



Agriculture in the central Mekong Delta

Opportunities for donor business engagement

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- Predominantly agricultural economy dominated by rice and pangasius fish production for export.
- Fragmented landholdings prompt government action to promote horizontal and vertical integration of smallholders through 'large field' programme.
- Volatility of input prices and export prices cutting margins in both rice and pangasius production.
- Major government intervention in the rice market to promote 'food security' reduces profitability of rice farming.
- Opportunities to increase value added in Dong Thap fruit sector.
- Three potential directions for research on donor business engagement:
 - Opportunities to link rice smallholders to export companies.
 - Business engagement to develop the fruit sector in Dong Thap.
 - Business linkage with Khmer farmers.

1 Introduction

The Business Development Exchange programme aims to 'inform the strategy of, other donors, and selected companies, for business engagement to achieve specific development objectives'. This study on agriculture in Vietnam falls under strategic objective of 'sustainable economic development' and examines opportunities for business engagement in order to 'increase benefits to smallholder farmers from agricultural production'. As agreed with DFAT, it focuses on the three central Mekong Delta provinces of Dong Thap, Can Tho and An Giang.

This is an initial scoping report which examines options for more in-depth research and field work. It is based on a review of secondary sources, including a commissioned overview report prepared by the Mekong Delta Development Research Institute at the University of Can Tho. It is also informed by a number of stakeholder interviews and a two day visit to the DANIDA Global Competitiveness Facility project sites in Can Tho and An Giang provinces in July 2013.

The report has four sections providing information on: 1) the Mekong Delta region and its economy; 2) agriculture in the Mekong Delta, focusing particularly on rice and pangasius, as well as some information on fruit cultivation; 3) Existing donor engagement with business in agriculture in the Mekong Delta; 4) discussion of future research directions.

2 Mekong Delta

Split by the two main branches of the Mekong River, the Tien and the Hau, the Delta is Vietnam's fertile rice bowl. Over the past ten years, the Delta's urban population has been growing at an average rate of 3.4% per year, compared with rural population growth averaging 0.4%. However, the Mekong Delta remains one of the most rural areas of Vietnam: 76.7% of the population was classified as rural in 2012, compared with the national rate of 68.3%. This study focuses on the three central provinces of the Delta: An Giang, Can Tho and Dong Thap. In administrative terms, Can Tho is a city under direct central government control and is the largest city in the Delta but it also covers an important agricultural area.

The Mekong Delta region has a slighter lower than average poverty rate, standing at 10.6% in 2012 according to General Statistical Office definitions. The rates in An Giang and Can Tho are also lower than this regional average: 6.17% and 5.19% respectively. However, the region remains largely a smallholder economy and is not wealthy: 69% of households own less than 0.5 hectares of land – though again, these figures are lower in the three target provinces (39-42%). Rural landlessness is much more apparent than in other regions of the country - a 2011 survey by Bui Quang Dung and Dang Thi Viet Phuong estimated 25% of the population, with higher rates in An Giang. Economic disparity is also growing: expenditure levels of the highest quintile exceeded that of the lowest quintile by a factor of 7.3 in 2008 – compared with 6.7 in 2004.

Provinces	12
Population (2012)	17.4 million
Ethnic minority population (2009)	1,260,640
GDP composition (2011)	41% agriculture, forestry, fisheries
Rice cultivation	7.5 million ha; 38 million tonnes/year; 51-55% national rice production

Since the 19^{th} century, the Mekong Delta has seen waves of inward migration as agricultural land was opened up by new settlers. Now ethnic minorities – primarily Khmer, Cham and Chinese - account for a small percentage of the population. Of the three central provinces, An Giang has a significant Khmer population (90,271 – 4% of the province's population) concentrated in the border districts of Tinh Bien and Tri Ton, while the Cham population of the province totals 13,723 (1.8%). The Khmer population is significantly poorer than the majority Kinh and relations remain politically sensitive.

