BEST PRACTICES FOR THE PROJECT FOR ENHANCING RURAL INCOME AND LIVELIHOODS THROUGH SUSTAINABLE AGRICULTURAL DEVELOPMENT AND MICRO-ENTERPRISE IN BHUTAN



TARAYANA FOUNDATION AND MINISTRY OF AGRICULTURE AND FORESTS THIMPHU, DECEMBER 2010







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DISCLAIMER

All views, interpretations, recommendations and conclusions expressed in this document are those of the author and not necessarily those of the Tarayana Foundation and Ministry of Agriculture and Forests.

Pelzang Wangchuk National Consultant pelzang@hotmail.com Tel: +975-2-365075

Mobile: 17605057

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GLOSSARY

Ac : Acre

AEO : Agriculture Extension Officer

Bangchus: Small two-piece oval-shaped basket used as container (traditionally used as

plate) made out of Yula and is special handcraft of both Project villages

Best practices : Scope, planning and implementation processes that are unique features adopted

by the Project in successful achievements of its objectives including new

knowledge and retention and use of outputs created.

CGI : Corrugated iron sheet for roofing

Chiwog : Administrative unit in a Geog consisting of a few hamlets

Chodrup : Capacity according to household labour and income

DAO : Dzongkhag Agriculture Officer
DLO : Dzongkhag Livestock Officer
DzFO : Dzongkhag Forestry Officer

Dzongkhag : Administrative unit (district) consisting of several Geogs

Foundation : Tarayana Foundation

FYP : Five Year Plan referring to 10th FYP of 2008-2013

Geog : Administrative unit in a Dzongkhag consisting of several villages

Gup : Elected chairperson of the Geog

HH : Households

Kamzhing : Dryland agriculture land

MoAF : Ministry of Agriculture and Forests

ORC : Outreach clinic

PEI : Poverty Environment Initiative

Phaju : A local religious performer.

PPD : Policy and Planning Division

PTTF : Poverty Thematic Trust Fund

NGO : Non-government organization

PMT : Project Management Team

REAP : Rural Economy Advancement Program

Project Project for Enhancing Rural Income and Livelihoods through Sustainable

: Agricultural Development and Micro-enterprise in Bhutan

Resource Livelihood activities consisting of cereal production, cash crop and livestock

RGoB : Royal Government of Bhutan

Thram : Land title certificate issued to landowner

Tshogpa: Elected head of a village

UNDP : United Nations Development Program

Yula : A climbing bamboo, Neomiocrocalamus andropogonifolius.

EXECUTIVE SUMMARY

This documentation of "Best Practices for the Project for Enhancing Rural Income and Livelihoods through Sustainable Agricultural Development and Micro-enterprise in Bhutan" was funded by Poverty Thematic Trust Fund, United Nations Development Program.

The Project has made a great progess in one year. It is hitting the bull's eye in poverty alleviation through improving the living conditions by renovating existing houses or constructing new houses and by building income generating assets in Lamtang in Goshing *Geog* in Zhemgang *Dzongkhag* and Pam-Chaibi in Gongdu *Geog* in Mongar *Dzongkhag*. Probing into its scope, planning and implementation aspects, the following approach and associated operational parameters are seen as the best practices that influenced the successes of the Project.

The primary reason for the success and sustainability of the Project is its integrated approach to uplift the socio-economic standard of the poverty villages. The approach consists of improving physical living conditions, building assets for income generation through improved agricultural production and supplementing nutritional intake of the target communities. The following operation parameters have supported the successful implementation of this integrated approach.

- The Project has the right institutional context. Involvement of Gross National Happiness Commission Secretariat in planning stage provided an added strength to *Dzongkhag* staff to implement field activities. The partnership between the Foundation and MoAF capitalized on the strength of each other. The continuous presence of field staff of the Foundation in Project sites facilitated field activities to take off and to complete. And involving local governments in planning and implementation phases secured the technical and administrative support required.
- The strategy to improve the living environment through renovation or construction of new houses has served as the most positive catalyst to participate in the Project activities.
- The introduction of productive activities has served or will contribute to the purposes of reducing poverty through enhancing agricultural productivity, enhanced income and better nutrition. Vegetables are abundant in the villages this is one of the most concrete impacts so far. The villages also planted orange, arecanut and mango for earning cash income. Productive activities also included supply of improved livestock breeds backed up by training to the villagers.
- The Project works are being carried out through participatory, culture based, gender sensitive and environmentally sound targeted approach to community development. Participation is both at individual household and community level. The strategy of pooling labour has ensured availability of labour force for female headed-households.
- The strategy to give cash loan, carpenter and mason and fuel allowance for power chain saw provided the pre-requisite facilities and skills that are otherwise not available locally.
- Mobilization of communities into groups for various micro-enterprtises, such as poultry groups and rural handicraft groups, are being initiated.

At this juncture when the Project is approaching its planned end, there are few areas of concern that need the attention of the Project authority. Firstly, piglet, chickens and Jersey cows has not

taken place as yet. Another pending activity is the construction of work shed in Pam-Chaibi and work site and weaving centre in Lamtang. Secondly, there are both female and male-headed households in Lamtang who live from hand to mouth and there is simply no source of income for them. This is the most serious constraint and the main reason for delaying the construction of their houses. Additional assistance is the only way out to help these poorest households. Thirdly, the batteries of alarm fences are exhausted usually after 15 days of use. Supplying of solar panels to Lamtang for recharging batteries may be considered in order to make maximum use of the alarm fences during crop seasons. Fourthly, there is shortage of water to sustain vegetable production throughout the year in Pam-Chaibi for which adequate and perennial supply of water may be considered. And lastly, in order to take the good works of the Project to their finishing line, constant monitoring is recommended till the last day to ensure that the on-going house construction and supply of piglets, chickens and Jersey cows are accomplished as planned.

The Project has generated the following lessons that are worth scaling-up and replicating in planning and implementation of similar poverty alleviation projects in similar socio-economic setting and physical conditions of Pam-Chaibi and Lamtang.

