



# Farmer Entrepreneurs

Attitudes towards farming as a business in Timor-Leste



## Acknowledgements

TOMAK (To'os ba Moris Di'ak, or Farming for Prosperity) is a 5-10 year agricultural livelihoods program supported by the Australian Government in Timor-Leste. A key objective of the program is to support farmers to build their capacity to confidently and ably engage in profitable agricultural markets. To better focus these efforts, it is important to understand and mitigate barriers that prevent farmers from becoming more entrepreneurial or commercially oriented. In this regard it is vital to assess how farmers themselves perceive the opportunities and problems they face in developing their farms and marketing produce in Timor-Leste.

For this reason, TOMAK partnered with the *Instituto de Apoio ao Desenvolvimento Empresarial* (IADE) to carry out a major study of farmer attitudes and behaviours in three municipalities. IADE is a semi-autonomous government institute in Timor-Leste which aims to support development of entrepreneurial awareness and business skills. IADE's services include business skills training, business counselling, business incubation, marketing and research support. The institute has offices in 12 municipalities and the research for this study was carried out under the auspices of its Market Research unit, with design project management and analysis support provided by Alastair Gordon, a highly experienced marketing and research adviser based in IADE.

Through TOMAK, IADE has also developed a 2-module agribusiness training package specifically for farmers in Timor-Leste. Module 1 focusses on general market concepts which farmers need to understand in order to make the shift from subsistence to commercial farming. Module 2 builds upon the first module and focusses on building farmers' business skills including an emphasis on planning and bookkeeping.

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# Abbreviations & acronyms

FGD	Focus group discussion
GoTL	Government of Timor-Leste
IADE	<i>Instituto de Apoio ao Desenvolvimento Empresarial</i> (Institute for Business Support)
MAF	Ministry of Agriculture and Fisheries
MCIE	Ministry of Commerce, Industry and the Environment
MDF	Market Development Facility (Australian Aid)
MECAE	Minister of State, Coordinator for Economic Affairs
NGO	Non-government organisation
SME	Small and medium-sized enterprises

*“Farming in Timor-Leste suffers from important knowledge gaps, and an image problem among farmers themselves.”*



## Executive summary

This report focusses on the degree of commercial activity among the farmers of Timor-Leste; what they perceive as key barriers and opportunities for development, and the extent to which culture and attitudinal factors limit capacity for growth and adaptation. The report is based on a survey of 237 farmers in Bobonaro, Baucau and Viqueque and six focus groups in the same municipalities. Interviewees were both male and female (41% women and 59% men) and had to be either the farm owner/manager or that person’s spouse. In this report “farmers” is used to designate both male and female respondents.

Overall the study concludes that Timor-Leste farmers are reasonably commercially orientated and that the most important ‘mindset’ challenge to development is not their low ‘entrepreneurial drive’ but lack of a long-term perspective partly driven by perceptions of farming as a vocation. Farming in Timor-Leste suffers from important knowledge gaps, and an image problem among farmers themselves.

## Key findings

### Facts about farming

- Almost all farms grow multiple crops and livestock primarily for sale. Farmers are very focussed on selling enough and obtaining good prices. Commercial farming is not being treated as a subsidiary activity, secondary to growing food for the family.
- Most farmers sell produce at local level although large minorities sell to collectors or travel to municipal or even Dili's markets.
- Key cash generators for farms are vegetables, fruits, white rice (in some areas) and chickens.

### Farmer perspectives

- Farmers generally consider themselves as having developed their farming practices considerably since their parents' times, and most list a number of innovations introduced in recent years. They feel they are selling more commercial crops and are generally more focussed on selling and marketing.
- Most farmers are reasonably open to change and experimentation and believe farming in Timor-Leste has potential for growth, but that farming practices must be modernised.
- When asked about the future, a majority (around 60%) of farmers took generally optimistic viewpoints about their farms' potential for growth and making more money.

### Attitudes and values of different farmers

- Based on an overall assessment of attitudes and values, a segmentation analysis identified 39% of farmers as having broadly entrepreneurial attitudes and values. This group should be open to new initiatives, and could be primary targets for development campaigns.
- 'Farmer entrepreneurs' are found across all municipalities and demographic groups but are more likely to be male, on slightly larger farms and to be living nearer municipalities.
- The overall mindset of farmers is less of a barrier than hypothesised, but there are some key issues in moving farmers from a generally positive disposition towards change to concrete changes in behaviours.

### Main barriers to entrepreneurial behaviour for farmers

#### 1. Structural issues

Farmers face some major challenges, that limit their capacity to grow, and reduce their interest in making long-term commitments to development:

- Roads and transport remain big issues and limit access to market and types of crops that can be grown
- The small size of most farms reduces potential for development
- Irrigation systems are limited and often poorly maintained
- Need for better warehousing and permanent markets (especially Viqueque)

#### 2. Practical, on-farm problems

The large number of crops/livestock types produced (usually around 6 types per farm) reduces risk for farmers. It may also limit spread of pests and have nutritional benefits. However, it limits focus and ability to achieve scale to attract big buyers.

Farmers also believe they face a number of problems that limit their ability to improve returns including:

- A need for more technology /machinery
- Lack of access to quality inputs (seeds, fertiliser etc.)
- Lack of fencing/wandering animals interfering with cash crops

In many cases they see these as issues that the government or other agencies should help with, rather than being issues requiring personal investment.

### **3. Knowledge and training issues**

Farmers recognise a need to improve their farming and marketing practices. There are gaps in terms of *technical knowledge/training*, including:

- Modern farming practices generally
- Possible crops and livestock outside their current repertoire
- Making better decisions about what to grow
- Spreading expert advice/support to the crops and livestock that make most money for farmers (vegetables, fruit and chickens)

Farmers are also recognise gaps in their understanding of markets and a need for improved *business skills* including:

- Business networking & finding buyers
- Managing cashflow and running the farm as a business
- Bookkeeping, pricing and profitability analysis.
- Balancing household and farming needs
- Taking finance and investment decisions

### **4. Attitudes to risk, finance and investment**

Farmers often have little experience/understanding of the need to make longer-term trade-offs, or take risks to grow.

While most farmers are willing to innovate and take risks, their orientation to this is short-term and limited. Farms are operated mainly on a cashflow basis, with limited understanding of profitability and costs. Few are open to taking loans to develop the farm. Reinvestment of income in the farm is low.

Farmers generally seem to view commercial farming not as long-term business investment, but as a vehicle to generate cash for other purposes (household necessities and education being most important, but also improving housing, cultural giving/ceremonies etc.).

### **5. Aging farmers and household demographics**

The farming population is an older cohort, and importantly they do not want to hand on their way of life. Farmers are fairly positive about farming - but only a minority see it as a vocation for their children. This is partly about the nature of farm work, but mostly reflects cultural and community status issues around farming. Children's education (to help them get non-farm jobs), is therefore prioritised over farm reinvestment, which in turn contributes to the problem of farming being viewed as a means to generate cash for other ends. It also exacerbates the loss of labour and farming skills as children are sent out of the area for 'better' education. This is a major issue confronting agriculture in Timor-Leste.

Households are large (6 people on average). They usually contain several young children and older people, while young adults in the most labour productive age brackets are often being sent elsewhere for education. This puts pressure on farm budgets and probably leads farmers to keep some areas planted in subsistence crops.

Women farmers are generally as interested in cash sales of crops as men. They are aware of prices and are actively involved in marketing and selling of produce. Yet, while many women show distinctly entrepreneurial attitudes, compared to the males interviewed larger minorities of females were pessimistic about the future of farming and the ability of their farms to make money. Fewer are willing to take a loan to improve the farm and in the groups, many were cautious about reinvestment in the farm. Since the study also shows women are very involved in everyday farming decisions this relative pessimism may exacerbate the 'short-term cashflow' view of farming apparent in many households, and may also negatively influence the attitudes of their children.