3 Agriculture

The economy of the Mekong Delta is predominantly agricultural, with agriculture, fisheries and forestry accounting for 41% of GDP in 2011 and much of the industry and services sector composed of input supply, processing, trade and transport of agricultural products. For the three central provinces, rice cultivation and aquaculture – specifically rearing of pangasius fish (ca tra) – are the two main agricultural sub-sectors, with fruit cultivation (particularly mango) and maize also important crops. Livestock rearing is relatively limited and involves predominantly household production. Of the 581 large scale livestock businesses in the Mekong Delta, only 6 are found in the 3 central provinces.

Agricultural crops of An Giang, Dong Thap and Can Tho (2012)	Cultivated area (ha)	Total production (tonnes)
Paddy	1,341,700	8,345,800
Maize	16,400	114,900
Fruit Incl. mango	46,000 16,000	509,200
Aquaculture Incl. fish	20,300	860,800 854,500

Both the rice and pangasius sectors are predominantly export sectors. The agricultural economy of the three provinces is therefore highly commercialised and, in recent years, subject to significant market volatility. Because of the political importance of the issue of national food security, the rice sector has historically been subject to significant state intervention aimed at guaranteeing supply to domestic consumers at reasonable prices.

Though average landholdings in the Mekong Delta are larger than in other parts of the country, agriculture is still largely based on small scale production by a large number of smallholders. While relatively equal distribution of agricultural land has led to relatively equal distribution of the benefits of agricultural growth, with strong poverty alleviation impact, the fragmented pattern of landholdings has also had disadvantages. It has been more difficult to improve productivity through mechanisation, consistent investment in new seeds and technology, efficient water management etc.

The Vietnamese government has therefore been promoting what is called the 'large field' (canh dong mau lon) programme under which farmers are encouraged to organise together as co-operatives and groups and establish long term relationships with companies through contracts involving the supply of inputs, provision of extension advice by company agents and purchase of farmers' produce at agreed prices. Through improved organisation and linkage, the programme aims to facilitate productivity increases and reduce transaction costs for farmers and companies. The programme has been most active in the Mekong Delta – though here too the inherent difficulties of organising smallholders and establishing relationships of trust between farmer groups and companies, particularly in volatile market conditions, have been evident.

The sections below will give a brief overview of the rice, pangasius and fruit sectors, highlighting in particular recent developments in the sector, current issues, the role of business associations and the state of business-farmer linkage.

3.1 Rice

An Giang, Can Tho and Dong Thap are major rice producing provinces. Despite pressures on rice land nationally, the rice growing area in the three provinces has remained stable over the 2008-2013 period, with an annual average increase in the 3 provinces of 1.8%, largely due to increased cropping intensity. Overall, rice production increased by an average of 2.9% per year. Total planted area in 2012 was 1.341 million hectares. Yields are very high, reaching an average of 6.33 tonnes of paddy per hectare per crop in An Giang. Except in areas unprotected from the annual Mekong flood, 3 rice crops per year is common. The winter-spring crop is the best, with yields exceeding an average of 7.2 tonnes/hectare in all three provinces.

A 2010 study estimated that of the 20.5 million tonnes produced in the Mekong Delta in 2009, 7.7 million tonnes entered the market (after deductions for seed, wastage and consumption). Of this, 93% was sold to small traders who then sold on to other intermediaries, rice mills and trading companies. Only 4.2% was sold direct to rice trading companies. Of the 7.7 million tonnes of rice marketed, 70% was destined for export, 30% for the domestic market.

Rice farming, however, is not currently a very profitable business. An IPSARD survey of rice farmers in An Giang in 2011 shows relatively low margins earned by farmers for the three crops:

	Paddy production costs (VND per kg)	Selling price (VND per kg)	Income (VND per kg)	Margin (%)	Volume (tonnes)	Total income (million VND)
Winter spring 2011	3400	4600	1200	35%	15	18
Summer autumn 2011	3600	4400	800	22%	9	7
Autumn winter 2011	4800	5550	750	16%	3	2
					26	27

An annual income of VND 27 million from rice production equates to 562,500 VND per person per month, assuming average household size of four.

