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EnLiFT2 Policy and Practice Lab on experimenting the operation of portable sawmill in the community forests



Volume 2024-04

ISSN 2208-0392

Research Paper Series on

This *Research paper is based on the research project* “Enhancing livelihoods from improved forest management in Nepal” or the EnLiFT2 Project (<http://enliftnepal.org/>). EnLiFT2 Project (ACIAR FST/2017/037) is the second phase of the EnLiFT (ACIAR Project FST/2011/076) and is funded by the Australian Centre of International Agricultural Research. EnLiFT2 commenced on 2018 and is a collaboration between: University of Adelaide, University of New South Wales, Department of Forests and Soil Conservation, Forest Research and Training Center (Government of Nepal), Forest Action Nepal, Nepal Agroforestry Foundation, and RECOFTC Nepal.

The research uses the findings of the recent project and is based on the research project funded by Australian Centre for International Agricultural Research (ACIAR). This publication is reviewed by a number of reviewers including professionals from the Ministry of Forests and Environment (MOFE). This publication is based on the data collected mainly from the six nursery sites by EnLiFT2 project in collaboration with the Divisional Forest Offices of Sindhupalchok and Kabhrepalanchok districts of Nepal. This publication is subject to an additional review process from a national advisory group of the project. The editors make a decision based on the reviewers' advice, which often involves the invitation to authors to revise the manuscript to address specific concern before final publication.

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ISSN: 2208-0392

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Our Cover

EPPL meeting on portable sawmill held in Kavre, Cover photo by EnLiFT2

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EnLiFT2 Policy and Practice Lab on experimenting the operation of portable sawmill in the community forests

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Suggested Citation

Paudel, G., Chhetri, P., Acharya, H. and Bashyal, M. 2024. EnLiFT2 Policy and Practice Lab on Experimenting the Operation of Portable Sawmill in the Community Forests. Research Paper Series. Vol 2022-04.

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Executive Summary

Sindhupalchowk Division Forest Office (DFO) and Enhancing livelihoods from improved forest management in Nepal (EnLiFT2) project jointly conducted hands-on training to the local carpenters on the operation of the portable sawmill in Chautara Sagachowkgadi Municipality. The training, testing and experimentation of the portable sawmilling helped the DFO, EnLiFT2 and community forest use group leaders understand the technical features and utility of the mill in providing a mobile sawmilling facility right in the communities. EnLiFT2 has run a policy and practice lab in order to share the learning of operating a portable sawmill with the policy actors and practitioners in forestry sector and see the prospects of upscaling and institutionalizing portable sawmill enterprises in the community forests of Nepal.

A preliminary comparison of the saw milling costs between the portable sawmill and the private (stationary) sawmills has indicated that the portable sawmill is a profitable enterprise and therefore, it can be a viable alternative to the existing sawmills. Participants of the policy lab believed that private ownership and management would be a profitable and sustainable business model and suggested, even if the community forestry group (or the cluster of groups) own the business, the mill's management should be rented out to individual(s) for operation. Based on the last four decades of lessons around collective management or government management of forestry business, the participants saw little prospect of it being operated collectively. The representatives of the Department of Forests and Department of Cottage and Small Industries have shown their commitment to facilitate the operation of portable sawmill and work collectively to provide a conducive policy environment.

Introduction and context

Communities lack affordable sawmilling facility

Community forestry (CF), one of Nepal's major forest management regimes, has been a critical source of rural livelihoods and has long been commended for successfully mobilising millions of people for forest protection, landscape conservation and meeting the local community's subsistence needs. Research has indicated that CF in Nepal is more successful in delivering social and ecological outputs than generating economic outcomes (Paudel et al. 2022). The reasons behind communities falling short of delivering economic benefits are many, but mostly related to the government policies that arguably disincentivize the establishment of forest-based enterprises and onsite timber processing.

Underutilisation of the CF due to conservation-centric forest policies (and practice) are said to be a major limiting factor constraining CF in enhancing forest-based income and employment opportunities (e.g., Shrestha et al. 2018). Thousands of CF user groups who have mature forest stands have not been able to harvest trees for selling to the market to generate revenue.

Enterprise policies administered through Ministry of Industry, Commerce and Supplies and its subsidiary's department and offices have also impacted the operation of sawmilling facilities. The Industrial Enterprise Act requires that the round logs be sawn only in the registered saw mills and the furniture making houses, and the individual customers need to get timber supplies from the sawmills. Legally, furniture houses cannot install band saws to process the round logs (MOI 2016 p.103)). Since the registered sawmills are few, and mostly located in or near the district headquarters and other townships, it is economically not viable and practically difficult (and time-consuming and therefore costly) for the CFUGs and people to transport timber to and from the sawmills. Transportation and timber processing costs outweigh the value of sawn timber in the sawmills.