- The Foundation has proved that an NGO can contribute to poverty alleviation if it is given financial resources and twined with right government organization.
- A project on poverty alleviation is readily accepted if it has those activities that address the basic needs of target communities. Improving the living conditions through renovation or construction of new houses serves as the most positive catalyst for the villages to participate also in other planned activities.
- A project on poverty alleviation with house construction component requires a minimum of three years: first year for detailed planning and preparing necessary ground works including identification of source of timber; second for actual implementation mainly timber sawing, transportation and seasoning, construction of houses by the groups, establishment of vegetable and cash crop gardens, and supply of improved livestock; and third year for wrapping up all field activities and preparing the withdrawal of project.
- Based on the edge Pam-Chaibi had over Lamtang due to its less household number, the
 project site should have manageable target households. Target community like that of
 Lamtang with almost 40 households should be considered an upper limit when choosing
 project site with duration of three years.
- Stationing a field staff in project site provides the required inertia to take off and complete field activities through on-site supervision and working together with the villages and serves as a conduit between the implementing authority and project sites.
- A laptop is suggested for field staff of the Foundation for storage of associated data, maintenance of work plans, monthly updating of progress on field activities, preparation of progress reports in addition to other related administrative matters.
- Additional assistance for timber sawing by the carpenter employed by the Foundation is recommended for the poorest households in target communities so as to bring them at same living conditions as others.
- Provision of carpenter, mason, loan and enhanced fuel allowance is recommended for replication since these are locally not available. Also, a crash course for few selected catalytic people on operation of power chain saw and skill development in carpentry and masonry works will facilitate timely construction of houses.

1. INTRODUCTION

1.1 Background

A key goal of the Royal Government of Bhutan (RGoB) in the 10th Five Year Plan from 2008-2013 is to reduce the percentage of Bhutanese people living below the poverty line from 23 percent in 2008 to 15 percent in 2013. The main strategy to attain the reduction is to break the cycle of poverty engendered by subsistence farming and low agricultural yields. Consequently, the RGoB launched a new initiative called the Rural Economy Advancement Program (REAP) as a targeted poverty intervention program in the 10th FYP. REAP aims identifying sections of population who have not benefited much from the broad based poverty reduction interventions and for whom special programs needs to be implemented to accelerate poverty reduction during the plan period.

One of the initiatives under REAP is the project "Enhancing Rural Income and Livelihoods through Sustainable Agricultural Development and Micro-enterprise in Bhutan" (Project) which is jointly funded by Poverty Environment Initiative (PEI) and Poverty Thematic Trust Fund (PTTF) with US\$ 267,550. PEI is co-funded by United Nations Development Program (UNDP) and United Nations Environment Program (UNEP) and PTTF by UNDP. The Project is coordinated by the Planning and Policy Division of Ministry of Agriculture and Forests (MoAF) and Tarayana Foundation (Foundation), and implemented together with the concerned Dzongkhag administration. The field activities were implemented on the ground from January 2010 and the Project is expected to continue until the end of December 2010.

The Project is to undertake key interventions to enhance rural income and improve living conditions. The Project sites are Pam-Chaibi in Gongdu *Geog* of Mongar *Dzongkhag* and Lamtang in Goshing *Geog* of Zhemgang *Dzongkhag*. While these *Geogs* are below poverty line as per Poverty Assessment, 2004, the two villages are among the poorest *Chiwogs*. There are 18 households with 270 people in Pam-Chaibi and 42 households with 486 people in Lamtang. The living conditions are manifested in extremely poor dwelling houses and seasonal food shortage and low level of nutritional intake. Both the villages are accessible only by 2-day strenuous walk.

This documentation on the best practices that have contributed to the positive outputs has been commissioned by UNDP as the Project is nearing its completion by December 2010.

1.2 Project Objectives and Components

1.2.1 Project Objective

The Project aims to alleviate poverty in at least two remote villages through the provision of targeted poverty reduction interventions aimed at enhancing agricultural productivity, creation of employment and income generation opportunities through skill development, improved post

harvest technologies and infrastructure, and increased access to micro-credit schemes and markets. Interventions will also contribute to improved access to education and better nutrition.

1.2.2 Project Components

The two key components of the Project are listed below.

Component 1: Increasing Agricultural Productivity

The Project will aim to increase agricultural productivity by providing rural farmers with access to production inputs, and improved agricultural knowledge including sustainable land management and other agronomic practices. This will be achieved through the provision of technical backstopping for farmers' skills; field demonstrations on improved agricultural practices such improved seeds, micro-nutrients, integrated pest management, organic farming techniques, and improved home gardens; and access to improved post harvest facilities.

To achieve this, the Project will work closely with MoAF for trainings in food processing and post harvest technologies, and for trainings in home garden and organic vegetable productions.

Agricultural Extension Staff will provide technical backstopping in the organization of farmers' trainings and field schools, and facilitation of the linkages with the external partners supporting the communities. This component will be implemented by MoAF in partnership with the Foundation and in collaboration with the Bhutan Development Finance Corporation Ltd.

Intended outputs:

Output 1: Increased agricultural productivity and diversification for food security.

Component 2: Enhancing Rural Income Generating Activities

The Project will explore prospects and opportunities for enhancing income of the targeted communities through creating employment opportunities. This would entail establishing micro enterprises to optimize the potential of the targeted communities through processing and value addition of primary products informed by available market research and demonstrated examples of agricultural and non-agricultural based micro enterprises. The Project will also support local development initiatives through skill development training, access to micro-finance schemes and markets. Wherever techno-economically feasible the Project will extend support to the local artisans to promote local arts and crafts. Alternative and innovative funding mechanisms to support skill development activities and rural enterprise development shall also be explored outside the scope of the Project.

Support under this component will also include the promotion of and strengthening of farmers' self help groups/associations/cooperatives. In addition to promoting the collective bargaining power of the groups and facilitating access to services, the formation of such groups will enhance sustainability and replicability of community development activities.

The component will be implemented by the Foundation and MoAF. The Ministry of Economic Affairs and the Bhutan Development Finance Corporation Ltd would be the likely collaborating partners.

Intended outputs:

- Output 2: Employment and income generation opportunities increased through the establishment of micro and small business units;
- Output 3: Capacity of the targeted communities, including women strengthened through training and group formation; and
- Output 4: Monitoring mechanism and database of community support activities established and awareness of targeted community development increased through documentation, advocacy and information sharing.

