of different capacities were selected. Their characteristics are given below:

Table 5: Characteristics of MHPs selected for economic Analysis

Name of MHP	Region	District	Capacity kW	Load factor %	HH served	Investment cost NRP	Investment cost (after adjusting with SCF 0.9) in NRP
Kharikhola MHP III	Eastern mountain	Solokhambu	70	82.35	567	17,548,691	15,793,822
Phalate Khola	Central Hill	Ramechhap	7.5	33.33	133	2,586,005	2,327,404
Madikhola MHP	Mid-western Hill	Rolpa	60	33.10	701	21864424	19,677,982
Jinakhu Khola	Central Hill	Sindhuli	14	37.52	161	4,204,094	3,783,685
Kapre khola	Western Hill	Gorkha	11	34.64	127	3,083,860	2,775,474

The economic analysis of the above MHP projects showed following results.

Table 6: Result of economic analysis of MHP

Name of MHP	Region	EIRR	NPV in NRs.	B-C Ratio	IRR, NPV and B-C Ratio when cost increased by 10% and benefit decreased by 10%		
					EIRR in %	NPV in NRs.	B-C Ratio
Kharikhola MHP III	Eastern mountain	12.2	1843215	1.21	7.9	-1867960	0.99
Phalate Khola	Central Hill	24.4	1970176	1.93	18.7	1253436	1.58
Madikhola MHP	Mid-western Hill	12.0	2109581	1.21	7.7	-2495587	0.99
Jinakhu Khola	Central Hill	16.24	1306048	1.44	11.5	330524	1.18
Kapre khola	Western Hill	18.1	1263783	1.55	13.2	517625	1.27

The economic analysis of micro hydro power project shows very sensible results. The projects located in very remote areas such as Kharikhola MHP III of eastern mountain

and Madikhola MHP mid-western hill have low economic returns compared to other MHP schemes located in central and western hills. But if we differentiate the value of benefits by considering the varied transportation costs at different areas of MHP installations, the economic indicators in remote and very remote areas improve. For instance, if we increase the total benefits by 50 percent for the project located in eastern mountain (Kharikhola MHP III) the IRR increases to 22.6 % and B-C Ratio 1.82.

The sensitivity analysis conducted by reducing the benefits by 10% and increasing the cost by 10 % simultaneously shows that only two projects located at eastern mountain and mid-western hill have B-C ratio 0.99, others show still very good results. Need not to say that if we differentiate the total benefits by assigning higher value to less accessible areas, then the result will be comparable.

Conclusion

The investment in renewable energy projects is economically viable in Nepal. Many co-benefits of RET are yet to be captured. Even then, the analysis offers good justifications to invest in the renewable energy development in Nepal. Out of the three RETs, the results of economic analysis show that Biogas technology provides the higher social returns from the investment compared to MHPs and SHS.

Relationship between Administrative Reforms and Political Will

A Case of Application of Performance Based Incentive *

Bharat Gautam **

Abstract: *Reform in public administration is an ongoing process. Multiple factors such as political will, bureaucratic commitment, and financial resources have been associated for the effectiveness of reforms in public administration. However, political will is the major factor for making administrative reforms effective in the civil service. It is because all issues of reforms in public sector are the subject matters of political debate and discussion. Therefore, it is argued that there is a relationship between will of the political actor and effectiveness of reforms in public administration. To forward the discussion on this argument, a research question was raised "does political will affect administrative reform i.e. application of performance based incentive"? And a hypothesis "higher the political will, higher is the administrative reform i.e. application of performance based incentive was set. A survey of 200 questionnaires was conducted and data from the survey has revealed that there is a strong relationship between political will and administrative reforms taking application of performance based incentive as a case. However, there is organizational variation in mapping relationship between political will and administrative reforms.*

Introduction

The article first explains administrative reform that is dependent variable of this study. Then the article reviews the meaning of political will and its relationship with public administration. The article then analyzes the data on the relationship between political will and administrative reforms taking application of performance based incentive policy as an example in the Nepalese civil service. Then the article examines organizational variations in mapping will of political actors for the application of performance based incentive. The article concludes that there is strong relationship

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between political will and administrative reforms. However, there is also variation on the relationship between political will and administrative reforms depending upon the types of organization and nature of reforms in the public administration.

Methodology

This paper is based on quantitative method. Quantitative data was collected from the survey of 200 questionnaires. The questionnaire survey was conducted in 2009 in the reform regulatory organizations i.e. Office of the Prime Minister and the Ministry of General Administration, finance regulatory organizations i.e. Ministry of Finance and its revenue offices, and development regulatory organizations i.e. Ministry of Agriculture, Ministry of Health, and the Ministry of Education where the Governance Reform Program was introduced in 2001. The Statistical Program for Social Sciences (SPSS) tool is used to analyze the data and percentage form is used in the discussion. The bi-variant analysis where the relationship between independent variable i.e. political will and dependent variable i.e. administrative reform-application of performance based incentive is made as like the logic of Low/High equation on the following table-1.

Table-1
Low and High Equation

Row Independent Variable Administrative Reforms- Application of Performance based Incentive	Relationship	Column Independent Variable Political Will	
		Low	High
	Low	1. Low/Low	2. Low/High
High	3. High/Low	4. High/High	

Source: Foundation of Low/High Equation

The logic of the low/high equation can be explained in following four situations.

- 1. The first quadrant is Low/Low
- 2. The second quadrant is Low/High
- 3. The third quadrant High/Low
- 4. The fourth quadrant High/High

Administrative Reforms and Performance Based Incentive

The words reform, transformation, modernization, innovation and revolution have generally been used in the process of change in an organization, in an established system, in an idea, and in a practice. Reform is a process of change to improve organizational performance. Transformation is also a process of change from one state

or form to another. The modernization is a process of change where the obsolete things have been deleted and modern ways, ideas, and styles have been adopted. Innovation is also a process of change where the new things have been introduced instead of established things and ideas. Finally, revolution is a total form of change where existing structures and systems have been completely replaced by new one (www.answers.com). However, reform and change have widely been used for explaining reform phenomena in the context of public organizations. Reform is a deliberative attempt of changes in the structural and cultural features of an organization and change is what actually happened in the structure and culture of the organization (Christensen et al., 2007:122).

Pollitt and Bouckaert (2004:8) also define public management reforms as deliberative changes to the structures and processes of public sector organizations with the objective of running them better. In the reform phenomena structures, processes and ideologies are shaped and altered in order to operate organization more functionally and efficiently (Brunsson and Olsen, 1993:1). Public administration is the state machinery to implement public policies and to carry out the activities of national development. Therefore, an efficient, effective, competent, transparent, accountable public administration can only work to achieve a larger goal of national development. However, public administration is generally criticized for being more bureaucratic, rigid, inefficient and incompetent. Therefore, reform is necessary in public administration and political will is perceived an important factor for the effectiveness of reform in the public sector. It is because "whole ranges of issues in public administration are the matters of political debate and discourses" (Jamil, 2007:75). Reform policy decisions are taken by the politico-administrative actor and are implemented by the administrative means.

The trend of administrative reforms has been changed from process to performance since the 1980s along with the concept of New Public Management (NPM). The NPM model of reforms mainly focuses on performance based management, result orientation, contract based public service management, professionalism, increasing incentives in public sector management, funding for outputs, and competition in service delivery. It also focuses on managerial autonomy, devolution of managerial power and authorities, conversion of public organizations into independent agencies, privatization of the state functions and downsizing the bureaucracy, procedural simplifications, non-hierarchical organizational structures, prompt decision making, and use of citizens charter (Hood, 1991:4-5, Christensen and Lagreid, 2001:19, Osborne and Gaebler, 1992). The latest concern of reforms in public sector is to improve performance of employees and result orientation. The concept of performance based incentive is one of the fundamental forms of performance base management inspired by the NPM ideas. The main theme of performance based incentive is to link reward and employees' performance in the organization (Hood, 1991:4, Talbot (2005:494). To reward high performer employees financially is the main thrust of performance based incentive.

In Nepal, a number of reform initiatives have been taken place time and again since the 1952. However, 1990 onwards reform initiatives have introduced NPM and performance oriented reforms in the civil service. The Governance Reform Program (GRP), 2001-2005 and its extended time frame 2007 was supported by the Asian Development Bank (ADB) had introduced the ideas of performance based management focusing on financial incentive to the employees. The Nepalese government had first selected three developments regulatory Ministries i.e. Ministry of Agriculture, Ministry of Health, and Ministry of Education for the application of performance based financial incentives. The role of the Ministry of Finance was assigned as the institution for mobilizing financial resource and coordinator with the donor agency i.e. the ADB in the case of GRP.

Though the Ministry of Finance was not included for the application of performance based incentive policy under the GRP, the Ministry has applied financial incentive policy effectively in the 44 revenue offices of the Ministry of Finance since the 2006. The Finance Ministry had been providing up to 200% incentive based on the employees' salary and spends approximately 360 Million Nepalese rupees yearly. The role of the Ministry of General administration was assigned as the coordinator of GRP. The Ministry of General Administration had been introduced performance incentive up to 150% in its Department of Civil Service Record since March 2010. However, performance incentive scheme could not be continued in the development regulatory Ministries. There are many factors such as political, bureaucratic, and financial factors that affect administrative reforms in general and application of performance based incentive in specific in the public organizations. Among them political will is more important factor for the effectiveness of reforms and application of incentive scheme in the public sector.

The Cabinet has recently⁷ approved up to 100% financial incentive to the tax and custom offices under the Ministry of Finance and at the Department of Civil Service Records under the Ministry of General Administration. The government has also decided 50% allowances to the employees working at the Office of the Prime Minister and Cabinet Secretariat. The decision for providing financial incentives and allowances to the above mentioned organizations was strongly backed by the concerned portfolio Ministers in compare to other Ministries.

Political Will

To define the meaning of political will is very much difficult task in the course of reforms. The literary meaning of will can be defined as the mental faculty of the actor where a person deliberately chooses a course of action and act with full determination. The World Bank links the word "will" with the word "ownership" while providing funds for development programs and says "ownership is essential and the countries must be in the driver's seat and set the course of their action. They must determine goals and the phase, time and sequence of program" Wolfensohn (1999:9). We can define

⁷January 31, 2012, Source: Cabinet Secretariat

political will as the set of deliberate actions where the ownership is taken by the political leaders for making changes in the course of administrative reforms in civil service. Therefore, political will is the most critical factor for leading change process in the public sector. The theory of historical institutionalism suggests that sufficient political force is required for bringing fundamental changes and stabilizing reforms in the public sector (Peters, 1999:349). However, it is more difficult to map the degree of relationship between political will and administrative reforms in public sector.

Relationship between political will and administrative reforms in public sector is one of the major factors for making change process effective. It is argued that political leaders have the major role in introducing and leading new changes in public administration. Therefore, there is a relationship between will of political actors and public administration for making reform programs effective. It is argued that the degree of will on the side of ruling political elite has an influence on the whole process of reforms in the public sector. The will of political actor is reflected in their determination to pursue the reform programs. According to the theory of historical institutionalism, lack of intentionality to pursue changes in existing situation is also associated with lack of will of political actor in the change process.

Relationship between political will and reforms in public administration is also testified from the experience of reforms in the public sector in different national setting and environment. If we look at the reform experiences of other countries such as in UK, NPM based reform package was first introduced in the leadership of the then Prime Minister Margaret Thatcher in 1979 focusing private sector working style in public organizations. Prime Minister John Major introduced the concept of citizen charter, a very popular reform program manifested to the NPM ideas in 1992. Likewise, Prime Minister Tony Blair brought the concept of joined-up-government and later termed whole-of-government in Britain in 1997 focusing on the well coordination among the public organizations for delivering public services effectively (Christensen and Lagreid (2007:1060). In Australia, NPM based reform giving priority on managerial changes in bureaucracy was led by the then Prime Minister Bob Hoke in 1983.

In New Zealand, Labor Government had led the NPM reforms focusing contracting out of public service in the decade of early 1990s. Prime Minister Mulroney in Canada effectively led the NPM reforms there in the same decade. President Bill Clinton's leadership in the USA was also one of the best examples for successful application of performance and result based managerial reforms in the name of reinventing government. Therefore, fundamental changes in the public sector need to be led by a clear political vision and strong leadership of political actors. According to Osborne and Gabbler (1992: xviii), changing system and building environment for well functioning state machinery through administrative reforms is the final responsibility of political leadership.

Discussion: Political Will and Performance based Incentive

The discussion on the relationship between political will and administrative reforms taking application of performance based incentive as a case in the Nepalese civil service

begins with the following research question and hypothesis. To this discussion, political will refers the will of Prime Minister to reforms in general in the public sector and will of Ministers to reforms in specific in their portfolio Ministries.

Research Question: Does political will affect administrative reforms i.e. application of performance based incentive in civil service.

Hypothesis: Higher the political will, higher is the administrative reforms i.e. application of performance based incentive in civil service.

Questionnaire survey of 200 respondents was conducted in 2009 where 199 of them had expressed their opinion on the relationship between political will and administrative reform i.e. application of performance based incentive in the Nepalese civil service.

Table-2
Opinion Regarding Relationship between Political Will and Application of Performance based Incentive

Dependent Variable	Relationship	Independent Variable		Total Number (N)
		Political Will		
		Disagree %	Agree %	
Administrative Reforms- Application of performance based incentive	Disagree %	85	35	199
	Agree%	15	65	
		N-76	N-123	

Source: Questionnaire Survey- 2009 SPSS Cross Tabulation, Fraction% is Adjusted

Question: Here is a statement related to political will and application of performance based incentive in the Nepalese civil service. Would you disagree completely, disagree partly, agree partly, or agree completely?

Interpretation of the Data

The data of the survey in four choices i.e. disagree completely, disagree partly, agree partly, and agree completely have been merged into the two choices i.e. disagree and agree forms. The interpretation of the data in the above table-2 is made on the basis of percentage in the forth quadrant that is agree/agree and is compared with the data in the third quadrant that is disagree/agree. Here, out of total 199 respondents, 123 or 62% of them are in agree column and 76 or 38% of them are in disagree. If we look at the forth quadrant, out of agreed respondents, 65% of them have both agreed that there is a positive relationship between political will and application of performance based incentive in civil service. Whereas out of dis-agreed respondents, 15% of them in

the third quadrant have not accepted that there is a relationship between political will and application of performance based incentive in civil service. However, if we compare the percentage of the forth quadrant that is 65% and the percentage of the third quadrant that is 15% where the relative value of difference is 50% more in the forth agree/agree quadrant. This high percentage of the relative value of difference in the agree/agree quadrant indicates that there is a highly positive relationship between political will and application of performance based incentive in civil service. The data supports the hypothesis “higher the political will, higher is the application of performance based incentive in civil service”. In sum, the data entails that the application of performance based incentive is highly influenced by the will of political actors that means will of Prime Minister and Ministers in the case of Nepalese civil service.

Organizational Variation

There is organizational variation in mapping relationship between political will and application of performance based incentive. The following table-3 shows the such variation in the three types of organizations i.e. reform regulatory- Office of the Prime Minister and Ministry of General Administration, finance regulatory organization- Ministry of Finance, and development regulatory organizations- Ministry of Agriculture, Ministry of Health, Ministry of Education.

Table-3
Opinion Regarding the Relationship between Political Will and Application of Performance based Incentive in Organizations

Organizations	Application	Relationship	Political Will		Number
			Disagree %	Agree %	
Table 3.1 Reform Regulatory: PMO and MoGA	Performance based Incentive		Disagree %	Agree %	39
		Disagree %	94	81	
		Agree %	6	19	
			N-18	N-21	
Table 3.2 Finance Regulatory: MoF	Performance based Incentive		Disagree %	Agree %	60
		Disagree %	50	4	
		Agree %	50	96	
			N-10	N-50	

Table 3.3 Development Regulatory: MoA, MoH, MoE	Performance based Incentive		Disagree %	Agree %	
		Disagree %	90	46	
		Agree %	10	54	
			N-48	N- 52	100

Source: Questionnaire Survey, 2009, SPSS Cross Tabulation, Fraction % is adjusted

PMO-Prime Minister Office, **MoGA**-Ministry of General Administration, **MoF**-Ministry of Finance, **MoA**-Ministry of Agriculture, **MoH**-Ministry of Health, **MoE**-Ministry of Education.

Question: Here is a statement related to the relationship between political will and application of performance based incentive in your organization. Would you disagree completely, disagree partly, agree partly, or agree completely?

Interpretation of Data

The data of the survey in the four choices i.e. disagree completely, disagree partly, agree partly, agree completely have been merged into the two choices i.e. disagree and agree. The interpretation of the data in the table-3 is made on the basis of percentage in the forth quadrant that is agree/agree in all three types of organizations. The data from the table 3.1 shows that political will has less positive influence for the application of performance based incentive in the reform regulatory organizations i.e. Office of the Prime Minister and the Ministry of General Administration. In these organizations out of total 39 respondents, 54% of them are in agree column and 46% of them are in disagree. If we look at the forth quadrant, out of agreed respondents, 19% of them have only both agreed that there is a relationship between political will and application of performance based incentive. In sum, the data in the forth quadrant entails that political will has not that much positive influence for the application of performance based incentive in the reform regulatory organizations.

