

Cassava in North-Central Vietnam: Improving Smallholder Incomes through inclusive business

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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

Ethnic minority farmers located on the hillsides of North-Central Vietnam are being offered opportunities to improve their livelihoods and incomes in a sustainable way, by working together with cassava processing enterprises who want to develop cassava in an environmentally sound manner. With a grant from the Ford Foundation this value chain improvement project affected an estimated 10,000 households during the 2008-2011 period: increasing average incomes by more than 20% with additional improvements in environmental sustainability of growing practices as well as increased reliability in business relations. The companies also benefited from increased supply of cassava of higher quality. The scaling-up of the project to include 200,000 farmers is now being explored via possible collaboration between IFAD, CIAT and actors in Vietnam, Cambodia and Laos. The potential for collaboration between farmers and processors is enormous in Vietnam and neighbouring countries as cassava is rapidly becoming a major commodity, with hundreds of thousands of smallholders supplying products to processing enterprises.

1. Context and background

Since 2008 SNV has been involved in the facilitation of the Cassava Value Chain in North-Central Vietnam. In a multi-stakeholder assessment of the economic opportunities for pro-poor development, the cassava value chain was identified as the main growth opportunity for poor upland farmers, many of whom come from ethnic minority backgrounds with a tradition of slash and burn cultivation. Cassava is their main source of income, but still lacks sustainability, due to price fluctuations and poor growing practices.

The cassava produced is processed into raw starch which is then purchased by Chinese traders for further processing into food or industrial use items. Elsewhere in Vietnam, demand for cassava is booming because of Chinese demand for starch and the new domestic market for raw material for bio-ethanol fuel. The commercial viability of the crop therefore seemed assured and farmers were responding to demand by seeking ways of increasing production. The government feared the pressure to find more land to plant cassava would lead to the destruction of forest cover. The future of cassava production therefore lay in the intensification of cultivation rather than expansion in area.

Provincial planning and investment authorities responsible for economic development and business planning rapidly agreed to participate in the co-ordination of the programme and supported the development of a business enabling environment. SNV approached three cassava processing enterprises and presented the principles of an Inclusive Business model to them. Two out of the three cassava processing enterprises in the region showed an interest in the model. Based on this interest, an intervention strategy was developed that would strive to link 10,000 cassava producing households in a more reliable and sustainable way to these enterprises with a potential to further scale this up to 60,000 households in the North-Central Vietnam area alone.

This case focuses on one of these two enterprises, namely Huong Hoa based in Quang Tri Province, which was only established in 2004 but had already expanded production from 50 metric tonnes (mt) of starch a day to 150 mt and was operating at about 60% of total capacity. It sources cassava directly from 5,000 households and plans to sign supply agreements with 2,000 more to reach around 80% of total capacity in the coming years. Total production area in the target area is around 23,500ha including 60,000 producers.

Estimates from production improvement trials are that land productivity could be increased by 30% through better cultivation practices, improved varieties and seasonal spreading. With a grant from the Ford Foundation, this value chain improvement project directly affected an estimated 10,000 households during the 2008-2011 period. Incomes among beneficiaries in Quang Binh, Quang Tri and Thua Thien-Hue rapidly increased by 19.5%, 54.8% and 17.7% respectively. This increase in household incomes in the target sites was mainly due to cassava production as a result of the programme's activities. SNV and CIAT are now in partnership exploring with IFAD the up-scaling of the project in Vietnam, Lao PDR and Cambodia, potentially benefiting over 200,000 smallholder producers in the near future.

2. Underlying business model

Huong Hoa's main business is the production of industrial starch for export. Sales are high given strong current demand from China. However, the company recognises that future profits depend more than anything on securing a reliable cassava supply from farmers. All farmers in Vietnam are smallholders, with average plots of one hectare. There is little diversification in farm size, due to the history of the country which meant that all land was government property. Thereafter, families were allocated small private plots of land during the land allocation programmes in the early 2000's. The

farmers in North-Central Vietnam however are poorer, ethnic minority people who have benefited less from recent development trends in the country due to social and cultural differences.

Huong Hoa's business model focuses on ensuring adequate and timely supplies of cassava from its suppliers over the long term. This involves not just offering a fair price to farmers for their crop. Instead, their processing business is made sustainable by aiding farmers in achieving the necessary quality and quantity standards, and through a more sustainable supply of cassava throughout the year. In addition, and perhaps most importantly, the company is actively trying to build trust and loyalty among farmers by delivering what it promises. Building trust has been an important factor, especially since the processing company is working with ethnic minorities. In order to build trust between farmers and the company, Huong Hoa found bilingual staff in the communes who acted as trusted intermediaries.

Because of this, Huong Hoa provides services to farmers to build their confidence in the factory and develop long term relationships. It is promoting sustainable agricultural practices to make sure that it has ample supplies of cassava in the long term. Farmers now receive a complete agricultural extension service from the company.

