

# Vegetable Value Chain in An Giang

Activities: January 2007 until March 2009

## BACKGROUND

Vegetables are the second most important crop in An Giang after rice. In 2008, the total area of annual crops was 616,377 ha with 93% (575,924 ha) for rice, 6% (34,773 ha) for vegetables and the remaining 1% for other crops. In terms of gross output, vegetables accounted for 22% of the total cultivation output in 2008.

Vegetable production has increased since 2001, with an annual growth of around 13%. Various crops are suitable to be grown in An Giang. The most widely grown are kangkong, cabbage, baby corn, green mustard, onion, garlic, cucurbits, tomato, cucumber and beans.

The Cho Moi district has the largest production area for vegetables, particularly baby corn, which accounts for 92% of the province's total baby corn production. Vegetable cultivation in An Giang is almost uniformly distributed across the year. The main factor influencing the production seasonality is the water level of the Tien and Hau rivers. The annual floods from the rivers result in a scarcity of vegetables from July to October. The overuse of fertilisers and pesticides is still a common practice. Pesticides are most overused for growing cole-seed, onion and lettuce.

An Giang not only supplies vegetables to the neighboring provinces like Kien Giang and Ha Tien but is also one of the main supply sources for the Cambodian market, through a network of huge collectors and wholesalers. About 150 tons of vegetables and fruits are transported daily to An Giang by road. They are mostly cabbages, green chillies, carrots, chayotes, cauliflowers, broccoli and kohlrabi from Da Lat and the North.

## VEGETABLE PRODUCTION

Although An Giang is favoured with fertile soil, it experiences annual floods which normally last for 6 months from July to December. During these months no crops can be grown and vegetables for consumption are imported from other provinces. To overcome this obstacle, An Giang built a dyke system to control the flooding. Due to this, around 100,000 ha can now be cultivated for autumn and winter crops with 90,000 ha for rice and 10,000 ha for vegetables.

Like all other agricultural sub-sectors, vegetable production in An Giang is conducted mainly at household level, without well-organised coordination and distribution channels in the chain. This practice increases production costs and makes An Giang's vegetables less competitive.

There is low awareness of safe production and consumption and fertilisers and pesticides are widely used. Farmers are neither trained nor instructed in the amount and adequate methods of fertiliser and pesticide application. It is widely believed that with more chemical use, vegetable quality and yield will increase. This is however not the case. Money is paid for unnecessary chemicals, thus increasing production costs, damaging the soil, reducing resistance against diseases and affecting farmers' health.

Another challenge stems from the institutional deficiencies within the sector. There is no agency assigned to the task of controlling pesticide residue. Therefore most of the vegetables sold on the market exceed residue limits, raising concern among consumers regarding food safety.

Finally, inadequate post-harvest practices lead to losses for farmers. In most cases, little or no sorting and only primitive packaging is done at farm level. These challenges make An Giang's vegetable production less competitive compared to neighbouring provinces.

## GTZ SME DP INTERVENTIONS

The Department of Agriculture and Rural Development (DARD) and the Department of Crop Protection (DCP) in An Giang have attempted several times to improve the vegetable production in the province. However, they failed to change it probably due to the approach applied.



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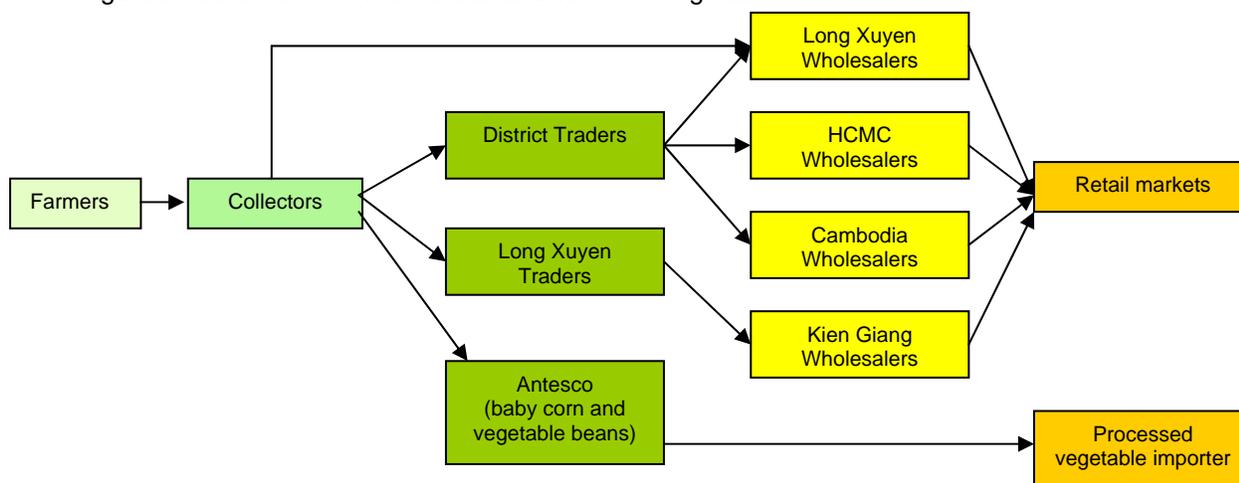
Having learnt from those experiences and being acquainted with the value chain approach of the GTZ SME Development Programme, DARD came up with a proposal to apply the value chain development approach to the vegetable sub-sector.