Government intervention in the rice market is deep and varied:

• Regulation of export companies and contracts. Continuing a long tradition of control over rice exporting companies, Decree 109 (2010) regulates which companies are allowed to export rice, depending on warehouse and milling capacity requirements. Currently around 100 companies are allowed to export rice. The government, together with the Vietnam Food Association, dominated by state owned enterprises (SOEs), also designates which companies can fulfil government to government contracts (accounting for 43% of rice exports in 2009). The result is domination of the export market by SOEs. Two state owned general companies – Vinafood 1 (from Danang southwards) and Vinafood 2 (north of Danang) control 50% of Vietnam's rice market. These companies are tasked by the state to play a role in stabilising domestic rice prices. Vinafood 2 and its 43 associated companies are hugely important players in the Mekong Delta rice market and are responsible for 50-60% of Vietnam's total rice exports, primarily through government to government contracts with Indonesia, Philippines and Malaysia. Vinafood 2 companies

buy exclusively from intermediaries and do not have any direct relationships with rice producers.

- Intervention in the export market. From time to time, the government has issued export bans in order to stabilise domestic rice prices. A ban was issued from March to June 2008 in response to escalating world food prices. Export tariff policies have also been implemented with similar intent from July to November 2008.
- Floor purchase prices/Directed paddy prices. Due to rising input costs, the government also instituted measures to try to protect farmers from these costs by setting a floor farm gate purchase price for export rice. Under Decree 63 of December 2009, the Ministry of Finance will periodically set minimum purchase prices with the aim of guaranteeing farmers a 30% margin over rice production costs.

Issues in the rice sector:

- High and fluctuating input prices. Vietnam is dependent on imports of fertiliser and pesticide for the rice sector and prices are high and fluctuating. In reality, government attempts to protect farmers from these rising costs have been ineffectual as the system of directed paddy prices has not worked. Firstly, the government system to calculate actual production costs as a basis for the purchase price has been inaccurate due to delays and regional variation. More importantly, because companies buy mainly from collectors not directly from farmers, companies have no way of ensuring that farmers are paid the directed price. An IPSARD report form An Giang suggests that even VFA companies have been buying at lower than the directed rice price.
- Distorted output prices. Global rice prices impact directly on prices earned by Mekong Delta farmers. Government intervention in the export market to protect domestic rice prices has resulted in farmers not benefiting when global prices have peaked. In 2008-9, prices soared due to a combination of increased input prices, panic buying by some importer nations like Philippines and export bans by India and Vietnam. Export prices increased from US\$430 per tonne to US\$900 per tonne in May 2008, while the farm gate price in the Mekong Delta increased by only US\$100 per tonne over the same period due to the export ban. Due to the dramatic rise in input prices, farmers found they were selling rice at a loss. Limited storage capacity also means that farmers are unable to avoid selling at the lowest point in price cycle. IPSARD has calculated that the share of margins on the production and trading of rice enjoyed by farmers fell from 70% in 2006 to 10% in 2010. When the export ban was lifted, however, rice exporting companies were able to earn high margins exporting rice bought cheaply at home. Export companies made bonanza profits while farmers lost out.
- Production issues. Increasingly intensive cultivation has resulted in greater propensity to
 pest and disease loss, pollution due to pesticide use, decreasing soil fertility and the
 impact of chemical pollution in the environment on crop quality. Wider environmental
 issues may impact on agriculture in future, particularly plans to dam the Mekong
 upstream, increasing salinity and, some believe, the potential effects of global warming.
- Quality. While Vietnam is now exporting an increased proportion of high quality rice (5% broken), it still cannot command prices equal to Thai rice, due to poorer taste and weaker branding. Much of the quality issue results from weaknesses in post-harvest processing particularly limited industrial drying capacity. As most exporters buy dried paddy from middle men rather than wet paddy direct from farmers, few have invested in industrial drying equipment, which would enable more even drying to 15° moisture, possibility of longer storage of paddy and a lower proportion of broken rice.