Traditional sawmilling practice is declining

The traditional system of log sawing is out of practice, and the use of a chainsaw, a newcomer practice, is not a reliable alternative. Timber processing by the use of chainsaw is more expensive than portable sawmilling. Due to large kerf, wood loss from chainsaw is more than the portable saws. In addition, planks sawn from the chainsaws are not uniform in size. Previously, the local people get the logs sawn manually through the traditional practice of sawing that involves two persons cross-cutting (bucking) and rip-cutting (planking) logs that are placed (and clamped) over a wooden scaffold. A blade saw is manually used to convert logs into planks of the desired size. This practice is labour-intensive, unsafe, inefficient and time-consuming and rapidly becoming obsolete in the community and therefore, unavailable (Aryal et al. 2022). Recently, privately owned (and operated) power chainsaws have been used in cutting logs. However, the use of such saws is haphazard, unregulated (unmonitored), unsafe and costly (Cedamon et al. 2012). Eventhough it is useful in sawing few logs in remote areas and unaccessisble areas, the scale of the operation of the chainsaw is quite small and, therefore cannot provide service to the whole community.

Together, local people who need to saw logs sourced from the private lands or the community forests do not have reliable and affordable options to cut trees into logs and planks of desired size. Purchasing timber from the sawmill, or transporting timber to and from the sawmills located far from the village is costly and, therefore unaffordable.

Experimenting portable sawmills

Portable sawmills are the viable alternatives to overcome the problem of the unavailability of affordable saw milling services locally, wood loss, unsafe woodwork and faster wood processing. Literature describe the portable sawmills as efficient alternatives to the conventional sawmills. Portable sawmills operate right next to the felling sites, overcoming the problem of wood loss and costly log transportation to and from the private sawmills located far away from the community. Portable sawmill can process logs of smaller dimensions than the traditional and sawmills using circular band saws. In addition, saws in portable sawmills have smaller kerfs and therefore wood loss is minimal. Studies find that the portable mills are nature-friendly, profitable, easy to operate by the local people and more efficient than conventional sawmills (Aryal et al. 2022; Louman 1995).

Sindhupalchowk Division Forest Office purchased the sawmill in 2018. It is a Canadian-made Norwood LumberMate Portable Sawmill LM 29 model Sawmill¹, a petrol-powered 16 HP machine (Photo-1). The company's representative in Kathmandu says it has a capacity to process about 500 cubic feet of round logs throughput.



Photo 1: LumberMate Portable Sawmill LM 29

In 2022, EnLiFT2, Divisional Forest Office and Cluster-Committee jointly conducted a testing of the operation of a portable sawmill. This was a hands-on training where the local carpenters and some of the community forestry members learned to operate the mill. The participants found the sawmill safe, cost-effective and easy to operate and it produced quality timber. This year, EnLiFT 2 has piloted a portable sawmill out in some of the community forests in Sindhupalchowk district to see whether the mill is economically viable, easy to operate and legally acceptable to operate in and by the community forests.. EnLiFT 2 does not have a portable sawmill on its own. Therefore, EnLiFT2 supported the Cluster Level Forest Management Committee to obtain the machine from the Divisional Forest Office, Sindhupalchowk, in lease for two months and five days starting from 9th April 2023. Division Forest Office and the Cluster Level Forest Management Committee have signed a formal contract that contains a detailed procedure explaining the operation of the sawmill and other conditions for both parties. During the pilot test, people only cut timber for local household purposes, and commercial timber processing was not allowed.

¹ Technical specifications of the machine and its estimated price are available in <https://www.norwoodsawmills.com>.

Policy lab to foster research-policy linkage

Policy labs are an established tradition across the globe to foster the use of evidence (research) in public policy-making. The labs are a method of building relationships between government and non-government organisations for generating ideas and designing policy. They aim to utilise grounded research findings to provide policy practitioners with innovative solutions for particular policy problems (Olejniczak et. al 2020, Wellstead and Nguyen 2020, Wellstead et. a. 2021). It involves established teams (organisations, or institutes) setting up innovative activities for public policymaking and a physical space set up to conduct workshops or other stakeholder activities (Wellstead et. al 2021). Policy labs establish a link between scientific research and policy making, and therefore facilitate policy uptake of research (Ojha et al. 2019). In the context of absence of (and costly) sawmilling facility and the experimentation of portable sawmill in community forests in Sindhupalchowk, EnLiFT2 organised an EnLiFT Policy and Practice Lab (EPPL) in order to share the learning of operating a portable sawmill with the policy actors and practitioners in forestry sector and see the prospects of upscaling and institutionalizing portable sawmill enterprises in the community forests of Nepal. The EPPL was designed to co-create knowledge and stakeholder consensus on:

How can the portable sawmilling enterprise be institutionalized in the existing regulatory and administrative system, while exploring the social and financial viability of the enterprise through interactive discussions and review of the research findings?

The sharing of the lesson from the experimentation of portable sawmill, and the moderated discussion in the policy lab focused on the following specific questions-

- How do we efficiently conduct the legality and monitoring aspect of the wood sawing services?
- What is/are the business models for a profitably run portable sawmill in community forestry user group?
- How do we provide conducive legal and political spaces for the operation of portable sawmills?
- What will be the pros and cons of the portable sawmill, and how is it compared with the existing wood sawing businesses?

EnLiFT policy lab in practice

EnLiFT policy lab, involves five steps (Figure-1). The outline of the steps we followed briefly describes how our lab works, providing general operating guidance that could be applied in similar policy labs.