The data from the table 3.2 entails that political will has quite positive influence for the application of performance based incentive in the finance regulatory organizations i.e. Ministry of Finance and its Revenue Offices. In the Ministry of Finance, out of total 60 respondents, 83% are in agree column and 17% are in disagree. If we look at the forth quadrant, out of agreed respondents, 96% of them have both agreed that there is a relationship between political will and application of performance based incentive. In sum, the data in the forth quadrant reveals that the political will has very much influence for the application of performance based incentive in the finance regulatory institutions under the Ministry of Finance. The data from the table 3.3 shows that political will has also positive influence for the application of performance based incentive in the development regulatory organizations i.e. Ministry of Agriculture,

Ministry of Health, and Ministry of Education. In these Ministries, out of total 100 respondents, 52% of them are in agree column and 48% of them are disagree. If we look at the forth quadrant, out of agreed respondents, 54% of them have both agreed that there is a relationship between political will and application of performance based incentive. In sum, the data in the forth quadrant entails that the political will has also very much influence for the application of performance based incentive in the development regulatory organizations.

In sum, the data from the table 3 entails that among the three types of organizations, political will has very much strong influence for the application of performance based incentive in the revenue collection organizations under the Ministry of Finance followed by the development regulatory Ministries i.e. Ministry of Agriculture, Ministry of Health and Ministry of Education than the reform regulatory organizations i.e. Office of the Prime Minister and Ministry of General Administration.

Conclusion

To this article, research question was “does political will affect administrative reforms i.e. application of performance based incentive in civil service”? And hypothesis was “higher the political will, higher is the administrative reforms i.e. application of performance based incentive in civil service”. Based on the data and their interpretation, the hypothesis is positively accepted and the study reveals that administrative reforms i.e. application of performance based incentive is highly influenced by the will of political actors that refers the will of Prime Minister to reforms in general in the public sector and will of portfolio Minister to reforms in the Ministries and their line agencies. There was also organizational variation in mapping relationship between political will and application of performance based incentive. The data entails that political will has very much strong influence for the application of performance based incentive in the tax and custom offices under the Ministry of Finance. In sum, the study concludes that there is a strong relationship between political will and administrative reforms in civil service. The study also concludes that there is organizational variation on the relationship between political will and administrative reforms depending upon the types of reforms and the nature of the organizations.

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Impacts of Climate Change on Water Resources: Some Strategic Plan of Actions for Adaptation in Nepal

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Abstract

The impact of climate change in Nepalese water sector may be summarized into three broad topics, namely too much water, too little water and water quality degradation. These impacts have resulted water shortages for drinking, irrigation and industrial use in some parts of the country due to disappearing of water springs, depletion of groundwater, and continuously reducing water discharge caused by prolonged drought. Similarly, events of water induced hazards such as landslides, debris flows and floods including glacial lake outburst floods (GLOF) and flash floods are in increasing trend at several water basins resulted due to rapid glacial melting and intense localized precipitation. Likewise, water quality degradation due to low discharge and mixing of flood water in drinking water resources has also been reported at several part of the country. This study provides a review of policies, strategies and legal frameworks along with on-going various adaptation initiatives in the country so as to identify gaps to be considered while addressing climate change adaptations issues related to water resources. Some strategic plans of actions for adaptation are also suggested highlighting the fact that the adaptation options should be prioritized and implemented in an integrated manner.

Key words:water, climate, change, impact, adaptation, plan

Introduction

The Himalayan region is a dynamic and complex mountain system which is very sensitive in terms of climate change. Evidences such as fluctuations in glacier snout and its impacts on high mountain systems are now regarded as one of the most directly observable indicators of global warming [1]. Recent findings [2] have demonstrated that the major part of Eastern Himalayas is undergoing warming with annual mean temperature increase at the rate of 0.04 to 0.06 oC/yr or higher, which is five times higher the global average. Analysis of temperature trends (during the period of 1977-

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1994) in Nepal indicated a continuous warming at an average annual rate of 0.06 °C which, however, varied spatially as well as according to seasons [3]. For example, average annual temperatures in the Terai regions in the south has been found increased by 0.04°C/yr, whereas those in the middle mountain areas in the north has been recorded increased by 0.08°C/yr. The pre-monsoon season (March-May) showed the lowest warming rate of 0.03°C/yr, while the post-monsoon season (October-November) showed the highest one of 0.08°C/yr [4]. Pertaining to precipitation, Nepal showed no distinct long term trend in precipitation [5]. But there is a clear indication of increase in extreme precipitation events in the central Nepal in the recent decades [6]. In addition, the overall increasing trend in winter precipitation except in the northern part of mid-western, western and eastern Nepal and declining trends in monsoon precipitation in the mid-western and southern parts of western Nepal has also been observed [7].

There has also been some attempts to predict climate change scenarios using general circulation models (GCM), which showed a significant and consistent increase in mean annual temperature of 1.2°C by 2030, 1.7°C by 2050, and 3.0°C by 2100 [8]. In case of precipitation, no significant change in western, however, up to 5-10% increase in eastern Nepal for winter season was projected. During the summer months, precipitations are projected to increase for the whole country in the range of 15 to 20% [9]. Further, general increase in the intensity of heavy rainfall events in the future and an overall decrease by up to 15 days in the annual number of rainy days over a large part of South Asia is projected [10]. In fact, as these references clearly depict, the projections results are inconsistent in predicting the changing scenarios of precipitation. It requires further research generating more scientific data. This paper first summarises the impact of climate change in water resources providing a review of water related policies, strategies and legal frameworks along with on-going various adaptation initiatives in the country. Based on the outcomes of a gap analysis, the paper then suggests some strategic plans of actions for adaptation.

Methodology

This study is based on the secondary data collected from various sources such as journals, websites and technical reports available at government and non-governmental offices. Based on the outcomes of literature review, a synthesis of impact of climate change on water resources is presented followed by recommending some adaptation measures to minimize the negative impact and to exploit the positive impact of climate change.

Impacts of Climate Change on Water Resources

The most severe issues resulted due to the climate change impact on water resources may be broadly categorized into too little water, too much water, and water quality degradation scenarios, which are briefly described below.

Too Little Water (Reduced Water Availability):The prolong drought at several parts of the country have resulted significant discharge reduction in springs (in some cases, springs have already been dried out, particularly in Mid-mountain areas) and rivers. Groundwater table is also gradually declining particularly in some parts of Dun valleys and Bhabher zone mainly due to reduction in recharge (as a result of prolong drought, less rainfall, reduction in recharge area due to urbanization, and short-duration intense precipitation) and to some extent by over exploitation. On the other hand, the development trend is such that people are migrating from rural mountain villages to urban centers mainly in Terai, Dun valleys and midland (that also includes Kathmandu valley) where a huge amount of groundwater is available in addition to better economic prospects. Besides, the populations displaced (due to weather induced extreme events: floods, landslides and droughts) also prefer to migrate in Kathmandu, Dun valleys and Terai in the hope of finding some sort of better livelihood. These activities, along with the changes in the water cycle/balance from climate change, ultimately creates a situation of too little water posing insufficient availability of water for domestic, agriculture and industrial use including generating hydropower. For example, a significant impact of migrated people on groundwater resources is realized in the capital city, Kathmandu where overuse of groundwater far outweighs any climate change impact as the extraction is greater than recharge by a ratio of 2 to 1 [11].

The minimum flow period or the periods when the flows are greatly dependent on glacier melt water, most of the rivers will create problems to run-of-river hydroelectric plants reducing the hydropower potential of the country ([12] and [13]. A study carried out in the Koshi River Basin also revealed a fact that water scarcity often results in people using less water for general hygiene and sanitation activities [14], which ultimately effects their health and surrounding environment.

Too Much Water (Water-induced Hazard): Besides rise in temperature, major consequences of climate change are related to changes in magnitude, frequency and duration of the hydrologic extremes [15], which may result in following consequences in Nepalese context.

Glacier Lake Outburst Floods (GLOFs):It has been observed that the glaciers in Nepal are retreating at faster rate suggesting increase in GLOF frequency under climate change scenario [16]. Nepal has experienced 10 trans-boundary GLOF events which actually originated in Tibet and their adverse impacts were also felt in Nepal. For instance, the GLOF event of 1981 destroyed the Friendship Bridge constructed over the Bhote Koshi river at the China–Nepal boarder and caused serious economic losses in Nepal amounting US \$3 million [17]. In Nepal, twenty one lakes are identified as potential dangerous lake, six of which has been identified as critical [9] requiring thorough investigation for implementing hazard reduction measures.

Floods and flash floods:In Nepal, the destruction of infrastructures worth US \$9 million and about 300 deaths annually is caused due to water induced disasters [18]. Many regions of the country has already faced severe problem of flooding [19, 20]. The

changing pattern of precipitation, due to climate change, is expected to worsen the flooding situation. For example, the localized intense precipitation may result flash flood, particularly in Siwalik region where deforestation is at alarming rate. The flash flood further erodes the river bed and banks resulting river bank failure (landslide). In some occasions, the landslide debris may blockade the river flow for some time creating natural dam, which may result in flooding once it breaches naturally or manually. Once the sediment-rich flood water enters into the Terai region, all the coarser sediments start depositing due to the low river bed gradient. Consequently, river bed rise take place and river water spills over the banks resulting floods in Terai region. The localized intense precipitation in Terai region further worsen the situation as the rivers are shallow(due to river bed rise) and narrow (due to human encroachment).

Landslides and soil erosion:The Risk Assessment undertaken during the SPCR planning process clearly indicated that the incidents such as landslide and debris flow have constantly increased during the last few decades [21]. Due to steep mountain slope, loose soils, jointed rocks, marginal farming systems and inadequate knowledge and technology for soil and water conservation, the erosion of fertile soils from agricultural land is higher. Extreme climatic events coupled with non-engineering practices of constructing linear infrastructure (roads and irrigation channel) have also accelerated erosion and landslides in hill slope.

The above mentioned consequences lead to a significant economic loss as it directly affects major infrastructures such as hydropower plant, irrigation and drinking water supply schemes, human settlements, highways, bridges and cultivated lands.

Water Quality Degradation:The extreme climate events have created too much water which also degrades or wash out the drinking water sources. Similarly, the prolong drought may reduce the discharge, making the drinking water polluted with unacceptable amount of sediments and chemical precipitation. Impacts on water quantity and quality have been identified by the SPCR Thematic Working Groups as the principal risk from climate change [21]. Risks of malaria, Ka-lazar and encephalitis outbreak are somehow related with the polluted water, and are the potential impacts of climate change on health.

Major Adaptation Initiatives

Several adaptation initiatives are currently applied to adapt to the climate change impact on water resources in Nepal, some major initiatives are summarized below.

National Adaptation Programme of Action (NAPA):As a foundation for receiving support from international and bilateral agencies to combat against negative impacts of climate change, the Government of Nepal has prepared its National Adaptation Programme of Action (NAPA)[22]. Initiated through a broad-based consultative approach, NAPA process was geared-up by six Thematic Working Groups (TWGs), namely Agriculture and Food Security, Forests and Biodiversity, Water Resources and Energy, Climate Induced Disasters, Public Health, and Urban Settlements and Infrastructure. The work of the NAPA-TWGs resulted with a “long-list” of adaptation

options, which were synthesized into nine immediate and urgent project profiles. Out of the nine profiles, three adaptation options are related to water issues. The total cost to implement the nine adaptation measures is estimated to be US\$ 350 million.

Strategic Program for Climate Resilient (SPCR):In order to help Nepal transform to a climate resilient development path, consistent with poverty reduction, food security and sustainable development goals, the Strategic Program for Climate Resilient (SPCR), a preparatory phase of PPCR, builds upon government's ongoing programs to address poverty and support the country's long-term vision to achieve a climate resilient development. Out of the five key components envisioned for investment strategy, the most important one is related to building climate resilience of watersheds in mountain eco-regions. The SPCR proposal submitted by Nepal Government has already been approved by PPCR Sub-committee in 2011. The total fund available to implement the interventions for Nepal is \$40-\$50 million in grant and \$36 million in other concessional resources.

Institutional set-up, programs and policy formulation:Some of the activities / outputs included in various policies, strategies and programs are relevant to design adaptation measures required to minimize the negative impacts of climate change on the nation's water resources (Table 1). Besides, major legal policies mentioned in Table 1 there are several other key policies which are not directly related to water.

Table 1: Major legal framework related to water resources

Major Legal Framework	Main highlights	Remarks
Water Resources Act and Regulations (1992 and 1993)	<ul style="list-style-type: none"> • Umbrella act/ regulation for management of safe drinking water. It aims to increase agricultural production and hydroelectricity development • It encourages private sector's participation in water management and forms water users' association. 	Obligatory provision to analyze environmental and social impacts of proposed projects. No mention of monitoring of discharge and preparing database of springs.
Irrigation Regulation (2000) Irrigation Policy (2003)	<ul style="list-style-type: none"> • Provides joint management system of Government and Irrigation Water User Associations. Policy guided by the principles of IWRM (water availability, investment sharing, and self-insurance against calamities), promote year round irrigation by constructing water reservoirs, rainwater harvesting and prepare master plan for Trans-basin water transfer. 	Less priority is given to the rehabilitation of irrigation infrastructures damaged by floods and landslides. No mention of monitoring of effectiveness of the irrigation system.
Hydropower Development Policy (1992) and (2001)	<ul style="list-style-type: none"> • Private sector involvement policy. Exempts licensing for small projects (1000Kw capacity). • There is a reference to cooperate and coordinate between private and government sectors and benefit sharing with local people (there is also a provision to disburse 1% royalties from electricity sales to the related VDCs). • Emphasizes on leaving 10% of annual minimum discharge to maintain downstream environmental requirements. 	Disbursing 1% royalties from electricity sales to affected VDC has not been implemented yet. No mention of controlling siltation and managing discharge fluctuation in river water.
Local Self Governance Act and Regulation (1998) and (1999)	<ul style="list-style-type: none"> • Sets out powers and duties of VDCs, Municipalities and DDCs in water and sanitation. • Initiation of disbursing 12 % of royalties earned from electricity sales to related DDCs. • Empower local bodies to carry out disaster-related activities at local level. 	Through this provision, government has recognized the concept of local right, but implementation part is still weak.
Disaster Relief Act (1982) Water Induced Disaster Management Policy(2003)	<ul style="list-style-type: none"> • Empower government to form and operate regional, district and local level Disaster Relief Committees (DRC). • Aims to prevent communities from water induced disaster. 	First act developed to manage disaster in the country. It gives less attention to pre-disaster preparedness.
Drinking Water	<ul style="list-style-type: none"> • Deals with control of water pollution and maintenance of quality standards for 	There seems to be a lack of a water

Regulation (1998)	<p>drinking water.</p> <ul style="list-style-type: none"> • Stipulate supplier's duty as to maintain drinking water quality with standard set by Water Resource Act. 	quality monitoring authority.
Nepal Water Supply Corporation Act (1989)	<ul style="list-style-type: none"> • Operate Nepal Water Supply Corporation • Established public-private sector company "Kathmandu Upatyaka Khanepani Limited" for managing water supply and sewerage in Kathmandu valley. 	Act provides mandate to plan, construct & operate water supply systems
The Electricity Act (1993)	<ul style="list-style-type: none"> • Provision to minimize soil erosion due to floods and damage to the environment while producing and transmitting electricity. • Establishes a system of licensing and deals with the acquisition of house/land and compensation. 	Focus on water use through generation, transmission of electricity. But no provision of water source conservation.

However, such policies focus on environmental conservation and sustainable development of rural areas by promoting different renewable energy technologies. For example Rural Energy Policy (2006) which encourages the local groups and private sector to distribute the electricity by producing the power up to 1000kw (micro and small hydropower-MHP) in rural areas which may also be leased out. Similarly, subsidy for Renewable (rural) Energy (2009) provides provision of subsidy amount of NPR 15,000/household for new MHP project above 5 kW and up to 500 kW.

Gap Identification

In a broader sense, data availability and access, inadequate scientific understanding, lack of awareness, poor institutional mechanism, poor integration of existing knowledge and practices and lack of integrated management approach are some of the major constraints or gaps, which need to be fulfilled at earliest to minimize the negative impact and maximize the positive impact of climate change. The gaps are briefly summarized below.

- Sectoral policies and plans such as on water resources, agriculture, energy and industry do not specifically address risks associated with climate change;
- The lack of institutional capacity for climate change risk management and poor coordination amongst the concerned agencies is one of the reasons why climate change risks management is not formally integrated into development planning at the national, sectoral, district, and village levels.
- The lack of or inadequate institutional capacity and real-time monitoring infrastructure within the Department of Hydrology and Meteorology (DHM) has resulted in very limited observation data on the meteorological and hydrological parameters to support early warning systems and the identification of appropriate adaptation measures at the community level.
- Water resource database and monitoring system is lacking. Similarly, there is no monitoring system for glacial lakes. In addition, aquifer mapping and monitoring of water table fluctuation, especially in drought prone regions and also in Indo-Nepal boarder, has not been started yet.
- Risk mitigation measures and early warning systems are limited to a handful of cases and mechanism for trans-boundary risk assessment and early warning system is non-existent.
- There is a lack of establishment of upstream-downstream linkages and addressing the trans-boundary implications in a positive manner. Unilateral development of river projects often brings adverse outcomes which should be discouraged in context of climate change.

Strategic Plan of Actions for Adaptation

The above mentioned gaps suggest that some strategic plans are to be designed and implemented to adapt with the uncertainties related to both the magnitude and timing of many climate change extreme events. Basin wide approach for major river basins as suggested in National Water Plan (2005) should be considered for effective

water resources management. Also, the benefit sharing mechanism should be promoted through basin-wide planning (focused on sharing the benefits of water use/nonuse, instead of dividing the water itself). Considering the gaps identified and the priority issues discussed above, the following strategies are proposed.