1.2.3 Objective of the Study

The objective of this Study is to document the best practices followed by the Project in planning and implementation of the Project and to suggest ways and system for replication of these good practices at a larger level. The Study is also expected to bring out lessons learned which could be shared widely among the stakeholders for replication by other similar interventions. Given these core findings, the Study is, if any, to recommend follow up activities by focusing on the role of stakeholders in supporting the vulnerable population and promoting gender equality to ensure sustainability and sustained progress.

1.3 Study methodology

Although it is not evaluation, the documentation process is founded on the assessment of the Project rationale, implementation arrangement and core field activities as against the outputs and their probable impact in the two target villages. The documentation process was timed in December 2010 in order to coincide it with the last month of the Project.

The process started with a desk review of Project document and progress reports and a series of consultative discussions with Gross National Happiness Commission Secretariat (GNHCS), Foundation, MoAF and UNDP. This desk review provided an insight into the planning processes, rationale and planned activities of the Project and a bird's eye view of the field works.

The second phase of the documentation process was first-hand review of the Project's operation in the two villages. Group discussions with implementers from local government and communities (Figure 1) were held focusing on participation of the communities, role of local government machinery and Project services from the Foundation and MoAF. Discussion focused on the outputs achieved and factors influencing the Project's progress. *Dzongkhags* staff included *Dzongkhag* Livestock Officer (DLO), *Dzongkhag* Agriculture Officer (DAO) and *Dzongkhag* Forestry Officer (DzFO) and *Gup*, *Tshogpa* and *Geog* RNR staff including Agriculture Extension Officer (AEO). Detailed discussions followed up with few households to capture different activities implemented and observe immediate impact at household level. Discussions were held with the field staff of the Foundation. Photographs of assets created that showcase the high level of achievements found during the field visits are included in this report.



Figure 1: Group discussions with benefiting communities in Pam-Chaibi village in Gongdu *Geog* of Mongar *Dzongkhag* (top) and Lamtang village in Goshing *Geog* of Zhemgang *Dzongkhag*.

2. OVERVIEW OF PROJECT PERFORMANCES

2.1 Planned activities and their progresses

The Project covers 18 households with 270 people in Pam-Chaibi and 42 households with 486 people in Lamtang. The Project activities have been or are being implemented as planned. An overview of the core planned activities and their progress is provided in Table 1 followed by visual presentation of concrete outputs achieved under the four expected outputs of the Project.

Table 1: An overview of core planned activities and their progresses

		Outputs observable			
Core planned activities		^			
	Pam-Chaibi, Gongdu Geog, Mongar Dzongkhag				
1.	Introduction of high yielding varieties (maize, vegetables, legumes incl beans, fruits) - including on-farm framers' training for each type of crop production and management. Digital camera for reporting: <i>Geog</i> RNR office.	18 vegetable gardens established and are in full use. 20 mango seedlings planted by each of 10 households on <i>Kamzhing</i> . Introduced wheat in two plots on trail basis. On-farm training on wheat in 2 plots. Training on vegetable gardening and compost making			
2.	Demonstration/field attachment for agricultural production and producing organic fertiliser	Conducted training on compost making. 18 compost sheds established and are in use.			
3.	Greenhouse for citrus nursery establishment	2 green houses established from where vegetable seedlings were supplied to all households. The green houses are also being used to raise citrus seedlings.			
4.	Post harvest technologies for storing and processing of surplus produce- 10 nos. of Silos	Silo bins supplied and farmers trained in their use. Silos are expected to be used in 2011.			
5.	Enterprise development/group formation (production, post production and processing)	The construction of work shed has been started. Artisans, weaving and carpentry works can be conducted in the work shed.			
6.	Skills development training	Trained in use of silo bins and greenhouse, poultry rearing.			
7.	Access to Micro credit	Loan provided to one person to buy power chain saw. 3 applications are being approved.			
8.	Support for marketing agro products and facilitating sales of artisan products	2 artisans participated in trade fair in Delhi and earned Nu. 46,000 from sale of cane and bamboo products.			
9.	Inventory of NWFP resources under the two villages (115 acre)	Based on NWFP inventory 284 Ac. of community forest has been handed over to the community.			
10.	Establishment of Forest Nursery	Forestry nursery has been established.			
11.	Breed improvement: 1 mithun bull; 1 Jersey cow each for 21 hh.	Supply of Jersey cow to each household under process.			
12.	Supply of piglets: 10 hh with improved sheds (20 nos.)	18 piglets supplied and are being fattened. Constructed improved sheds.			
13.	Supply of donkey stallion: 1 no.	The planned donkey supplied			
14.	Livestock management training to farmers	Conducted the training.			
15.	Improve health, sanitation & education (Pit latrine for 25 hh & awareness raising)	Conducted awareness campaign on public sanitation. 18 garbage pits dug and are under use. Pit latrines are under construction.			
16.	Supply of CGI sheet for roofing (25 hh): 1140 pieces including for latrines	CGI sheet supplied to all target households. 4 houses renovated, 11 new houses have been constructed, and 3 new houses are under construction with the aim of completing them by December 2010. Each hamlet of Gorthongla, Pam and Chaibi			
		has one group formed for construction of new houses.			