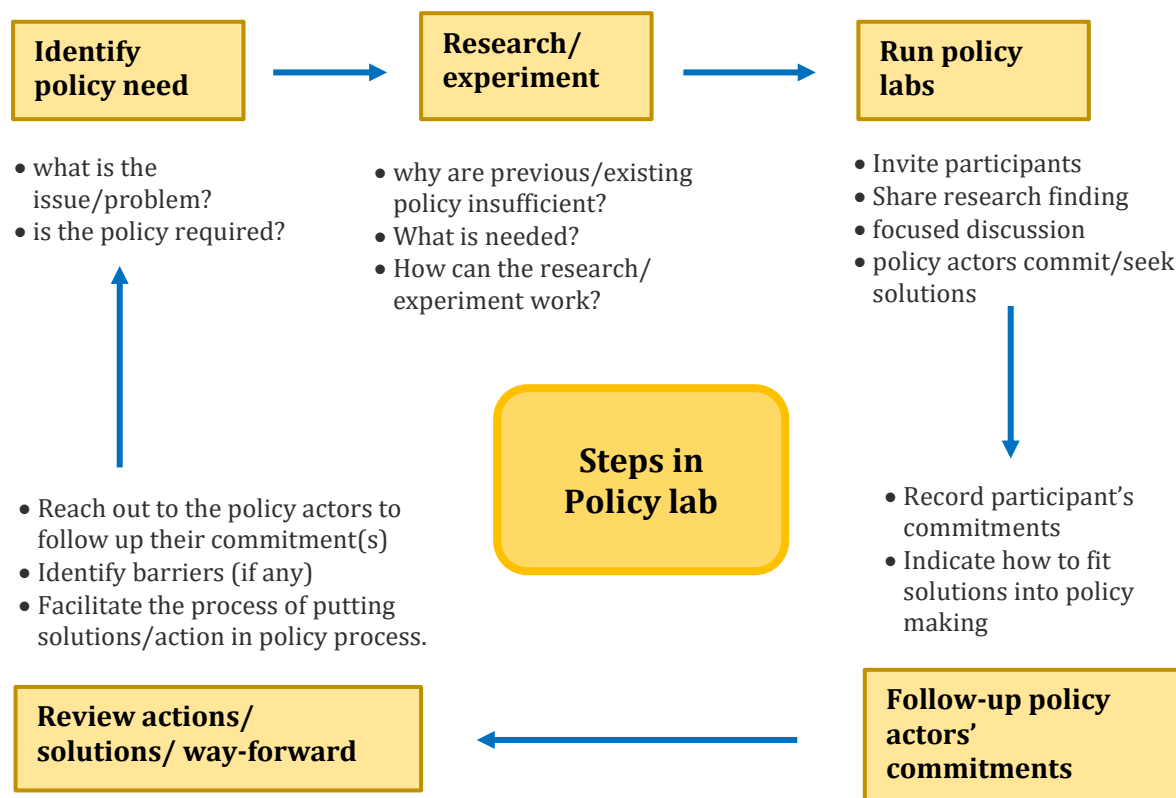


Figure 1: Steps of EnLiFT Policy and Practice Lab (EPPL)

Identifying policy need

Research during EnLiFT 1 and EnLiFT 2 have found that the government policies governing the harvesting of trees in the community forests and establishing the forest-based enterprises (including sawmills) are discouraging. As discussed in Section 1.1 above, communities do not have accessible and affordable timber sawing facilities in their vicinity. Traditional timber cutting systems, using a manually held blade saw, are not in practice anymore. So, local people who have to saw logs from community forests or private lands have to take logs to the private sawmills located far from their settlements. Transportation to and from the sawmills, and timber processing costs are high. Hiring a truck and taking logs to the sawmill is not economically viable. When the transportation costs outweigh the worth of the sawn timber, there is no incentive to cut the logs at all. Maila Tamang once said, *'I had few logs and wanted to cut them into planks for the goat-shed. However, it required more money to hire a truck and take logs to the private sawmill than the worth of planks I would have after sawmilling. Logs therefore left in the backyard for a year uncut. This year, most of the timber was damaged.'* It is costly to hire power chain saw operators for bucking and sawing logs. In addition, laws prohibit the local furniture houses from cutting the logs. Instead, the local people and the furniture making companies need to source the timber from registered sawmills. There is virtually no service in the community available to

process logs after they are harvested in the forests, therefore, small and portable sawmills could be an alternative. In addition, sawmilling facility in the communities means that the people do not have to transport timber all the way to the sawmills located in district headquarter or other smaller towns. Community forest user group could also sell the sawn timber, instead of the logs, and get benefitted from the value addition. There could be a mix of other options, such as the timber trader(s) get the logs cut the offcuts in the portable sawmill so that more timber can be loaded in the trucks for further transportation.

Division forest office in Sindhupalchowk had purchased a portable sawmill (Photo 1 above). After several meetings, the DFO, the Cluster Committee leaders and the EnLiFT research team agreed to conduct a four-day testing and training in operating the portable sawmill from 25 to 28 April, 2022. A technician was invited from the sawmill company, and the event was organized in the actual fields of Sansari and Banjhekapase CFUGs. The timber brought by some CF members for their household purposes was used for this testing and training. A detailed technical record, as shown below, was maintained about the logs, fuel, time, quality, and levels of risks. A total of 252.73cft (74 logs) of pine timber and other species was sawn during the training. As the table below shows, the sawing cost per cubic feet of timber in the training was NRs. 71, whereas the cost per cubic feet timber in nearby private sawmills was NRs. 130.