Market outlook. Many observers have pointed out potential threats to Vietnam's rice
sector in future, including reduced demand as a result of changing consumption patterns,
increased competition from newer market entrants such as Cambodia and Burma and
increased production by traditional importer countries such as Indonesia and Philippines,
seeking to substitute domestic production for imported rice to ensure 'food security'.

Farmer-Business Linkage

In Dong Thap province, the area of rice land covered by 'large field' linkage programmes has increased from 1467 hectares in 2010 to 21,218 ha in the winter-spring harvest of 2013, equivalent to 10% of the area planted in rice. The programmes involved 11,205 households. Of this area, 16,148 hectares were covered by written contracts between companies and farmer groups/co-operatives. Of these, the An Giang Plant Protection Company contracts covered 5070 hectares.

The An Giang Plant Protection Company linkage programme is of the type that includes provision of inputs, the cost of which is deducted from payments for produce at harvest time. The company also provides technical advice during the crop cycle and pays for the collection and transport of the crop at harvest time. Farmers can hold their crop in a company warehouse for up to one month if they want to wait for sale prices to increase. Other linkage programmes involve only supply of inputs without purchase of produce. Some companies only contract to purchase produce without provision of inputs. In such cases, companies contract to pay a premium over market price at harvest time in an attempt to guarantee supply.

The Can Tho company Gentraco established a 'Large Field Management Committee' and has gradually expanded its linkage programme from 200 hectares in 2008 to 2700 hectares in the winterspring 2013 crop. Gentraco provides farmers with fertiliser at reduced prices on an interest free credit basis while contracting to purchase farmers' harvest. Gentraco is also piloting Global Gap linkage programme whereby farmers must follow Global Gap production standards and the company agrees to purchase the harvest for sale as a branded, high quality rice in the domestic market.

Business associations.

The Vietnam Food Association (VFA) is a national association made up primarily of state owned enterprises including Vinafood 1 and Vinafood 2 and their associated companies. VFA is an association of rice exporting companies and does not in any way represent the interests of rice producers. As described above, it is closely allied to the government and, for example, in Decree 109, is assigned a number of tasks by the government, such as enforcing payment of directed prices by member companies to farmers, co-ordinating with government procurement of rice for state rice reserves, reporting figures on rice production and export to government etc. The Association has no provincial branches in the three provinces. In general, state owned VFA member companies tend to have weaker relationships with farmers, buying mainly from collectors and, because of not developing defined supply areas, investing less in their supply chain than private enterprises.

3.2 Pangasius

The three provinces of An Giang, Can Tho and Dong Thap are particularly important producers of reared pangasius fish (ca tra). In 2011, a total of 20,300 hectares was devoted to aquaculture production in the three provinces of An Giang, Can Tho and Dong Thap: a mere 2.7% of the area under aquaculture in the Mekong Delta as a whole. However, farmed fish production of 854 million tonnes in these three provinces, primarily pangasius, accounted for 51% of total production in the delta. There has been a shift away from the more intensive fish farming using cages, suitable for catfish/ca basa, to rearing primarily in ponds.

Fish farming is increasingly concentrated in the hands of medium sized companies rather than individual household production. In Dong Thap province, for example, 65% of the area used for pangasius farming in 2012 was controlled by 36 companies. Only 525 households are involved in individual production in Dong Thap – and only 416 in Can Tho. Fish farming requires large investment and relatively high technical knowledge. A 2011 value chain report recorded that most

households borrowed from a bank for pangasius farming an average of over VND 1 billion. One of the largest companies, Vinh Hoan, was reported in 2011 to farm pangasius on 90 hectares in five sites throughout Dong Thap province. Companies are increasingly farming their own fish on their own land rather than buying from individual producers. A 2010 survey of 43 companies by the Vietnam Association of Seafood Exporters and Processors (VASEP) showed that 24 sourced all, or above 60%, of their needs internally rather than buying from household producers.