Table 2: Proposed strategic plan of actions for adaptation

Priority Issue: 1) Too Little Water (Reduced Water Availability)	
Proposed Strategic plan of actions	<ul style="list-style-type: none"> i) Preparing and implementing national plan for water resource protection addressing ways to improve reliability and availability of water supply for drinking, irrigation and industrial use including water for wildlife. ii) Initiating research on the status of glaciers, surface water and groundwater and their future projection.
Priority Issue: 2) Too Much Water (Water-induced Hazard)	
Proposed Strategic plan of actions	<ul style="list-style-type: none"> iii) Climate proofing of major infrastructures (highways, bridges, dams, hydropower plants, embankments, irrigation channel, intake and pipelines of drinking water supply etc.). iv) Constructing storage reservoirs in major snow-fed rivers in collaboration with neighboring countries to minimize flood and maximize water availability.
Priority Issue: 3) Water Quality Degradation	
Proposed Strategic plan of actions	<ul style="list-style-type: none"> v) Designing and constructing water storage systems to regulate the drinking water supply and maintain base flows in important rivers. vi) Initiating quality monitoring of major river water.
Priority Issue: 4) Database Management and Early Warning System	
Proposed Strategic plan of actions	<ul style="list-style-type: none"> vii) Development of early warning systems for vulnerable communities using real-time data. viii) Capacity development of Department of Hydrology and Meteorology(DHM), and related Department of Home Ministry

Conclusions

The impact of climate change in water sector has resulted too much water (flood), too little water (water scarcity due to drought) and water quality degradation in various part of the country. Generally, floods are significant in Terai whereas the mid-mountain and certain parts of Terai are facing serious water scarcity due to drought for drinking and irrigation. The extreme events, flood and drought have resulted degradation of water quality as well. In a broader sense, data unavailability, inadequate scientific understanding, lack of awareness, poor institutional mechanism, poor integration of existing knowledge and practices and lack of integrated management

approach are some of the major constraints or gaps, which need to be fulfilled at earliest to minimize the negative impact and maximize the positive impact of climate change on water resources. Based on the review of policies, strategies and legal frameworks along with on-going various adaptation initiatives, eight strategic plans of actions for adaptation are proposed highlighting a fact that the adaptation options should be prioritized and implemented in an integrated manner using basin-wide approach.

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Periodic Development Plan and MfDR

Dhruba Prasad Dahal [★]

Abstract

Nepal has implemented eleven periodic plans in the planned development process for more than five decades. Efforts have been made to link the periodic development plan with annual plan through various reform processes. Budget allocation on the basis of Medium Term Expenditure Framework (MTEF), improvement of budget classification and introduction of Managing for Development Results (MfDR) concept in selected government agencies are some of the remarkable efforts to make planning and budgeting system more result oriented. But there are various challenges for its effective implementation so as to get better results as envisaged in the periodic plan. This paper briefly highlights the effort Nepal has made so far in the MfDR and challenges to implement it.

Periodic Development Plan in Nepal

The planned development process in Nepal started in 1956 has completed five decades. So far, nine five-year plans and two three-year plans have been implemented. The priority of periodic plans have been changing from time to time such as infrastructure development, social development, integrated rural development, fulfillment of the basic needs of people, poverty alleviation; and broad based and employment centric economic growth. Since the Eighth Plan, private sector development and poverty alleviation have been given much importance. The Tenth plan (2002/03-2006/07) was actually a Millennium Development Goals (MDGs)-centered Poverty Reduction Strategy Paper (PRSP) focused on broad based economic growth, improvement in the access and quality of infrastructure, social and economic inclusion of the poor marginalized communities, and good governance. Commitment to the decentralization and functional devolution, use of log frame to institutionalize result-based management in planning and budgeting, prioritization of development programs/projects for guaranteeing resources in terms of priority 1, priority 2 and priority 3 (P1,P2,P3) and elaborate monitoring and evaluation provision were distinct features of the Tenth Plan. By adopting the Medium Term Expenditure Framework (MTEF) the government changed the budget classification from regular and development into recurrent and capital; and prioritization exercise have helped allocate budget to priority sector.

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The objective of the MTEF were (a) developing a consistent and realistic budgeting framework for economic stability (b) improving budget allocation to Poverty Reduction Strategy Paper (PRSP) priorities among and within sectors through close inter linkages of programs/projects (c) providing adequate fund to P1 projects with funding guarantee, and (e) making the capital budget more result-oriented by reducing low priority programs/projects. In the Plan period efforts have been made to introduce Managing for Development Results (MfDR) practices in three piloted government agencies i.e. the Ministry of Local Development, Ministry of Physical Planning and Works and Ministry of Education.

The Three Year Interim Plan (2007/08-2009/010)-TYIP set a long term vision making a prosperous, modern and just Nepal after the people's movement of 2006. The Plan gave priority to ensure the reconstruction of physical infrastructure, relief to the conflict affected people, rehabilitation, social integration and adoption and inclusion of deprived communities, regions and gender in all the strata, sectors and the process of development. Sector-Wide Approach (SWAP) was implemented in education and health sector to increase public investment and achieve better results.

The current Three Year Plan's (2010/11-2012/13) long term vision is to create a prosperous, peaceful and just Nepal by transforming from a least developed country into a developing nation within two decade period. One of the strategy of this plan is to make development works result oriented by insuring good governance and effective service delivery. Government is committed to make planning, budgeting; and monitoring and evaluation system result-oriented.

Linkages between planning and budgeting through MTEF and MfDR

National Planning Commission (NPC) is responsible to prepare periodic and annual development plan with the consultation of Ministry of Finance (MOF). Resource committee headed by NPC vice-chairman sets the budget ceiling and circulates budget guidelines along with budget ceiling for all districts and central level agencies. Considering the budget ceiling, guidelines and overall development policy of the government; district level plans/programs are prepared by District Development Committee (DDC) as provision made in Local Self Governance Act (LSGA). These plans and projects are discussed in various levels from the community to village and district level. At the central level, line ministries prepare their annual plan and budget on the basis of allotted ceiling, budget guidelines and MTEF in line with the long-term vision, goal, objective, strategy and policy of periodic development plan. MTEF is the major tool to prepare sectoral programming and budgeting.

For each sector MTEF shows expenditure for the previous year, estimates for the current year and budget allocation and forecast for two additional years. Implementing agencies prepare detailed annual work plan with performance indicators along with procurement plan and M&E plan. Budget release of P1 project is related with demonstrated performance in project level. If such progress of the last trimester is more than 80 percent, the project gets budget for the next trimester. If it is between

50-80 percent budget release depends upon the classification of concerned ministry and in case of below 50 percent progress action can be taken to concerned project chief.

In some donor funded projects in education and health sector SWAP modality is in place and Government of Nepal (GON) is replicating this approach to other sector as well for harmonizing external assistance for better results. Each sector has to prepare result based targets and indicators justifiable with budgets.

From the beginning of current TYP GoN is implementing MfDR concept in 13 government agencies within five major development oriented ministries. Result based Budgeting (RBB) concept has been introduced in two government agencies on pilot basis. NPC is institutionally responsible to identify and outline results through periodic development plan. Sectoral ministries are responsible for ensuring the achievements of results by supervising, coordinating and facilitating the delivery of sectoral outputs from their subordinate organizations and projects. The sectoral business plans, based on the sectoral result matrix of the national periodic plan, are the guiding tools for the concerned ministries to achieve this purpose. Similarly, organizational business plans are the guiding tools for the subordinate organizations and projects under the concerned ministries to contribute towards achievement of sectoral outcomes. The local bodies are expected to be guided by the respective District Development Periodic Plan, which supposedly need to be linked to the sectoral outcomes ascertained by the national periodic plan.

A high level steering committee chaired by the vice chairman of NPC directs, supervises and monitors MfDR activities in different government agencies. Similarly, this committee decides to cascade and extent MfDR concept in other government agencies. Result Based Monitoring and Evaluation (RBME) System is implementing in priority one and donor funded projects aims to enhance the public accountability at all levels of project implementation to policy formulation by institutionalizing the objective oriented M&E process. This system attempts to emphasize the outlined results chain of the project by monitoring inputs, outputs, outcomes and impacts. Effectiveness of the resource utilization with respect to desired objectives and result accomplishment along with relevance, efficiency, sustainability, utility and impact are ascertained in the evaluation process. Similarly, the provision of input output and outcome monitoring, impact monitoring and analysis, management information system and advocacy activities process at different levels try to enhance the proper utilization of resources. Furthermore, development and updating of the result matrix by adopting MfDR approaches, identification of activities and indicators to be monitored, development of monitoring plan framework, institutional arrangements, data collection, compilation and analysis, reporting of monitoring results and information with feed backs and utilization of monitoring information and feedback are some provision as stated in RBME System.

Decentralized Budgeting System

Local Self Governance Act, 1996 is the legal framework for decentralized budgeting system. District Development Committee (DDC) has to prepare respective District Development Periodic Plan using log frame and result matrix. On the basis of District Development Periodic Plan DDC prepares annual plan. In formulating annual plan mostly three things have to be taken (a) directives received from the NPC and concerned ministry on national development (b) district level policies and goals set on the basis of national policy and goal (c) overall necessities indicates by periodic plan (d) plans received from the village council and municipal council.

Local bodies have power to levy taxes, collecting fees, service charge and raising revenue allocation in terms of revenue sharing. Ministry of Finance provides budget authorization to DDC directly in terms of block grants. Sectoral ministries provide budget authorization through DDC for sectoral development activities. All the Local Bodies operate their financial transactions guided by LSGA. Most of the development works at the local level implement through users committee in participatory way.

To monitor the district level development projects and programs there is a provision of supervision and monitoring committee under the chairmanship of the parliamentarian of the concerned district. Similarly, according to the legal provision, District Development Committee has to appraise and evaluate the District Development Plan. NPC, Ministry of Local Development and other sectoral line ministries also monitor and evaluate selected district level development projects /programs. Lack of the elected representative at the Local Bodies is creating difficulties for the effective implementation of decentralization. Since more than ten years there is no elected representation at the local level. Local Bodies are functioning in ad-hoc basis from civil servants.

Challenges and issues of execution and internalization of MfDR

Nepal has been making planned development effort. Due to the political instability and long transitional situation government focus at present is concentrated in peace building and drafting new constitution. The institutional framework and decision making process of the government from centre to local level needs to strengthen. In almost all planning document, policy is well designed but implementation, monitoring and evaluation part is always weak. Government has adopted new practices to make planning and budgeting result oriented, still needs more commitment and effective institutional mechanism. From the tenth plan government is trying to allocate budget on the basis of MTEF which still needs effective implementation. There is hardly any record of completion of development projects on time. Mostly donor funded project's disbursement position always become low.

As a part of the reform process, the government has already designed result framework for each development sector, still it is a challenging part for the effective implementation and internalization within the organization. The government has made mandatory for the selected thirteen agencies to prepare annual budget on the basis of MfDR concept needs to be updated annually on a rolling basis. Similarly, further

commitment needs to cascade it down and internalize this concept within the organization. There is also a need from the concerned agencies to make the business plan a useful document in the process of planning, budgeting, monitoring and evaluation of the programs/projects rather than considering it just as a ritual document. On one hand, there is a challenge of effective implementation, internalization and sustainability of MfDR concept in selected agencies, whereas on the other hand cascading and extending it at the sectoral and local government level is also another challenge. The institutional structure of the central government itself is weak to internalize this framework .Decision making process needs to make result oriented. In the absence of elected Local Bodies in all local level for a long, decentralization policy is not functioning as per the spirit of the LSGA. In this situation, it is difficult to cascade MfDR concept up to the local government level.

It is well recognized fact that a strong M&E System is useful for effective execution of MfDR. Poverty Monitoring Analysis System (PMAS) and District Monitoring Analysis System (DPMAS) is in place to monitor poverty related activities at the central and district level needs effective implementation. For the effective implementation of RBME System, capacity development program needs to be tie up with performance based incentive system. Special monitoring mechanism is in place to monitor on regular basis for the projects and programs of large size, high priority and having influence in the people level.

Frequent transfer of staff who are proactive and champion hinder the effective implementation and continuity of the system. Political interfere and status quo bureaucratic system create obstacle to cascade MFDR approaches up to the downstream units. Absence of credible and well designed and effective Management Information System is another vital issue at all levels.

Though, there are some issues regarding the implementation and institutionalization of MfDR concept, GoN is fully committed to implement, institutionalize and internalize this system. As NPC has planned to introduce MfDR concept gradually in all relevant sectors, there is a need to strengthen the capacity of sectoral agencies through trained human resources.

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Tourism Development Induced Displacement of Ethnic and Indigenous People of Nepal

Suman Pandit★

Abstract

The main objective of the paper is to analyze how the tourism development induced displacement of the Tharu from main tourist hub in Sauraha. The research for this study was carried out in Chitwan National Park in Nepal, where the Tharu an indigenous and ethnic group in the Terai region, has been residing for a long time. The research work was based on the use of key informant interviews, participant observation and an analysis of secondary data taken from a variety of sources.

The study reveals that tourism development has dislocated the Tharu from the main tourist hub due to the price of land in Sauraha has risen sharply, which has encouraged them to sell their land to the hill migrants. This study also shows that more alcohol consuming behavior as well as the Land Act of Nepal play vital role for dislocating the Tharu from main tourist nucleus.

Keywords:Tourism Development, Displacement, Tharu, Hill Migrants, Chitwan National Park, Sauraha, Nepal.

Introduction

“Nepal is renowned as one of the most important adventure, cultural and ecotourism (ACE) destinations in the world” (Musa et al., 2004). It has a lot of potential for tourism development. The government of Nepal has tried disciplining the territories and rationalizing government practices in its attempt to manage and control bio-diversity conservation and development. In the name of development and conservation, states usually adopt a policy of “territorialization” (Menziés, 1992), using the “technology of power” (Keyes, 1995) to control space. States adopt various strategies in order to control space, such as by establishing national parks and developing tourism. (Musa, Hall, & Higham, 2004)

After the establishment of Chitwan National Park in 1973, it was added to the wildlife tourism itinerary. Wildlife tourism is increasingly viewed as an option to be used to justify the setting up of protected areas, particularly, in developing countries (Curry et al., 2001). Since the establishment of Chitwan National Park and its declaration as a World Heritage site in 1984, it has become part of the “tourist gaze” (Urry, 1992), and has attracted many domestic and foreign tourists. Given that Chitwan National Park has

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great potential in terms of wildlife tourism, the country has adopted a tourism development strategy there. (Curry, Moore, Bauer, Cosgriff, & Lipscombe, 2001)

In the meantime, tourism development has pulled hill-based peoples away from the hilly regions of Nepal, and the Tharu have been displaced from their homeland due to the tourism development initiatives. Vandergeest (2003) argues that all development has the capacity of reorganizing space and has potential to cause displacement in line with various “push” and “pull” factors. This paper will examine how the tourism development induced displacement of the Tharu from main tourist hub in Sauraha.

Study Area

My research was conducted in Sauraha which is the part of Bachhuali Village Development Committee (VDC) and located in central part of Terai region of Nepal. The distance from Kathmandu to Sauraha is 165 km. Bachhuali VDC is located on Chitwan District of Nepal. The total area of Bachhuali VDC is 23.96 sq.km and the total population of Bachhuali VDC is 10,443 that have 1,872 households (CBS, 2001). Among them, the number of population of Tharu is 5,016 i.e 48% of total population.

The total area of the buffer zone is 750 sq. km, and after the establishment of the National Park in 1973, the Tharu who resided inside the Park were resettled to the buffer zone area. Sauraha is located in the buffer zone area of Chitwan National Park, which was declared buffer zone in 1996. The Tharu, as the original dwellers, are malaria resistant and the largest indigenous and ethnic group of people in the Terai region of Nepal.

Sauraha is the main tourist hub and is located at the main entrance point to the Park. Basically, tourists come to the Park for wildlife tourism purposes, as the Park has 50 species of mammals, more than 500 species of birds, 49 species of reptiles and amphibians, and 120 species of fish (Nakarmi, 2007). Horned rhinoceros, wild boars and gharial crocodiles are often sighted in the Park, so the Park was declared a World Heritage Site in 1984 by UNESCO, thereafter becoming famous among tourists. After malaria was eradicated in Terai and the area declared a World Heritage Site, there was an influx of hill migrants into Sauraha - to settle and to do business in this very touristic place. Most of the tourism businesses are concentrated in Sauraha, where the hill migrants operate hotels, resorts, lodges, restaurants, grocery shops, money changing businesses, travel and tour offices etc. The Tharu are not able to compete with the hill migrants due to the unequal power relations that exist.