## Key recommendations

Given the nature and purpose of this study recommendations can only be general in nature, and are not targeted at any particular agency or government department. However, the findings suggest agricultural policy and programme development would benefit from focussing on the following issues (more details on these are included in the summary section of the report):

### 1. Improve the status of farming in Timor-Leste

There is a clear need to change perceptions associated with farming, and farmers views about its long-term potential as a money earning vocation for their children. The issue of young people deserting farming is not unique to Timor-Leste, but the nature of the nation's economy and the lack of jobs outside of agriculture makes this a particularly serious issue. Selling farming as a vocation is a complex issue, and deserves serious planning and consideration.

There is a need to leverage farmers' desire for their children to 'better themselves' in ways that will result in better outcomes for agriculture and the children themselves.

### 2. Target development programmes and education by segmenting farmers based on their attitudes and values

Farmer behaviour does seem to be influenced by mindset. As such, it would be beneficial to develop and target farmers by their perceptions and values as well as by municipalities and type of farm. It would be useful to develop instruments to better identify 'farmer entrepreneurs' vs other segments.

### 3. Respond to the needs of farmer entrepreneurs (and other types of farmers) based on their interests and motivations

Training efforts should target identified knowledge gaps. Many of these are about marketing and selling issues not farming *per se*. Additional programme customisation and resource development may be needed in particular areas.

Farmers are driven by short-term cash generation and are likely to be most receptive to ideas that help cashflow. There is a need for more programmes customised to key income generating produce, for instance: vegetables, fruit and chickens.

#### *Farmer entrepreneurs*

Farmer entrepreneurs tend to have larger farms, live nearer municipalities, and are already doing a fair amount of marketing. They are more likely to be receptive to programmes offering longer-term gains. As well as ideas for improving farming practices, these farmers need help with understanding how to manage credit.

The Government of Timor-Leste, development programmes and other agencies should work with IADE, banks and micro-financing institutions to identify farmer entrepreneurs and help them obtain

and manage necessary financing.

#### *Other farmer segments*

Farmers generally, but especially more traditional and more pessimistic farmers are likely to be more interested in ideas that clearly show immediate potential. They are also more in need of convincing about the general potential of farming. Providing help with ways to manage cash, price and market, and examples of ways better farming practices help build income streams may be necessary precursors to bigger efforts particularly for the less entrepreneurial farmers. Given the size of farms and household composition, ways to access extra land may also be important.

#### *Women farmers*

Women in particular need convincing about the potential possibilities of farming. Increased awareness building around the financial benefits of better farming practices, education programmes on farm management and targeted agricultural support services for women farmers would be helpful. The need is to show farm development can deliver tangible benefits for both themselves and their children.

### **4. Conduct more research among farmers to add to our understanding of their needs.**

This should focus on refining education and programme targeting and providing more specifics farmers' knowledge gaps and needs. It would be useful to develop simple ways to identify attitudinal barriers to development at individual level, so mentoring and assistance could be better targeted.

*“Mostly though, they want their kids to get jobs off the farm - perhaps in a government office. Farming is okay for them, but they want better, higher status jobs for their kids.”*



## Portrait of a Timorese farm

As with any other group of people, farmers in Timor-Leste vary in many characteristics. To give a human face to the facts and figures of the report, it is useful to imagine a typical farmer, who typifies the people we talked to in this study. The following description is based not on any specific farmer, but is a composite drawn from all our discussions and interviews.

Our stereotypical farm is owned by a 50-year-old man and his 45-year-old spouse. They have 4 kids under 16 in the house, plus the male farmer's 69-year-old mother. They have another child, aged 17, but he is studying in Dili. Other relatives live nearby. The farm is 1 hectare in size and it takes approximately 65 minutes to travel to the district capital on a motorbike. They grow six types of crops, two of which (maize and cassava) are mainly for family consumption. However, their main interest is in their vegetable crops (tomato and bok choy) which produce much of their income. They are proud of their success in generating income from these and plan to plant more. They also make money by selling fruit, and occasionally chickens and pigs. They have a few goats which mostly graze on an unfenced area of state land a little distance from the village. The goats are only sold periodically, when needed for a local ceremony or when they require extra money for children's education or *adat* (ceremonial giving and events). Keeping livestock near where they grow vegetables can cause issues, and they wish they could afford better fencing.

Most of their farm income goes on household necessities, but educating the kids is a major priority and costs a lot. While it can get hot and dirty, they are generally content with farming and cannot imagine another life. Their younger son is the one likely to be a farmer, as he is not very good at school. Mostly though, they want their kids to get jobs off the farm – perhaps in a government office. Farming is okay for them, but they want better, higher status jobs for their kids. Generating cash for purposes like education, improving the house and so on therefore tends to take priority over spending on longer-term farm improvements.



*“It is vital to assess how farmers themselves perceive the opportunities and problems they face in developing their farms and marketing produce in Timor-Leste.”*

# Objectives & methodology

## 1. Background

### 1.1 About TOMAK

To'os Ba Moris Diak Program (TOMAK) is a A\$25 million, 5-10 year agricultural livelihoods program funded by the Australian government in Timor-Leste. Its goal is to ensure rural households live more prosperous and sustainable lives. TOMAK will achieve this through parallel and linked interventions that aim to:

- Establish a foundation of food security and good nutrition for targeted rural households;
- Build their capacity to confidently and ably engage in profitable agricultural markets.

The primary target area comprises inland mid-altitude areas that have some irrigation capacity. This zone includes around 66 suku (villages), located mainly in the Maliana basin (including most of Bobonaro); the eastern mountain regions (including large parts of Baucau and Viqueque) as well as parts of Lautem and Manatuto; and Oecussi. The program will initially focus its activities in Baucau, Viqueque and Bobonaro municipalities.

A key part of TOMAK's efforts to help farmers in these municipalities become more confident in engaging in commercial activities involves understanding and mitigating the barriers that prevent

farmers from becoming more ‘entrepreneurial’ or commercially orientated. In this regard it is vital to assess how farmers themselves perceive the opportunities and problems they face in developing their farms and marketing produce in Timor-Leste. Importantly the development of strategies and programmes to enhance food security and improve profitability requires a firm understanding of the extent to which potential impediments to programme implementation are structural (e.g. infrastructure), functional (e.g. fences, farm machinery), individual (e.g. farmer attitudes) or cultural/social (e.g. community demands for money or time).

For this reason, TOMAK partnered with the *Instituto de Apoio ao Desenvolvimento Empresarial* (IADE) to carry out a major study of farmer attitudes and behaviours in the three municipalities. IADE is a semi-autonomous government institute in Timor-Leste. IADE’s mission is to help develop entrepreneurial awareness and business skills in Timor-Leste, with a specific focus on Micro and SME businesses. IADE’s services include business skills training, business counselling, business incubation and marketing and research support. The institute has offices in 12 municipalities, and the research for this study was carried out under the auspices of its Market Research department, with design, project management and analysis support provided by Alastair Gordon, a highly experienced marketing and research adviser based in IADE.

## 1.2 Study objectives

In general terms the study was aimed at understanding how Timorese farmers and/or their spouses perceived their life as farmers: its challenges, opportunities and potential for the future. Specifically, it sought to understand the extent to which farmers already engaged in commercial behaviours, and exhibiting entrepreneurial attitudes and values. Three specific objectives were set:

1. Identify how Timor-Leste farmers (in the three municipalities) currently make money, and engage in commercial behaviours.
2. Understand how social, cultural and attitudinal factors impact farmers potential to be entrepreneurial.
3. Describe challenges and opportunities for farmers to become more entrepreneurial.

## 1.3 Study timing

The study had two phases:

- Face-to-face interviews with farmers carried out in June-August 2017
- Focus groups in each municipality, carried out in August 2017

The results of this research were initially presented in a workshop in Dili in September 2017 and this report documents and further expands upon the analysis presented there. Details of sample and methodology are noted below.