	Core planned activities	Outputs observable
	_	ing Geog, Zhemgang Dzongkhag
1.	Introduction of high yielding varieties: Vegetables (radish, cabbage, Kidney beans cauliflower, ginger).	40 vegetable gardens established and are in full use. Gingers being cultivated. Polythene pipes and watering can supplied. Each of 40 households supplied with 40 orange seedlings, 10 arecanut and 5 guava seedlings on <i>Kamzhing</i> . Supplied polythene pipes for kitchen gardening.
2.	Capacity building of farmers on organic farming/ home gardening/producing organic fertilizer/managing wastes/ post harvest/using of silos	40 compost sheds have been established and are in use. 8-member farmers' study tour conducted. Communities trained in the use of silo bins. Six members trained in basic hair cutting. Training conducted on vegetable production and plantation of orange.
3.	Support to access markets	A mechanism to sell clothes and handicrafts through Rural Craft Outlet in Thimphu established. About Nu. 25,000 already earned by the communities. Communities will sell their products in annual Tarayana Trade Fair regularly.
4.	Post harvest technologies for storing and processing of surplus produce research required (supply of Silos)	40 silo bins supplied and are expected to be used in 2011. Farmers trained in the use of silos.
5.	Introduce methods to reduce crop damage from wild animals	10 alarming fences to drive away wild animals from crop fields distributed and are in use
6.	Enterprise development/ group formation (production, post production and processing) incl one women's group.	2 poultry groups formed. 1 chilli group with female members formed. 1 weaving group with 25 female members established. Banana group with 15 female members and Tapioca group with 20 members including female members established. Cane and bamboo group with 25 members including female members established and earned Nu.10,000 already. A saving group with 25 members formed and Nu.22,000 already collected from the members. This capital fund is available as loan to members as well as other people in the village. Supplied 2 sets of sewing machines.
7.	Skills development training on carpentry and masonry	10 people trained in carpentry and 20 trained in masonry. 15 people trained in the operation of power chain saw. 5 people trained in tailoring. 4 people trained in hair-cutting.
8.	Housing improvement with ecofriendly design (Toilets will be supported by RGOB)	12 new houses constructed. 8 houses are under construction with the aim of completing them by December 2010. Materials for construction of remaining 20 houses are being collected.
9.	Access to Micro credit	Loan provided to one person to buy power chain saw. 10 more applications are approved ranging from Nu. 10,000 to Nu.1,00,000 to purchase maize grinding machines and power chain saws.
10.	Support for marketing agro products and facilitating sales of artisan products	10 sets of handicraft tools supplied. Provided training on improvement of the quality of handicrafts.
11.	Support for development of common facility centre: Supply of CGI sheet.	CGI sheets supplied. Community centre under construction for use by self-help groups.
	Improve health, sanitation & education: Awareness programs	In collaboration with local health and education staff, awareness campaign on public sanitation conducted. Garbage pits are dugs and latrines are constructed.
13.	Support on plantation, harvesting and mgt of bamboo	Work under progress; management going on within traditional boundary of Lamtang.
	Resource mapping of potential NWFPs	Resource mapping is on-going.
	Poultry	2 poultry sheds constructed. Feeds and watering cans supplied. Supply of poultry bird under process.
	Piggery including sheds and transportation	42 pigsties are built. Supply of piglets under process.
17.	Capacity building in farming and marketing livestock products	Training in poultry management provided

2.2 Highlights of achievements, Pam-Chaibi village, Gongdu Geog, Mongar Dzongkhag.



Figure 2: Two greenhouses established in Pam and Chaibi to raise cash crop and vegetable seedlings. Successfully managed by the community leaders, the first greenhouse supplies seedlings to Pam community and the second one caters to the needs of Chaibi and Gorthongla communities. People are well trained in nursery management. *Tshogpa* Leki Tsering is in charge of the greenhouses.



Figure 3: Crop diversification by adding wheat in maize-dominant Pam-Chaibi village. There are two plots where wheat has been cultivated on trial. The crop is healthy although sowing took place in late summer. About 30 kg of wheat seed is expected from this field.



Figure 4: Fencing mango saplings in Pam and a healthy litchi in home garden in Chaibi. Supplied by the Project, mango and litchi will supplement the cash income of households. Training on orchard management has been provided to the communities.



Figure 5: Another crop diversification that has changed local social culture from conventional vegetable of pumpkins and wild forest products to different vegetables from kitchen garden in Pam-Chaibi village. Beans, chilli, radish, cabbage and other leafy vegetables are found in every kitchen garden. Each household has a vegetable garden.



Figure 6: Compost making to maintain soil fertility and modern grain storage facility to reduce post-harvest loss – both new social culture - have been introduced in Pam-Chaibi village. Appropriate skills in these facilities are already available in the village. While few households have started storing maize on trial basis, all households will store their maize in the silo bins from next year. The lady in the picture has attended training in post harvest, farming and participated in farmers' study tour.



Figure 7: *Phaju* of Pam-Chaibi benefited from the Project. As he is performing religious rituals most of the time, he is not able to attend to the welfare of his family which includes two blind sons and one blind daughter. Back from school on winter vacation, his normal son (inset) experienced a pleasant surprise to find a new home. The student also found himself joyfully staring at greenhouse in his village for sustained supply of vegetable seeds and cash crop seedlings.

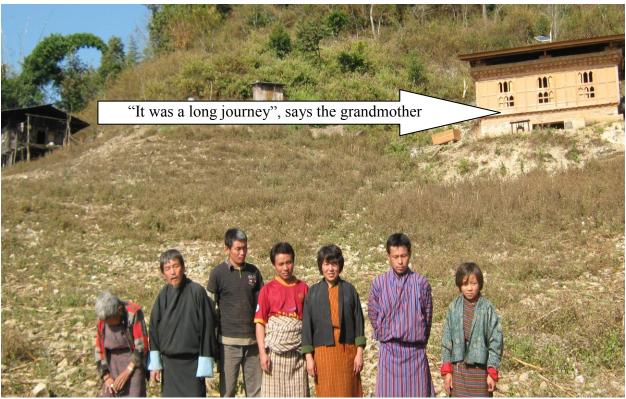


Figure 8: A family that took 4 generations to have a decent house. Yeshey Namgay (second from left) says that the Project has been an eye-opener to development and proudly says that he now has a better place to live in. He thanks Her Majesty Ashi Dorji Wangmo Wangchuck and prays for Her Majesty's long life.



Figure 9: A new household with attached kitchen garden and pigsty. The resident couple no longer frequent forests in search of bamboo shoots and mushrooms. They have enough and fresh vegetables from the garden. The vegetable garden is fenced with local materials. Each week, the household consumes vegetables worth of Nu. 300.



Figure 10: A new home for the couple (centre) flanked by disabled sister and brother. They grow green vegetables and beans. Now we buy only salt, dried fish and oil, say the couple. They have also planted few mango saplings.



Figure 11: Chaibi's female-headed household with new house and sustained source of vegetable from a well looked after kitchen garden. In her simple way of appreciating the Project, Sonam Pezom says her son is now healthy unlike in the past when he used to fall sick frequently. She will paint her house soon. The household consumes vegetables worth Nu. 250 in a week.



Figure 12: Two disabled brothers have been provided with a new house. The house was constructed by the local community and the two brothers are under the social care of the community as well.



Figure 13: All smile for young mother who will have a new house by 2010 end for her 2 children and husband who most of the time earns livelihoods through casual labour. She does not want to remember the life of poverty in this ramshackle hut. She has planted litchi and mango supplied by the Project and also has a small kitchen garden.