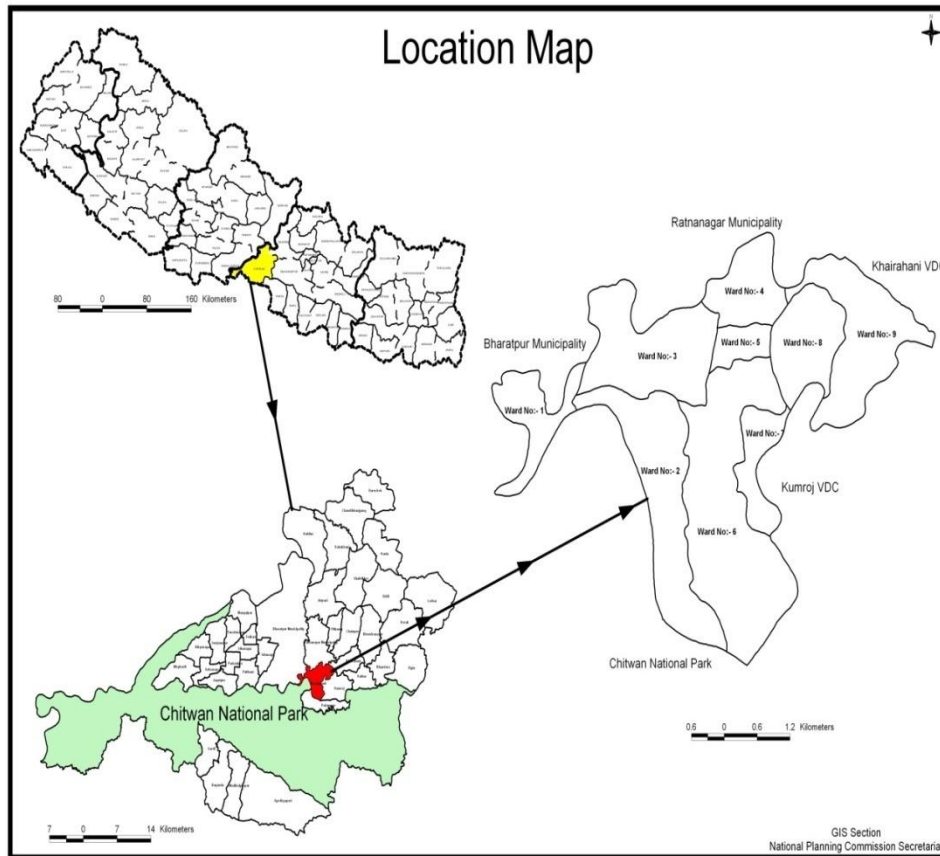


Figure 1 Map of Research Site

Source: National Planning Commission Secretariat, GIS Section.

Study Methods

I used two methods of data collection during my research: documentary and field research methods. I applied the documentary research method in order to obtain secondary data - data drawn from previous research studies. I collected information on the history of Chitwan, the Tharu and the hill migrants from different websites and written documents, plus collected demographic data from the Central Bureau of Statistics. The data which I obtained from these different sources provided me with a basic understanding about the local people and the research site itself.

Fieldwork for this research took place from November, 2009 to January, 2010 in Sauraha. Interviews of key informants were conducted with the local Tharu people and the hill migrants. When I talked with key informants, I crosschecked the information that I got from different books and literature journals on different aspects of local people and locality in order to check the reliability of the information. Furthermore, participant observation as a method allows one to gather data by participating in the

daily lives of local people, and I used this method to understand the everyday socio-economic life of the Tharu and the hill migrants at my research site.

Government Policies and their Impact on Ethnic/indigenous People

Indigenous people had greater access to natural resources in the past, especially before the formation of the modern state. Nepalese indigenous people had a special relationship with the land and natural resources, and their identity was determined by this basic relationship (Caplan, 1990). As the government of Nepal introduced various rules and regulations in order to guide the use of natural resources, so these rules adversely affected the livelihoods of the ethnic and indigenous people. Nepal Janajati Mahasangh (NEFIN) argues that at least 40 common and special laws discriminate against the indigenous communities in Nepal (Lawoti, 2001). Some of the acts which discriminate against the indigenous people related to natural resources are the Land Ownership and Regulation Act, the Forestry Act, the National Park and Wildlife Protection Act and the Land and Water Resources Protection Act, among others.

The Land Act of 1964 regulates the management of land and its utilization by owners and tenants, the aim being to raise the farmers' livelihoods by increasing productivity of the agricultural land. It also has the objective to redistribute land among the landless and small farmers; however, only a small number of indigenous people have been able to get hold of land and the rest remain poor and landless. In the Land Act, there are no specific provisions in relation to access and control over the land resources for the indigenous people.

The National Parks and Wildlife Conservation Act of 1973 was basically introduced by the government of Nepal for the management of national parks and the conservation of wildlife and their habitat. Its aim is to regulate hunting and to conserve, promote, develop and make appropriate arrangements for the use of places which are of special importance from the point of view of natural beauty, and to maintain good manners and welfare among the general public. The Act created a legal basis for national parks to exist in Nepal, for which strict penalties and procedures were laid out, though a series of amendments in the Act later provided for buffer zones and participatory schemes to be developed in which local people living in areas surrounding the parks are provided with incentives to contribute to conservation (Upreti & Adhikari, 2006). It does not make a specific case for the indigenous communities; however, many national parks and other protected areas, those which occupy 19% of the country, have been established in indigenous populations' territories.

According to Upreti and Adhikari (2006), Section 4 of the NPWC Act prohibits entry into national parks and reserves without first gaining approval of in writing from the concerned authorities. Similarly, the Act empowers the authorities to inspect, search and arrest any violators of the Act even, without a warrant. The Act outlines stringent punishments against offenders amounting to 50,000 to one million rupees and five to fifteen years imprisonment (or both in the worst offences), and up to a 10,000 rupees fine or up to two years in prison (or both) for the lowest degree of offences, such as killing, injuring and trading protected birds and animals (Belbase & Thapa, 2004). In

addition, the Land Acquisition Act 1977 was introduced in order for the government to be able to acquire land anywhere for a variety of purposes. This Act has affected the ethnic and indigenous people who live inside the forest or adjoining the national forests for a long time; however, the Act makes provision for compensation to be given to victimized people, but the compensation is very little, and since introduced, many ethnic and indigenous people have become landless.

A amendment of the Act (January, 2006) seems to restrict the participation of people and has deprived them of the benefits given in the fourth amendment (1996) which mandated investment of 30 to 50% of the income from the national parks towards the welfare of those affected. In reality, the poor and indigenous people have received few if any benefits from the revenue generated by the national parks.

The main idea behind the Water Resources Act of 1992 was to make arrangements for the rational use, conservation and management of water resources and prevent environmental and other hazardous effects. This Act provides for ownership over water resources among individuals and private parties. However, the Act does not provide special rights for ethnic and indigenous people who had been utilizing the forests over a long period as traditional common property.

The revised Forest Sector Policy of 2000 aims to strengthen the community forestry programs for the poor; increasing people's participation and their welfare. However, this policy does not focus on ethnic and indigenous people and their livelihoods, those whose lives have depended on the forests for a long time.

Tourism Development and the Displacement of the Tharu

Tourism has generated new employment opportunities in the study area, and has helped the community retain members who would otherwise have migrated, particularly the unemployed or underemployed young people. It has also attracted outsiders searching for work and economic opportunities, and who have often come from other branches of the economy, particularly agriculture (Kadt, 1979).

Nowadays, Sauraha is a tourist attraction, and Chitwan National Park has become the third ranked tourism destination in Nepal. As hill migrants are powerful in terms of wealth and knowledge when compared to the Tharu, they have been able to invest money into the construction of hotels and resorts, and have been able to buy land for the development of tourism infrastructure. As a result of this, the price of land has increased rapidly in Sauraha, and now there is no land left in the main tourist hub; most of the land is occupied by the hill migrants. In 1978, one bighas (0.67 ha) of land in Sauraha cost Rs. 4,000, whereas by 2000 the same land cost seven million rupees (Kunwar, 2002) . During my field work, I talked to people in Sauraha regarding the price of land; the price for a bigha of land (0.67 ha) is now 40 million Nepalese rupees.

In the past, the Tharu used the land for agriculture, cultivating rice, corn, mustard and different kinds of vegetables for their own consumption. With the rise in the value of land, the Tharu were encouraged to sell their land to the hill migrants. Since then, the hill migrants have utilized this land in order to build businesses, and as a result, land has become a commodity. The Tharu do not understand or know what the impacts of

tourism will be in the future, and in relation to this I talked with one Tharu (Mr. DU) informant who has been displaced from the main tourist hub:

The main problem was that the Tharu used to consume a lot of alcohol, as alcohol is necessary for most of the Tharu's festivals. As a result, they had to take out loans from the hill migrants and were not able to repay the loans. As a result, the hill migrants took their land as a payment. The Tharu are innocent and uneducated in comparison to the hill migrants and used to spend their money on festivals and alcohol. Due to this reason, the Tharu were forced to sell their land to the hill migrants and were displaced from the main tourist hub (Interview: January 2010).

I found that most of the Tharu had to leave the main tourist hub because their land had been sold to the hill migrants. Mr. DU told me that the Tharu drink a lot of alcohol, which is one of the main reasons why they sold their land to the hill migrants. I also realized during my fieldwork that the Tharu consume a lot of alcohol; some drink from the morning until night, and that most of those who consume a lot of alcohol do not have much of an income and take loans from the hill migrants and sometimes from other rich Tharu. Overall, those who consume a lot of alcohol have already sold their land to pay back their loans; therefore, this is one of the chief reasons why they have been dislocated from the main tourist hub. However, this is not the only reason why this dislocation occurred; it also happened due to market mechanisms, tourism development and the Land Act.

Table 1.1 gives general data regarding both the hill migrants and the Tharu, though it is not separated into two groups. According to the table 1.1, 11.8% of the households are landless. Chitwan National Park keeps no separate household data for the hill migrants and the Tharu regarding land ownership.

Table 1.1: Land Ownership in Sauraha⁸

Household's Land Ownership Patterns	Percentage (%)
Landless	11.8
0-10 Kattha (0 - 0.3 hectares)	35.2
11-20 Kattha (0.33 hectares – 0.6 hectares)	32.6
21 Kattha-80 Kattha (0.63 hectares – 2.4 hectares)	18.6
>80 Kattha (>2.4 hectares)	1.9

Source: Chitwan National Park, Buffer Zone Profile

I interviewed some Tharu people regarding land ownership and found out that now 25% of the Tharu are landless, with tourism being one of the major reasons for this dislocation from Sauraha; the other being the Land Act of 1964. According to the Act, it is necessary to register land in an individual's name. Before 1964, the Tharu used land as common property; however, the Land Act of 1964 abolished their rights to ancestral

⁸ 1 Bigha=20 Kattha=0.6773 hectares

land and common property. As they had no knowledge about the registration system, they lost their land, even though they had been using the land as long they could remember.

Conclusion

Tourism development has dislocated the Tharu from the main tourist hub due to the fact that the price of land in Sauraha has risen sharply, a trend which has encouraged them to sell their land to the hill migrants. The price of land has increased since tourism developed in Sauraha. The Tharu were originally encouraged to sell their land to the hill migrants as the price of land was increasing, so that now in the main tourist hub, most of the land is owned and occupied by the hill migrants - who also dominate the tourism sector. Tourism is one of the major reasons why the Tharu have had to move away from the main tourist nucleus. However, in some cases, more alcohol consuming behavior as well as the Land Act of Nepal play vital role for displacing the Tharu from main tourist center.

Tharu culture is one of the major attractions in Sauraha besides wild life tourism. If Tharu were displaced from their home land, it would be harmful to develop cultural tourism in Sauraha. It is necessary to preserve the Tharu's identity in Sauraha, because it is an attractive place to view their culture, being a part of the National Park.

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Nepal's State Restructuring: Acclaiming Beam of Identity and Rainbow of Diversities

Ram C. Acharya ★

Introduction

The process of state restructuring of Nepal from a unitary to a federal is creating new urgencies. The crux of the matter is how the sub-national units of federation —call them provinces—should be formed; should they be along territorial lines, ethnic lines or a combination thereof. Looking at the proposals and counter-proposals put forward by the political parties, it is clear they have failed to grasp the gravity of the problem and are devoid of a vision. Their solution will lead to a deeper rift tomorrow. The challenge is to steer through the intense and perplexing divides on ethnic issues and unite the country with a framework that would uphold democracy, and a road to economic prosperity, inclusiveness, and equality of opportunities.

The aspirations that people have shown for their rightful recognition is commendable; such alertness and agility is what make a nation strong. Unfortunately, peoples' grand vision—desire to see all identities as part of nation building—has been high-jacked by destructive debate on which group was in Nepal from time immemorial, what is the chronological order of settlement and why one should have more rights than others. The implications of these two mindsets cannot be starker. State restructuring that reflects people's desire would make all Nepalese proud citizens of a just society whereas state restructuring that justifies irresponsible activism would lead to irreversible course of action creating fault lines that benefit no one in the long run.

Nepali people have shown remarkable humility in the past; they might have to show it again. The sacrifice required of them is to be mindful of one's unique beam of identity while recognizing the rainbow of diversities in the neighborhood. They must rise above what is defined by caste, language, religion, region and family and commit themselves as one people of a singular nation.

The mosaic of different ethnic, linguistic and caste (ELC) groups in Nepal and its economic gravitas dictate against ethnic federalism. The rainbow of population settlement defies all the principles required for ethnic federalism that one would like to see fulfilled. The way forward is to combine ethnicity with capability as pillars of federation.



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Principles for ethnic federalism: learning from the world

Broadly defined, there are two bases for federation: (1) territorial which considers geography and economy and (2) ethnicity which considers ethnic, linguistic or religious criteria (“ethnic”). Both types of federation are territorial but in the former the territory is neutral, whereas in the latter, it is recognized as a “homeland” of a single group. The rationales for the two types of systems are different. The territorial one is associated with individual rights, whereas the ethnic one is related to self-determination with right to autonomy for a group. In a territorial federation, there are equal rights for all; personal characteristics (language, religion, culture) are not that relevant. In an ethnic federation, however, persons of one characteristic enjoy benefits that others do not. With different kind of objectives they produce different kinds of federation. Everything else—the size of a province, the number of provinces, the division of powers across different levels of government and the judiciary system—depends on which of the two bases is taken. Hence, the basis of federation is a key factor in shaping the types of institutions.

These are two extreme forms. Not all federations can be fitted neatly into one or the other category. It is possible to mix territory and ethnicity. Belgium, Canada, India, Malaysia and Switzerland have elements of both. Analyzing these countries’ settlement, some stylized facts—I call them principles—emerge which gave rationale for mixing ethnicity and territory as the bases of federation. I describe them below.

First, people of one ethnicity are in overwhelming majority in a province—principle of democracy. For example, in Switzerland, there are 26 cantons (provinces) and each of them has overwhelming majority of people that practice one religion or speak one language. All cantons have unilingual people except only four that are multi-lingual (Schmitt, 2005). The other example is Belgium; the north province is almost all Dutch-speaking and the south one is French-speaking. In India also, each state (province) has majority of one language group: in Karnataka, 65% speaks Kannada; in Gujarat, 75% speak Gujarati and so on.

Second, if a geographic region populated by people of the same ethnicity is too large in terms of providing services, then it is divided into more than one adjoining province—principle of economic efficiency. In Switzerland, few German-speaking cantons are adjacent; so are French-speaking ones. Same is in Canada. If adjoining land of common ethnicity would make one province, all English-speaking Canada would have only two provinces instead of eight.

Third, the provinces are formed in such a way that the majority of the target population resides within the province(s) where it is in majority—principle of inclusion. As a result, people of the same ethnicity do not have the feeling of “in” or “out” of its focus province.

Fourth, each major population group has its defined province(s)—principle of equality.

Fifth, if people of the same identity are not settled in an adjoining region, then their representation is accommodated using electoral process—principle of flexibility. In

Belgium, to accommodate Brussels where majority (85%) is French speaking and is inside the Dutch-speaking north, the provincial parliaments are supplemented by community parliaments of Dutch-speaking and French-speaking people (Deschouwer, 2005).

Sixth, people of different identities have the same rights in all aspects, except that the language (or religion) of the dominant group could be sole or one of the official languages (religions) in the province—principle of pragmatism. For example, in a French-speaking Swiss canton, all non-francophone will have the same rights as that of the francophone.

Reality check: a different report card

Next, I evaluate which of these principles will be fulfilled in Nepal. For that I take the proposal put forward by High Level State Restructuring Commission (HLSRC). The assessment of this report provides a valid test for the feasibility and rationality of ethnic federation, as it distributes villages and districts in such a way that the share of target ethnic group in its “homeland” province’s population is maximized. Therefore, if the principles are not met by the distribution made in this report, no alternative distribution would. The verdict will also be applicable to proposals of the Constituent Assembly Committee on Restructuring and Distribution of Power (CRCSD), United Communist Party of Nepal (Maoist), and 12 provinces version of United Marxists Leninist Party. All these proposals are based on the same logic as of HLSRC.

The HLSRC has proposed 11, including one non-territorial for Dalits, provinces. Using information given in this report about which villages and districts are allocated under which provinces (see Appendix for the list), I calculate the share of 10 major ELC groups in each of 10 proposed provinces in Table 1. In this 10 × 10 matrix, the first column is the names of the provinces and the first row is the names of the ELC groups. The provinces’ names and respective target groups’ names are placed as mirror image, except for Narayani and Karnali (with no target groups) and hill Brahmin and Chettri (BC) and Dalit (with no “homeland”), which I put respectively in the mirror-image. Although the HLSRC report combines Tharu with Madhesi, I report Tharu as a separate group. As Tharus are mainly in LAT, I put them correspondingly.