# 2. Methodology

## 2.1 Study design & setup considerations

Given the interest in both measuring current farmer behaviours and understanding the impact of cultural and attitudinal drivers, it was important that the study captured both quantitative and qualitative information on farmers. For this reason, a two-phase research programme was designed, involving firstly a major survey of farmers in each of the three municipalities, followed by focus group discussions to obtain more in-depth response to key issues raised by the survey.

Study design, fieldwork and analysis was overseen by an international research expert, based in IADE, and pre-piloting of questionnaires and showcards was carried out to ensure that wording and

scales were appropriate and understood by rural farmers. Translation of study instruments into Tetun was carried out by experienced IADE staff, and checked by TOMAK in-house experts.

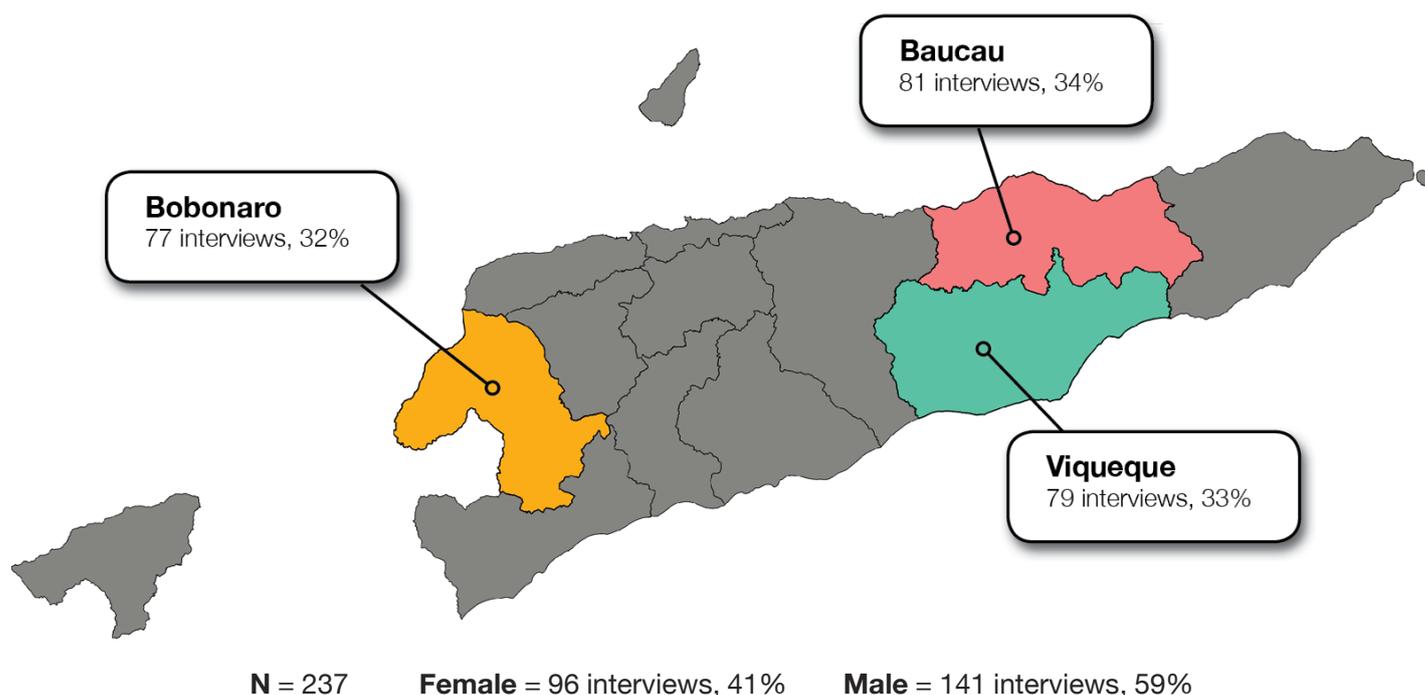
Because a key reason for undertaking this research was to help TOMAK and IADE develop improved programmes and outreach services to encourage more profitable farming practices, it was decided to focus the research on farms that at least had some short/medium term prospect of becoming more commercial. This led to a decision to exclude two types of farms:

- 1. Farms in very remote areas were excluded** (defined as farms that were more than 2 hours in travel time - by motorbike or car - from the Municipality's central market). The geography of Timor-Leste is rugged, and in rural areas road travel can be extremely difficult meaning access to even local markets can be problematic for farmers in remote areas. It is likely that the entrepreneurial attitudes and behaviours of such farmers is different from that of farmers who have at least the possibility of accessing markets.
- 2. Farms were screened to exclude any that were classified as 100% subsistence** – where farmers reported that none of the types or crops or livestock they raised were produced “mainly for cash sale” (i.e. everything was produced for family use). Again, it was felt that purely subsistence farmers would have different attitudes and require different interventions to become more commercial.

In practice, the restriction on travel to market only excluded the most inaccessible areas, and many of the farms covered were difficult to get to and had poor access to infrastructure. Similarly, the second exclusion had only a minor effect as most farmers approached in the municipalities we covered sold at least something for commercial purposes.

## 2.2 Survey details

Respondents for this study were adult (18+) farm owners/managers or their spouses, resident on farms in Bobonaro, Baucau or Viqueque municipalities of Timor-Leste. As noted above more remote farms, and those that were completely subsistence based were excluded. A total of 237 interviews were conducted and the sample was stratified to recruit a relatively equal number of respondents in each municipality.



Due to a lack of an adequate sampling frame, sampling was stratified on an a priori basis to ensure inclusion of a range of *sukus* (and therefore farm types). Within each municipality/*suku*, selection of individual farmers was systematic, utilising IADE, Ministry of Agriculture and Fisheries, TOMAK and other NGO contact lists. IADE municipal staff were instructed to ensure that they contacted a wide variety of farms, and as far as possible interviewed a cross-section of farmers that was ‘typical’ of their municipality. To ensure gender balance, and to explore the role of women in making farm decisions, a gender quota of at least 40% female respondents was imposed.

Interviews were face-to-face, conducted on-site at the farms. Interviews varied between 40 and 70 minutes. All interviewers were full-time IADE staff and attended a two-day briefing covering general survey research techniques, and the specifics of this survey. Only one interview per household was allowed (interviewers were instructed not to interview both the farmer and their spouse).

### **2.3 Focus group discussions**

In addition to the survey interviews, six focus group discussion (FGDs) were conducted by trained IADE moderators. Two groups were conducted in each municipality, and separate groups were run for males and females. Participants were selected to provide a cross-section of ages and types of farms. Groups had between 6 and 10 participants.

Each group had a moderator, co-moderator and observer/note-taker and all groups were observed by the overseeing research expert. Moderators were extensively briefed prior to the discussions, and worked from a FGD guide agreed between IADE and TOMAK experts. Male groups had a male moderator, and female groups a female moderator.

### **2.4 Segmentation analysis**

Segmentation analysis was carried out on the attitudinal data to create attitude/value segments and assess if a significant number of farmers could be classified as having a generally ‘entrepreneurial’ mental orientation. This was carried out with a “R” software Hierarchical Clustering package using Wards Method and City-Block distance measures. Attitude statements were recoded and transformed to achieve a consistent scale and directional meaning prior to analysis.

### **2.5 Note on study coverage**

This study was designed to primarily provide an overview of farmers attitudes and entrepreneurial potential and is not intended to provide a comprehensive profile of Timor-Leste’s farmers and the details of their farming practices. For reasons of cost, time and logistics it was not practical to carry out a fully random-probability survey or to cover more than three municipalities. Within these municipalities it was also not possible to cover all administrative posts. In general, this means we may have not covered some types of farms found in other areas (e.g. only a few farms in our sample grew coffee), and at a municipality level we do not have sufficient sample size to provide a complete description of the municipality (e.g. we were not able to survey rice farming areas in Viqueque). Therefore caution should be taken in interpreting sub-samples in this report. Despite this, it is believed the study covered a good cross-section of farmers, and in general provides a comprehensive description of typical farming practices and farmer attitudes in Timor-Leste.



