

Rice millers drive productivity and capacity in smallholder rice farming in Lao PDR

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This case is one of a series specifically prepared by SNV and local partners for the “Seas of Change” event, taking place in The Hague, 11-13 April 2012. The cases cover a range of commodities and approaches in value chain development across Africa, Asia and Latin America. They usually include several of the following elements: strengthening of producer organisations, productivity improvement and value addition, business development services, inclusive business ventures, contract farming, marketing arrangements and improved chain financing. The work has been done with local entrepreneurs, NGOs and government bodies. Among the international collaborative partners are: IFAD, FAO, EU, USAID, DANIDA, Helvetas and IDB. For an overview of these SNV cases please see www.snvworld.org/en/sectors/agriculture

Key features

The Enhancing Milled Rice Production in Lao PDR (EMRIP) Project has been able to develop fair trading relations between 21,361 small holder rice producers and 21 selected rice mills within 23 months of the project’s duration. The project proved a unique success due to the stimulation of co-operation between millers and farmers; millers supported farmers with inputs, extension services and better prices. In return for investing their time and money in small farmers, millers received project support, funded by SNV, Helvetas and an EU grant, to improve milling facilities and equipment. At the base of the success of the project lies a rigorous selection process which chose the most promising millers for the project. Farmer crop yields increased by 30%; income from rice increased by around 60% and millers saw improved profitability in addition to a 10 percent increase in throughputs and supply of high quality, single variety rice. Elements of the programme are now spreading (including spontaneously), especially through “miller groups”.

1. Context and background

Improved rice production is key to development and food security in the Lao PDR. While paddy rice production has increased in recent years, less attention has been paid to improving productivity both on-farm and in post-harvest handling, including milling. One kilo of paddy rice milled in the Lao PDR used to produce significantly less edible rice than in neighbouring countries. Poor quality meant lower prices and reduced profits for both millers and farmers. Production of better quality paddy rice and improved milling practices can increase the supply of rice in Lao PDR, open new distribution channels and improve the profits and livelihoods of both millers and smallholder farmers.

In 2009, due to high market potential and the possibility to increase the incomes of a large number of small holder farmers, SNV Laos piloted a small programme to promote rice production for industrial processing in conjunction with three small scale rice millers in one of the country's provinces. This specific variety of non-glutinous rice had good yields and a higher market price at that time compared to regular glutinous rice. Total demand among rice noodle factories and beer factories for non-glutinous rice was estimated at 20,000 metric tonnes (mt) per year from in Laos, which was mainly met by imports from neighbouring countries. If a substitute for this imported product could be provided, more than 6,000 small holder farmers with average land holdings of one hectare per family could benefit. Working in this value chain for about nine months, we were able to connect three rice mills with about 1,000 small holder farming households with average land holding size of one hectare per family. The income of both the small holder farmers and the rice millers increased as a result of the programme. With the provision of good quality inputs (seeds and fertiliser), extension services and cash advances from the millers, the farmers were able to significantly increase rice yields and incomes from rice production. The rice miller group formed during this period was able to jointly access institutional markets such as Beer Lao, the World Food Programme and large rice exporters.

The European Union call for food facility in rapid response to soaring food prices in developing countries programme in 2009 was a good opportunity to up-scale the rice programme. SNV being mainly an advisory organisation sought for a likeminded partner organisation with a similar experience in rice sector as well as project management experience to apply for this funding. SNV decided to partner with Helvetas due to their past experience in working with private rice mills in promoting organic rice, and a good track record in project management. SNV in partnership with Helvetas successfully received funding from this facility. Helvetas is a lead applicant managing the project and SNV provided joint technical assistance with Helvetas in implementing the programme. The Department of Agriculture is the key local implementing partner of the programme. The total budget of the project for 23 months duration (January 2010 to November 2011) was €2.3 million; 90 per cent of which was funded by the EU Food Facility, with Helvetas and SNV providing the remaining 10 per cent. The rice programme has been expanded to six provinces with some new elements, most notably, a value chain co-investment fund for milling facility improvement and public policy dialogues to address constraints in the rice sector.