Pangasius is predominantly an export commodity – in 2011, 95% of pangasius was exported, mainly in the form of filets. Exports now reach over 130 countries. Following the imposition of anti-dumping duties on Vietnamese catfish products in 2003, exporters switched from a high dependence on the US market to new markets, particularly in the EU, which accounted for 40% of exports in 2009. Since then, the American market has become increasingly important again – accounting for 17% of exports in 2011. The value of Vietnam's pangasius exports stood at around US\$1.23 billion per year from 2009 to 2011.

Issues in the pangasius sector

- *High input prices*. Imported fish feed and medication accounts for about 80% of the regular input costs of pangasius farmers and costs have been increasing. Feed and medication prices are currently said to be increasing at an average of 10% per year.
- Fluctuation in output prices. Due to the reliance on export markets, international price trends have a huge impact on the pangasius sector in Vietnam. Export prices increased from US \$2.16 per kg in 2010 to US \$2.66 by 2012. This led to an increase in prices for fish farmers from VND 15,000 VND per kg in August 2010 to VND 23,000 per kg in December 2010, reaching a peak of VND 29,000 per kg in April 2011. However, from the second half of 2011, domestic prices earned by fish farmers have fallen due to oversupply, banks tightening credit, forcing farmers to sell quickly and fluctuations in the export price.
- Concentration production by companies. As described above, companies are increasingly
 seeking to farm their own fish and, though farmers usually sell direct to processing
 companies, contractual linkages with processing companies are weak so that if demand
 falls, companies will focus on internal production rather than buying in from household
 producers.
- Technical and environmental issues. Given the high intensity of production, water pollution and fish disease are risks faced by fish farmers though loss rates are reported to be lower than in the shrimp industry. If 1 hectare produces 300 tonnes of pangasius, it also has to withstand the creation of 300 tonnes of waste product and related water pollution.

Farmer - business linkage

As described above, pangasius fish farming is becoming increasingly dominated by medium sized enterprises with the numbers of household producers falling rapidly. Of the 525 remaining household producers in Dong Thap province, 85% are involved in some form of linkage programme with a processing company. However, the linkage in practice is weak with contracts often broken when market conditions change. When demand falls, companies will focus on their own fish-rearing and suspend purchases from individual farmers. It has proved difficult to build relationships of trust when market conditions are volatile.

Business associations

The Vietnam Association of Seafood Exporters and Processors (VASEP) is one of the most active business associations in the agriculture sector. As of June 2013, VASEP had 201 official members. It represents processing and exporting companies but not individual fish farmers. In 2012, the association organised its members to comment on regulations on the control of pangasius exports, organised a review of the export situation at the end of 2012 and worked closely with the Ministry of Agriculture

and Rural Development in terms of surveying sources of supply for the industry. It focuses on researching export markets, advocacy and lobbying with government.

VASEP does not have any regional branches. Rather, the Vietnam Fisheries Association (VINAFISH) has provincial level Aquaculture Associations in the three provinces of Dong Thap, Can Tho and An Giang and indeed has opened district level branches in many areas (An Giang 9 district branches, Dong Thap 4 district branches, Can Tho 17 sub-branches of different types). The Aquaculture Associations are much more community oriented organisations, providing technical assistance to members, sharing information etc. They are not well funded and have very little connection with VASEP. While theoretically, the Aquaculture Associations represent all participants in the sector, in practice they focus mainly on small producers but, unlike VASEP, are not able to carry out much advocacy or lobbying on their behalf.

