Project Completion Report

Project Completion Report – Summary Sheet (A)

NARDF Reference	PP-1132/2015		
Project Title:	Development of forage seed resource centers of Tropical Species in Mahottari.		
Lead Organization	Women Empowerment Mission		
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Collaborating	District Livestock Service Office (DLSO), Mahottari		
Start Date:	March 2015	**End Date:**	June 2017
NARDF Funding	NRs. 19, 99, 434.00		
NARDF Priority area:			
Original budget	NRs. 19, 99, 434.00	**Actual**	NRs. 19, 99, 434.00

1. Researchable constraint/problem the project aimed to address

The project targets people of Bathnaha and Siswa Kataiya VDCs of Mahottari district with the aim to contribute reducing their poverty through forage seed production programme. Feed deficit is a major problem leading to higher production costs for milk and meat which is a major problem for the livestock sector. According to the Department of Livestock Services (DLS) overall forage seed deficit is 28.42 % against national demand in which maximum deficit of forage seed is in eastern region (48.22%). The project has planned in such a way that actual forage situation will be identified firstly, and then three unemployed poor woman farmers group from each VDC will be formed for forage seed production, the farmers group will be strengthened and supported by project. Forage production will focused for year round green matter production and their seed production.

2. Target group/users

Women members of the family were the target groups. Along with this Women member of the families who directly involved in the project activities were the direct beneficiary.

3. List of key results/recommendations arising from the research

Baseline Survey Report

About 180 farmers were involved in the the survey based on the prepared questionnaire. Initial statuus of Forage cultivation was known.

Formation of Women Farmers Group

Women farmers groups were formed, out of which 2 groups were formed in Bathnaha VDC, while 1 group was formed in Siswa Kataiya VDC of Mahottari district.

Formation of Cooperative

A cooperative of women involved in forage cultivation was formed.

Women farmers got training about Farage Seed Production

92 women got 2 stage training about forage seed production. Training was conducted separately for each farmer group at places appropriate for them. First Training was conducted in February of 2016, while the Second Training was conducted in October 2016.

Forage Seed Production

From two stages of cultivation, farmers produced 45 quintal seed of Oat and about 9 quintal seed of Sudan. At present farmers have cultivated oat in about 400 kattha of land and seed production is about 200 quintal.

Establishment of Forage Resource Centre

Forage resource center is established in the project VDCs where local farmers sell their seed and needy farmers buy seeds for forage farming.

End Line Survey Report

About 180 farmers were involved in the the survey based on the prepared questionnaire. Final statuus of Forage cultivation was known in comparison of initial stage of forage seed production..

4. Dissemination of results and prospects for adoption

Dissemmination was was done through broadcast of radio jingles from two FM radios namely Radio Rudraksha and Radio Mithila, 70 days from each radio from 2nd April to 10th June, 2017. 2500 Leaflets and 1500 booklets were printed and distributed to people.

Forage seed production has already increased and availability of Forage seed in local market is already increased, which is aso found in the End Line survey. Prospects of adoption is high as people have become interested and already adopting forage farming for seed production.

5. Indicators of potential future impact [list up to five indicators, based on current knowledge]

1. Availability of Forage seed in local market
2. Increased forage farming status.
3. Improved economic status of women farmers
4. Increased number of cattle per household.
5. Improvement in milk and meat production per cattle.

6. Lessons learned

1. Status of farming and cattle rearing can be changed by positive and collective effort.
2. Working in group is more effective than working individually and a group can change the way of thinking in society.
3. Simple and systematic change in farming trend can change the economic status of farmers.

7. Project Leader's Ratings of Project Achievements/Success

Description	Rating	Note
Implementation performance	4	Refers to activity completion, input availability, budget management, collaboration and participation of the target group during implementation
Output Delivery	4	Refers to planned outputs and OVIs in the Log frame, including the development of clear recommendations for broader dissemination
Uptake and adoption: By farmers By dissemination agents, By scientists	4	Refers to the project purpose, development and implementation of dissemination/uptake strategies, initial response of stakeholders and target groups and prospects for impact

Ratin	Status
4	Highly
3	Mostly
2	Limited
1	Unsuccessful

Rating	Status
A	Expect to be fully adopted
B	Part/some outputs expected to be
C	Unlikely to be adopted

Main Project Completion Report (B)

1. Background

Livestock population of Nepal is estimated to be 7.27, 5.24, 0.8 and 9.78 million cattle, buffalo, sheep and goats, respectively with increasing rate 0.39, 3.4 and 3.4 per annum for cattle, buffalo and goat, respectively (MoAD, 2013).The increasing population of livestock has exerted excessive pressure on available feed resources. The number of livestock per unit of cultivated land in Nepal is highest in the world (220 numbers of livestock /Km^2 compared with the human density of 141). There is an excessive pressure on cropland and forest for fodder which directly affecting the sustainability and conservation of available resources. Inadequate supply of green forage is leading towards poor nutrition during the dry winter months (December to April) is one of the biggest constraints to the promotion of livestock development in Nepal. Malnutrition over a significant part of the year reduces the condition of the animals and adversely affects production levels (Panday, 2007).

To meet the animal feed requirement, year round forage production is now practiced and helpful in attaining green matter production. Annual forage crops are easy to cultivate, fast-grown and nutritious to dairy animals. The ideal annual forages should have more than 40% legumes to provide protein and energy rich feed for ruminants and to fix nitrogen in the soil for following crops and grasses. In winter, barseem, lucerne, oat and vetch are commonly practiced to sow immediately after harvesting of rice, and in summer sorghum and teosinte cultivation are common. In spring, teosinte, bajra, sudan is cultivated. Moreover, stylo and kudzu are also popular in terai region and have great demand which could be also cultivated for seed production. They are helpful to make up nutritional need during monsoon and autumn season as well. It is anticipated that the improved supply of quality feeds and forage could alone enhance the animal production by three folds and save much of the degradations of the natural resources.