Figure 14: This half-blind mother of 2 children and her blind sister will share a new house soon with other members of the family. Unlike in the past when they were idle most of the time, the sisters now help their mother in maintaining kitchen garden and feeding the pig supplied by the Project. The husband of half-blind sister earns income from casual labour.



Figure 15: A widow with 2 children has a renewed hope in life. Foundation for her new house has been dug and construction materials collected. Her family has a kitchen garden, 2 pigs, and poultry and has ventured into trial cultivation of wheat. She will also get a Jersey cow within December 2010. Her family plucks vegetables from the kitchen garden and she estimates, and her neighbors agree, that vegetables worth Nu. 400 are consumed weekly.



Figure 16: Keeping environment clean - Garbage pits in use and pit toilet under construction are common sights in Pam-Chaibi village. Awareness campaigns were conducted with the help of local health and education staff on sanitation. Each household has a garbage pit and there are also such pits at strategic locations along footpath. The village is clean and one can hardly come across any human feces and litter in open ground.



Figures 17: Assets for generating income. With the aim of increasing horse population for use as pack animals since the village is far from nearest motor road head, the Project-supplied the donkey is hale and hearty. Colourful *Bangchus* keep women folk busy.



Figure 18: Goose berry (locally known as *Amla*) in the community forestry of Pam-Chaibi. The community earned Nu. 6000 from the first sale of about 150 kg of *Amla*. The income from this forest resource will be deposited in saving account of the community. This saving account is another factor that brings and keeps the community intact.



Figure 19: Forest nursery for raising plant seedlings and the site for construction of work shed for handicraft making and learning. The materials for work shed construction for use by community artisans have been collected. Due to work overload, the construction is on hold for time being.



Figure 20: Bird's eye view of Miden (left) and Gongdu which are also poverty ridden villages and are potential for scaling up of the Project.

2.3 Highlights of achievements, Lamtang village, Goshing Geog, Zhemgang Dzongkhag.



Figure 21: Students on vacation helping their households to clear bushes from orange garden. Their parents could not tend to the orange garden due to overload of works. With the aim of creating assets for income generation, the Project distributed orange and arecanut seedlings to all households. A recently planted healthy arecanut plantation (right).



Figure 22: Every household has constructed pigsty with CGI sheets supplied by the Project. All households in the village are divided into two poultry rearing groups; each group has constructed its own poultry shed (right). The group members were given training in poultry management. Piglets and chickens are yet to be supplied by Project.



Figure 23: Each poultry group has received feeds and feeding troughs. These inputs are stored in the poultry sheds.



Figure 24: Kitchen gardens with garlic, radish, chilli and green vegetables are established with the seeds supplied by the Project. The village is self-sufficient and produces its own vegetable requirements with skills and knowledge provided by the Project.



Figure 25: Scarcecrow and guarding by field owners in person are conventional methods of protecting crops from wild animals. It is ironical, as compelled by fact of life, that the old woman is guarding the fields instead of spending her old-age in prayers.



Figure 26: Alarm fences are alternative means of guarding crops from wild animals. 10 of these alarm fences have been distributed by the Project. These fences are in full use. The couple reported an additional 120 kg of maize this year due to the effect of the alarm fence that scared away the animals from entering maize fields.



Figure 27: The traditional method of storing maize (left) will be replaced by modern method of storing in silo bins thereby reducing post-harvest losses beginning from 2011. Every household has been supplied with one silo bin by the Project.



Figure 28: A middle-aged couple with five kids has a new house. In the words of Mr. Choeda, his old house (left) is "date fail". Note the two props supporting the old house from falling apart. The family has planted orange and mango seedlings supplied by the Project. With good house, the couple is now enthusiastic in using their land resources for income generation.



Figure 29: Tshering Pedon was deeply overjoyed to find a new home when she returned to her village on winter vacation from Sonamthang High School. She says, "I have a good reason to be all smile. My family has a comfortable life in the newly constructed house. There will be no more leaking roof and fire hazard". Her mother is the member of weaving; income from weaving will give her the opportunity to pursue higher eduaciton.



Figure 30: New house almost completed and with a kitchen garden with fresh vegetables, Mr. Tashi Wangchuk is a content man. The construction would have been completed but he wants to continue with an additional storey on his own expense. Mr. Wangchuk estimates that his family consumes vegetables worth Nu.450 in a week from his new kitchen garden. Watering can and polythene pipe were also supplied by the Project. He is chairperson of housing group. He says that this social responsibility is a recognition and privilege for him to work for the social welfare.



Figure 31: Another house almost under completion.



Figure 32: Community labour contribution in building new houses (left). Tashi Tsomo (inset), a student in Sonamthang High School, said that her birth place of Lamtang is in the process of reincarnating into a new Lamtang.



Figure 33: Aap Thinlay, who has 5 children, has construction materials for his new house ready and has also constructed pigsty, established kitchen garden and planted arecanut seedlings. He says that he will store maize in his silo bin next year. He received training on vegetable gardening and earned income from sale of artisan products through Rural Craft Outlet in Thimphu. He is chairman of handicraft group.



Figure 34: Aap Wangchuk has all the materials for construction of new house at construction site. He is confident to have a new house in January 2011 with the help of his children on vacation from school in addition to community labour.



Figure 35: The only power chain saw in the village owned by Mr. Phurpa Wangchuk. It was bought with loan from the Foundation and is used in sawing timber for construction of new houses. He is spreading skills to his fellow friends in the use of power chain saw.



Figure 36: Project-supplied CGI sheets are temporarily used in original huts. Before the arrival of CGI sheets, the members grouped and protected themselves from dripping rain from banana leaf roof by covering themselves with cow hide.



Figure 37: Enough to eat from her land but has no source of income to construct new house. Currently she and her family dwell in a hut roofed with CGI supplied by the Project. She has a well-protected kitchen garden from where fresh and enough vegetables are collected daily.



Figure 38: A family inside its dilapidated hut with transparent bamboo railings. A mother of two children (extreme left) prays for a new house while her son cannot negotiate the fragile worn-out door steps. The family now produces its own vegetables and food; the Foundation is also helping the family with construction of new house "which will have a good window through which the family will proudly look out at the world" said the mother of the children. The family estimates that it consumes about Nu.300 worth of vegetables from its new kitchen garden. Like other households, the family planted oranges, arecanut and mango seedlings on *Kamzhing*.