*“Few farmers showed a good understanding of their costs or profitability...”*

# Main findings

## 3. Farmer profiles and extent of commercial farming

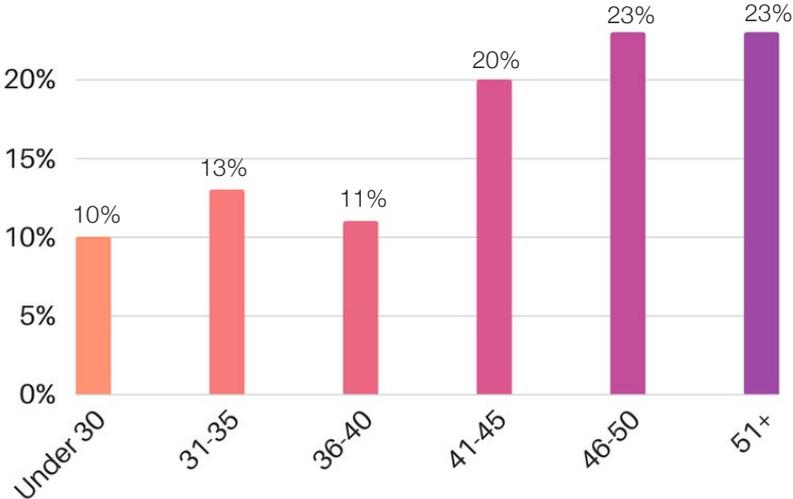
This section of the report provides a description of farmers and their farms, the types of crops and livestock they produce and the extent they engage in commercial versus subsistence farming of each type. Note that, for convenience, the term ‘farmers’ in this report, includes both respondents who may have been the main owner/manager of the farm or the spouse of that person. The base for all figures and tables and figures is ‘All Farmers’ (N=230 – 237 depending on missing data) unless specified otherwise.

### 3.1 Farmer profiles

As noted this report’s methodology does not allow findings to be directly extrapolated to all of Timor-Leste. Nonetheless, based on IADE’s experience it is believed the study sample covers a good cross-section of typical farmers and it is likely many of the findings shown here would be replicated in a nationwide study.

As shown in Figure 1, nearly half (46%) of farmers were over 45 years, and only a third were 40 years or less. In the context of a nation where the median age is 19, and the life expectancy is 68 years,

farmers represent an aging cohort, many of whom are unlikely to personally benefit from longer-term investment in their farms.



**Figure 1. Age of farmers in the study**

Farm households typically had around 6-7 people living in them, with 3 of those being children under 16 (see Table 1 below). Note that household is defined here as the immediate dwelling where the farmer/spouse lived, and so excludes family members living elsewhere. Given that most households also had 2 older adults (farmer plus spouse, usually 40+), it follows that in these farms there are relatively few people aged 16-40 years. This ‘missing’ adolescent/young adult group constitutes an issue both in terms of providing labour, and for transfer of farming knowledge and expertise to the next generation. This picture did seem to vary by municipality, however, farmers in Bobonaro tended to be older than others (60% over 45 years).

**Table 1. Average number of people in household (including children)**

Municipality	Total in household	Number of children
Baucau	6.0	2.9
Bobonaro	7.2	3.3
Viqueque	5.8	3.2
<b>Overall</b>	<b>6.4</b>	<b>3.1</b>

Typically, farmers estimated their farms to be just over 1 hectare in size (Table 2). Once again Bobonaro was slightly different, with 39% of farmers in that municipality having farms of over 2 hectares (driven by the fact that this is a rice farming area, with larger farms). No farms in our sample were over 5 hectares.

**Table 2. Farm size**

Municipality	Mean size (hectares)	% Micro < 0.75 ha	% Standard 0.76-1.9 ha	% Larger > 2.0 ha
Baucau	1.2	17%	69%	14%
Bobonaro	1.7	17%	44%	39%
Viqueque	1.1	37%	48%	15%
<b>Overall</b>	<b>1.3 ha</b>	<b>24%</b>	<b>54%</b>	<b>22%</b>

### 3.2 Number of crops and produce types grown

Although farms are small, Timor-Leste farmers typically report growing 6 different types of crops on their farms. Around half of these are grown mainly for sale, with the balance mainly for family or possibly ceremonial/cultural purposes (see Table 3 below). This distinction is obviously not absolute, with ‘mainly family use’ crops sometimes being sold, and part of the ‘commercial’ crop being consumed at home. Nonetheless, the farmers we spoke to were generally able to distinguish ‘cash crops’ from ‘subsistence’ ones, and usually had a clear idea of what type generated the most income.

It should also be noted that this data refers to broad types of crops as pre-defined in the questionnaire (e.g. vegetables were treated as one type) hence many farms will grow a larger number of individual species. Obviously, these types are not always grown in the same season, but the data does paint a picture of farmers who are growing a wide range of crops.

**Table 3. Average number of crop types grown**

Municipality	Total no. of crop types grown	No. of types grown mainly for sale
Baucau	7	3
Bobonaro	5	3
Viqueque	6	5
<b>Overall</b>	<b>6</b>	<b>3</b>

Interestingly, the number of types of crops grown does not vary greatly in terms of farm size or access to market. Table 4 below shows farms classified by size (less than 1 hectare vs larger than 1 hectare) and travel time to the main municipal market in the municipality (‘near’ being defined as 1 hour or less travel time by car or motorbike). The average number of crop types grown on farms nearer to market, is slightly less than those further away (perhaps reflecting less need to be self-sufficient), but overall the number of crops grown in total, and for cash, does not vary much between small farms far from market and large farms nearer to market. Crop diversity seems to be a general strategy of farmers in Timor-Leste. This may, in part, reflect a perceived need to grow some crops for subsistence, while others are intended to produce cash.

**Table 4. Average number of crop types, by farm size and distance from municipal market**

Farm size	Distance from municipal market	Total no. of crop types grown	No. of types grown mainly for sale
Small	Near	5.6	3.5
Large	Near	6.1	4
Small	Far	6.8	4.1
Large	Far	6.5	3.7

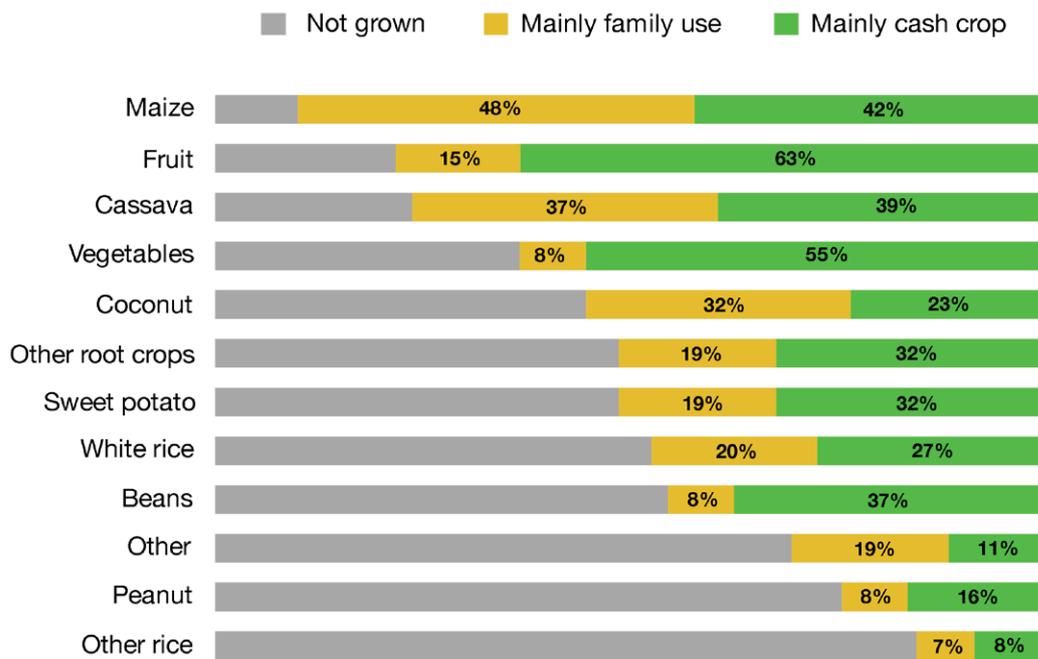
\*Small = < 1 ha, Near = < 1 hour travel time by car/motorbike to market

\*Large = > 1 ha, Far = > 1 hour travel time by car/motorbike to market

### 3.3 Types of crops grown

Figure 2 shows the key crop types grown in the three municipalities, and the extent farmers reported that they grew them for cash sale or more for family subsistence or ceremonial use. Usually, more traditionally grown crop types (e.g. maize and cassava) have much higher proportions of farmers growing them for family use, while vegetables and fruits are primarily cash crops. Nonetheless it is clear many crops are grown with an eye on the market rather than for food.