Green forages are the cheap and nutritious source of livestock feeding and only means to lower down the cost of production of animal products. According to National Forage and Animal Nutrition Development Centre of DLS, Mahottari district is one of the potential districts for oat, barseem, jowar, teosinte, sudan, bajra, vetch, stylo, kudzu and molasses seed production. Hence, this project aimed to produce seed of aforesaid forage and reduce forage seed deficit in the country.

Main Purpose/Objectives:

The main purpose of the project was to establish forage seed resource centers as the income generating for improving the livelihoods of farm families who are currently living with very limited resources to support their livelihoods. The characteristic feature of this project was to introduce the project in a holistic manner so that all components would ultimately contribute to income generation and livelihood support. The most successful interventions like forage seed production in a complete package of practices so that outputs of each could provide a sustainable and year round income for the participating families and could become a sustainable basis of livelihoods for these families. These interventions supported by inputs and training support, group saving scheme and capacity building on technical and managerial aspects would lead to a sound and sustainable basis for income generation and livelihood improvement for the most impoverished community in Nepal.

2. Research implementation performance

Activities wise implementation performance was as follows:

Activities	Activity status	Remarks
1.1 Site selection and interaction with farm families and identification of target families	Completed in June 2015	
1.2 Project inception workshop	Completed in April 2015	
1.3 Baseline survey	Completed in May 2015	
2.1 Selection of farmers, group formation and hoarding board fixing.	Completed in October 2015	
2.2 Training of participating farmers.	First Training Completed in January 2016. Second Training Completed in October 2016.	
2.3 Cultivation of different winter (Oat and Berseem), annual (stylo) and summer (Teosinte and sorgham) grass including legume species for seed production.	Completed in January 2017.	
2.4 Internal and joint monitoring.	Completed	
2.5 Formation of cooperative	Completed	
2.6 Performance survey/ end line survey and cost benefit analysis	Completed in June 2017	
3.1 Output sharing of workshop	Completed in May 2017	
3.2 Dissemination of project outputs	Completed in June 2017	
3.3 Public hearing, report writing and video document preparation	Completed in June 2017	

3. Situation regarding delivery of outputs/results

Output 1 : **Existing forage production status identified**

During interaction with farmers and door to door household survey period, existing cropping pattern, forage production situation, type of forage production, forage demand and supply situation, forage seed production trend, land holding per household, irrigation facility of the sites, household income level, knowledge of farmers on improved grass and leguminous forage seed production were documented in Base line Survey

Output 2 : **Forage seed centers established**

Farmers have incrased knowledge on forage seed production from the training and cultivation of different forage species by season. Furthermore, they compared income generated from forage seed production and cereal production from same unit of land. This has convinced farmers to produce forage seed rather than cereal and forage seed center is established. Farmers sell their surplus seeds there and needy farmers buy seeds from the established resource centers.

Output 3 : **Project outputs widely disseminated and scaled up**

The project outputs are being disseminated to other resettlement camps through visits, development agencies, and media and by formal and informal interaction works hop organized in the district.

Similarly, outputs of the projects have been disseminated by using 2 local FMs, 2500 leaflets and 1500 booklets. Observing the income from forage seed production other farmers have also started to scale up this activity and participating farmers will expand their seed production activity.

4. Prospects for the adoption of the new technology and achievement of purpose

Dissemination was done through broadcast of radio jingles from two FM radios namely Radio Rudraksha and Radio Mithila, 70 days from each radio from 2nd April to 10th June, 2017. 2500 Leaflets and 1500 booklets were printed and distributed to people.

Forage seed production has already increased and availability of Forage seed in local market is already increased, which is also found in the End Line survey. Prospects of adoption are high as people have become interested and already adopting forage farming for seed production. armers involved in forage seed production are satisfied with their income by setting forage seed. Farmers of different villages including Masurpatti of Jaleshwar munispality has started the forage seed production.

5. Key indicators of potential impact identified by project stakeholders

1. Increased availability of Forage seed in local market

   End line survey shows that farmers are either farmers are getting forage seeds fron theirown production or buying from local market. At the stage of Base line 74.42% of farmers used to buy from Indian market.

2. Increased forage farming status.

   Forage farming status is increased in the district. Number and percentage of farmers are involved in regular forage farming. Area of land for forage farming are also found to be involved.

3. Improved economic status of women farmers

   Income of women farmers involved in forage seed production is improved. Endline survey shows improved economic status of farmers.

4. Increased number of cattle per household.

   Number of cattle per household has been increased after the implementation of the project.

5. Improvement in milk and meat production per cattle.

   Another indicator is the increase in milk per cattle and increase in meat per cattle. Increase in use of green forage for feeding to the cattle causes increases the production of milk and meat.

6. Proposed follow-up

Farming and production of forage seed is increased and still increasing, which improved the status of forage seed availability and use of green forage for feeding cattle. Seed Resource center is established. However the project will need some follow-up as follows.

a) Follow-up visits to the resource centers,

b) Refresher trainings to the farmers.

c) Further trainings for running forage seed resource center.

7. Lessons learned

1. Status of farming and cattle rearing can be changed by positive and collective effort.
2. Working in group is more effective than working individually and a group can change the way of thinking in society.
3. Simple and systematic change in farming trend can change the economic status of farmers.

8. Publications and contacts

During the project 2500 leaflets and 1500 booklets are published, while 1 video documentary is produced.