Figure 39: Last hut planned to be dismantled and replaced with a new house for Aum Gremo, a widow with 3 children and one of the village's poorest. She has no source of income; the Foundation provided financial help in sawing timber for her house construction. She is happy that her children will have a decent place to grow and will have chance to go to school like other children in the village.

2.4 Overall observations.

Within a short duration of one year, the Project has been able to attain a high level of achievement. In Pam-Chaibi village, 4 houses have been renovated, 11 new houses have been completed and 3 new houses are under construction. Activities on the remaining renovation and new construction are in full swing. In case of Lamtang, all 4 target households have renovated their roofs with CGI sheets supplied by the Project and 12 new houses have been completed. 8 houses are under construction and stones and timber are being collected for construction of the remaining 20 houses. The outputs from other planned activities can be seen in the form of vegetable gardens, establishment of cash crop gardens, construction of garbage and toilet pits, construction of pigsties, poultry and cowsheds, establishment of greenhouses and forest nursery, and capacity building in the field of agriculture, livestock and forestry-related works. In fact, all those activities that are within the capacity of households as determined by primarily by own labour have been successfully completed.

There are four primary reasons for this difference. Firstly, Pam-Chaibi village has a manageable number of target households. Secondly, most of the houses in Pam-Chaibi village has no problem of temporation scheme and there are few new houses. Thirdly, Pam-Chaibi village has no problem of timber since the source was already identified in planning phase and is close to the village. Lastly, the cost of sawing of timber is only Nu.50 per cubic feet after waiving off Nu. 30 since the power chain saw was bought on loan from the Foundation. It is also not necessary to pay cash down which adds to temporary affordability by poor household. On the other hand, the situation is just the opposite in Lamtang. Lamtang has a large target of 40 households and almost all houses are planned to be dismantled and new houses constructed. The village has to transport timber from long distant sources and the cost of sawing of timber is Nu.120 per cubic feet. The cost of sawing timber is the most constraining factor for the households in Lamtang.

In spite of the severe competition for limited labour required for other various development programs, the fact that the Project villages are reachable by 2-day strenuous walk from nearest road points and the duration was only one year to "implement GNH" in the words of one field staff of the Foundation, the Project has made a remarkable progress and the neighbouring villages, such as Gongdu and Miden, have all the reasons to be jealous.

The financial resource for the Project is only US\$ 267,550. When considering the progress made and the subsequent impacts on improving the living conditions of the target communities, the fund served its purpose as a catalytic fund. It has been used most effectively. The supervision from UNDP, including the visits to the Project sites, has facilitated the implementation of Project activities (Figure 40).



Figure 40: Ms. Fumie Arimuza, Poverty Analyst, UNDP-Bhutan, during her monitoring visit in Lamtang, Goshing *Geog*. Note the cane and bamboo products on display by cane and bamboo self-help group; these products are destined for Rural Craft Outlet in Thimphu.

3. BEST PRACTICES ADOPTED BY THE PROJECT

Probing into the scope, planning and implementation processes of the Project, the following features have been identified as the best practices that resulted in the successful implementation of the field activities that are already alleviating poverty in the two villages.

3.1 Integrated approach

The primary reason for successful implementation is the overriding unique feature of the Project - its integrated approach to uplift the socio-economic standard of the poorest villages in poverty *Geogs*. As precisely worded by a field staff, the Project is "implementing GNH" by providing basic needs and building assets for income generation. As such, the Project is hitting the bull's eye at poverty alleviation by producing outputs that have immediate and tangible improvements in people's living conditions even within a short duration of one year. The associated operational parameters of the Project that are collectively meeting the objectives of improving physical living condition, increasing assets for income generation and improving agricultural production and nutrition are highlighted below.

3.1.1 Intimate involvement of GNHCS.

GNHCS have identified Pam-Chaibi and Lamtang as poverty ridden villages and passed an executive decision to implement immediate interventions. These involvement and subsequent decision to intervene in the two villages from the highest planning and donor coordination agency are of particular interest to implement poverty reduction interventions for extremely remote and un-reached communities and to ensure availability of fund for poverty reduction interventions external to mainstream 10th FYP. Moreover, the involvement of GNHCS provides an added strength to *Dzongkhag* staff to implement the Project.

3.1.2 Involvement of local government

The planning and implementation of the Project involved the relevant staff from the local government. *Gup* and other local community leaders and *Dzongkhag* RNR staff were involved in planning for the villages along with the GNHCS staff. The *Gup* of Gongdu *Geog* is well informed of the activities implemented by the Project. Their participation has ensured timely release of inputs and coordination of training for carefully selected male and female catalysts in various skills, group dynamics, participation and problem solving to guide the small farmers. The involvement of the staff form the local government has proved that it is important to establish strong stakeholders' sense of ownership for effective support and participation when implementing programs that are external to mainstream local plans.

3.1.3 Implementing through partnership.

The institutional partnership between the Foundation and MoAF has capitalized on the strength of each other. The Foundation concentrated on social aspects mainly in improving the living conditions through provision of dwelling houses, mobilization of labour for common benefits of

target communities, and capacity building in local craft works. The fact that the Project is partnered by the Foundation gives a special royal touch that generates keen interest and privilege to local communities to participate. The matching technical expertise and experiences in the field of vegetable gardening, crop diversification, livestock improvement and establishment of greenhouses came from MoAF, *Dzongkhags* and *Geogs*.

3.1.4 Posting field staff

The practice of appointing and stationing field staff by the Foundation has provided the required inertia and on-site supervision of field activities. There are two obvious advantages of having such field staff. The first advantage is continuous contact and working together with the villages. They constantly remind the villages of work they have to undertake and assist them in mobilizing local work force. They even give helping hand and work with the villagers. The communities of Pam-Chaibi village find their field staff more useful and approachable since he is one of their own as he is from the region. The other advantage is serving as a conduit between the Foundation and the Project villages for speedy problem solving and information sharing.

3.1.5 Provision of dwelling houses

In the context of Bhutan, a household is considered as low *Chodrup* if the house is a hut and a house is an indispensible survival strategy for any society. From this angle, the Project's strategy to improve the living environment through construction of new houses has served as the most positive catalyst for the villages to participate in the Project activities. Creation and provision of new dwelling houses has seeded a family pride and pre-condition for advancing in life, says Aap Yeshey Namgay of Pam. The underlying observation is that participation has been almost compulsory and in the process renewed quest for further development of household economy and wellbeing has been generated by the Project.