This is consistent with discussion in the focus groups, where most participants seemed very concerned about whether crops sold well, the prices they received and how to find buyers. While it is clear that farmers often need (and expect) to grow enough to feed the family, marketability seems often to be the more key consideration.



**Figure 2. Crops/produce types grown**

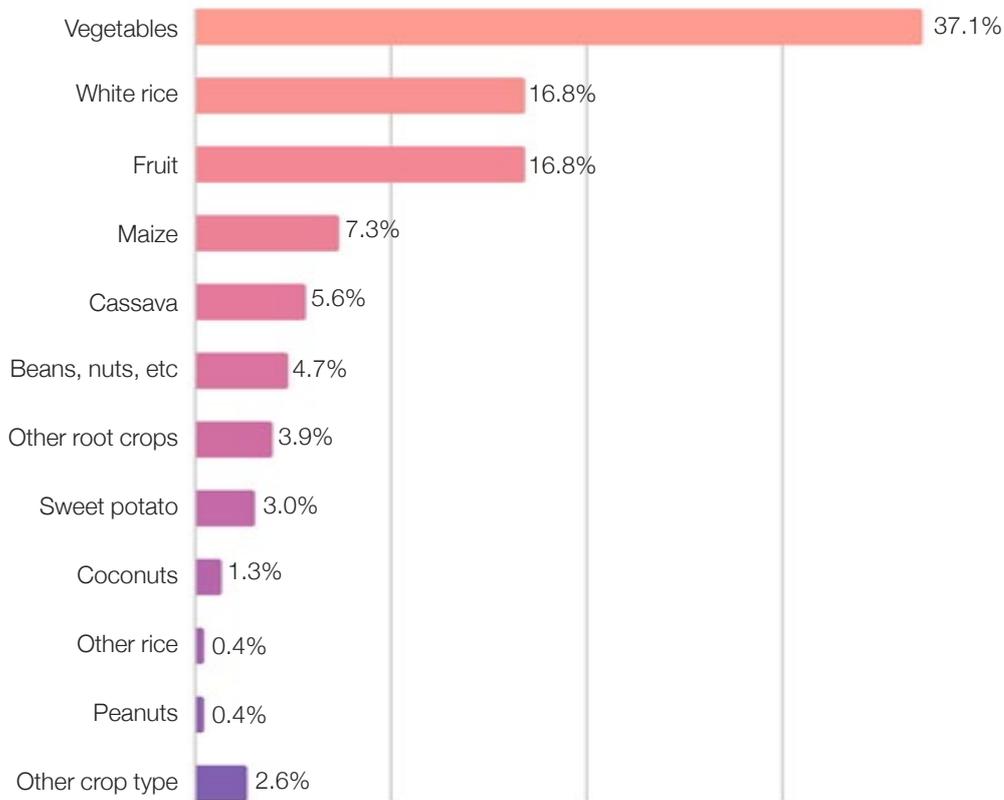
Table 5 on the following page provides more detail on the extent crops are grown for commercial purposes, and provides some commentary on where each crop types was most evident.

**Table 5. Crop types and commercialisation**

Crop type	% of farmers growing crop	% of farmers growing mainly for cash	Comments
Maize	90%	47%	Grown ubiquitously. Mixed between home use and cash crop, but growing it for cash was most common in Viqueque and least common in Baucau or among farms whose primary cash crop was vegetables.
Fruits	78%	81%	Widely grown, especially in Viqueque. Fruits are usually mainly grown for sale, and are often a secondary source of cash supporting main crop income.
Cassava	76%	51%	Widely grown everywhere, but especially in Viqueque. In Viqueque it is mostly grown for sale, while in Bobonaro/Baucau a majority grow it for family use. Farms growing it for sale tend to be more distant from market.
Vegetables	63%	88%	Grown mainly for sale, for those who grow them vegetables are often the main source of income from crops. Growing vegetables varies by municipality; 79% of farmers interviewed grew them in Baucau, 57% in Bobonaro, and 41% in Viqueque.
Coconuts	55%	42%	Widely grown. Usage is mixed, although in Baucau coconuts are mainly for the family and in Viqueque more often for sale.
Other root crops	51%	63%	Most common in Viqueque and least common in Bobonaro, usage is mixed.
White rice	47%	58%	We were not able to cover some key rice growing areas in Viqueque and this has probably lowered the overall incidence of rice growing shown here. Most common in Bobonaro, where 72% grew it and it is a key cash crop. In Baucau around half the farms grew some, but more often for home use than sale.
Beans, peas, nuts etc.	45%	83%	Very commonly grown on Viqueque farms, less common elsewhere. Usually cash crops.
Sweet potato	42%	67%	Only grown by a minority in Bobonaro, where it is mainly for family use. Approx. half of farmers in other municipalities grow sweet potatoes with usage divided between home use and sale.
Peanuts	24%	66%	In our survey peanuts were most commonly found in Baucau (29% reporting growing), where they were generally grown for sale.
Other crops	30%	38%	This category represents a range of miscellaneous crops not covered above. Farms growing these were most commonly found in Baucau and Bobonaro, and these minor varieties were more commonly for home use.

### 3.4 Overall main cash crop

When farmers were asked which of the various crops they grew generated the most cash income (Figure 3), the clear leader across the three municipalities was vegetables, followed by fruit and white rice. In group discussions vegetable farmers seemed somewhat more satisfied than other farmers with their choice of crop and its commercial potential.



**Figure 3. Crop types generating most income**

Table 6 shows the percentage of farmers in each municipality by the crop they specified as the one that contributes most income. (For clearer analysis some crop types have been grouped). The importance of vegetables in Baucau is clear. The (often smaller) farms we surveyed in Viqueque were more likely to rely on traditional crops and fruits for any income.

**Table 6. Crop type contributing most cash income, by municipality**

Crop type	Baucau	Bobonaro	Viqueque
Traditional crops (maize, cassava etc.)	16%	9%	<b>33%</b>
Fruits (incl Coconut)	4%	5%	<b>44%</b>
Vegetables	<b>61%</b>	<b>30%</b>	18%
White rice	11%	<b>39%</b>	0%*
Other (nuts, peanuts, beans etc.)	9%	17%	5%