2. Underlying business model

The project activities mainly focused on improving the capacity of millers as an entry point in establishing and strengthening fair trading linkages with the small holder farmers and improving post-harvest handling and processing. In addition, the project also facilitated the creation of an enabling policy environment through regular public-private dialogues. The following is a summary of the business model.

Socially committed and capable millers were selected as engines of the project through a rigorous selection process. Criteria used to aid the selection of millers were, among others, a substantial capacity to support smallholders, and a reputation as trusted and honest players.

The selection of socially committed millers and the creation of competition between them were crucial to the project's successful implementation. Millers had to compete with each other in order to be selected by the programme, which stimulated millers to 'put their best foot forward', thereby improving the quality of the programme. One miller was underperforming according to the programme criteria, and was given an initial warning about his performance. When his performance failed to improve, he was suspended from the programme. This miller was then replaced by two other rice millers. These new millers were selected to participate in the programme through an abbreviated selection process, while local government and project staff invested their time to train them and get them on track.

The project helped the selected millers to develop an Inclusive Business Plan, which described the necessary steps to increase productivity, and supported farmers in producing high-quality paddy rice. Prior to the project intervention, the farmers did not have proper access to quality seed and needed to negotiate prices for their harvest individually with different traders due to the absence of farmer groups. In addition, extension services were poor; these should have been provided by government extension officers, but they were underpaid and did not have the means, including such basic shortages as petrol for their motorbikes, to visit the farmers. This is why the millers implemented the formation of farmer groups together with SNV. Millers received training and advice on forming and strengthening farmer groups, input provision, and business management skills. They also improved extension services by collaborating with the government extension officers, and paying officers a better day rate than the government did. This enabled them to expand their traditional trading role to incorporate the provision of seed, fertiliser and extension services based on production agreements with their farmer groups. It has resulted in a steady supply of high-quality paddy rice, along with higher revenues for farmers and millers.

A co-investment fund helped millers to upgrade their equipment and improve rice production and post-harvest handling, which contributed to increased recovery of milled rice. Regular consultation between millers and farmers and flexible needs-based interventions enabled trust and fair trading relations. A small, but significant, intervention was millers helping to purchase communal weighing scales and facilitate their certification by government authorities to foster transparency and avoid cheating by either traders or farmers.

Each miller now has the capacity to support 1,000 smallholder farming households and to stimulate self-organisation. Farmer groups are better able to make informed decisions, share learning, and negotiate.

The project works closely with provincial agriculture and forestry offices, the departments of industry and commerce, and the private sector in improving policy and regulatory conditions in the rice sector. Government agencies have increasingly realised the value of alignment with the private sector in policy consultation. In Bolikhamxay Province, for example, the government exempted fertilisers from import taxes as an additional incentive for millers to work with smallholder farmers. The provincial authority has supported millers by officially approving miller groups in line with government policy. The Ministry of Agriculture and Forestry is receiving support from the World Bank and FAO to develop a national rice strategy utilising the successful experiences derived from EMRIP.

3. Evolution of the initiative

EMRIP recognised that the private sector and the public sector both have important roles to play in developing the country's rice sector. The major constraints in the rice sector in Laos were the use of low quality and inadequate inputs by the farmers; poor farming practices and poor post-harvest handling by both farmers and millers. The local rice mills are the ones with highest leverage in the

rice value chain. Their position in the value chain is such that they are best in unblocking these key constraints to increase productivity. The project has worked with 21 progressive and socially committed millers who have strong and mutually respectful relationships with small-holder rice farmers. Each participating miller provides quality inputs, credit and training to approximately 1,000 producers, allowing them to increase productivity, unblocking the key constraints to rice production in Lao PDR. In return for investing their time and money in small farmers, millers received project support to improve milling facilities and equipment. Improved milling efficiency and higher quality rice further increased the amount of rice available in Laos while improving profitability for farmers and millers and greater stability of supply of good quality rice for consumers.