Table 1. Composition of ELC groups in proposed provinces (percent)

ELC groups Provinces	Limbu	Rai	Tamang	Newar	Madhesi	Hill BC	Gurung	Magar	Dalit+	Tharu	TOTAL
Limbuwan	26.1	15.6	6.4	3.2	0.8	27.5	2.9	4.4	6.5	0.1	93.5
Kirant	0.5	28.1	7.1	5.3	1.9	29.1	1.4	7.2	9.5	1.7	91.8
Tamsaling	0.1	1.7	32.7	9.7	3.3	31.4	1.4	5.8	7.1	0.5	93.7
Newa	0.5	1.6	10.3	34.0	3.8	37.9	2.1	3.1	2.3	0.7	96.3
MBKM*	1.4	1.9	2.3	2.3	53.5	13.9	0.6	1.6	12.7	6.6	96.8
Narayani	0.0	0.4	7.3	6.1	5.5	37.3	10.7	12.9	12.5	3.5	96.2
Tamuwan	0.0	0.5	3.3	5.5	3.2	36.4	25.8	6.5	14.4	0.2	95.8
Magarat	0.0	0.1	0.2	2.2	4.6	40.5	2.0	31.1	16.3	1.4	98.4
Karmali	0.0	0.1	0.1	0.4	3.1	68.0	0.7	6.4	19.2	0.3	98.3
LAT*	0.1	0.1	0.4	1.1	24.2	27.4	1.1	6.5	11.5	25.7	98.1
NEPAL**	1.6	2.8	6.6	6.5	22.1	30.9	2.4	7.1	11.8	6.7	96.6

* MBKM stands for Mithila-Bhojpur-Koch-Madhesh and LAT stands for Lumbini-Awadh-Tharuwan

** Remaining 3.4% of Nepal's population is from other groups outside of these 10 ELC groups.

+ Dalits include both hill and Terai Dalits. Hence, "Madhesi" does not include Terai Dalit.

By construct, the diagonal entries (in bold) are the shares of the corresponding ELC group in the province that is named after its ethnicity or regional identity. The off-diagonal entries in each row show the shares of other groups in that province's population. The first diagonal entry (of 26.1%) corresponding to "Limbuwan" province and "Limbu" means that only 26% of the population in that province—about one in four—is Limbu. Among 74% non-Limbu, 15.6% are Rai, 27.5% are hill BC, 6.5% are Dalit and so on (reading through first row). Not only are the diagonal entries small, for each province, many ELC groups have non-zero entries, meaning that almost all groups reside in that province, a rainbow settlement. If one was looking similar Swiss table, the diagonal entries would have been very high and the off-diagonal almost zero.

Just by eyeballing the diagonal entries, we see that except in two Terai provinces (for LAT one needs to add Madhesi and Tharu), the share of "homeland" group is in minority. In all six provinces with ethnicity (Limbuwan, Kirat, Tamsaling, Newa Tamuwan and Magarat) the share of corresponding target ethnic group is at most one-third, ranging as low as one-quarter. In most cases, they are not even the largest fraction in their "homeland"; hill BC are larger in number than the respective target group.¹⁵ In Terai, the majority of "homeland" group is the artifact of highly aggregate denominator "Madhesi". In reality it is composed of several heterogeneous groups (in terms of social, linguistic and cultural aspects). Had we applied more disaggregation either by language (Maithali, Bhojpuri and Koch), or by ethnicity (Janajatis) or religion, there

¹⁵ Since I had population data by ELC groups only at the districts level, whenever a district fell in more than one district, I distributed the population data using average some rule. As a result, my population share might slightly different from the real one, but the range of discrepancy should not be higher than 1-1.5 percentage points. So, it does not change the argument made in the paper that the no ethnic group is in majority in their "homelands".

would not have been majority of any particular group. So, forming provinces in ethnic line violates even a simple majority rule—the principle of democracy. Furthermore, in case of MBKM having 30.5% of the population (Table 2) is not desirable on ground of economic efficiency. It is simply too big. Other provinces also violate the second principle, that of economic efficiency, but from another side, by being too small.

Table 2. Share of area and population in proposed provinces (percent)

	Limbuwan	Kirant	Tamsaling	Newa	MBKM	Narayani	Tamuwan	Magarat	Karnali	LAT
Area	6.7	7.3	10.7	0.8	10.5	5.5	7.1	9.6	30.7	11.1
Population	4.3	4.4	9.3	7.5	30.5	6.2	2.6	9.4	9.4	16.3

In Table 3, I examine the distribution of each ELC group across provinces. For each ELC group (reading column-wise), the diagonal entry is the share of its total population in Nepal that resides in its “homeland” province and the off-diagonal entries are shares of this group that resides in “others homeland”. For example, the number of Limbus that resides in “homeland” province “Limbuwan” makes up 68% of total Limbu population in Nepal. The remaining 32% of Limbus would be outside their “homeland” province (including 26.9% in MBKM). Except Limbu and Tamang, for other four ethnic groups, majority of them reside outside “homeland”. So the ethnic federalism would also violate the third principle, the inclusiveness. A quick scan of Table 3 shows that each ethnic group will be scattered throughout all provinces as a small group and will be excluded minorities in “others homeland”. Again, for countries like Switzerland and India, the diagonal entries would have been much larger and the off-diagonal negligible or zeros.

If we impose prior-rights, meaning that only a member of the “homeland” group has the right to be the leader of the provincial government, then the exclusion is even more daunting. There will be rules by “lucky” minorities who happens to be in their “homeland” by coincidence over “unlucky” majorities who reside in “others” provinces. Take the case of Newa. Newars will rule this province although Newars are only 34% of the province population (episode 1 of anti-democracy). Only 46.7% of Newar live in Newa and the remaining majority (52.3%) has to accept the rule of another group depending on where they reside (episode 2 of anti-democracy). Similarly, Gurungs will rule in Tamuwani even if they are only 30% of the province’s population and since 74% of Gurungs live outside Tamuwani, other people’s rule will be imposed on them. Finally, ignoring the two largest sections of the population, 30.9% of hill BC and 11.8% of Dalit (with total of 42.7%), which is what ethnic federalism boils down to, is unthinkable. It violates every single democratic principle that one can think of; it’s against the principle of equality under the constitution.

Table 3. Distribution of an ELC group population by proposed provinces

ECL groups Provinces	Limbu	Rai	Tamang	Newar	Madhesi	Hill BC	Gurung	Magar	Dalit	Tharu
Limbuwan	68.1	24.5	4.9	2.5	0.2	3.9	5.1	2.7	2.4	0.1
Kirnt	1.3	43.7	5.7	4.3	0.4	4.3	2.6	4.4	3.5	1.1
Tamsuling	0.3	5.8	54.2	16.6	1.4	9.9	5.3	7.5	5.6	0.6
Newa	2.2	4.4	12.7	46.7	1.3	9.2	6.7	3.3	1.5	0.8
MBKM	26.9	19.3	12.3	12.8	73.7	13.7	7.8	7.0	32.9	29.7
Narayami	0.1	1.0	7.1	7.0	1.6	7.5	24.1	10.3	6.6	3.2
Tamuwani	0.1	0.4	1.5	2.6	0.4	3.3	30.0	2.4	3.2	0.1
Magarnt	0.0	0.2	0.3	3.8	1.9	12.9	8.0	41.3	12.9	1.9
Kamali	0.1	0.2	0.2	0.6	1.3	20.8	2.7	8.4	15.5	0.4
LAT	0.9	0.5	1.1	3.1	17.8	14.5	7.7	12.7	15.9	62.0
TOTAL	100	100	100	100	100	100	100	100	100	100

MBKM stands for Mithila-Bhojpur-Koch-Madhes and LAT stands for Lumbini-Awadh-Tharuwan

Dispelling the myths: let's be honest

Myth 1. Ethnic federalism is the way for Nepal as is the case for Switzerland.

First of all, the Swiss federation is not based in ethnic line only; it relies heavily on economic consideration as well. Moreover, as we saw Nepal's population settlement defies all the principles—of democracy, economic efficiency, inclusiveness and equality—that are essential for ethnic federalism. On the contrary, Swiss cantons are built on those principles. Hence, Nepal's case is completely different from that of Switzerland, as well as Belgium and India.

Myth 2. Denying ethnic federalism is losing identity.

It's definite that identity matters. The ethnicity is one of the many dimensions of identity a person will have. Each person has multiple identities based on religion, gender, language, profession, moral value, norm, social association, politics and many more. All dimensions of identities are important. By using own language for education, preserving culture using social policy, and sharing political power through electoral mechanism, all identities can be preserved. Actually, people can be more proud of their identities if they become educated and prosperous citizens for which territorial federation is a better option. I have dealt with this issue in companion piece (Acharya, 2012).

Myth 3. Ethnic federation is required to pull marginalized ethnic groups out of misery.

Again in companion piece (Achary, 2012), I extensively lay out why the north-south provinces (not the ethnic ones) would be the best option in terms of economic prosperity, just society and poverty alleviation. Poverty has no racial, gender, religious or regional boundaries and hence requires policies that are class-based. The chances of such policies to emerge are higher in territorial federalism. Ethnic federalism will preserve perk, power and prestige of the corrupt elites who are distributed across all ELC groups, thereby preserving the feudal system.

Myth 4. Ethnic federalism is necessary for inclusiveness to hitherto excluded groups.

Wrong again. As we have seen above, ethnic federalism not only ignores the basic fundamental rights of 41.7% of the population, it also creates many minorities among

the recognized ethnic groups. In fact, it creates a bitter situation where most of the people will be in “others” land.

Myth 5. Ethnic federalism will correct the past mistake of discrimination against ethnic groups.

Considering the exclusion of ELC groups throughout Nepal’s history, it is not hard to understand that the demand based on ethnic federation is partly an outcome of frustration towards the polity. However, one mistake cannot correct another; they rather magnify. Ethnic federation is neither necessary nor sufficient to correct discrimination. Simple queries: how would it help the most vulnerable group, Dalit and ethnic groups that happen to be in another group’s homeland?

Myth 6. Naming provinces by a particular ethnic group does not hurt anyone

In fact, doing so does not help anyone. The fate of the marginalized members of a group is not going to change just because one of their identities has been recognized for naming the province. To empower them, we need drastic change in existing economic, social and education policies. And, the possibility of launching such policies has no bearing on provincial name; it neither determines nor directs such policies. On the other hand, all other groups may not feel the ownership of the province, a critical factor in nation building. In difficult times, this may invite conflict. In any case, we should not be cosmetic; we should focus on policies to help the downtrodden and stay neutral in naming the province.

Identity: a factor to reckon with but not oversell

Our identity is not only who we are; it is also who we would like to be. It is both predetermined and within our choice. We should be proud of who we are and also be mindful of who we want to be. The present debate that is taking place in Nepal almost ridicules the first and discards the second. The profound word “identity” has reduced to be synonymous to one’s facial expression or last name. The cynicism has just started; ethnic federalism will exacerbate this slippery slope. Once sense of belonging and rights differ based on which part of the country one resides—the intended outcome of ethnic federalism—both pull and push factors will make people migrate imposing enormous emotional and economic costs and creating social segregation.

The debate that we should have been having is: what form of restructuring would lift the boats for all people. Instead we are wasting our energy on issues such as which group settled first in Nepal and what were the calendars of subsequent arrivals. We will never know the answers; our ancestors were all nomads (here today, somewhere tomorrow, back again the day after). Even if we do, reflection of such information, useful for something else, is destructive for state restructuring.

The goal of a nation is to empower—enable to make choices—its citizens in terms of economic capabilities, human endowment, political rights and social aspirations. In the past, the Nepali polity failed miserably in this goal. Except few elites, most of the Nepalese has been excluded and marginalized in all these dimensions. Correction of multiple exclusions requires multipronged approach. The claims that ethnic federalism is panacea for all problems is plain wrong. In Nepal, where there are groups inside the groups and communities in mosaic--the overselling of identity, that except ethnicity

other identities do not matter and majority does not matter—interfere with coexistence, harmony and diversities, adding burden to the society.

Amicable solution: combining beam and rainbow

A more prudent, farsighted and reasonable approach is needed in deciding the bases of sub-national units of federation so that it can address the aspiration, culture and dream of all citizens. The fact that four principles would be violated in ethnic federalism and the consideration of the remaining two principles— flexibility and pragmatism—led me to propose that ethnicity should be combined with territorial consideration (Acharya, 2007). I still think what I proposed then is the best option: combining individual's beam of identity with group's rainbow of identity. I provide a heuristic sketch of the proposal below.

Nepal will be a federation of four provinces—extending north-south—and one territory (with more central government role than in others). Each province will have three ELC regions one each from mountain, hill and Terai. The most eastern province, Mechi, combines Limbuwan, Kirant and the far eastern Terai region mainly of Koch language area (Jhapa, Morang and Sunsari). Next, Koshi province combines Tamsaling, Newa and Maithali speaking Madhes (Saptari, Siraha, Dhanusa, Mahottari and Sarlahi districts). The third province, Gandak, includes Tamuwan, Magarat and Bhojpuri speaking Madhes (Rautahat, Bara, Parsa and Chitwan districts). The far west province, Karnali, includes Awadhi speaking Madhes, Tharuwan and western hill where the concentration of Dalits is very high. Finally, Rara territory includes Dolpa, Jumla, Humla and Mugu districts.

With this structure in mind, I propose a three-tier government: local, provincial and national. Both at the provincial and the national levels, I propose bicameral parliaments. The bicameral system at the national level will be a method of combining the principle of democratic equality with the principle of federalism—all citizens are equal in the lower house, while all provinces (and ELC regions) are equal in the upper house. Similarly, at the provincial level, the lower house will maintain the equality of individuals at the lower house and equality of ELC regions at the upper house.

The representation of different ELC groups at the upper houses of both provincial and national levels would guarantee they have equal sharing of political power—the main intended outcome of making Nepal an ethnic federation. This mechanism can be supplemented by educational policies, social policies and cultural policies that are conducive for all ELC groups. Dalit, Muslim and other marginalized groups should also have the proportionate representation as other ELC groups in both upper houses.

This will be a win-win situation—lifting the boat of downtrodden while avoiding the negative consequences that federalism based on only ethnicity would generate. It also provides the best possible economic structure with North-South provinces that are both reasonably large in size and house people of all groups.

Conclusions

Nepal is a house of intermingled communities; but while we might be different in sociological and anthropological sense, we share common desires and aspirations. Each of us wants the freedom to determine own destiny, express own views and participate

in the decisions that shape our lives. Let us not place extra burden to the society by trying to make one identity superior to other. After all, identity is not a weapon of the weak; it is something to be proud of and respectful for others'. In history great people have dedicated their lives for the betterment of humanity, irrespective of race, gender, geography and ethnicity. Even if we cannot match their deeds, can we just stop disrespecting them?

Acknowledgement

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- Appendix 10 Provinces Proposed by Constituent Assembly Committee
- Limbuwan: Taplejung, Panchthar, Terhathum, , Ilam, 16 VDCs of Sankhuwasabha, Dhankutta, 7 VDCs of Morang
- Kirant: 17 VDCs of Sankhuwasabha, Bhojpur, Solukhumbu, Khotang, Okhaldhunga, 30 VDCs of Udayapur
- Tamsaling: 13 VDCs of Udayapur, Dolakha, Ramechhap, Sindhuli, Sindhupalchok, 48 VDCs of Kaverpalanchok, Rasuwa, Nuwakot, 17 VDCs of Lalitpur, 39 VDCs of Makawanpur, 11 VDCs of Dhading
- Mithila-Bhojpur-Koch-Madhesh: Jhapa, Morang, Sunsari, 2 VDCs of Udayapur, Saptari, Siraha, Dhanusha, Mahottari, Sarlahi, Rautahat, Bara, Parsa, half of Chitwan
- Newa: 12 VDCs of Kavrepalanchok, Bhaktapur, Kathmandu, 25 VDCs of Lalitpur
- Narayani: 4 VDCs of Makawanpur, 35 VDCs of Dhading, half of Chitwan, 32 VDCs of Gorkha, 19 VDCs of Lamjung, 35 VDCs of Tanahu, 16 VDCs of Nawalparasi, 14 VDCs of Kaski, , 33 VDCs of Syanja, 38 VDCs of Parbat
- Tamuwan: 3 VDCs of Dhading, 35 VDCs of Gorkha, 41 VDCs of Lamjung, Manang, 30 VDCs of Kaski, Mustang
- Magarat: 13 VDCs of Tanahu, 22 VDCs of Nawalparasi, 29 VDCs of Syanja, Palpa, 17 VDCs of Parbat, Myagdi, Baglung, Gulmi, Arghakhanchi, Pyuthan, 11 VDCs of Rukum, Rolpa

Karnali: Dolpa, 32 VDCs of Rukum, Salyan, Mugu, Jumla, Jajarkot, Kalikot, Dailekh, Bajura, Achham Surkhet, Humla, Bajhang, Doti, Darchula, Baitadi, Dadeldhura
Lumbini-Awadh-Tharuwan: 37 VDCs of Nawalparasi, Rupandehi, Kapilbastu, Dang, Banke, Bardia, Kailali, Kanchanpur

Mapping non-timber forest products production potential areas and enterprise opportunities in Dolakha district of Nepal

Hari Sharma Neupane [★]

Abstract

Non Timber Forest Products (NTFPs) are the regenerative forest products of economic importance in many developing countries including Nepal. Traditionally, it was used to extract by rural poor and marginal households for their livelihood in Nepal. But, paradigm has been shifted and the prime concern of the institutions involving in the forest resource management sector is how NTFPs can be commercially utilized and managed sustainably. Recent decades, many rural development institutions have been promoted and initiated to develop enterprise based solution for NTFPs management and commercialization with focusing on rural livelihoods, poverty and biodiversity conservation, though, the process is still dawdling and lag behind.