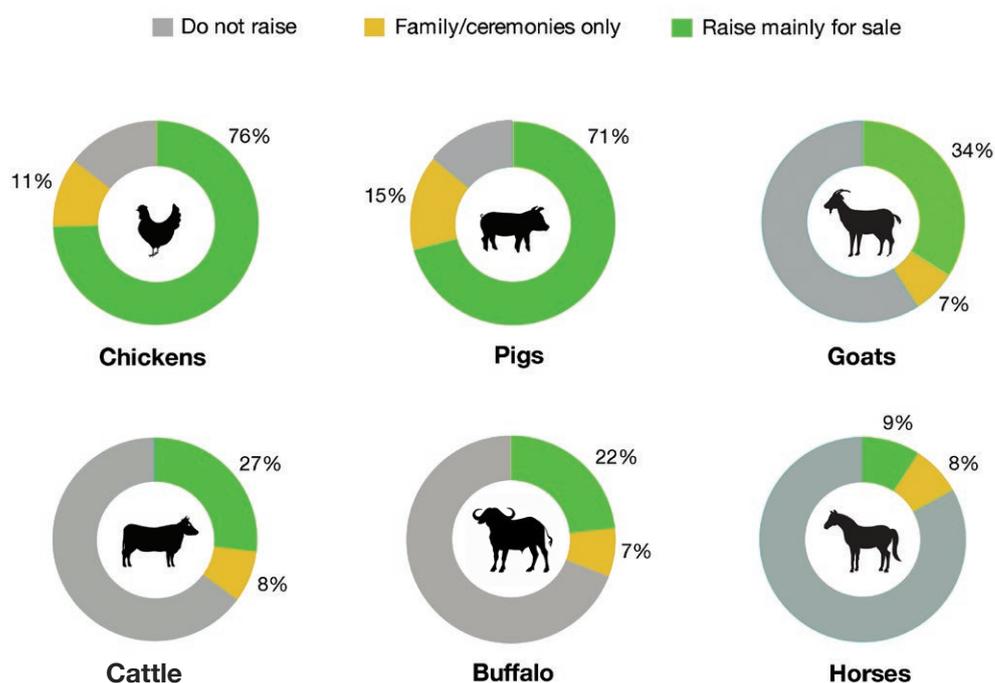
\* For logistical reasons the survey had to omit a key rice growing area in Viqueque. This has likely depressed the proportion for rice income in this municipality.

Fruit is only the largest crop income source on farms in Viqueque, yet they are a common secondary source of income across many types of farms (see Table 7 below). This table also reinforces the point that most farmers are selling a diverse range of crops.

**Table 7. Sources of secondary income from crops**

Farmers who make most money from:	Also commonly sell... (*)
Traditional crops (maize, cassava, sweet potatoes, other root crops)	<b>Fruits, beans/nuts</b> , vegetables, white rice
Fruits (including coconut)	<b>Cassava, beans/nuts</b> , maize, other root crops, vegetables
Vegetables	<b>Fruits</b> , sweet potato, maize, cassava, other root crops, peanuts, beans/nuts, white rice
White rice	<b>Vegetables</b> , maize, fruits, coconut, cassava
Other (nuts, beans, coffee, etc.)	<b>Fruits</b> , other root crops, maize, sweet potato, cassava

### 3.5 Livestock raised



\*A small percentage of farmers reported raising sheep and/or other animals (not shown above)

**Figure 4. Types of livestock raised**

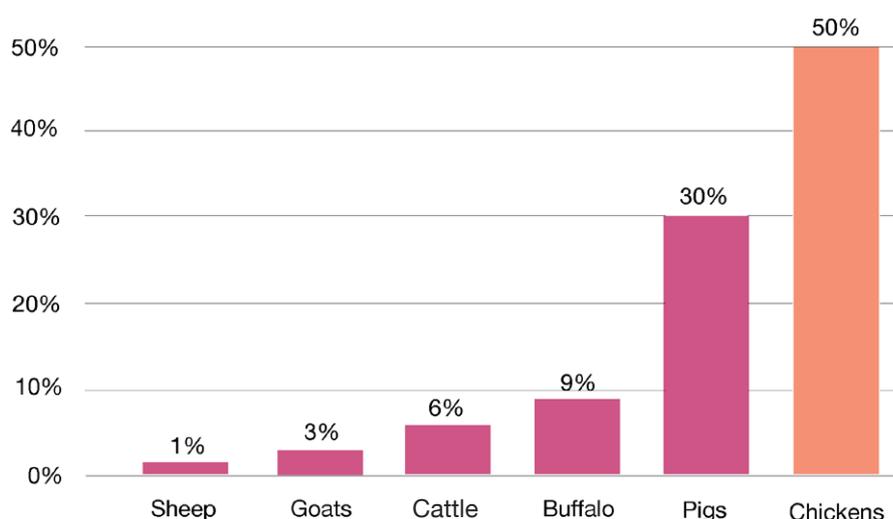
Chickens and pigs were by far the most common animals raised on the farms we surveyed (see Figure 4). Despite the relatively small size of farms in Timor-Leste, they raised, on average, 3 types of livestock, most typically pigs, chickens and one other larger type (buffalo, cattle or goats). Usually these animals (of all types) are raised primarily for sale. This varied only slightly by farm size and municipality (Table 8).

**Table 8. Average number of livestock types on farm**

Average N of livestock types (by municipality & farm size)		N types raised (mean)	N types for sale (mean)
Municipality	Baucau	3.1	2.3
	Bobonaro	3.6	3.1
	Viqueque	3.3	2.6
Farm size	Micro (0.75 ha or less)	3.3	2.6
	Regular - small (0.8 - 1 ha)	3.3	2.6
	Regular - medium (1.1 - 1.9 ha)	3.4	2.7
	Larger (2 ha+)	3.4	2.8
Overall		<b>3.3</b>	<b>2.6</b>

As shown in Figure 5, chickens provided half the farms surveyed with their largest income source from livestock sales. Observation and the focus groups reveal that for most of these farms raising chickens is a small scale, low investment, ‘free range’ activity. Yet chickens generated the most livestock revenue for all types of farms irrespective of size and distance from market. Although they are more important in smaller farms near to a main market, where 61% reported chickens as a main income source.

Imported chicken is common and relatively cheap in Timor-Leste, so the fact that more premium priced local chicken generates income for so many farmers suggests that there is market demand and potential for programmes to help farmers expand production. However, prior to attempting to do so, market research to understand the taste, quality and attitudinal perceptions of local consumers should be undertaken in order to ensure that new production methods do not undermine local farmers’ ability to charge a price premium over imports.



**Figure 5. Livestock type generating most income for farmers**

Interestingly, while most farmers who raise larger animals (goats, cattle and buffalo) claim that they primarily raise these for sale, only a minority of them say these make more money for them than compared to chickens or pigs. Only 29% of those raising cattle ‘mainly for cash sale’ reported this as the source of most of their livestock income, the value for buffalo was 25%, and for goats only 7%.

This suggests that sale of these is irregular, perhaps associated with local ceremonies and similar events. Again, based on the focus groups and observation, it seems three factors probably contribute to these larger animals continuing to be raised despite their lower relative returns:

- Their cultural symbolism and significance in cultural events (weddings, funerals etc.) means that ownership confers prestige, and that there is steady if sporadic ongoing demand from local events and ceremonies.
- They are effectively ‘money in the bank’ giving access to (relatively) large sums in emergencies etc. (Having them also protects the farmer from having to buy them in when their own cultural obligations demand it). This is especially useful in rural setting where access to banks for cash savings is often unavailable.
- Many farmers can access low occupancy, unfenced areas (state owned, unclaimed/unoccupied areas, abandoned farms, communal land etc.) offering free/low cost grazing. This makes it possible for farmers owning even very small farms to keep a few bigger livestock.

Farmer’s views on such animals is not unambiguously positive, however. Not only can they be costly to obtain and raise, in most of our focus groups farmers mentioned the effect of wandering livestock damaging crops. This seemed of special concern to vegetable farmers, and in the woman’s groups. Changes in types of crops farmed (e.g. more horticulture) and perhaps possible changes in land laws/definition of property rights may thus increase demands for better animal control making such animals less viable for some farmers.

## 4. Decision-making and future trends

### 4.1 Decision-making about crops

The FGDs explored how farmers decided what specific crops to grow, how willing they were to try out new ones, and how they assessed the success or failure of a crop or variety. Based on the responses we have suggested a model of farmer decision-making, illustrated in figure 6 below. Since it is based on qualitative data this model is necessarily tentative, but we believe is likely to be reasonably typical of Timor-Leste farmers generally.