3.3 Fruit and other crops

Fruit cultivation is the other major agricultural crop sector, with total planted area of 46,000 hectares in 2011. Mango is a speciality of these provinces – covering an area of 16,000 hectares, with orange, tangerines and bananas the other major crops. Dong Thap province has two local mango varieties called Cat Hoa Loc and Cat Chu and the area under mango has increased in recent years to 9300 hectares, particularly in Cao Lanh district and town.

Output (tonnes)	Oranges/tangerines	Bananas	Mango
An Giang	100	27,800	58,800
Dong Thap	62,300	12,800	74,400
Can Tho	11,500	14,700	9,800
Total – 3 provinces	73,900	55,300	143,000
Total – Mekong Delta	451,600	516,500	509,200

While fruit production has increased in recent years, particularly longans, bananas and mangosteens, prices have fallen due to oversupply. These have been sold mostly fresh into the domestic market, with limited success in processing and value addition. Fruits with more potential for processing and export, such as pineapple, dragon fruit and mango, however, have not developed as fast.

Other significant agricultural crops include maize, particularly baby corn in An Giang province. An Giang Fruit Vegetables and Foodstuffs Joint Stock Company (ANTESCO) has been supporting farmers in Cho Moi and more recently in Tri Ton district to grow baby corn for canning and export.

Farmer-business linkage

Currently 115 hectares of mango are being cultivated under programmes aimed at GlobalGP or VietGAP registration in Dong Thap province – with 5 hectares already certified. Three companies (E.K. Prima, Cuoc song tot and Nong San Viet) have contracted to buy mangos but in very limited numbers. Still the vast majority of fruit are sold at the My Hiep wholesale fruit market. Linkage has proved difficult to develop because of uncertainty over quality requirements, timing of harvesting and problems with initial handling and packaging.

Business Associations

Vinafruit – or the Vietnam Fruit and Vegetables Association – is a national body which represents processing, exporting and trading companies in the sector – and has focused on trying to develop export markets. In the provinces, however, it is the Gardening Association which is the body most relevant to fruit growers, particularly in Dong Thap where the provincial branch is stronger. The Gardeners Association is a state sponsored association – with five staff on the government payroll at

the provincial level – and also branches established at the district level. The association primarily provides training and information, in co-ordination with the state extension services, on topics such as Global Gap standards, Viet Gap standards and fruit tree cultivation techniques.

4 Existing donor engagement

Two main business engagement projects were identified that involve significant activities related to agriculture in the Mekong Delta.

The Global Competitiveness Facility is a DANIDA project, now in its second phase, which aims 'to increase the competitiveness of non-public Vietnamese businesses in export-oriented business sectors in targeted provinces through better access to relevant business services and exposure to innovative business models'. The facility operates in 8 provinces nationwide – which include both Can Tho and An Giang. The project provides matching grants to companies to pilot new business models which aim to increase farmer incomes. Phase two of the project committed to make VND 216 billion in grants to Vietnamese businesses, with grant size ranging from VND 400 million to VND 8 billion. In Can Tho, 8 projects were approved, with 5 successfully implemented – focusing on the rice, eco-tourism and handicraft sectors. The facility has committed all of its funds and the project will come to an end this year.

<u>Vietnam Business Challenge Fund</u> is a £7 million, DFID funded project designed 'to support the private sector in Vietnam to develop innovative business models that deliver both commercial benefits for the company and social impact for the low income population using inclusive business models'. The fund, managed by the Dutch NGO SNV, focuses on agriculture, low carbon growth and infrastructure and basic services. It is open to companies nationwide with matching grants made to companies on a competitive basis through two rounds of grant applications. The first round of successful applicants has not yet been announced but a range of applications were received from agricultural companies in the Mekong Delta. The Fund will operate over a three year period 2012-2015.

Plans for an ADB inclusive business investment fund for the Mekong Region have recently been halted.

