

Planting Fodder and Forage in Public Land for Goat Raising

Background

Goat raising is a major source of livelihood for the rural farmers in Nepal since it contributes to direct family income. The fast growth rate of the species, a high demand for meat, and price stability make goat rearing a lucrative, safe and attractive enterprise. However, fodder and forage management has become a common challenge for the smallholder and marginalized families lacking land to grow fodder

Enhancing Livelihoods of Smallholder Farmers in Central Terai District of Nepal- ELIVES

Enhancing Livelihoods of Smallholder Farmers in Central Terai Districts of Nepal (ELIVES) project is a 3 year project funded by DFID and co-funded by ADRA UK and is implemented in four districts of Central Terai region (Bara, Rautahat, Sarlahi and Mahottari) from April 2015. The ELIVES project combines key strengths of project partners - ADRA Nepal, iDE and FORWARD Nepal and district based partners (LNGO) to enhance livelihoods and income for poor and marginalized smallholder farmers with a focus on women and socially excluded groups in particular, Dalits, Janajati and Madhesi.

The project aims to bring tangible change in poor people's lives through interventions on goats, vegetables/lentil and market access/promotion. The project worked with 600 farmer groups comprising over 13,000 HHs. The project's work in developing local service providers and building market systems has ensured that the beneficiaries continue to get services and access to market and also benefitted the wider community. The end line survey revealed that skill enhancement in vegetable and goat production, coupled with increased access to services and markets increased annual income by £80 for 66.5% of beneficiaries.

and resources to buy feed. The restriction of open grazing in the forests after the handover of local forest to Community Forestry Users' Group (CFUG) has made the situation worse. As a result, several farmers are losing interest in raising goats. A potential in growing fodder and forage lies there, since a large tract of public lands is underutilized and wasted, mainly in the Terai region. However, this opportunity hasn't been tapped by local people.



ADRA aims, through its ELIVES project, to increase per capita goat holdings as well as goat production and productivity for improving the livelihoods of

smallholder and landless families. To realize this goal, ADRA has taken a new initiative – plantation of fodder and forage in common land for goat raisers as they see a hope on the availability of abundant public land. The main objectives of the intervention are to fulfill the demand of fodder and forage for goats and motivate farmers to raise more goats and increase their production and benefits. The utilization of these public lands in the villages gives multiple social, economic, and environmental benefits as highlighted in the following pages.

Methodology

This intervention begins with the formation of interest groups (goat farmers' groups) comprising poor and marginalized households to be supported for goat raising, which is followed by the search for suitable public lands nearby the community. The project then facilitates dialogue between beneficiary groups and the custodian of the land (CFUG, local government, temple management committee etc). Thereafter, land leasing arrangement is agreed upon and MoU made which may be formal or trust based.

CFUGs provide land free of cost as they also have obligations to support their members. A plan is then prepared to clear the land and unwanted bushes for making the land cultivable and suitable for planting trees. The beneficiary groups also develop a modality of sharing both benefits and burden of work. The project provides appropriate seeds and seedlings of fodder and forage species, mostly high yielding, fast growing and nutritious ones. The project also helped beneficiaries to coordinate with District Forest and Soil Conservation Offices to source planting materials and some of the groups were able to get those. The groups also fence the area using local materials, if such a need is felt and take regular care and maintenance of the land and planted trees. In some cases, beneficiary groups are able to access resources from CFUGs and local governments to fund the cost of non-local fencing materials.

Table 1. Beneficiary households and area of land allocated to them through fodder plantation initiative

District	Number of groups (beneficiary HHs)	Planted area (ha)
Bara	6 groups (107 HHs)	10.66
Rautahat	8 groups (143 HHs)	9.00
Mahottari	3 groups (85 HHs)	7.33
Total	17 groups (335 HHs)	27.00

Outcomes and Impacts

Turning waste land into green and resilient land

Plantation converts the barren and deserted waste land into greenery, which also becomes more resilient to ecological and climatic change risks in the long run, because it retains soil moisture, improves soil fertility, and protects land from flood, landslide and erosion, especially near the river banks. Even in trace amount, the trees sequester carbon and improves the surrounding environment. The fodder plantation has also reduced the pressure of communities on the forestland and private land, which is contributing to biodiversity conservation and environmental sustainability.



Time efficiency and effectiveness

With the availability of more fodder, forage and grass nearby made possible by the plantation, the participating households of the groups save substantive amount of time and physical efforts. Family members now no more have to go to forest to fetch grass, which saves 4-5 hours of time each day. The danger of breaking legs, hurting, and confronting wildlife is now reduced. The saved time could be used

for other productive works, household chores, child care or leisure. The plants become ready to harvest and give quick and visible impacts on goat productivity from the second year since proper selection (e.g. highly coppicing, fast growing species) is done. For instance, mulberry is a fast growing and highly coppicing tree with a multiple harvest and year-round twig-looping potential. The plantation of fodder trees has raised hope and motivation among beneficiaries for raising more goats and augmenting economic benefits.