Table 1: Per cubic foot cost of timber (during the orientation training)

SN	Particulars	Quantity	Skilled	Unskilled	Cost (NRs)	Remarks
1	Transportation of the sawmill	LS			5,000	
2	Installating (portable) sawmill machine	2 hours	1	2	875	NRs 1500 for skilled and 1000 for unskilled
3	fuel (petrol)	30 litre			4,860	NRs 162 per litre
4	Mobil	0.25litre			400	
5	Sawing the logs	16 hours	1	2	7,000	NRs 1500 for skilled and 1000 for unskilled
6	Total Cost (for 252.73 cubic feet)				18,135	
7	Cost/cubic feet	1 cub.ft			71	

The per cubic sawing costs in experimentation of the portable sawmill was higher than the training days as calculated in Table 1 above. It is because we also included the costs of the operators (wage), price of the saw blade and the depreciation cost of the machine as below.

Table 2: Cost of sawmill operation for two days (during experimentation)

SN	Particulars	Unit	Quantity	Rate (NRs)	Amount (NRs)
1	Operators	Person	4	2,500	10,000
2	Fuel (petrol)	Litre	20	178	3,560
3	Transportation	Times	1	2,500	2,500
4	Unskilled labor	Person	4	1,500	6,000
5	Tea/snacks	Person	10	200	2,000
6	Saw blade	number	1	3,300	3,300
7	Depreciation of machine (for 2 days)				1,096
8	Total costs for 2 days				28,456

During the training and experimentation, total of 2545.72 cubic feet of log was sawn, which took 8140 minutes (approx. 135 hours) to process. This time included loading/unloading of the logs and cutting them into the planks of different dimensions. Based on this log-record, we find that about 150 cubic feet of log was sawn in a day, an eight-hour working day. On the basis of the cost incurred during the sawmilling (Table 2) and a sawing of 150 cubic feet of log, cost for sawing one cubic feet of log is calculated. From these calculations, actual cost of sawing of one cubic feet is NRs 95 (Table 3). On top of this cost, the businesses of the portable sawmill could add the management cost and profits on the basis of competition and marketing strategies.

Table 3: Cost of sawing for one cubic feet of logs

Per cft cost		
Per day sawing rate (piecing)	cft	150
Actual cost per day	NRs	14228
Per cft actual cost	NRs	95

The cost calculation of sawing one cubic feet timber in portable saw mill, and the sawmilling costs in the district headquarter (or in smaller towns) show that timber cutting in the community by portable sawmill is cost effective and cheaper. Apart from being cost-effective, the portable sawmill was convenient to move around from village to village, in the hilly landscape and, the people could handle the technical usage of the mill after only 4 days of training.

Research/experiment

Hands-on training to the local carpenters about the operation of the portable sawmill helped the DFO, EnLiFT and community forest use group leaders understand the technical features and the utility of the mill in providing a mobile sawmilling facility right in the communities. It also developed confidence among the participants that the mill was easy to operate locally, and it wasn't too complicated a machine requiring a lot of technical know-how. A preliminary comparison of the saw milling costs between the portable sawmill and the private sawmills also showed that the portable sawmill was profitable and, therefore, could be a viable alternative. The results were encouraging enough to entice the research team to operate the mill in the villages to process a larger amount of timber and run the machine much longer than practiced in training. Accordingly, we facilitated another round of dialogue between the DFO and the cluster committee in piloting the mill further. An agreement was made between the two, and another round of mill testing was carried out in the field throughout the cluster (wards 8 and 13). This time, over 1000 cft timber was sawn, where many households received the benefits of sawing in their own village, and we got further data on the technical feasibility, social acceptance and business case of the mill.

We talked to people who brought logs to the sawmill. All of them said they were very happy with the operation of the mill in their place. Timber was sawn locally and therefore cheap- it saved transportation costs by approximately 50%. We calculated harvesting and sawmilling costs viz buying the trees, felling/bucking, transporting and sawmilling. The total costs per cubic feet timber in conventional private sawmills was approx. NRs 375 whereas the total cost per cubic feet timber was NRs 260 (Table 2). The main reason for the reduced costs was the lower transportation and sawmilling costs when timber was sawn locally in portable sawmills. However, the difference has been calculated based on the 'experimental sawmilling charge' of NRs 60 per cubic feet which is about half of the charges in private sawmill. During the experimentation, we also recorded the pros and cons of the operation and the potential challenges (legal, institutional, economical and technical etc) of portable sawmilling in the villages. The difference between Table 1 and Table 2 is that Table 1 only includes the cost of timber processing whereas Table 2 includes all the costs (the cost of purchasing timber, bucking and transportation and sawmilling).

Table 4: Estimation of saw milling cost in portable saw mill and its comparison with the existing sawmills

SN	Description	Cost per cubic foot (NRs) (existing sawmill)	Cost per cubic foot (NRs) (portable sawmill)
1	Cost of log	40	40
2	Bucking cost	40	40
3	Transportating logs to roadhead	50	50
4	Transportating logs to and from sawmill	37.50	20
5	Logs sawing cost	120	95
6	Miscellaneous cost	50	50
7	Total cost (per cubic feet)	NRs 337.5	NRs 295

Four-day long hands-on training and two-month's field testing and experimentation of the operation of the portable saw mill provided a rich experience and empirically grounded data that increased confidence of the researchers, DFO, community forest user groups and the training participants on the technical and economic aspects of the mill. With the thick data and rich insights, EnLiFT organised this

EPPL to discuss the technical, social, legal and institutional aspects of the mill operation and the potential extension of the operation within and outside of EnLiFT project sites. A half a day EPPL dialogue event was organised on 21st May 2023. The steps, processes, and results from the dialogue are outlined in the next sections.