3.1.6 Provision of productive activities

There are already signs of that the Project's introduction of productive activities has served or will serve the purposes of reducing poverty through enhancing agricultural productivity, enhanced income and better nutrition. The Project has supplied inputs that have helped the villages to build assets for income generation and to supplement nutritional intake. The culture of vegetable gardening has been introduced in the villages where it was virtually non-existent. Unlike in the past when they had to depend on pumpkin and bamboo shoots, the communities today grow and consume green vegetables, cabbage, ginger, brinjal, chilli, garlic, carrot, radish and tomatoes. There is plenty of vegetable even in the sultry and dry month of December, says Mr. Thinlay of Lamtang. The vegetables are there to stay in the villages because there will be sustained source of vegetable seeds from greenhouses in Pam-Chaibi and from kitchen gardens in Lamtang. Not only vegetable gardening, the villages have planted orange, arecanut and mango supplied by the Project. This cash crop development is of particular interest for the farmers since the Project has already anticipated that Pam-Chaibi and Lamtang will have easier access to market upon completion of Gyalpoizhing-Nanglam and Gongphu-Panbang feeder roads respectively. The introduction of vegetable gardening and cash crop development has been backed up by training of mostly women since they are at home most of the time.

3.1.7 Provision of loan and skilled labour

The provision of cash loan and skilled labour has been a significant facilitator in the current level of progress in the construction of new houses. In absence of power chain saw bought with the loan from the Foundation, the progress in house construction in both the villages would have been slow. The fuel allowance for power chain saw provided by the Project to each household reduced the overall overhead cost of sawing timber. In a village like Lamtang where there are no local skills in carpentry and masonry, the provision of carpenter and mason not only played a catalytic role in house construction but also is leaving skills behind with few young people through on-the-job training. Sangay Choedrup of Lamtang and Drakpa and Pema Wangda of Chaibi are now capable of sawing timber and other wood works.

3.1.8 Beneficiary contribution

The works of the Project are being carried out through participatory, culture based, gender sensitive and environmentally sound targeted approach to community development. There are two categories of participation. The first category of participation is at individual household level for construction of pigsty and cowshed and establishment of vegetable and cash crop gardens. The second category is labour pooling for collection of materials and construction of houses. Each hamlet of Gorthongla, Chaibi and Pam organized its own group and it constructed or renovated houses turn wise. Lamtang has four house construction groups. This strategy of pooling and contributing labour has ensured availability of labour force through compulsory participation. Another advantage of the strategy is community responsibility to benefit those households without male members. There are other groups, for example female-dominated chilli group in Lamtang and cane and bamboo group in Pam-Chaibi. The high level of participation is demonstrated by trading off today's food for tomorrow's well being by the community of Pam who did not go for full cultivation of their second maize crop since they wanted to concentrate on Project's works. The most outstanding impact of working in group is that all target household including vulnerable households are automatically pulled in the groups and are socially empowered in solving problems once they were organized into small and homogeneous groups.

3.2 Challenges in the Project villages

At this juncture when the Project is approaching its planned end, there are few areas of concern that need the attention of the Project authority including implementers in the fields.

3.2.1 Pending works

Although the villages have constructed pigsty and poultry sheds in Lamtang and cowsheds in Pam-Chaibi in Pam Chaibi, supply of piglet, chickens and Jersey cows has not taken place as yet. Another pending activity is the construction of work shed in Pam-Chaibi. Construction of work site for weaving centre in Lamtang is also not started.

3.2.2 Constraints with house construction

The construction of houses by *Chodrup* households is almost completed in Lamtang. During planning the turn for construction, low *Chodrup* households have been pushed intentionally to

the last. Few examples of these low *Chodrup* households are female-headed households of Mrs. Rinchen Gremo, Mrs. Jambay who is also a widow with 5 kids and one of them epileptic, and Tsedon with a sickly and no kid and male-headed households of Mr. Nima, Mr. Peling and Mr. Wangdi who are both deaf, Mr. Pema Rinchen, Mr. Ladrup an epileptic patient and Mr. Dendup. These are the households who live from hand to mouth and there is simply no source of income for them. From landholding point of view also, most of these poorest households have agricultural land less than one acre in their *Thram*. This is the most serious constraint delaying house construction.

The other constraining factor is the total new houses to be constructed. Four groups are supposed to construct one house each in one month. At this rate, the planned construction will require one whole year even on the assumption that the groups work full time which is not true. There are other development activities going on parallel for which participation of the villages is required.

3.2.3 Recharging alarm fences

The battery of alarm fences is exhausted usually after 15 days of use. Once the battery is exhausted, the fences have to be removed and stored back in the houses. The village does not have any facility to replenish the battery. Such situation results in the under-utilization of the fences. Therefore, supply of solar panels could be considered for the village.

3.2.4 Water for kitchen garden.

Vegetable production would be increased and grown throughout the year if water is available in Pam-Chaibi. The communities fear that scarcity of water will severely affect vegetable gardening in winter; leafy vegetables are already showing withering signs.

These issues, particularly the slow pace of house construction and supply of livestock inputs, would have been planned realistically if the implementing agencies took part in planning phase of the Project. The availability of timber and capacity of the benefiting communities should have been assessed and accordingly realistic work plans followed.

3.3 Sustainability of outputs

The outputs of the Project are under the management of the individual households and community. The renovated and newly constructed houses, kitchen garden, livestock, cash crop gardens and sanitary facilities are under the use and management of individual households. The individual owners are already taking good care of these outputs since their immediate and long term benefits are obvious. Greenhouses, community forests, forest nursery and poultry sheds in Lamtang are managed by either the community leaders or groups established for such purposes. There are three indicators of sustainability of the outputs obvious in the field. Firstly, as observed in the villages, individual households are already benefiting from the outputs. Secondly, greenhouses are already supplying vegetable seeds or seedlings and forest nursery are established. The problem of lack of fodder in Pam-Chaibi for Jersey cows is expected to be solved with the supply of fodder seedlings by forest nursery for fodder production. Thirdly, the institutional capacity is established in the form of groups and community cooperation is high in the villages. Therefore, there is a high level of use and sustainability of the Project outputs.