The purpose of this paper is to quantify and document the basic information which could be crucial for enterprise opportunities in the Dolakha district of Nepal. We explore the possibilities to map the potential locations of identified priority NTFPs by adopting GIS based community mapping approach taking into account of the local expertise. This approach is enthusiastic with local people to trace out information on standard Topographic Map. Our results revealed that about 56,673 ha of potential area have been estimated under priority NTFPs where Lokta (Danphe bholua) and Argeli (D.papyraceae) shared almost more than 50% area. Similarly, Machhino, Allo, Dhupi, Simta and Nagbeli were comprised about 14%, 11%, 10%, 6% and 5% of the delineated area respectively.

Key words: Non timber forest products, Community Mapping, Enterprise opportunities, Commercialization.

Introduction

NTFPs are regenerative forest products of economic importance and they are included wild edible foods and nuts; medicinal plants; floral greenery and horticultural stock; fiber and dye plants, lichens and fungi; oils, resins, and other chemical extracts from plants including fuel wood and small-diameter wood used for poles, and carvings (McLain, R. J. & Jones, E. T., 2005). The interest in NTFPs began in earnest in the late

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1980s and the early 1990s, in conjunction with increasing global concern about environmental issues, especially deforestation, with increased attention to rural poverty, and with the emergence of the concept of “sustainable development” (Belcher, et al., 2005). These products are becoming increasingly recognized by the public and in forest resource management planning. Communities that traditionally depended on forest resources are seeking economic alternatives to timber (Ehlers, MacKinnon, & Berch, 2003). NTFPs have been recognized internationally and nationally as important elements in sustainable forestry and for their “contribution to environmental objectives, including the conservation of biological diversity” (Kathryn et al., 2004).

Forest resources are an integral part of the livelihood support system in Nepal, where overwhelming majority of the 20 million people live in the interface between forest and agriculture (Subedi, 2003). Because of diverse ecology and geography, Nepal is rich in NTFPs in terms of number of species and their availability. Out of 7000 of flowering plant species about 700 are identified as of economic importance and 1624 species can be potentially utilized for medicinal and other purposes in Nepal (Hamro Ban, 2005). Many studies mentioned that every year large quantity of non-timber forest products are collected by poor and marginal communities from forest land in Mountain and Himalayan region of the country and traded to India. In 2006, about US\$ 15 million government revenue was collected (Kandel, P. N., 2007). The high value NTFPs collected from high altitudes and low value NTFPs collected from lower altitudes (below 2000 m) in Nepal. Mostly, collection occurs at high altitudes, in remote Himalayan regions and the primary collectors are women and children nearby villages and men in remote areas and generally such products are collected from forest land. Much of the harvesting takes place between August and September through December (FAO, 2002). Government authorities of Nepal have realized NTFPs sector could be an important sector for poverty reduction and rural livelihoods and already started to policy formulation and intervention. Additionally, several institutions (GOs/INGOs) are working to initiate and promote the enterprise based solution for management of NTFPs through CFUGs and private sectors. However, management of forest resources linking with client driven strategies and development of NTFPs based enterprise solution focusing on rural livelihoods are still lag behind. Conducive national policy and regulations are crucial which offers opportunities for sustainable use of forest resources and entrepreneurship development. In general, the national policy framework is innovative and provides opportunities for sustainable use and equitable sharing of benefits. However, in practice, the policy objectives do not seem to be properly translated into regulations and practices in order to generate desired impacts on local communities and conservation (Subedi, 2000). Early study on NTFPs (Edward, 1996) mentioned about US\$8.6 millions of contribution to the Nepalese economy comes from NTFPs trade in India, annually. Moreover, more than 80% of the Nepalese population is rural dwellers, where poverty is persistence; hence NTFPs could provide a great opportunity for them. Presently, 165 NTFPs are collected for commercial purpose making bulk of 10-20 thousand metric ton and sold mostly in India before processing

(FECONFUN, 2009). Furthermore, Nepalese government received more than NRs. 5.4 crores of levies in year 2007 from NTFPs collection and marketing (CBS, 2007). In this respect, NTFP sector could be an important sector for rural livelihood improvement in Nepal and it is customary to focus this sector in rural development programs.

In Nepal, NTFPs enterprise has provided income to the rural population since long ago, though little research has been done even to identify the products (Edward, 1993). Undeniably, the trade of NTFPs is an important source of income in hills and high hills of the country, especially for the poorest group of the rural population those with limited access to land, labor or credit. However, there are few examples of adequate management of traded NTFPs and some species are being over-exploited (Edward, 1993). Realizing with this fact, NTFPs enterprise could be an important sector for poverty reduction, many institutions: GOs, NGO/INGOs, and COBs are involved in this issue looking enterprise based solution for forest resource management linking with the livelihood of the rural people. Little attention, however, has been given to the biological, socio-economic and conservation importance of NTFPs.

Similarly, the spatial information for production potential and enterprise opportunities has seldom been explored in this sector. Moreover, in most of the developed and developing countries, GIS has been extensively used for mapping and management of natural resources. Nevertheless, mapping of NTFPs production potential and enterprise opportunities with participatory tools such as community mapping using standard Topographic map and linking it with GIS software has been still deficit in Nepal. Therefore, purpose of this participatory research is to map NTFPs production potential areas in the Dolakha district and explore enterprise opportunities. This study is focused to identify the priority species of NTFPs and map the NTFPs potential areas using GIS, assess the volume of production potential of selected species and explore the enterprise opportunities based on production and marketing system of NTFPs. Thus, it could help to explore the enterprise opportunities of NTFPs in the Dolakha District.

Study Approach

Study site

Geographically, Dholakha district is located between the latitude 27°28' to 30°27' 28 ° 0' North and longitude 85° 50' East to 86° 32' East, and has elevations ranging from 732 to 7148 meters. The total area of the district is 2191 square kilometers (NPC/CBS, 2008). The major attributes of the districts with figures are given in Figure 1. The forest area in Dolakha covers from the lowland to upland temperate broadleaves and coniferous forest.

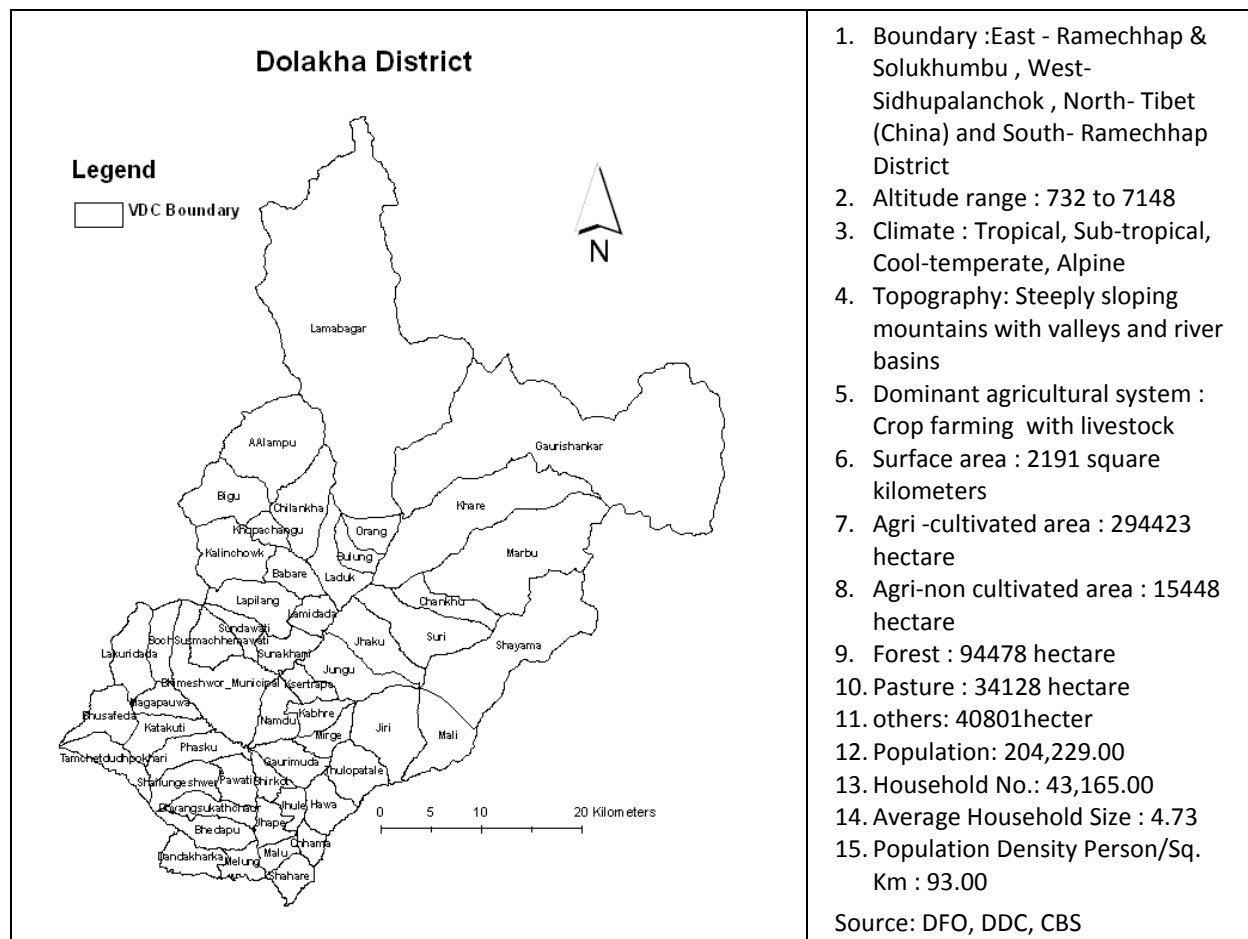


Figure 1. Dolakha district with VDC boundary and some basic information.

The primary NTFPs found in the districts are *Daphne bholua*, *Edgeworthia gardnerii*, *Gaultheria frarantissima*, *Girardiana diversifolia*, *Parmelia nepalensis*, *Loyania ovalifolia*, *Berginia ciliata*, *Rubia manjith* etc. Moreover, major tree species that found in the forest of Dolkha are *Pinus wallichiana*, *Pinus roxburghii*, *Quercus spp*, *Rhododendron arboretum*, and *Alnus nepalensis*. Community Forest User Groups (CFUGs) began to replant *Taxus baccata* and protect the *Cinnamomum glaucescence* in their respective community forests. These species are important as a NTFPs and *Cinnamomum glaucescence* has particular cultural importance to the Tamang (indigenous people) community (SmartWood, 2005).

Data and field survey

Information on resource use and management are critical in developing a blue print of the status, quantity and location of forest resources. Such information could directly influence the quantity and quality of NTFPs supply, and hence necessary to assess the potential for NTFP commercialization (Marshall et al. 2006). Recently, CEPFOR developed methodologies which included combining qualitative and quantitative information together; jointly research with NGO partners and participatory research in communities for NTFPs assessment (see Marshall et al., 2006). We adopted participatory research methods including GIS based community mapping using standard Topographic map which could be crucial for finding the spatial information of NTFPs. We assumed that villagers are rich enough in knowledge and information about the natural resources and their uses. They can easily translate spatial location of the distribution of NTFPs species on Topographic map. Information provided by the villagers/community is the basis of this participatory research. The details about data types, sources and approaches of the study are outlined below.

Spatial data

Spatial data used for this study were obtained from District Development Committee, Dolakha. We used Topographic-sheets (hard and soft copy) of Dolakha district published by Department of Survey, Government of Nepal.) The entire location of Community forest groups point (CFUGs) and collection centers of NTFPs products were gathered from Asia Network for Sustainable Agriculture and Biodiversity (ANSAB) Field Office.

Primary and secondary data sources

Primary data on production (harvest) of each NTFPs/area (per unit farm gets price and market price in Dolakha district) has collected from focus group discussion in the workshop. We also contacted and interviewed with NTFPs collectors, key informants and traders for information. Secondary data were collected from ANSAB Data bank, DFO Dolakha, Cottage and Small Scale Industry, Dolakha and other related institutions. To delineate spatial information we used Topographic map (1996) of scale 1:25000/50000.

Research methods and data analysis

Spatial Clustering

Gathering data with consulting each member of almost 300 forest users groups is indeed costly and time consuming. The grass root level administrative units called Village Development Committees (VDCs) of Dolakha district were spatially clustered into three broader units taking account of geo-similarities, accessibility, neighborhood, market potentiality and existing extension services: (i) Charikot Cluster: Topo sheet No. 278508, 278605a, 278605c, 278605d, 278609a, and 278609b); (ii) Singati Cluster: Topo Sheet No. 278601, 278602, 278603, 278605a,278605b, 278606, 278613), and (iii) Jiri Cluster: Topo Sheet No. 278605a, 278605b, 278605c, 278605d, 278606).

Field training and arrangement

Field training on 'community mapping and working with maps' was organized for field facilitators to ensure that they can easily translate the process of community mapping and they can easily facilitate mapping participants in the field. Training for workshop participants was also conducted before starting the Community Mapping workshops to impart knowledge about use of maps, identify the symbols used in topographic map with sufficient exercise.

CFUGs, NTFPs collectors, traders, and key informants were the participants of this community mapping workshops. Participants were invited from the randomly selected CFUGs in each cluster with the support of ANSAB Field Office and Federation of Community Forestry Users (FECOFUN). Representative from line agency were also invited (DFO, Dolakha, FECOFUN District Committee, and other concerned institutions).

Community mapping workshop

Community mapping is often considered as a GIS tool and widely used to reveal spatial information by participatory and collaborative approaches. Some information that related to geography could be difficult to gather and interpret, even if there is availability of high resolution satellite imagery. In such a situation, this approach is quite useful. Maps produced with this approach can translate peoples' experiences and knowledge about spatial information of their neighborhood. Steps that we followed during the community mapping were summarized as: (i) Topographic-sheets were glued in accordance with Sheet number for each cluster and VDCs boundaries were delineated with marker pen on Topographic Sheet to ensure that participants easily identify their home VDC, (ii) listing and ranking of the priority NTFPs species of economic importance in a small group (5-6 person in each group) and cluster wise plenary discussion make cluster wise species list and ranking, (iii) plenary discussion to finalize district level NTFPs inventory and ranking.



Figure 2. Participants are working with Topographic map to delineate the NTFPs area. Delineation and mapping potential area of prioritized NTFPs species

Color sign pen was used to delineate the potential location of each species on Topographic-map to avoid confusion and duplication. Distance measurement(if necessary) is also adopted-taking consideration to locate the production potential areas based on time needed to reach the place where collectors generally go to collect the NTFPs in the forest from their Village. The delineated information was on Topographic Map was verified in plenary discussion. Such delineated Topographic-sheet was scanned, digitized, and edited to produce Geo-referenced Mosaic Topographic-Map. Couture Line and Forest cover Map was used to verify the spatial location of each species that delineated by villagers and maps were produced.

Mapping enterprise opportunities

It is quite difficult to define any indicators for mapping enterprise opportunities of NTFPs. Some indicators are considered for mapping were: (i) potential areas and production potential of each prioritized species in each VDCs, (ii) existing market point and collection centers (point map), (iii) location of extension service providers (point map) and processing Plant of the NTFPs (point map), (iv) accessibility Index (road density), and (iv) market flow (seasonal calendar of harvesting month for each priority species and flow of NTFP from collectors to wholesalers). Aggregate potential index was constructed and digital map was prepared for visualization. We also overlaid the location of existing CFUGs, market points, location of processing plants and service providers and main roads.

Normalization and standardization of the indicator was done and value of the indicator was converted in between 0-1 to rank the district. The mean value of the aggregated index was used basis for ranking of the districts for food security. Normalization and standardization of indicator was done by using following identity.

$$Z_{i,j} = \frac{X_{ij} - X_i^{MIN}}{X_i^{MAX} - X_i^{MIN}} \dots\dots\dots(v)$$

Where, $Z_{i,j}$ is standardized indicator/sub indicator of the type i of the location j; X_{ij} is the unstandardized indicator/sub indicator/index type of i of location j, X_i^{MAX} is maximum value of the indicator/sub indices/index over the reion j, and X_i^{MIN} is the minimum value of the indicator /sub indices /index over region j (for details see UNDP, 2004). Aggregate potential index (API) is prepared for visualization.

$$API = \frac{1}{N} \sum_{i=1}^n Index_VI_i; \text{ where, } N \text{ is number of index used for API.}$$

Results and Discussion

Out of total area of the District nearly half of the area i.e. 47% is covered by the forest land which explores the importance of the forest resources there by NTFPs in the district. Agriculture and pasture shared more than 26 and 13 percent of the total land area (2, 14,227 ha.) in the districts respectively. Similarly, bare land constitute 6 .4 percent, water bodies and Ice land 3.3 and 2.6 percent correspondingly (DFO, 2002).

Priority species in dolakha

Among the 28 NTFP species of economic importance we are interested to identify the top 5-7 species for enterprise scoping in the Dolakha district. Based on the

Attractiveness Matrices and score index (please see: ANSAB, 2007). Lokta (Nepali Paper Plant: *D. papyracea*), Argeli (Nepali Paper bush: *Edgeworthia gardenieri*), Machhino (Wintergreen: *Gaultheria fragrantissima* Wall.); Allo (Himalayan nettle: *Girardinia*); Nagbeli (Common club moss: *Lycopodium clavatum*); Chiraito (Chiretta, Indian gentian: *Swertia chirayita*); and Dhupi (Himalayan pencil cedar: *Juniperus indica*) are the commonly extracted and marketed NTFP species in the Dolakha district (Table 1, for details see Annex 1).