Running policy lab

Introducing the topic and research sharing

Key policy actors have been carefully identified and informed about the preliminary findings of the portable sawmill experimentation. We invited the Deputy Director General of the Department of Forests, Divisional Forest Officers, Forest Officers, local government representatives, sawmill operators, representatives from the private sector, research organisations and EnLiFT researchers to the EPPL dialogue. Naya Sharma welcomed the participants, and briefly introduced the objective and agenda of the policy lab. Govinda Paudel, an EnLiFT researcher who has been engaged in the experimentation of the portable sawmill, presented the findings of the experimentation. The presentation of the research was followed by a moderated discussion led by Dr. Hemant Ojha.

Govinda Paudel delivered a research-based presentation about the operation of the portable sawmill in the community forestry user groups in Chautara Sangachowkgadi Municipality. He emphasized:

- a) Technical details of the portable sawmill
- b) Local people's experience with the sawmill
- c) Legal provisions of Bagmati Provincial Government regarding the sawmill operation
- d) Issues and challenges of running the portable sawmill in the community and
- e) Way forward with some questions for reflection

He presented the technical details of the portable sawmill as: LumberMate, LM 29 model; manufactured by a Canadian company called Norwood; operates at 16 horsepower; capacity to process about 500 cubic feet of timber; lifespan of about 10 to 15 years; In the portable sawmill, total cost to process one cubic feet of timber was NRs. 260 per cubic feet, the cost to process the same amount of timber in the private sawmills was NRs 337.5 (See Table 2 above). One of the local people said, "The cost of transporting wood to the private sawing mill is very expensive. If the portable sawmill had not come to the village, the logs laid in my backyard would have decayed."

Govinda explained the provisions of "Pradesh Rajpatra" (Provincial Gazette) that had provisions related to the registration and operation of portable sawmill. As such, this legal provision eased the operations of the portable sawmill in the Bagmati province. He also highlighted some of the issues:

- The regulatory mechanism ("neetigat bebastha") is limited to the Bagmati province.
- The detailed working mechanism ("karyabidhi") related to the mill operation is yet to be drafted.
- Regular supply of timber to the sawmill may become a restricting factor.
- The DFO could face challenges related to monitoring and supervising the portable sawmill.

Govinda shared some of the **field reflections** of the EnLiFT researchers who engaged in and observed the operation of the portable sawmill. Following are those reflections-

- The portable sawmill creates economic activities such as loading/unloading the logs, local truck owners transporting logs to and from the mill, operators running the mill, the owners getting paid for the sawmilling services.
- The portable sawmill is easy to operate, local carpenters can run the machine after a few-days' training. Petrol powered engine makes it possible to operate in remote areas and in forests.

- The mill can be moved from one place to another. Roughly it costs NRs 5,000 (~60 AUD) to transport the machine and requires 2-3 persons to install it in a new location. So, there needs to be an estimation of the total number of logs the local people are willing to process in the mill. Low volume of timber and a longer waiting time between the operations will reduce the profitable operation of the mill.
- The availability of logs may be an issue. DFO has entrusted EnLiFT2 supported Cluster Committee to operate the mill only for local household purposes. The mill operation for commercial purposes is not permitted at the moment.
- Despite the government ownership, DFO does not have a mandate (nor has adequate resource) to provide sawmilling facility (service) locally. DFO cannot handover the mill to private operators (or communities) on any forms of rental contract. So, there is no possibility of expanding the portable sawmilling through government mechanism.
- It is legally possible for a private company or a group of CFUGs to operate the mills locally, provided they register the mill in DFOs. Provincial government removed the restriction- the minimum distance between the sawmilling sites and forest- and allowed the operation of the mill in and outside of the forest. In practice, however, DFO staff are saying that they do not have resources (both human and financial) to monitor the operation of the mill and verify that the logs brought to the mill are sourced legally.
- DFO, and local people are not optimistic about the operation of the mill through CFUG (or a group of CFUG). In their view, there needs to be a mechanism(s) where private entrepreneurs operate the mill even when the sawmill is owned by the community (ies).
- DFO say they are not sure whether EnLiFT2 supported Cluster Forest Management Committee will sustain. So, they are unsure whether a cluster run sawmill will survive in the long run.

At the end of his presentation, Govinda posed some questions that could help shape the discussions afterwards. He then suggested some potential “way forwards” by highlighting some questions for reflection:

- Will things be run by the status quo?
- Will every district run its own regulatory mechanisms?
- Will we transform the piloting phase of the portable sawmill into a well-regulated mechanism by easing the legal hurdles?
- What comes next, in addressing the legal aspects?
- Whether or not private millers will be allowed to run the portable sawmill? If yes, how should the DFO and municipality facilitate the process?