When the plant opened in 2004, Huong Hoa found it difficult to ensure adequate supplies of cassava for processing. Farmers were not organised and individually lacked the capacity to harvest large quantities of cassava for collection at an agreed time. In addition, growing practices were inefficient. Soil fertility fell with repeated planting of cassava, which caused farmers to shift between several plots, thus leading to an inefficient use of farmland. Factory Director Ho Xuan Hieu was concerned that it would be difficult for farmers to maintain yields, as soil fertility fell along with repeated planting. Lastly, farmers all planted their cassava at the same time during the season, which resulted in one large harvest peak during the season. This was unfavourable for all parties: the processor had to handle all the cassava at once (since cassava needs to be processed fresh in order to maintain its quality), while the processing facilities remained idle for the rest of the year; a peak in harvesting resulted in large price fluctuations which were unfavourable for farmers as well as the processor.

As governmental extension services for cassava farmers barely exist (most extension programmes of the government focus on rice and fruits), the company addressed the production problems by re-training a team of field staff. This team were already employed, but they focused on sourcing and buying of cassava and they were now trained to organise cassava farmers into informal knowledge groups. They then provided the groups with training in leadership, group cohesion, and the cultivation and harvesting of cassava. The company introduced improved varieties of cassava and farmers were taught how to plant using a dressing of fertilizer to maximise yields. Ho Hoat, a farmer group leader from the Paco ethnic group, explained that his groups are learning how to cultivate an improved variety of cassava with organic fertiliser which has proved capable of raising productivity by 25% or more. The introduction of several new varieties enabled the company to promote the sequencing of planting to spread the harvest throughout the year and avoid overstocking at any one time. Cassava is harvested after 8-9 months with farmers now sharing labour on each other's farms to dig the cassava out of the ground in time for collection by the company.

Huong Hoa buys directly from farmers at buying points in the communities as the co-operatives that are found all over lowland Vietnam does not exist in the higher altitude parts of the country. Farmers are paid directly in cash. Farmers are paid US\$100 per metric tonne. With the use of organic fertiliser the aim is to keep yields above 10 mt per hectare. This would give farmers a gross income of at least US\$1,000 per hectare of cassava grown. No formal deductions are made from the price paid for cassava to cover extension costs, although it must be assumed that extension costs are built into the price paid. Farmers are expected to finance the cost of fertiliser themselves.

The factory currently obtains its supplies of cassava from 5,000¹ smallholder farmers, mainly of the Paco and Van Kieu ethnic groups. These groups are among the poorest in the country. It has plans to increase these numbers by another 2,000 in order to bring production up to the factory's capacity. One thousands of these will be from Laos along the newly-established East-West Economic Corridor that links Vietnam to Laos and Thailand.

3. Evolution of the initiative

The project started as an SNV initiative to have a larger pro-poor outreach in its programme in North Central Vietnam. After a thorough mapping and scanning of economic opportunities of the poorest districts in three North-Central provinces, cassava for starch, acacia for timber and rattan for furniture and handicrafts were selected for more in-depth value chain analysis and development of interventions. This process was conducted together with government and private sector stakeholders Together with international consultants and a local university, detailed studies and baselines were carried out which were validated at each step in the process with the key stakeholders along the chain.

Key challenges identified in the cassava chain were:

- Increasing access to business services;
- Improving supply chain co-operation between value chain actors;
- Ensuring environmental sustainability and
- Improving the business enabling environment.

In working together, the producers were looking for access to essential production knowledge and techniques to stabilise production. Under old production technologies their productivity would decline dramatically after two years, forcing them to rotate cultivation and not manage the soil. The production period would also only span five months of the year as farmers were all planting at the same time. The companies were looking to secure year round supplies of fresh cassava to ensure optimal use of processing equipment and to satisfy the rapidly increasing demand for product from their Chinese buyers.

The potential for rolling out the model for linking poor farmers to cassava starch processing factories in Vietnam appears good at first glance. There is a favourable policy environment. Given the steadily increasing demand from China for industrial cassava-based starch, the market for cassava appears to be secure. A government decree to prevent cassava cultivation encroaching on forest land has also created an incentive for farmers to increase the intensity of cultivation. The need to squeeze more production from a given land area will encourage the adoption of sustainable agricultural practices.

There are an estimated 60 cassava processing plants active in Vietnam with an installed processing capacity of four million mt per year. 500,000 ha have been planted with cassava. SNV is currently only working with 23,500 ha. Thus there is ample potential for replicating the programme in other areas and with more factories.

The main constraint for further scaling-up the programme is the access to enough working capital for the enterprises, combined with enough good quality extension staff to reach out to a growing number of farmers.

¹ The other enterprise mentioned in the introduction is working with similar numbers of farmers, which brings the total number of farmers affected to around 10,000.