The rice mills participating in the project have taken a lead role in forming miller groups in their respective districts and provinces following the Khammouane Development Rice Miller Group as a role model. There has been almost a proliferation of miller groups, with a total of 14 miller groups with 261 mill members now operating across five of six target provinces. Most convincing are the five miller groups in Khammouane Province. All 85 members of these miller groups have already started applying the EMRIP approach in creating and working with farmer networks. The number of farmers these millers are linked with and their trade volume is not included in this case study.

Government also has played an important role in facilitating and supporting the development of the rice sector. The role of government is mainly creating an enabling environment for the market actors in the rice value chain. Responsibility for rice production and milling is split between different government departments, and there is no forum to bring all stakeholders together to discuss policy issues facing the rice industry. The main government partners at province level are the Department of Agriculture and Forestry and the Department of Industry and Commerce.

A “bottom-up” approach to policy formulation has been implemented, starting with multi-stakeholder meetings in the target provinces and which has then been followed by national level meetings.

4. Impact

The overall goal of the project was to rapidly increase the quantity and stability of supplies of good quality milled rice for domestic consumption and trade. The main outcome set by the project was to facilitate the production of 20,000 metric tonnes of good quality milled rice through 20 rice mills via fair trading relations with 20,000 farming households within 23 months of the project’s duration. We outline below whether these outcomes were reached, as well as some other outcomes and impacts of the project.

The project was able during its entire 23 month duration to connect 21,361 smallholder rice producers with the 21 rice mills. The producer network of each miller typically comprises 10 to 15 villages with about 1,000 inhabitants.

Improved Grain quality

Most of these farmers previously used a variety of seeds, which in some cases were over a decade old. Supply of high yielding varieties of fresh seed by the millers to farmers resulted in (a) production and supply of single variety paddy rice being returned to the mills; and (b) intact, soft and aromatic grain. The final project evaluation carried out by an independent external evaluator mentioned the following impact from increased grain quality:

- Mills shifted from a 100% mixed/general grade mix to an increased proportion of single variety grade grain, from at least 100% mixed variety to 20 to 70% single variety.
- Mills are obtaining 9 to 14% gains in prices for quality milled rice
- Farmers are receiving a 10% gain in terms of premium prices with those mills accessing quality markets

One of the 21 mills has started marketing Grade A quality rice in branded bags and another mill is considering something similar. This should place these millers in a more confident marketing position. They have become price makers rather than price takers, i.e. the miller guarantees the quality of the rice through branding, meaning the miller can set their own price in terms of a competitive market. They no longer have to follow general market prices for non-branded loose rice.

Farmer crop yields and incomes

The crop yields of small holder farmers have significantly increased based on anecdotal evidence on typical yields prior to receiving support from mills in recent seasons. The increases have varied from 20% to 100% but were typically between 30-50% as per the final project evaluation report. This increased income is due to both higher prices and increased yields, amounting to €224 gain over the €367 normally obtained, equivalent to a 60% increase in income.¹

The main factors delivering increased crop yields were; fresh high yield variety seed; improved practices and modest increases in the application of fertiliser. There were three elements that contributed to this success; contracts with millers provided a more reliable market for farmers, inputs were made available via the miller and technical advice was co-ordinated and provided through the millers in an effective manner.

Mill throughput and efficiency

Mill throughput for all 21 mills increased from 12,400 mt of paddy rice in 2009 to a projected 36,523 mt of paddy rice in 2011. Throughput doubled in the first year, and for 2011 is projected to triple 2009's figures.

These increases have been made possible through improved mill equipment, with a measured capacity from of 3.8 mt/day increased to 8.7 mt/day, an increase of over 200%. In addition, rate of milled rice recovery increased from the measured baseline of 57.7% to 63%, representing a 9% gain. The increase in milled rice recovery rates directly contributes in increased revenue and profits for the millers.