Moderated discussions

After the presentation, Dr. Hemant Ojha facilitated the discussion in plenary. He moderated the discussion in a way that the participants focused on three questions-

- What might be the appropriate “business model” for the portable sawmill enterprise? How do we make it profitable and self-sustaining?
- What administrative and policy arrangements are required to run that business model?
- How to upscale and expand the portable sawmilling within the project sites/district and beyond?

Participants believed that private ownership and management would be a profitable and sustainable business model. They suggested, even if the community forestry group (or the cluster of groups) own the business, that should be rented out to individual (s) for operation. Based on the last four decades of lessons around collective management or government management of forestry business, they saw little prospect of it being operated collectively. Of course, local government or higher levels of

government could subsidise the purchase of the sawmill within their jurisdiction. Some participants floated the idea of operating the mill collectively. However, most participants suggested to go with a private ownership and private management or institutional ownership with private management. Surbir Shrestha, secretary of one of the CFUGs and a carpenter said, "The operation of a portable sawmill should be given to the individual entrepreneur as most of forestry enterprises run by community forestry groups are not successful. Operation of the portable sawmill, profitably and sustainably, requires that an individual or group of individual investors invest and operate the mill."

Currently, the stationary sawmills operating in urban centres have to maintain a log-book for timber purchased and sold and submit to DFO for inspection. The current piloting has been operating within a strict condition set by DFO. These are aimed at ensuring that the sawn timber comes under proper legal process, and no illegal activity is taking place around the sawing process. So, DFOs need to invest more of its resources- human and financial- to monitor the operation of such mills. As the mill has to move to various villages in the farm and forest fringes, it is difficult for the DFO to monitor. The mill operator may not be able to distinguish the logs coming from the community forests or from the private lands and ensure the legality of the source of the timber. Of course, the operator(s) focus on providing sawing services and a processing facility, with minimum administrative procedure.

One way participants suggested was: to differentiate between i) sawing services; and ii) a complete business with sawing and furniture. Most of the participants found that the first kind of service is much easier to monitor and, therefore let us move with the limited scope of providing sawing service households use. Of course, we can gradually move on with ways to facilitate it as a complete business. Such a staged approach will partially help mitigate the question of potential risks and negative impacts on existing sawmills in the nearby towns.

Follow up policy actor's commitments

In the policy lab, different (policy) actors have shown their commitment to facilitate the operation of portable sawmill. Nawaraj Pudasaini, Deputy Director General of Department of Forests shared that he had initiated the policies that provided legal basis to register and operate the portable sawmill in Bagmati Province. He said he was happy that the experimentation of saw milling was successful, and he would provide necessary support for the expansion of the mills in other districts. DFO in Sindhupalchowk said he was happy to support the operation of the portable sawmill as per his mandate allowed. The support would be in initiating the process of developing an operating procedure (karyabidhi) and forward it to provincial government for approval. Municipality representatives, chairperson of ward 13 of Chautara Municipality, said he would help the CFUG cluster to engage with the municipality to operate sawmills in the community. The District Small and Cottage Industry Office's representatives confirmed their support for this enterprise.

The EnLiFT2 researchers do need to approach these actors and work with them to get their commitments done. This will help upscale and expand the operation of the portable sawmill within and beyond the project sites.

Review actions/ solutions/ way-forward

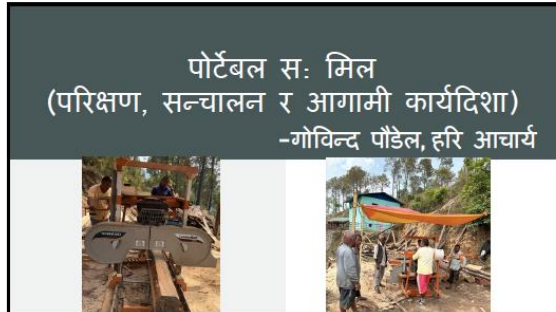
This is the last step of the EnLiFT policy and practice lab cycle. Based on the review of the actions, solutions and way forward from the previous policy lab (and other research), the researchers will again identify the policy/knowledge gap that requires scholarly attention. Institutional-level engagements rather than individual-level participation will be helpful in identifying policy bottlenecks that could be a subject of future policy dialogue. This way policy labs cycle, including the EnLiFT policy and practice lab, work.

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Annex-1

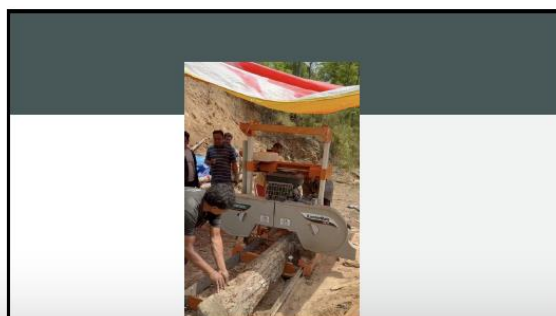
EnLiFT Policy and Practice Lab, presentation slides



1



2



गाउँमा काठ चिर्न गाज्दो छ।

- गाउँमा पुराना आराकसी छैनन्, चैन सः ले चिरान गर्दा असुरक्षित र महँगो हुन्छ।
- भएका सःमिल टाढा छन्।
- थोरै काठ चिरान गर्न टाढा पुर्याउन खर्चिलो।