4. FOLLOW-UP ACTIONS, LESSONS LEARNT AND CONCLUSION

4.1 Follow-up actions

The following follow-up actions are necessary in order to consolidate the on-going field activities.

- 1. On-the-spot monitoring and assistance will be critical to ensure that the on-going activities on house construction and supply of piglets, chickens and Jersey cows are accomplished. Other pending activities are construction of work sheds in Pam-Chaibi and Lamtang and weaving centre in Lamtang.
- 2. Additional assistance in the form of sawing their timber is the only way out to help the poorest households in Lamtang to construct houses who have no financial capacity at all.
- Supplying of solar panels to Lamtang for recharging batteries of alarm fences may be considered. Continuous and maximum use of alarm fences during crop seasons would increase crop harvest.
- 4. Assistance to provide water for kitchen gardens to the communities of Pam-Chaibi may be considered.
- 5. The Project could be scaled-up in neighbouring villages, such as Miden and Gongdu, where socio-economic and agro-climatic conditions are similar. The communities from these villages are well informed of the core activities, objectives, and implementation modality of the Project.

4.2 Lessons learnt

The Project has generated the following lessons that are worth for scaling up of the Project and replicating in planning and implementation of similar poverty alleviation projects in similar socio-economic setting and physical conditions of Pam-Chaibi and Lamtang.

- 1. Participation of the Foundation in the Project has proved that an NGO as a partner in rural development can contribute to poverty alleviation in a society like ours where development arena has been traditionally the responsibility of government organizations. Based on the conditional probability drawn from Pam-Chaibi and Lamtang experiences, the Foundation will be accepted by rural communities readily and it will implement poverty alleviation projects successfully if it is provided with adequate financial resources and twined in partnership with MoAF.
- 2. A project on poverty alleviation is readily accepted if it has those activities that address the basic needs of target communities. Improving the living conditions through renovation or construction of new houses serves as the most positive catalyst for the villages to participate also in other planned activities such as kitchen gardening and building assets for income generation through planting of cash crops.

- 3. Although tangible outputs and impacts can be achieved in a short duration, a project on poverty alleviation focusing particularly on improving living conditions with house construction component require a minimum of three years. The first year is required for detailed planning and preparing necessary work works including procurement and supply of power chain saw, recruiting carpenter and mason, training of selected people from the target communities, mobilizing communities into groups and processing permit for timber extraction from identified source. The second year would be required for actual implementation mainly timber sawing, transportation and seasoning, construction of houses by the groups, establishment of vegetable and cash crop gardens, and supply of improved livestock and crop diversification through cultivation of improved varieties. The third year should wrap up all pending field activities and prepare the withdrawal of project. Taking on board the views and consensus of local government in planning project life will prove to be useful in forthcoming the support from relevant local staff and authority.
- 4. Pam-Chaibi site had edge over Lamtang in work progress and management of communities since it consisted only 18 households. Based on this lesson, a project site should be of manageable size. Similar intervention in a community like Lamtang with almost 40 households should be considered an upper limit when choosing project site with duration of three years.
- 5. Stationing a field staff in project site provides the required inertia to take off and to complete field activities through on-site supervision, continuous contact and working together with the villages and serving as a conduit between the implementing authority in Thimphu and project sites for speedy problem solving and information sharing.
- 6. For easy and effective supervision and monitoring of project works, a laptop should be supplied to field staff. Laptop will be useful particularly for storage of associated data on each beneficiary household, development and maintenance of work plans, monthly updating of progress on field activities, preparation of progress reports in addition to other related administrative matters.
- 7. Additional assistance to the poorest households in the communities in the form of skilled labour for timber sawing will serve as a strategy to bring them at same level of improved living conditions as other households in the communities. During planning phase, the project planning team should identify these poorest households who will need such additional assistance to construct their new houses. The communities themselves should identify these households by applying a set of criteria set by the project planning team.
- 8. Provision for skilled labour. Provision of carpenter and mason will ensure availability of trained as well as continuity of carpentry and masonry skills. Carpenter and mason also leaves behind a group of skilled labour in target communities. If recruited from outside the target communities, carpenter and mason can concentrate on their works without any social distraction. Also, it is recommended that the carpenter be employed in providing additional assistance to poorest households sawing their timber.

- 9. Usually carpentry and masonry skills are absent in poverty ridden remote communities. It will facilitate timely construction of houses if a crash course is conducted to few selected people on operation of power chain saw and skill development in carpentry and masonry works is provided before implementation actual house construction activities.
- 10. A vigilant supervision and monitoring by the implementing authority will be required since the poverty alleviation activities generally take place in far-flung areas. Such supervision and monitoring will facilitate and ensure timely assistance and addressing of issues, such as late supply of inputs.
- 11. Fuel allowance of power chain saw is a great help and increasing it will lift the burden of the cost of timber sawing from the target individual households.
- 12. During planning phase, organize the target communities into different house construction groups.
- 13. It will ensure adequate availability and timely collection of timber if the source of timber is already identified during planning phase as in the case of Pam-Chaibi.
- 14. Supply of power chain saw to each of the house construction groups will facilitate timely timber sawing and construction of new houses. Power chain saws could be supplied either on loan on group basis or on returnable basis at the end of project duration.
- 15. Even if cash income is not immediately possible due to lack of market, kitchen gardening provides fresh and adequate vegetables if necessary inputs and skills are provided. Similarly, income generating activities can be successfully built in poverty alleviation projects if target communities are convinced of anticipated easy access to markets with completion of on-going construction of motor roads.
- 16. Given the experiences gained from the Project, it will be useful to involve the implementing agencies in planning phase of similar poverty alleviation projects for which the Foundation is seen as one of the potential implementing agencies.

4.3 Conclusion

Considering that only one year was available to implement the field activities and that the Project villages are 2-day walk from nearest motor road points, the Project already is alleviating poverty in the two villages in a sustainable way. The unique feature of the Project is that it has adopted an integrated approach to deal with poverty and applied a set of operational parameters to implement the field activities. Also, the partnership between the Foundation and MoAF has capitalized on each other's strength. Some follow-up actions are recommended that will hopefully further help in consolidating the outputs already achieved. Finally, the Project has generated lessons that would be useful in scaling up its activities in neighbouring villages of the two *Geogs* and in planning and implementing similar interventions in other poor communities to eradicate poverty from rural Bhutan.