Table 1 Priority species by cluster.

S.No.	Cluster wise priority species		
	Jiri	Charikot	Singati
1	Lokta	Lokta	Lokta
2	Argeli	Argeli	Argeli
3	Machhino	Machhino	Machhino
4	Allo	Nagbeli	Allo
5	Chiraito	Simta	Dhupi

NTFPs export from the district

NTFPs collection and quantity of raw or pre processed products supplied in the market plays an important role for commercialization of NTFPs and intervention of specific type of enterprise in a specific geographical location. Figure 3 demonstrates the exported volume of NTFP in last seven years from the districts and export status of the priority species as compared to total export respectively.

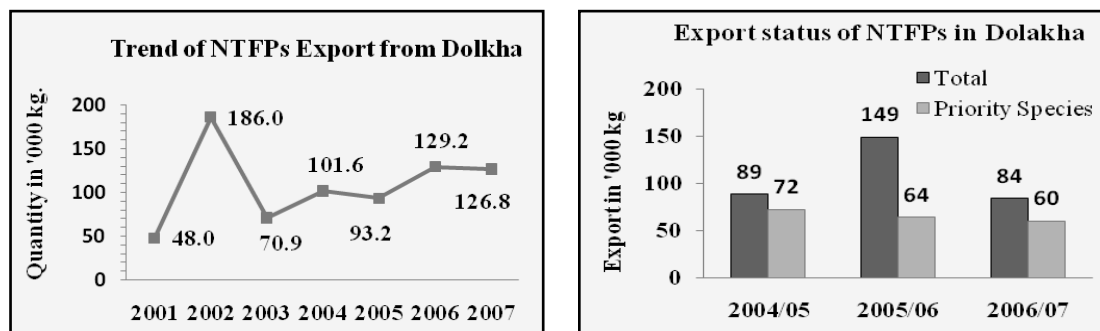


Figure 3. Export status of NTFPs from Dolakha district.

A total of 126839kg NTFP was exported from the district in the year 2007 and out of total export on an average more than 60% of export is shared by priority species. Additionally, Figure 3 also simulates fluctuating trend of supply of NTFPs in the market. The maximum supply 18.6 thousand kilogram (2002) and drop down into 71.0 thousand kilogram (2003). However, supply is improving over time and reached to become 127.0 thousand kilogram. Similarly, the export situation of priority species as compared to the total export reveals that on an average almost more than 60% of the export is shared by priority species.

Potential area of NTFP and location of the priority species

GIS operations are used to derive locations and the potential forest area under selected NTFPs species that local dwellers usually explore. Community map prepared during participatory CM workshop by using standard Topographic-Map is the foundation of this analysis. Delineated digitized data are also used for mapping the spatial locations for NTFPs species and map is displayed in Figure 4. A total of 36158.0 hectares of forest and bush land is estimated as a potential area under NTFPs priority species that usually villagers have administered. Out of prioritized 8 species; Lokta and Argeli shared almost more than 50% area viz. 29 and 24 %; and Machhino, Allo Dhupi, Simta and Nagbeli comprises about 14%, 11%, 10%, 6% and 5% of the delineated area respectively. Chiraito constitutes only 1.5% share in total documented area of NTFPs (Annex 3).

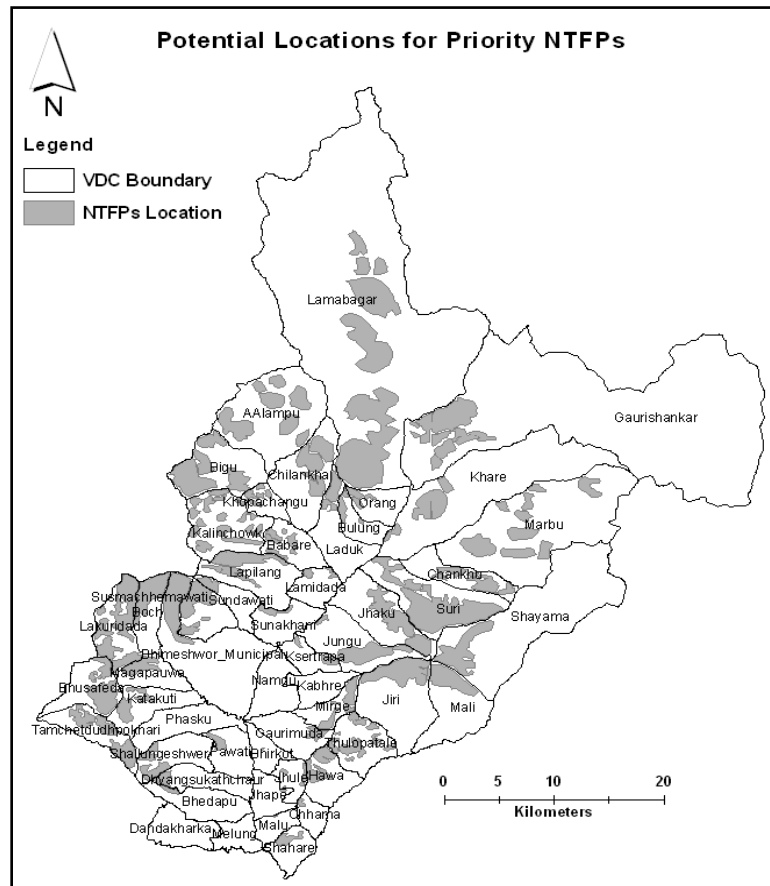


Figure 4. Potential locations of the NTFPs priority species delineated during CMW.

Production/collection information

Stock of NTFPs in Community Forestry Users Group Operational Plan

Almost 30 percent of the total forest land of the Dolakha district is actively managed by 289 Community Forest Users Groups (CFUGs) (DFO, 2007). This community managed forest will play a significant role for enterprise development and scoping by regular supply of raw and pre processed NTFPs except from the national government managed forest. The status of stock and allowable annual harvest of the priority NTFP species is illustrated in Table 2.

Extraction rate and potential quantity of NTFP output

Extraction rate of priority NTFPs from the forest land is collected during group discussion in the community mapping workshops based on the experiences of the beneficiaries. The details of extraction rates are presented in Table 3. Volume of NTFPs output plays vital role for enterprise establishment, total money received by the community as well as total employment generation in each steps of value chain. Without adequate supply of raw materials, enterprise scoping in a given spatial location is not possible allowing other factors constant. It is quite difficult to measure and quantify the volume of each NTFP species that can be extracted from the forest land in a regular basis. The extraction rate depends on (i) density of NTFP availability in a given spatial location; (ii) present stock of NTFPs; (iii) the regenerative or growing capacity of the species in the entire ecological setup of the habitat and (iv) other biological factors. Harvesting and supply of NTFPs also depends on the allowable harvest from the perspective of sustainable resource management. However, we tried to roughly quantify the potential quantity of priority NTFPs based on the collectors experiences (Annex 4). A total of 33645Mt of potential NTFPs output is estimated from the delineated area of the priority NTFP. This explores the wide scope of enterprise development in Dolakha district.

Table 2 Stock and allowable annual harvest of priority NTFP species (from 81 CFUGs)

S.N.	Priority Species	Stock (kg)	AAH*(kg)
1	Lokta	79637	22596
2	Argeli	89831	40587
3	Machino	166780	104064
4	Chiraito	75898	16990
5	Simta	157000	113250
6	Nagbeli	30166	6115
7	Allo	28284	30098

Source: CFUGs Operational Plan (obtained from ANSAB field Office, Dolakha) *AAH= Allowable Annual harvest

Table 3 Extraction rate of NTFPs in Dolakha district

SN	Species name	Plants Part's used	Conversion rate (Kg)			Collection Amount Dry weight/raw (Kg/ha)		
			Raw	Dry	Processed	High	Medium	Low
Singati cluster								
1	Lokta	Bark	40 Kg green bark	12 Kg dry bark	4 Kg Paper	200	100	66
2	Argeli	Bark	40 Kg green bark	20 Kg dry bark	8 Kg Paper	800	400	266
3	Machhino	Leaf	600 Kg green leaf	NA	3 Kg Oil	800	400	266
4	Allo	Bark	40 Kg green bark	8 Kg dry ark	4.5 Kg Wool	80	40	20
5	Dhupi	Leaf, Seed	600 Kg green leaf	NA	3 Kg Oil	3200	1600	1066
Charikot & Jiri cluster								
1	Lokta	Bark	40 Kg green bark	12 Kg dry bark	4 Kg Paper	120	60	40
2	Argeli	Bark	40 Kg green bark	20 Kg dry bark	8 Kg paper	909	682	341
3	Machhino	Leaf	600 Kg green leaf	NA	3 Kg Oil	2000	1000	500
4	Allo	Bark	40 Kg green bark	8 Kg dry bark	4.5 Kg wool	50	30	20
5	Chiraito	Plant	NA	NA	NA	10	5	2
6	Simta	Cone	NA	NA	NA	2000	1000	500
7	Nagbeli	Seed	NA	NA	NA	1	0.3	0.1

Seasonal availability/harvesting time

Collection or harvesting time in month is depicted in Table 9. It describes the seasonal flow of each priority species and it hints to consider multi species based enterprise to some extent. Harvest /collection time for most of the species is May to January. This reveals that low supply of NTFPs during February to April of the year (Table 4).

Table 4. Month of harvest for each priority species

Month/Species	Jan	Feb	Mar	April	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Lokta												
Argeli												
Machhino												
Allo												
Chiraito												
Nagbeli												
Dhupi												

Source: Harvesting month- ANSAB, 2062(2005) and information collected during field.

Markets and supply chain

Most of the quantity of NTFPs harvest is sold locally. Purchasers are local or district level collectors/ traders, local enterprises (processing plants). However, it depends on

the type of species and uses of the product. Lokta, Argeli and some oil extracting NTFPs are processed locally. Nagbela seeds and Simta are exported directly. The main market for the NTFPs is Kathmandu, but sometimes some Indian traders may contract with district level traders in the district and there by NTFPs are sold in national or international market before or after value addition. The supply chain of each priority species and type of products are depicted in the figure 5, 6, 7, and 8.

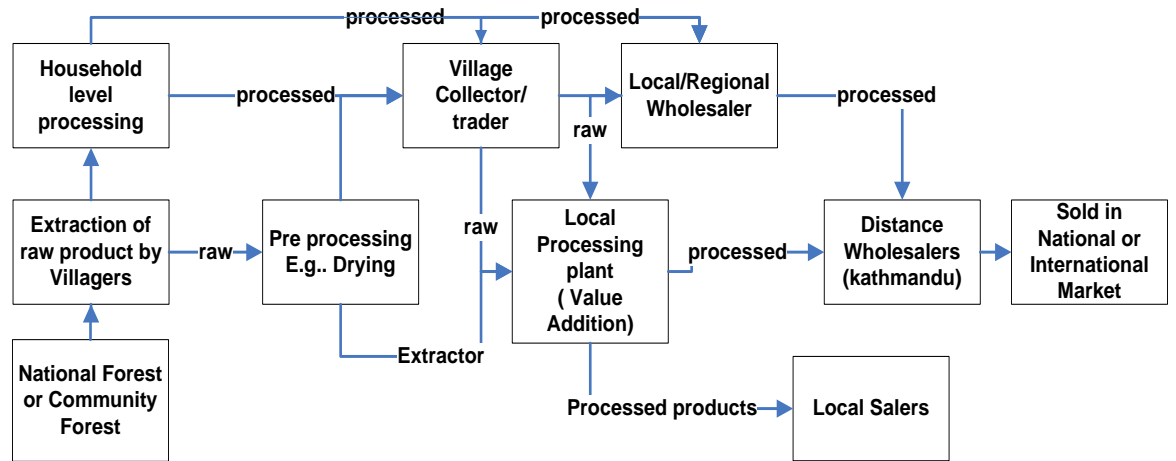


Figure 5. Supply chain of Lokta.

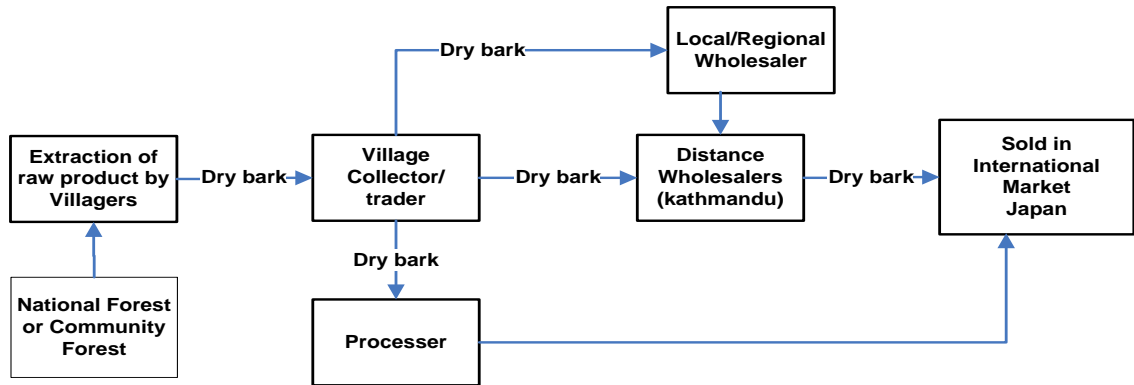


Figure 6 Supply chain of Argeli.

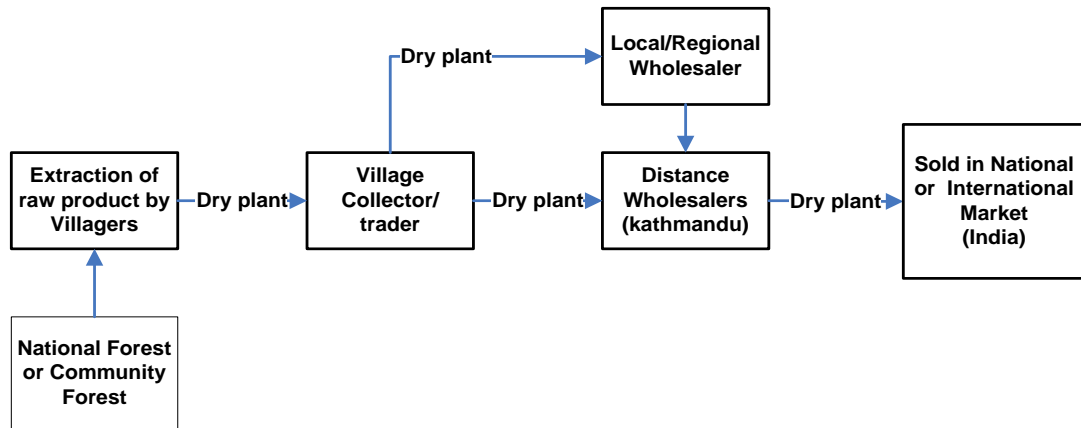


Figure 7 Supply chain of Chiraito

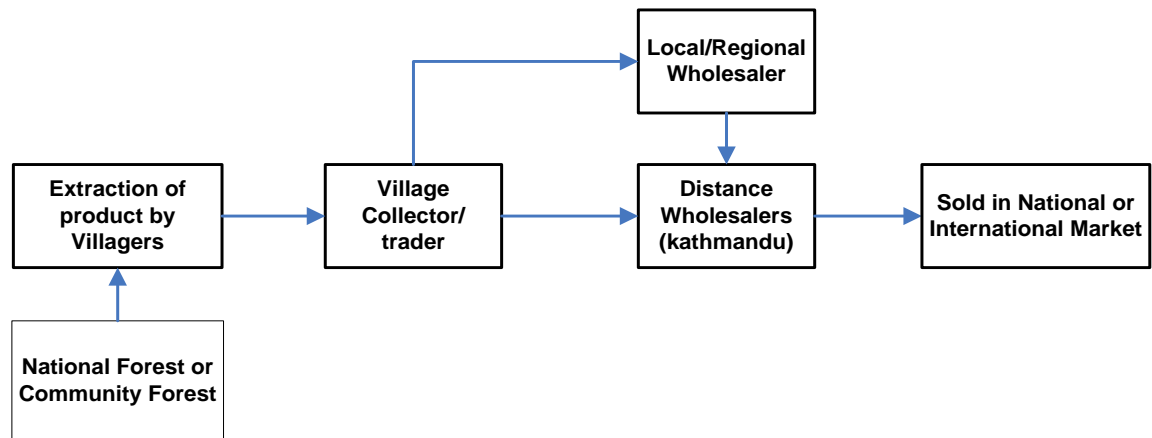


Figure 8 Supply chain of product of other species

Production potential of NTFPs

Production potential for priority species is mapped by making production index. The production of each priority species is estimated from the digitized delineated area on topographic map during CM workshop and each Village Development Committee (VDC) is ranked by making aggregate potential index (See methodology). The output map is presented in Figure 12 and it demonstrates that 16 VDCs are highly potential, 6 VDCs are potential and remaining other VDCs (excluding 7: No data VDCs: Phasku, Namdu, Kabhre, Bhirkot, Melung, Dandakarka and Malu) are categories as less potential for

NTFP production and management. Additionally, this wide range of distribution of commercial NTFPs in the forest land and nearly 300 organized CFUGs in the district clearly depicts the high opportunity of enterprise development and scoping for commercial and sustainable use of forest resources focusing on NTFPs through community participation.