4

माइला तमाङ, पाँडेचउर

अलीकति काठ थ्यो बाखालाई खोर बनाउने भनेर काटेको। पोहोर साल नै चिर्न खोजेको, मिलसम्म पुग्दाउदा काठको मोल (मुल्य) भन्दा गाडीभाडा बढी हुने भो। काठ थोरै हुनेले त भाडा तिरेर टाढा (दोलाल गाउँ) लग्न नसकिने। तेइ भएर बारीमै बसो। ऐले ये बोकरे यहाँसम्म लिएर आएँ, गाडी भाडा परेन। आफ्ना जती कुहिएछ। यो मिस्तिन गाउँमा नआएको भए एइ नि कुहिनै रहेछ। आराकसी हराइहाल्यो, अर्को के जाती (चैन सः) ले नि महँगो पर्ने। गाह्रो छ नि। एसपानी ये सजिलो भो, तत्र कुहिएरे जान्थ्यो, काठ आयो, काम हुने भो, खुशी लागेको छ।



5

कसरी काम चलिरहेको छ?

- थोरै काठ चिरान गर्न महँगो छ, एतिकै छोडिन्छन्।
- अली धेरै काठ हुँदा डिआइ ट्रकमा लोड गरेर चौतारा या अन्यत्र लग्नुको विकल्प छैन।
- चैन सः या काठ मिललाई तिर्न सक्नेले गर्ने, नसक्नेले नगर्ने।
- काठ हराउने, नोक्सान हुने सहनु पर्छ।

पोर्टेबल सःमिल विकल्पको रुपमा परिक्षण भैरहेको छ।

- गाउमै मिसिन लगेर काठ चिरान गरिएको छ।
- सिकर्मिहरूले छोटो तालिम र अभ्यास पछि आँफै फिट गरेर चलाइरहनु भएको छ।
- धेरैलाई यसको बारेमा थाहा छैन, तर स्वतस्फुर्त रुपमा खबर फैलिएको छ।
- वन कार्यालय र परिक्षाणस्थल मै आएर मिल हामीलाई नि दिन पन्थो भन्नेहरूको चाप छ।

7

ऐले सन्चालन भएको मेसिन कस्तो हो?



- Canadian made Norwood LumberMate Portable Sawmill LM 29 model machine.
- capacity to process about 500 cubic feet timber. For more (technical) detail <https://www.norwoodsawmills.com>
- 10–15 years life
- Saw blades expensive in Nepali context.
- 16HP, powered by petrol

8

पोर्टेबल र ऐलेका साबिक सःमिलमा चिरान गर्दाको मोटामोटी खर्चको तुलना

SN	Description	Normal sawmill	Portable Sawmill
1	Cost of logs	Rs 40/cft	Rs 40/cft
2	Bucking cost	Rs 40/cft	Rs 40/cft
3	Transport to roadhead	Rs 50/cft	Rs 50/cft
4	Transport to and from sawmill	Rs 37.5/cft	Rs 20/cft
5	Processing	Rs 120/cft	Rs 60/cft
6	Miscellaneous cost (estd)	Rs 50/cft	Rs 50/cft
	Total	Rs 337.5	Rs 260/cft

9

यो मिलका फाईदाहरु

- मेसिन सार्न, फिट गर्न र चलाउन विशेष ज्ञान या सिप आवश्यक नपर्ने हुनाले २-४ दिनको तालिमबाट स्थानिय सिकर्मिहरुले काम गर्न सक्छन्।
- उपभोक्ताले घर पायक, कम ढुवानीमा काठ चिर्न सक्छन्, नजिक हुनाले थोरै काठ भए नि चिरान गरेर उपयोग गर्न सकिन्छ।

10

फाईदाहरु....

- Operator भन्दा अर्को पट्टी र cover (guard) ले छोपिएको हुनाले सुरक्षित छ, log clamping system ले गर्दा मुद्दा manually समातेर चिर्नु पर्दैन। काठ कम wastage हुन्छ।
- ढुवानी र चिरान खर्च कम हुनाले सस्तोमा काठ चिर्न सकिन्छ।

11

सम्बन्धित निकायहरुको धारणा

उपभोक्ता: ढुवानी/चिरान खर्च कम, सजिलो छ। मेसिन फिक्स गरेपछि सिधा जानेहुनाले काठ खेर नजाने। राम्रो लागो।

डिभिजन वन कार्यालय: कानुनी व्यवस्था छ। मिल सन्चालन कार्यविधि बनेको छैन। वन कार्यालय आफैले चलाउने होइन, समुह या समुहको क्लस्टरले मिल खरिद गरी सामुहिक रूपले चलाउन सक्ला/नसक्ला भन्ने प्रश्न छ। यो मिल समुहहरुमा बिस्तार हुने हो भने डि.व.काको दायित्व बढ्छ। संस्थागत सन्नचना के हुने एक्लि छैन, निजी उपयमिते त चलाऊला, community ले चलाऊदा हुन्न कि? viable छ छैन अहिले नै एक्लि छैन।

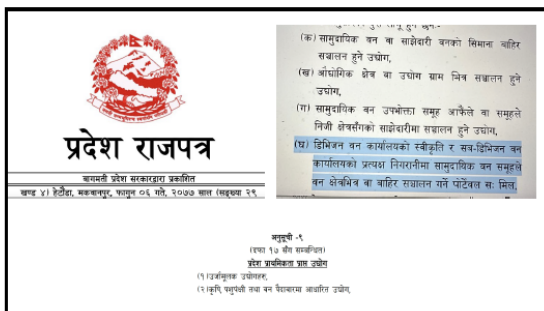
एक्लि र नसक्ने भेदिले सम्बन्धित निकायहरुका धारणाहरु

परिक्षणको अवस्थासम्म कसरी आइपुगियो?