4. Impact

The benefits of a series of years providing good cassava prices are clear to the eye of even the most casual observer. The quality of housing materials is improving, farm implements are plentiful, children are attending school and new motor cycles are appearing in farm yards. Ho Hoat, a farmer group leader of the Paco ethnic group says, “We tried mango and upland rice in the past but they were not successful. Cassava is already improving our lives and we hope we can make more money from learning these new methods and continue improving”.

The formation of farmer groups supported farmers in accessing new knowledge and new techniques on sustainable cassava production. Moreover, the members of groups have better access to the market information. It has also strengthened business links between farmers and cassava starch processing factories through contract farming. The key benefits of contract farming for farmers are improved access to local markets; assured markets and prices; and enhanced farmer access to production inputs (fertiliser, new varieties), transport services, and extension services. There were significant gains in awareness and knowledge about sustainable and intensive cassava production (e.g. new varieties cultivation, application of fertiliser, inter-cropping systems and soil erosion protection) and also in some crop management practices among the target farmers.

Income is one of the important indicators to measure the change in the well-being among households. The increase in household income was considerably different between the participant and non-participant groups. Generally, in comparison with non-participant households, incomes among project participants in Quang Binh, Quang Tri and Thua Thien-Hue rapidly increased by 19.5%, 54.8% and 17.7% respectively. The increases in household income at the target sites was mainly attributed to cassava production. Cassava yields have increased on average by 20%. Secondly, cassava prices have been considerably higher since farmers groups signed contracts and directly sold their cassava to the factories. For example, the price of fresh cassava increased from around 1,200 VND/kg in 2008-2009 to 1,900 VND/kg in 2010-2011. Thirdly, transaction costs such as transportation, harvesting, carrying and loading have been considerably reduced thanks to the formation of farmers groups and the allocation of these tasks among group members and the factories.

Information from household surveys stated that over 70% of the participants in the target sites had registered an increase in their income. About 60% of them reported that women’s employment and incomes had increased in recent years. As a result, about 53% of the participants stated that the quality of life among local women had significantly improved. Similarly, over 50% of the survey households reported that the status of women, as well as their voice in family and society was stronger.

The project has been a win-win situation for the processor as well: throughout the project, the financial viability of cassava processing has increased; Mr Hieu’s factory is making a satisfactory profit, and he hopes he can raise production by 20% or more to bring it closer to the plant’s capacity. With demand for cassava starch from China, and domestic demand for bio-ethanol, the demand side of the business looks secure for the foreseeable future.

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

There are possibilities of expanding the model to other commodities such as maize, soya, rice and other countries.² It is a generic smallholder-agro enterprise model, with certain key features that enable (inclusive) scaling:

- The company 'takes over' the extension provision, since the services delivered by the government do not meet market demands. The company did so by investing in the quality of their own staff, and by extending the tasks of their staff.
- The model is in the direct interest of the company as well: they have higher profit margins due to lower costs, a higher and more stable supply of raw product, and more work for their staff which previously remained idle for a few months every year.
- Working with ethnic minorities involves special challenges. Not least of these is building trust between farmers and processing companies. This trust works in two ways. Farmers have to trust the company. In the case of Huong Hoa it has been possible to find bilingual staff in the communes who have acted as trusted intermediaries. To the extent that scaling up would continue to involve ethnic groups this practice would have to be replicated. On the other hand, the company has to trust farmers as well. Small holder farmers are often depicted as being conservative, but they are very willing to invest in better production and higher profit margins.

The programme has the following contextual features:

- There is a huge market for cassava starch in neighbouring countries which stimulates the company to invest in the market.
- The interest of senior staff in the starch company. Huong Hoa director has a dynamic vision of his factory at the centre of a closed circle of good practice. Not all factory managers are as enlightened. Of three starch factories approached by SNV in North-Central Vietnam, only two expressed an interest in participating in the programme.
- Lastly the programme connects well to government policy, and there was a lot of co-operation with the government, i.e. the department of planning and investment. Two, at first sight contradictory, policy lines were addressed; from an industrialisation viewpoint, the government wanted more business activity for processing enterprises. On the other hand, the traditional shifting cultivation of cassava production was to be restricted in terms of area, so it was necessary to make use of existing farm land in a more efficient and sustainable manner. The programme addressed both those issues, and therefore was able to receive great support from the government.
- But for further successful up-scaling a number of constraints need to be overcome. First, and foremost is the question of finance: who will fund SNV's inputs? Cassava factories and local government do not have large reserves of cash. The Ford Foundation has been funding activities with Huong Hoa's farmers. Other sources would have to be found to contribute towards the high initial cost of developing the extension services, particularly where the target beneficiaries are remote ethnic groups. We have also seen in Huong Hoa's case that it is seeking concessionary funds to invest in organic fertiliser production as well.

Thus the potential for scaling-up and replication exist. However, it is clear that much work remains to be done in order to realise that potential.

² This has already successfully been done in Lao PDR. The ENRIP programme on rice millers executed by SNV and Helvetas in the Lao PDR has been based on this cassava model (see also the SNV case on rice millers in Lao PDR).