Improved policy environment

The project also contributed to an improved framework for rice production and trade. Key results from the organisation of series of public-private policy dialogues at a provincial and national level were; the opening of rice exports to neighbouring countries, which had been closed by provincial governments and a substantial reduction on import taxes on agricultural inputs. In addition, the national policy dialogue also contributed in the formation of a team at the Department of Agriculture to work on drafting a national rice strategy for the country.

¹ This calculation is based on rough estimation by taking a lower-end increase of a farmer in Huaphou Village with a yield that increased from 2,000 kg (50 bags) to 2,800 kg (70 bags). The calculation does not include other fixed costs regarding land preparation, labour etc. and therefore is not a full indication of income from rice production. See annex 01 for calculation.

5. What are the key implications for scaling inclusive business?

The following important lessons were learned through the implementation of the project:

- The idea to use millers to organise producers effectively and efficiently is basically sound and seems to be able to deliver results better than traditional methods in the context of the Lao lowland paddy rice sector. Rice millers are a very powerful tool to link producer groups to services, inputs and new ideas.
- Openness and transparency during the miller selection process was vital to the success of the project. Mills that were selected using a competitive process performed substantially better than mills selected due to recommendations from local informants such as district government officials. This finding has a number of implications for the future planning and implementation of agricultural value chain projects in the Lao PDR. In particular it would be good to pre-select a few extra millers and then remove the worst performing millers before providing full investment support.
- Working through the private sector through the application of smart subsidies gives the project much more freedom to reward good performance and punish poor performance than is the case in traditional projects providing direct support to farmers through government department or NGOs. This dramatically reduced the potential for conflict over resource allocation and has allowed for fast and effective decision making.
- Investment by EMRIP has had a major stimulating effect on private investment by millers participating in the project. Many millers decided to conduct additional equipment and upgrades including the purchase of new milling machines and the construction of new mill buildings in many areas.
- At a government level, there was a strong acknowledgement of the importance of agricultural development at all levels. Rice production was seen as a key factor in addressing domestic food security. There was thus strong momentum to work together with SNV-Helvetas in addressing issues in the rice value chain and to commercialise rice production through a policy dialogue. This led for instance to the streamlining of trade procedures, reduction of import taxes on agricultural inputs, and the retraction of trade bans.

Overall the rice value chain is far more integrated, the actors collaborate more closely and are better able to plan and make informed decisions. Farmers have greater confidence in marketing their crop and are more heavily committed to it as a commercial crop. The millers have become proactive in seeking new markets. Through its support for policy dialogue, EMRIP has seen specific outcomes with a streamlining in trade procedures; reduction in import taxes on agricultural inputs; and retraction of trade bans. This process has opened the door to the inclusion of millers in constructive dialogue with provincial authorities which should continue to inform decisions at this level.

These results are exceptional and of great significance for development strategies related to rice production nationally. The EMRIP project is essentially an Inclusive Business model and succeeded in gaining substantial yield increases both at a farm and macro level.

A mechanism that could scale-out this Inclusive Business model for rice production is the establishment and strengthening of miller groups. This provides the opportunity for core members experienced in the mechanism to introduce support to farmers as 'standard practice' to new mills joining a group. The replication of the EMRIP approach by the millers not participating in the project has already started in some of the target provinces through miller groups. Several actors are interested in scaling up the programme further; for instance SNV receives funding from the Rabobank Foundation to strengthen the farmer groups and in partnership with Helvetas other options to upscale the programme are being explored.

Annex 01

Gross Income per hectare before and after miller support

Items	Unit	Quantity	Rate in Euros	Total amount in Euros
Gross income before support				
Total value of harvest – mixed grad	Kg	2000	0.2	400
Variable costs				
Local seed	Kg	60	0.2	12
Fertiliser	Bag	1	21	21
Total variable cost				33
Gross margin before support				367
Gross income after support				
Total value of harvest – single variety with higher yield with premium price	Kg	2800	0.24	672
Variable costs				
Fresh HYV seed	Kg	60	0.48	29
Fertiliser	Bag	2	21	42
Total variable costs				81
Gross margin after support				591