प्रमुख तीन प्रमुख कारण छन-

- बाग्मती प्रदेशमा पोर्टेबल सःमिल सन्चालन सम्बन्धी नितिगत ब्यवस्था भएको छ। Project Advisory Committee को अगाडि बढौं भन्ने हुटहुटी।
- सःमिल खरिद गर्न र क्लष्टर मार्फत परिक्षण गर्ने बातावरण मिलाउन सिन्धुपाल्चोक डि.व.काको सकृयता
- EnLIFT परियोजनाले परिक्षण गर्न सहयोग गरिरहेको छ।

13



14

वन उध्यम स्थापना गर्दा दुरी नलाग्ने

क) सामुदायिक वन वा साझेदारी वनको सिमाना बाहिर सञ्चालन हुने उद्योग,

(ग) सामुदायिक वन उपभोक्ता सभूह आफैले वा समुहले निजी क्षेत्रसँगको साझेदारीमा सञ्चालन हुने उद्योग,

(घ) डिभिजन वन कार्यालयको स्वीकृति र सब-डिभिजन कार्यालयको प्रतक्ष निगरानीमा सामुदायिक वन समुहले वन क्षेत्र भित्र या बाहिर सञ्चालन गर्ने पोर्टेबल सःमिल।

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- वन समुहले ऑफे वा निजी क्षेत्रसँगको साझेदारिमा वन भित्र जडिबुटी प्रशोधन प्लान्ट स्थापना र सन्चालन गर्न सक्नेछ।
 - समुहले पावर चेन सः प्रयोग गर्ने भएमा डिभिजन वन कार्यालयमा दर्ता गराउनु पर्नेछ।
 - वन उध्यमको कच्चा पदार्थको श्रोत सुनिश्चितता र श्रोत प्राप्तिको जानकारी वन कार्यालयलाई दिन पर्नेछ।
 - वन कार्यालय र घरेलु तथा साना उद्योग कार्यालयले वन उध्यमहरूको प्रभावकारी अनुगमन तथा निरिक्षण गरी मन्त्रालयमा वार्षिक प्रतिवेदन बुझाउनु पर्नेछ।
- वन पैदावारमा आधारित उद्योग एवं व्यवसायको हकमा सम्बन्धित डिभिजन वन कार्यालयमा उद्योग दर्ता हुने

16

- तर व्यवसायिक सन्चालनमा चुनौती छन्।
- बाग्मती बाहेक अरु प्रदेशमा नितिगत व्यवस्था हुन बाँकी छ।
 - ऐले प्रत्यक्ष निगरानीमा सन्चालन भैरहेको छ। पछि मिलमा आउने काठको श्रोत र वैधानिकताको इस्स्यु उठ्दा वन कार्यालयलाई नियमन गर्ने चुनौती थपिन सक्छ।
 - मिल सन्चालन सम्बन्धी कार्यबिधी बन्न बाँकी छ।
 - काठको नियमित आपूर्ती सुनिश्चित छैन।

17

- चुनौती...
- ऐले घरायसी प्रायोजनको लागि मात्रा भनिएको छ। समुह बाहिर या व्यापारिक प्रायोजनको लागि समेत हुँदा वन कार्यालयहरूले नियमन गर्नु पर्ने, त्यसको लागि चाहिने श्रोत, इच्छाशक्ती, तदारुकता, कानुनी प्रशासनिक व्यवस्था होला कि नहोला?
 - प्रतिस्पर्धी निजी मिलहरूले कस्तो गर्छन्?

चुनौती...

- सन्चालन मोडालिटी के कस्तो हुने?
- काठको श्रोत र नियमितता
- निजी उध्यमीहरु यसमा लगानी गर्न इच्छुक होलान नहोलान? पालिकाहरु या समुहहरु निजी उध्यमीहरूसँग सहकार्य गर्लान नगर्लान्?

19

अवको बाटो

- 1) साविकमा जे जसरी भैरहेको छ, तेसैलाई निरन्तरता दिने। (Status quo)
- 2) पोर्टेबल स:मिललाई सबै जिल्लामा विस्तार गरी सन्चालन गर्ने।
- 3) ऐले परिक्षणको अवस्थाबाट व्यवसायिक बनाउदै अन्यत्र विस्तार गर्ने। यसको लागि आवश्यक कानुनी प्रशासनिक व्यवस्था मिलाउदै सहजिकरण गर्ने।



20

अवको बाटो...

तेश्रो बाटो viable देखिन्छ। समुहले या सामुहिक स्वामित्वमा सन्चालन गर्न चुनौती छ। वन कार्यालयको सहजिकरणमा पालिका/ समुहहरुले निजी उध्यमिलाई सहूलियतमा सन्चालन गराउने हो भने यसलाई बिस्तार र व्यवसायिक बनाउदै स्थानियहरुलाई सुलभ सेवा र रोजगारी दिन सकिन्छ।