Diversification of livelihood options and augmenting economic benefits

In the long run, surplus grass/fodder, seeds and seedlings can also be sold for extra income of the groups. Seeds of Mendola trees has a high potential for marketing. By supplementing fodder from the plantation forests, farmers also save cash that would otherwise be spent in buying livestock feed.

Fostering collective action and fair benefit sharing

This intervention has improved the culture of collective action as farmers work as a group. For fair benefit and workload sharing, the groups divide the total area into equal sizes ensuring that each member gets equal portion of land. The members are responsible for managing the land allotted to them and they are entitled to use the products from that area at their will but within the remit of group policy. The excluded members of their community, including past critics of this intervention, are now interested to join the group as they have seen the benefits coming from the land.

Strengthening group cohesion

The intervention gives a multitude of social benefits too. The social capital of the community is strengthened as members have built trust, mutual help, sense of belonging, collective action, cooperation, solidarity, and networking. Many of these groups are known for their noble work in utilizing public land and their learning is being replicated in other areas. There has been influx of visitors willing to learn from the model plantation work in the project sites. For instance, in Bagdev village in Nijgadh in Bara received lot of interests from people outside their community who came to see their fodder plantation activities.

Other benefits

The fencing of the fodder orchards or farms has also reduced encroachment of wild animals on public land as the fences keep away wild animals from the villages. Open grazing has been reduced due to the restrictions imposed by community forest user groups. Goat health has also been improved. In the past, they had the risk of attacks of wild animals, abortion due to long distance walking, and energy loss

Case study 1: Common land fodder plantation in Nijgadh, Bara

32 members from Unnatishil and Pragatishil goat producer groups in Nijgadh Municipality-4, Bagdev Puranotole in Bara District came together for fodder and forage plantation initiative. Earlier families were keeping few goats because of difficulty to manage fodder (grass) and few HHs were keeping up to 5 goats. A family member, mostly women and children would have to go forest to collect grass for goat, which would consume 4-5 hours every day. Collecting grasses by climbing in trees was very difficult mainly in sloppy land. Goats were taken to jungle for grazing, but that would create various complications including ill-health, abortion, injury and killing by wild animals.

The project team trained them in goat management, shed management, feed management as well as vaccination to goat. Through the project, they learnt about commercial goat rising and explored ideas to increase number of goat. The main problem was scarcity of grass for goat keeping. Project team and group member organized a meeting with Bagbhairav community forest user's group (CFUG). Group members requested to CFUG to provide unused land for the grass plantation. A formal agreement was made between CFUG and Goat group for 10 year, and the groups planted different types of fodder and forage on the land. Around two and half kattha (750 sq m) land was divided to each family. Ipil-Ipil, Mendola, Napier, Mulberry, Tree legume (bhatmase) Bahunia (tanki), China berry (Bakaino), Money's jackfruit (Badahar), broom grass were planted on that forests. Total area of plantation was 2.33 ha.

Now, group members are very happy about getting benefit from the fodder plantation land. The land is day by day becoming fruitful to them in different fronts – economic, social, environmental. Most farmers have more than 10 goats. It is because of available grass beside their home. As per the chair of Unnatishil goat group, the plantaiton is sufficient for 10-11 goats per HH. The benefits indicated by the beneficiaries include: 4-hour time in average saved every day, Farmers do not need to go for meadow as they can stall feed their animals, due to the combination of diet feed (grass) goat's growth rate is better than before, and goat abortion is almost nil.

in forage search. Now these risks are reduced. Active collaboration has been established with the Community Forest User Groups.

Key Learnings

Some preliminary learnings from common land fodder and forage plantation are listed below.

- The common property can be effectively utilized for income generation and livelihood enhancement activities like goat raising. The approach is promising and carries the potential of replicating in other projects and/or organizations.
- Timely plantation, proper species selection and proper land selection are keys to success. Plantation done near the riverbank is often damaged by flood, so is avoided. Fencing is necessary where there is a risk of damage from wildlife or domestic animals.
- Generous local government organizations or CFUGs willing to give away public lands to landless or ultra-poor households, community cohesion, mutual trust, we feeling, community participation and collective action, and leadership also lead to success.
- Community contribution in cash and kind also make or break the initiative. In addition to labor contribution, cash contribution of group members to top up the support provided by the project made possible the success of bringing people together.
- When benefits become visible, the interest of non-members in joining the groups grows, so formal leasing arrangements need to be in place to avoid potential risks of conflict. The interest of new members or existing group's interest to expand their interventions also needs to be addressed through proper collaboration with the local government.

For further information:

ADRA Nepal Country Office, Sanepa, Lalitpur, Nepal
Phone: (++977)-1-5555913/14; Fax: (++977)-1-5554251
Email: info@adranepal.org; Website: www.adranepal.org

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