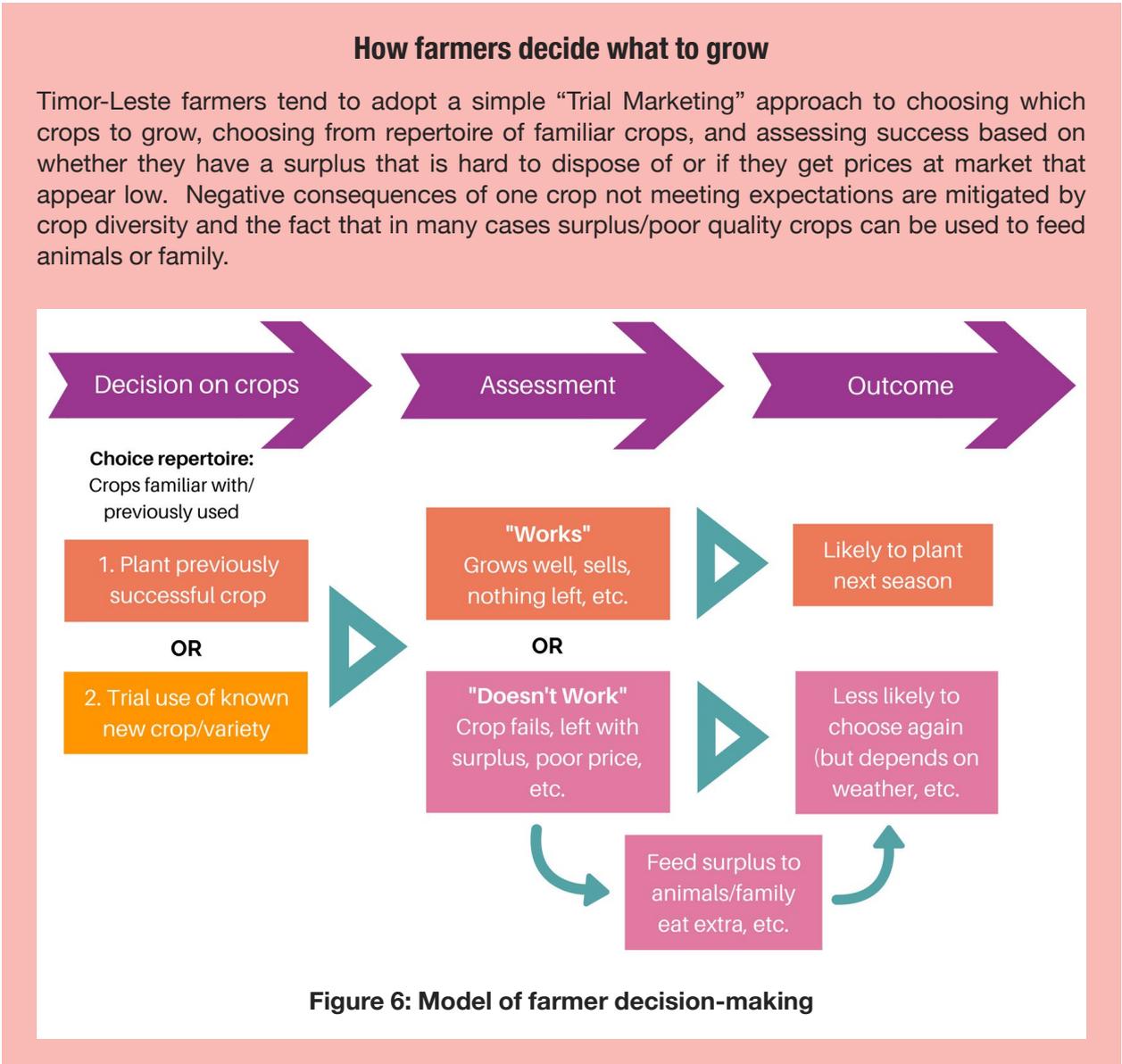
Farmers in our groups adopted a ‘trial marketing’ approach to crop choice, being willing to grow a diversity of crops and assessing the success of them on a few simple criteria.

As noted earlier, it is not unusual for a Timor-Leste farmer to be simultaneously growing crops as diverse as papaya, bok choy, cassava and rice. Given this general strategy of crop diversity, and familiarity with differing crops, it is not surprising that farmers in the groups were relatively open to trying new crops, and this willingness to innovate is supported by quantitative data reported later in this report.

However, in general farmers in the groups do not seem to be actively searching out ideas for new crop types – instead each season crops are chosen from a repertoire of crops they are familiar with, ones they had grown personally or had heard something positive about. This illustrates the importance of awareness building to show farmers the existence of new/superior crops or varieties. It is also the case that willingness to try new crops may be tempered if introduction requires investment – as will be shown later, farmers are generally unwilling to consider taking out loans, and the cost of inputs is also a concern to many.

Unsurprisingly, farmers did not have detailed assessment criteria for deciding if a given crop was successful for them. Instead they relied on a ‘holistic’ assessment about whether the crop worked for them overall. While part of this assessment was based on purely farming factors (grows well, susceptibility to pests etc.), much of it was market or family consumption driven: – did we sell most of it? Did we produce enough for my family needs? Was the price good? etc. However, few farmers

showed a good understanding of their costs or profitability, so these success criteria are often very general focussing on how much of a crop was left unused/unsold or rough assessments about the fairness of prices received. It seems probable that further education in costing/pricing and basic business skills might enhance decision-making about crop success.



The groups also explored gender roles in farm decision making, because it was suspected that males may dominate their spouses on key decisions about crops, marketing or farm investments. In the event, while there was some suggestion that males may play more of part in some livestock decisions, and women more in terms of sales of vegetables and smaller livestock and similar produce, overall it was clear both sexes discuss and try and agree on most key decisions.

As noted male and female groups were run separately, and with male and female moderators respectively. In neither set of groups did participants claim one gender dominated decision-making (men did not claim to make all the key decisions for instance, and women seemed generally bemused by any suggestion they might be excluded from such decisions). Participants typically claimed to discuss issues fully with their spouses and made specific mention of key areas such as decisions on what crops to plant and how to price for sale.

However, details on precise types of decisions and level of satisfaction with these joint decisions was not explored in this research, and it should be noted that other analyses conducted by TOMAK

(Gender Equality and Social Inclusion Analysis), has suggested that perceived equality of decision-making may sometimes conceal elements of coercion.

The precise nature of decision-making on farming issues is therefore worthy of further research, both in terms of gender issues and community and cultural factors that may impact the process.

## 4.2 Anticipated changes in crop production

For each crop a farmer grew, they were asked if they thought that, ‘in the next few years’, the amount they grew, or the land they allocated to the crop, would be likely to increase, decrease or remain about the same. This question was obviously intended to give an indication of which crops are perceived as having relatively more ‘future potential’, rather than providing exact estimates of likely increases. In the event farmers were surprisingly optimistic, often choosing multiple crops as increasing, and seeming reluctant to suggest they would decrease anything. This may reflect both a generally optimistic attitude, and perhaps an unwillingness to consider risk dropping crops from their repertoire.

In relative terms though, vegetables are the clear winners in terms of the proportion likely to increase plantings (Table 9, below), and fruits, beans/nuts also have large proportions considering increases. By contrast the nearly ubiquitous maize, is much less likely to be a candidate for increased production, and indeed 15% of maize farmers are thinking of decreasing the amount produced. Other traditional crops, like cassava and sweet potatoes are also less likely to be increased.

The fact that farmers see fruit and vegetables as having the most future potential seems to reflect their status as the crops that produce the most income, and is a sign that farmers are indeed following the market and willing to adapt farming practices to respond to economic signals.

**Table 9. Anticipated change in amount/land planted in crop**

Crop type	Decrease	Same	Increase	Net % increase
Vegetables	3%	35%	62%	<b>59%</b>
Fruits	4%	48%	48%	<b>44%</b>
Beans, nuts etc.	9%	40%	52%	<b>43%</b>
Coffee*	14%	29%	57%	<b>43%</b>
White rice	0%	60%	40%	<b>40%</b>
Cassava	4%	57%	39%	<b>35%</b>
Sweet potato	11%	44%	46%	<b>35%</b>
Peanut*	10%	44%	44%	<b>34%</b>
Other root crops	5%	58%	38%	<b>33%</b>
Other crops/cereals*	19%	19%	52%	<b>33%</b>
Coconut	3%	71%	26%	<b>23%</b>
Maize	15%	48%	37%	<b>22%</b>
Other rice (red, black etc.)*	18%	56%	23%	<b>5%</b>

Base: Farmers growing each crop type. \*Caution: Small base, N<50.