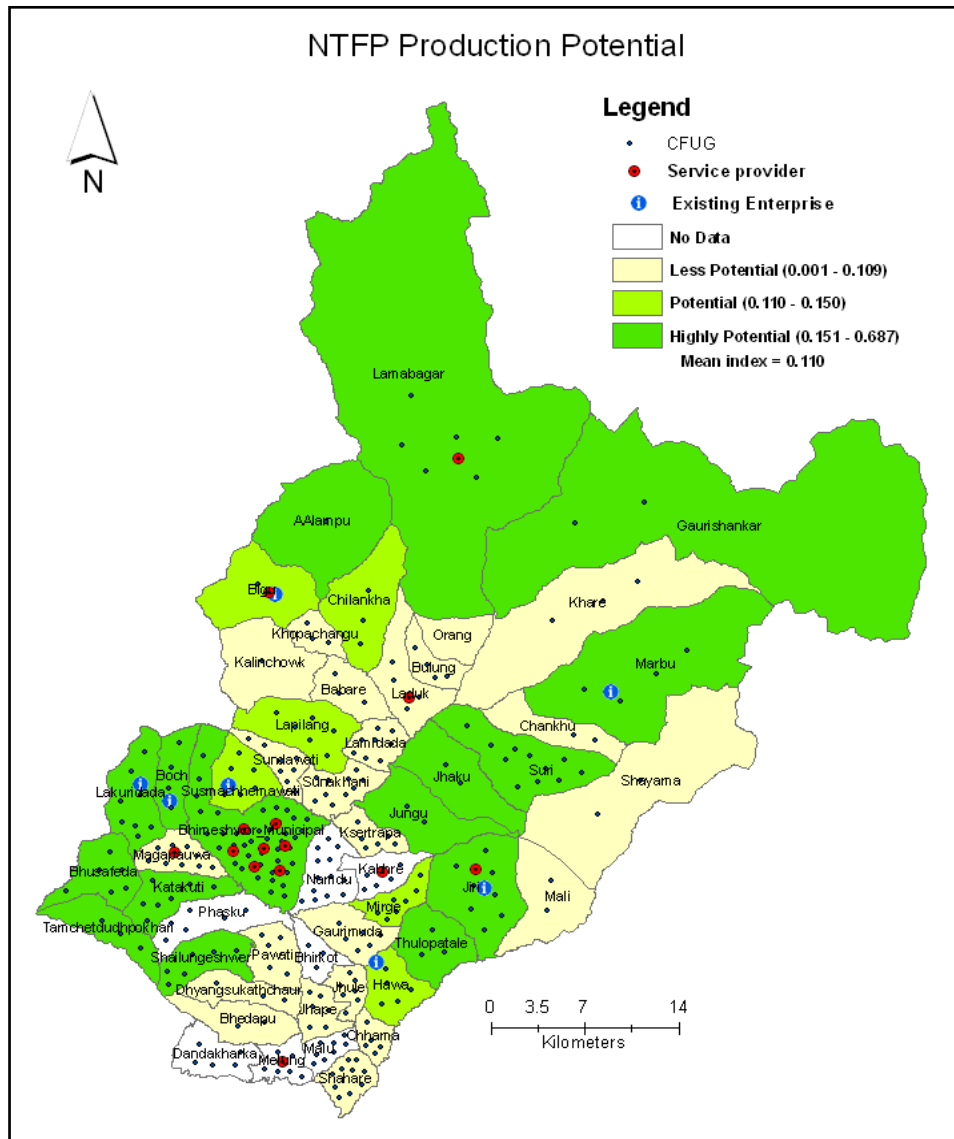


Figure 9 NTFPs production potential in Dolakha district by VDC

Enterprise opportunities

Enterprise opportunity of the NTFPs is the function of various socio-economic, physical and environmental factors. These includes socio-cultural setup such as livelihood strategies and religion, legal access to and ownership over the natural resources and community participation for the management of these resources, availability of labor and skill manpower, equity over benefit sharing among the stakeholders, investment environment and government policy, raw material availability and flow of raw material throughout the year, available and accessible market for the products and physical infrastructures. Mapping these all of the factors is not a simple task and difficult to incorporate all of the factors in a single map. Despite, defining spatial unit based on the volume of natural products from each priority species needed to run specific enterprise economically is the query of further study. However, some of major factors related to geography is discussed above can help to mine the inference about enterprise development and scoping. Meanwhile, some of these factors are incorporated to display the enterprises development opportunities in Figure 10 and these are production potential, existing enterprises and service provider, Point of Community Forest (CFUGs), Settlements, Major Foot trails and District road and Highway.

Figure 10 reveals that most of the service providers are in Bhimeshwor Municipality. Concentrations of Community Forest managed by FUGs are in southern and central part of the districts and this region is also accessible. However, Northern part: Lamabagar, Gaurishanker, AAlampu, and other VDCs are highly potential for NTFPs. On the basis of results, the suggested locations for new enterprise are:

- Lamabagar Region: Included VDCs were: Lamabagar, Gaurishankar, Orang, Chilanka and Bulung;
- Katakuti Region: Bhusafeda, Katakuti, and Tamchetdudhpokhari; and
- Jhaku Region: Jungu, Jhaku and Suri.

The information about CFGUs and total number of household involving in the forest management is depicted in Table 5.

Table 5 Basic information of region.

Items	Lamabagar Region	Katakuti Region	Jhaku Region
	Number of Community Forest(CF)	15	16
Total Area under CF	6164	1250	3781
Total number of households in CF	3084	2978	2623

Note: There are numbers of CFGUs, in the process of handover the forest are not included

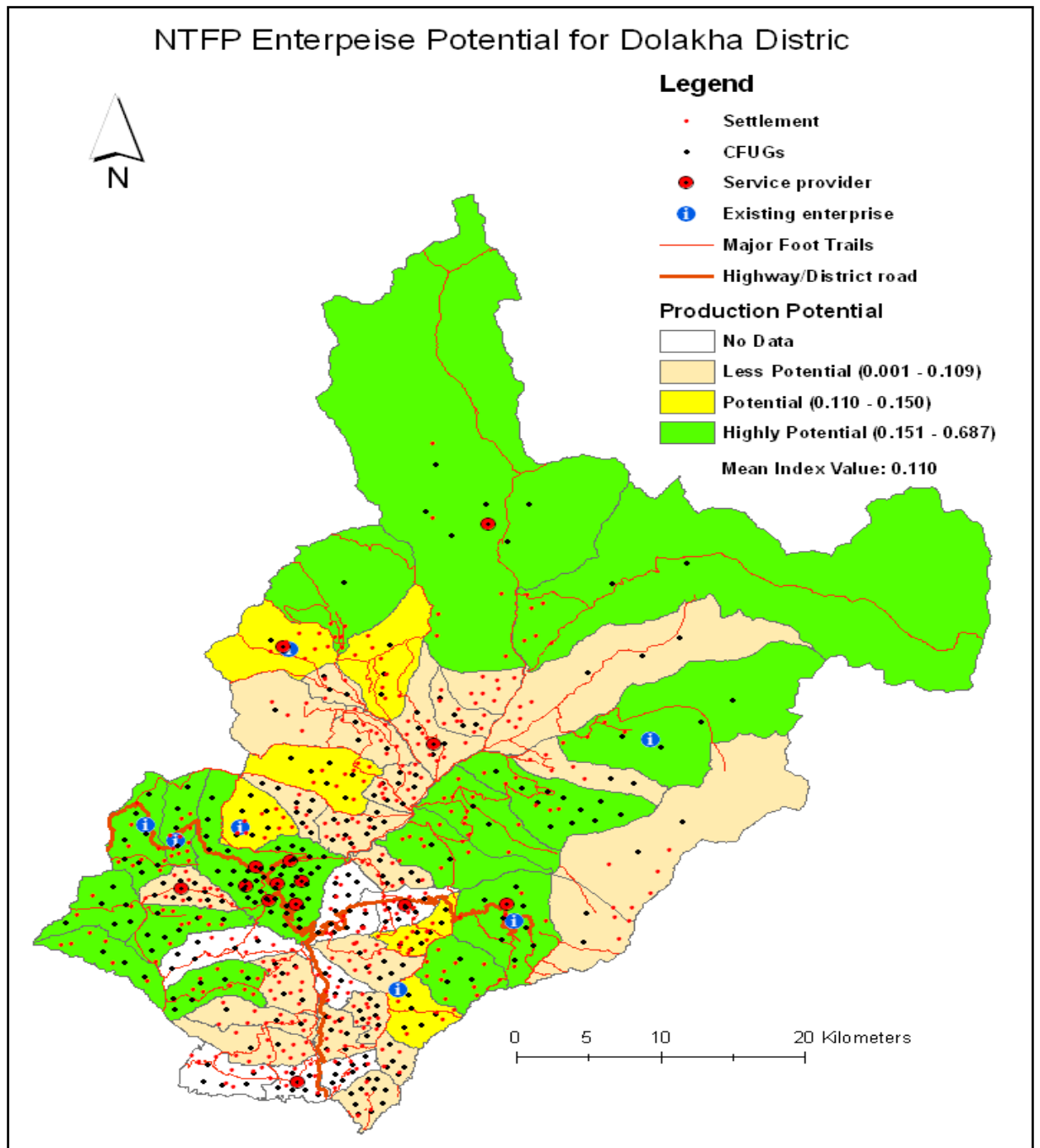


Figure 14 Enterprise potential of NTFPs in Dolakha district

Discussion

Many studies on NTFPs argued that management of NTFPs is very crucial. Collection and marketing of such products are an important source of income for the rural poor and marginal households, who mostly relying on forest resources for their livelihoods and food security in developing countries. The comprehensive assessment and understanding of the role and potential of NTFPs for livelihood improvement and conservation has been caught up with a proper theoretical framework and a functional typology of cases. To fill this gap description of various aspect of the production-to-consumption system need to be explanatory analysis. Whilst information could be yielded on household economic and NTFP production strategy and their key characteristics are used as a basis for discussing the development and conservation implications of NTFPs (Belcher et al, 2005). Although trade of NTFPs has been widely promoted as an approach to rural development, recent research however, has indicated that NTFPs commercialization is often not successful. Further, analysis of factors influencing in the success of NTFPs commercialization has been obstructed by the lack of an appropriate analytical approach for comparison of case studies (Marshall et al 2003). Such products have multiple uses and involve multi-stakeholders with conflicting needs; these are very difficult to deal with in terms of resource assessment, management and control, ownership, access rights and trade regulation (FAO, 2002).

Rural communities rely on NTFPs and traditionally depended on forest resources to meet their cash income and livelihoods (Ehlers T.; Berch S. M. and MacKinnon A., 2003, Endress, B. A.; Gorchov, G.L.; and Berry, E.J., 2006). "The well-being of more than half of the 1.2 billion people who live in poverty depends to a significant degree on the availability of non-timber forest products (NTFPs) (Marshall, E., Schreckenber, K. and Newton, A.C. (eds) 2006). The role of NTFPs enterprise is increasing day by day not only for the monetary value of the products but, this sector is also an important sector for poverty reduction in marginal community (Belcher, B.; Ruiz-Perez, M. and Achdian, R., 2005 ; Endress, B. A.; Gorchov, D. L. and Berry, E J., 2006). The role of trees and NTFP were rarely acknowledged as contributing to rural livelihoods until towards the end of the 20th century. Attention in NTFPs began from the late 1980s and the early 1990s together with expanding issues about global environment, especially deforestation, rural poverty and emergence of sustainable development concept (Belcher, B.; Ruiz-Perez, M. and Achdian, R., 2005, Cocks, M.L. and Wiersum, K.F, 2003). Recently, NTFPs have been accepted as an important element in sustainable forestry resource management and planning the NTFPs contribution to environmental objectives as well as biodiversity conservation (FAO, 2003)

It has been realized that sustainable forest resource management and biodiversity conservation goal could hardly be achieved by ignoring NTFPs because of their value as a continuing source of subsistence income for marginal communities. Resource inventories are critical to prepare comprehensive assessment for resource management. Information on resource status, quantity supplied and demanded, and

locations are vital for creating appropriate NTFPs enterprise plan and rural development policy to ensure rural livelihoods. Research and documentation of spatial information and related variables (spatial distribution of species, level of production, harvesting time, labor availability and processing etc.) are necessary for NTFPs enterprise potentials and scoping. This may enhance the understanding of priority species of NTFPs having high economic importance, explore the opportunities for sustainable management and develop enterprise based solutions considering rural issues and other factors. Development of enterprise based solutions, capacity building of local stakeholders, business development services and NTFPs marketing information system (MIS) are the key services necessitates for sustainable commercial forest production through community forest management (ANSAB, 2005).

Conclusion

Recently, NTFPs are considered as a sector of having high opportunities of livelihood improvements for rural communities focusing on the sustainable use of forest resources. Someone may evoke question about the accuracy of the output map considering the spatial location of the geography, but there is no other direct and appropriate way to investigate the coverage of NTFP in such a hilly and remote area. Alternatively, analysis of high resolution imagery and field survey could be the way to investigate the spatial information but, this approach stipulate experts, costly and time consuming. We adopted participatory community mapping approach using standard Topographic map as a tool to illustrate and delineate the spatial locations of NTFPs. The prepared digital layers were verified with contour line and forest cover map. The results are quite exciting and can be translate for enterprise scoping.

Enterprise opportunity of the NTFP is the function of socio-economic, physical and environmental factors. Mapping all of these factors is not a simple task and difficult to incorporate in a single map. Despite, defining spatial unit based on the volume of natural products that needed with reference to each species to run specific enterprise economically is the query of further study. However, some of major factors related to geography that discussed in this study can help to mine the inferences about enterprise development and scoping. Based on our experience, this approach could be replicate in other districts as well. However, execution of mapping process with the help of Topographic map having same scale and three dimensional maps may assist to villagers to navigate exact spatial location of the neighborhood. Understanding of the participants about the symbol that used in maps and sufficient exercise for map reading is very crucial.

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Annexes

Annex 1 NTFPs species commonly found in Dolakha district of Nepal.

S.N.	Nepali name	English name	Scientific name	Parts of plant used
1	Argeli	Nepali paper bush	Edgeworthia gardenieri	Bark
2	Amala	Emblic myrobalan	Phyllanthus emblica	Fruit
3	Allo	Himalayan nettle	Girardinia sp.	Bark
4	Kurilo	Wild asparagus	Asparagus racemosus	Root
5	Chiraito	Chiretta, Indian gentian	Swertia chirayita	Whole plant
6	Jatamasi	Spikenard	Nardostachys grandiflora	Root
7	Jimmu	Nepali aromatic leaf	Allium hysistum	Whole plant
8	Jhyau	Lichen	Parmelia nepalensis	Whole plant
9	Timur	Nepali Peeper	Zanthoxylum armatum	Fruit
10	Talispatra	Himalayan fir	Abies spectabilis	Leaf
11	Titepati	Mugwort	Artemisia indica	Stem and leaf
12	Dhasingro / Machhino	Wintergreen	Gaultheria fragrantissima	Leaf
13	Dhupi	Himalayan pencil cedar	Juniperus indica	Leaf and fruit
14	Nagbeli	Common club moss	Lycopodium clavatum	Seed
15	Nigalo	Himalayan bamboo	Drepanostachym intermedium	Stem
16	Padamchal	Himalayan rhubarb	Rheum australe	Root and stem

17	Pakhened	Rock foil	Bergenia ciliata	Root and stem
18	Bel	Bael fruit, wood apple	Aegle marmelos	Fruit
19	bojho	Sweetflag calamus root	Acorus calamus	Root
20	Majitho	Madder	Rubia manjith	Whole plant
21	Ranisalla	Chirpine	Pinus roxburghii	Tannin
22	Laligurans	Rhododendron	Rhododendron aroreum	Flower
23	Lokta	Nepali Paper Plant	Daphne bhoolua	Bark
24	Lothsalla	Himalayan Yew	Taxus baccata	Leaf
25	Sal	Common sal	Shorea robusta	Leaf and tannin
26	Sugandhawal	Indian valerian	Valeriaa jatamansii	Root
27	Sunpati	Anthopogon	Rhododendrom anthopogon	Root and stem
28	Maha	Honey from honey bee		Honey and wax

Source: Field survey and ANSAB field report Dolaka.

Annex 2 Export status NTFP species from Dolakha district.

Year	2001	2002	2003	2004	2005	2006	2007
Community Forest(CF)	NA	NA	NA	NA	58933	63102	61704
National Forest	NA	NA	NA	NA	34224.5	66104	65135
Total	47989	186035	70885	101636	93157.5	129206	126839
% Export from CF					63.3	48.8	48.6

Source: 2056/57-2058/59-Annual progress Report, DFO, Dolaka,2058/59, 2059/60 average value of previous three year and 2060/61-2062/63-ANSAB Field Office, Dolakha

Annex 3 Estimated areas in percentages exploited by villagers under each priority species

S.N.	Species	Percent share in Total Area
1	Allo	10.61
2	Argeli	24.03
3	Chiraito	1.49
4	Dhupi	9.99
5	Lokta	29.06
6	Machhino	13.97
7	Nagbeli	4.79
8	Simta	6.07
	Total	100

Species	Estimated Production potential(Kg.)	Remarks
Allo	234782	dry bark
Lokta	1794534	dry bark
Argeli	8005524	dry bark
Machhino	7475068	green leaf
Chiraito	3717	plant part
Dhupi	11115273	green leaf
Nagbeli	1168	seed
Simta	5015013	Cone
Total	33645080	

Annex 4 Estimated volume of production of prioritized species in Dolakha district.

Note: Estimation of raw output volume and product quantity is calculated based on villager's information.

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