Project interventions are co-implemented and co-funded by GTZ SME and local authorities and farmers. This is a good approach for the local partners for building capacity and transfers full ownership to them to implement the project up scaling later on, which ensures the sustainability of the project interventions.

With DARD as the main implementing partner, the vegetable value chain analysis was conducted in January 2007 by a consultant with a team consisting DARD and DCP staff. The team was trained in value chain analysis by the consultant prior to the actual exercise. In addition to the review of secondary data, the analysis team interviewed various actors along the chain such as vegetable producers, collectors, transporters, traders, and exporters including wholesalers from the two biggest wholesale markets of Chba Ampou and Dumkor in Phnom Penh, Cambodia.

The An Giang vegetable value chain has been mapped out and constraints and opportunities for the chain's development have been identified.

The figure below shows the main stakeholders of the vegetable value chain:



A two-day workshop was held in February 2007 in Long Xuyen City in the An Giang province, to discuss the main findings and produce an intervention plan.

Value chain stakeholders have participatorily worked out the intervention plan. The time span for the project was two years, from 2007 to 2008. During this period the work concentrated on the following areas of intervention:

1. **Improving vegetable quality.** A study tour to Dalat, Cuchi and Metro HCMC was conducted for An Giang vegetable value chain stakeholders to learn about hygienic vegetable production, processing and storing. Intensive training on safe vegetable production practices toward GAP was carried out for selected farmers participating in the project. Strict chemical control and record keeping were carried out. Better post-harvest practices were introduced. Two demonstration plots using organic and microbiological fertilisers and assessing their benefits were co-implemented by an input supplier and the farmers.



2. **Development plan for safe vegetables areas.** The quality of soil and water of the safe vegetable cultivation areas was tested, and farmer groups participating in the safe vegetables project were established in Chomoi District.
3. **Improving production facilities.** SMEDP supported the purchase and use of facilities to treat bacterial and chemical residue with ozone water to ensure product quality before supplying it to the market. Net houses were built to improve vegetable quality during the rainy season. Packaging methods and pre-processing techniques were introduced to improve the quality of products.
4. **Developing the market for safe vegetables.** A campaign was organised to raise awareness among farmers and consumers to produce and consume safe vegetables. Match-making events for producers and buyers (canteens of big companies, schools, supermarkets, etc.) were organised, and some canteens and supermarkets agreed to buy safe vegetables.
5. **Branding.** Simple labels were created for the safe produce of the project's farmers to stand out from the rest. A leaflet and a video are being prepared to better communicate the benefits of safe vegetables.

### ACHIVEMENTS TO DATE

The following are the main impacts of the interventions:

**Safe produce.** Production of vegetables now includes application of better practices with less chemical residue and the use of organic fertilisers and pesticides. The application of the knowledge from the GAP training and the use of bio-fertilisers and pesticides, along with advanced cultivation practices in the fields have shown positive results. Production costs have decreased by 30% - 40% and productivity has increased by 30% - 35%, compared to conventional cultivation practices.

**Improved awareness.** There is increased awareness among farmers and consumers about the importance of safe vegetables.

**Linkage and cooperation.** Value chain actors are linked together both horizontally and vertically. A network between value chain stakeholders is established, whereby the safe produce will be distributed and sold at a premium and farmers are well-organised to improve their products and disseminate good practices.

**Market.** Safe vegetable products are consumed in some canteens and restaurants in Long Xuyen City, and also at the Cambodian border markets. Demand for safe vegetables is on the rise.

### IMPACT AND SUSTAINABILITY

**Linkage and cooperation.** The linkages between different actors in the value chain has been strengthened, where farmers, collectors, processors and retailers share common interests, to supply quality products at competitive costs from farms to the markets.

**Scaling-up impact.** Although there are only around 150 farmers who are part of the project and only two out of nine districts have been selected, the project serves as an example of how to organise the different stakeholders of a sub-sector to work together more efficiently in a chain. This model is highly appreciated and DARD has submitted it to the ministry for multiplication at provincial level by 2010.

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