5 Future research directions

Three potential avenues of further research are outlined below. These are based on issues and opportunities emerging from the scoping study. An attempt has also been made to identify potential points of convergence with existing DFAT programmes. Business engagement is an approach best integrated as much as possible into existing objectives and activities so high priority is placed on identifying a specific audience within DFAT that might be interested in putting the findings into action.

i) Rice sector: opportunities and constraints in linking smallholder farmers to processing and export companies.

This research would examine the strengths and weaknesses of existing linkage models between rice exporters and farmers and examine ways in which DFAT could promote greater vertical linkages in order to improve productivity and reduce transaction costs.

The research would examine the success and failure of various linkage models, including the An Giang Plant Protection Company programme, the ADC Company (Can Tho) model supported by An Giang province, the Gentraco Global GAP linkage programme and others identified in preparation for the research. The research would seek to identify whether there is an appropriate donor role in catalysing such programme and, if so what role that would be. IPSARD has expressed preliminary interest in cooperating on such a study.

Farmer linkage programmes in the rice sector have been identified as a priority because:

- Unlike pangasius farming, rice cultivation remains predominantly a smallholder activity and rice remains an important form of smallholder income.
- Government have placed high priority on the 'large field' programme involving horizontal linkage of rice farmers and their vertical linkage with companies.
- This approach has strong potential to link with the DFAT funded Asia Foundation programme to strengthen farmer co-operatives.
- Given the level of state intervention in the rice market, this research might best be linked to DFAT's forthcoming economic governance programme if that programme continues to focus on the impact of integration on rural areas.

ii) Business engagement to develop the fruit sector in Dong Thap province

This study would focus on examining constraints to development of the fruit sector, focusing particularly on Dong Thap province. There has been relatively limited investment in fruit processing in Dong Thap and other provinces and strong linkages between companies and fruit farmers have been difficult to develop. The research would focus on understanding the business, farmer and government perspective on constraints in the fruit sector and would examine potential opportunities for donor engagement to stimulate this growth. The research would also involve engagement with the Vietnam Fruit and Vegetable Association, Vinafruit, to understand constraints in development of the export market.

The fruit sector in Dong Thap province has been identified as a priority because:

 It is highly consistent with the aims of the DFAT investment in construction of the Cao Lanh bridge. The on-going and significant DFAT investment in the bridge is aimed at facilitating business opportunities and economic growth in the surrounding area. This research will identify other constraints to investment in a sector with high potential for the province. If engagement with businesses in the sector is able to address these constraints, companies will be much better placed to exploit opportunities arising from the bridge and the improved connectivity that it will enable.

- The fruit sector has been identified by the province and other experts as a sector with potential that has not yet been fully exploited if investment in processing can be promoted.
- In contrast to the pangasius sector, fruit cultivation remains primarily a smallholder activity.
- ACIAR and DFAT have experience of engaging with business to develop the mango sector in Eastern Indonesia and in Pakistan. Potential may exist for lessons learning and linkage with the Australian mango industry.

iii) Business linkage with Khmer farmers

This research would focus on opportunities to improve the incomes of a particularly poor and vulnerable group within Mekong Delta society. This research would examine the successes and failures of business linkage programmes with Khmer households. By necessity, the work would focus on the Tri Ton and Tinh Bien districts of An Giang but would best be expanded to include research in Soc Trang and Tra Vinh provinces where the largest Khmer populations are concentrated. Programmes that would be examined include the Gentraco Baby Corn linkage programme in Tri Ton district, the Evergrowth milk co-operative in Soc Trang, onion cultivation in Vinh Chau district, Soc Trang (largest onion growing area in the Delta with 5700 hectares cultivated, mainly by Khmer farmers).

The issue of business linkage with Khmer farmers has been identified as a priority because:

- There is very clear potential for targeted poverty reduction if research findings could promote business linkage models which increase the incomes of an ethnic population with high poverty rates and particular social, cultural and political marginalisation.
- The research may help to inform wider debates about how marginalised ethnic groups can be integrated into national and international markets and therefore integrated more deeply into society as a whole.

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