*“The fact that farmers see fruit and vegetables as having the most future potential ...is a sign that farmers are indeed following the market and willing to adapt farming practices to respond to economic signals.”*

Farmers were also asked about brand new crops that they might consider in the future (i.e. in addition to ones they regularly grow already). Overall, they did not mention considering many new crops, possibly reflecting the fact that, for such small-scale farms, most farmers were already trying a fair variety of crops. Notably though, peanuts, beans and other nuts came up most often (see Table 10 below), suggesting that these alternatives are being discussed by several farmers.

This subject was also discussed in the focus groups, and as with the survey we found that most farmers tended to consider future potential mainly within the framework of their existing crops. This may indicate that, if agricultural programmes want to introduce brand new crop types to an area, then awareness raising about the proposed crops will be a vital first step. In addition to the crops noted below however, group participants did mention coffee fairly often (indicating there may be appetite for expanding this crop outside its traditional areas), and a number raised the potential of planting teak trees.

**Table 10. Potential new crops farmers might try**

Possible new crop (not currently grown)	No. of farmers who may try	Notes
Peanuts	23	Mostly Bobonaro
Beans, peas, other nuts	16	Mostly Baucau
Vegetables	13	Baucau & Viqueque
Sweet potato	13	Mostly Bobonaro
Fruits	12	Baucau & Bobonaro

### 4.3 Perceptions of changes in farming practices

Most farmers in our sample came from families that had lived in the area for generations, although some of the women farmers had moved to the area when they married. They therefore had a clear idea of what farming used to be like, and what changes had taken place. It is interesting therefore that, despite the turbulence of Timor-Leste's recent history, in all our groups participants reported signs of major, usually positive, changes in farming practices compared to previous generations.

The top-of-mind changes they reported were in planting practices (moving from scattering seeds, to careful planting in rows, moves away from burning fields etc.). Introduction of hand-tractors and threshing machines, and decline in use of buffalos for ploughing was also noted, as was the use of improved inputs (better seeds, fertiliser, etc.). Above all they talked about the fact that their ancestors had been more totally subsistence farmers, growing cassava, taro and maize for their own families and selling little. The move to growing vegetables for cash for instance, was noted by many as a very significant change.

Most importantly for the purposes of this report, farmers saw these changes as good, as 'progress'. Generating cash from farming is seen as an important goal, and **their own life experiences have shown them that generating income requires changes in farmer behaviour**. There was little sign of nostalgia for old practices, and generally our farmers see 'modernisation' of farming practices as desirable. Where there was some 'nostalgia' expressed for former times, it was not for traditional lifestyles or farming practices, but for some of the economic systems and infrastructures that had been lost or disrupted in the troubles of the independence struggle. The need to repair and renew roads and irrigation, replace lost warehousing/storage facilities and, in the case of several rice farmers, a desire for the Timor-Leste government to emulate the old (Indonesian) centralised, single government buyer approach which is remembered as offering an assured price for all they could grow.

When asked to extrapolate into what things would or should be like in the future, farmers did not offer many specifics, yet were clear they saw farming as needing to modernise, and for current progressive trends to continue. That is, they saw the future as being about more changes to crops planted, better inputs and more mechanisation. They did say that change was also dependent on the development of better infrastructure (especially roads) and in some cases also mentioned a need for the development of distribution/marketing facilities, including; better seed, crop warehousing and storage facilities, a new permanent market in Viqueque, etc.

One specific area for development, mentioned in several groups, was the need for improved animal control by better fencing and animal housing (sties, barns). Typically, though, farmers had a general perception that better ways to farm existed, and were desirable, but felt they did not know enough about them to give specifics: they just felt farmers of the future would need to be "more modern".

The farmers' perception that farming practices were changing, is reinforced by the survey data (see Figure 7). A trend to commercialisation is clear with half the farmers reporting that in recent years they were selling more of their crops in local markets. A similar proportion (47%) claimed to have started growing a new crop/vegetable type, showing farmers are expanding their repertoire of crops.

Several other 'new activities' were reported by around a third of respondents, including introducing new technology or machinery, starting to use new inputs (better seeds, fertiliser, pesticides), trying a new variety of an existing crop, taking advice from MAF agricultural extension workers and selling more to buyers and collectors (e.g. from supermarkets).

In terms of personal investment it should be noted that only 13% of farmers have borrowed to develop the farm, and based on the group discussions and farmers comments during interviews, many of the more expensive activities above (new machinery, expanding irrigation) have been supported by GoTL or NGO funding/donation. Most other new activities are funded out of cashflow from sales of crops and livestock. Hence, while farmers are willing to try new things (e.g. new crops and varieties) or put cash into inputs that generate short-term return (fertiliser, better seeds), there is less evidence

that farmers have a willingness or perhaps ability, to take bigger risks or borrow to fund longer-term improvements.



**Figure 7. New activities undertaken on farm in recent years**

Moreover, this pattern of activity varies markedly depending on what farmers grow for cash, and where they live. As shown in table 10, the big investment activities (new technology, better irrigation, taking a loan to improve the farm etc.) are more common among farmers who make most income from white rice, while changes in commercial activities (selling more in markets, selling more to buyers and collectors) are more common among other types of farmers.

People who make most crop income from traditional type crops, or fruit are the ones most likely to report having expanded livestock production. Since these farmers are disproportionately represented in Viqueque, this may perhaps reflect a desire to look for alternative sources of income in areas where it is perceived as difficult to grow or distribute other crops. It may also reflect the fact that vegetables and rice are likely to be susceptible to damage from wandering stock, and if they are a main source of income adding livestock may not make sense.

Notably, while 59% of rice farmers have take advice from the MAF agricultural extension worker in their suku, the figures for other types of farmers was lower, sinking to 19% among those who depend on fruits for their main income.

Given that many farmers make most of their money from sources other than rice, it may be queried whether this distribution of investment and advice is optimal, and if more resource should be diverted to support other farming types.

It may also be useful to consider whether rice farmers may benefit from more advice and support on

commercial decision-making, pricing and similar areas (as opposed to more production focussed support). Rice farmers in our FGDs were more likely to talk about the need for ‘guaranteed buyers and prices’ or to want some form of state supported centralised buying scheme (policies that in the current global economy are unlikely to be sustainable for the government in the long-term). They also often expressed difficulty in finding buyers for all their crop and expressed a lack of knowledge about how to market and sell.

**Table 10. Changes in farming activity by main source of crop income\***

Recently introduced activity	Traditional crops (eg. maize)	Fruits (inc. coconut)	Vegetables	White rice	Other crops	Total
Introduced new farming technology	28%	17%	33%	90%	24%	38%
Borrowed money to develop farm	4%	17%	12%	26%	8%	13%
Better irrigation/water sources	15%	12%	26%	72%	20%	28%
Took advice from local agricultural extension worker	33%	19%	29%	59%	24%	32%
Expanded livestock production	46%	41%	19%	13%	32%	28%
New type of crop/vege grown	48%	39%	51%	44%	52%	47%
New inputs (fertiliser, pesticides etc.)	33%	14%	47%	46%	16%	35%
Tried new varieties of existing crops/vegetables	41%	31%	29%	31%	24%	32%
Sold more crops in local markets	52%	67%	56%	18%	48%	50%
Sold more to buyers/collectors	30%	57%	26%	18%	24%	31%

\*Shows col. %

This variation in activities is also reflected in an analysis by municipality (see Table 11). In general Bobonaro farmers are more likely to have undertaken a variety of new activities. Notably, reported borrowing to improve the farm is much more common in Bobonaro than elsewhere.

**Table 11. Variation of investment activity in a farm, by municipality**

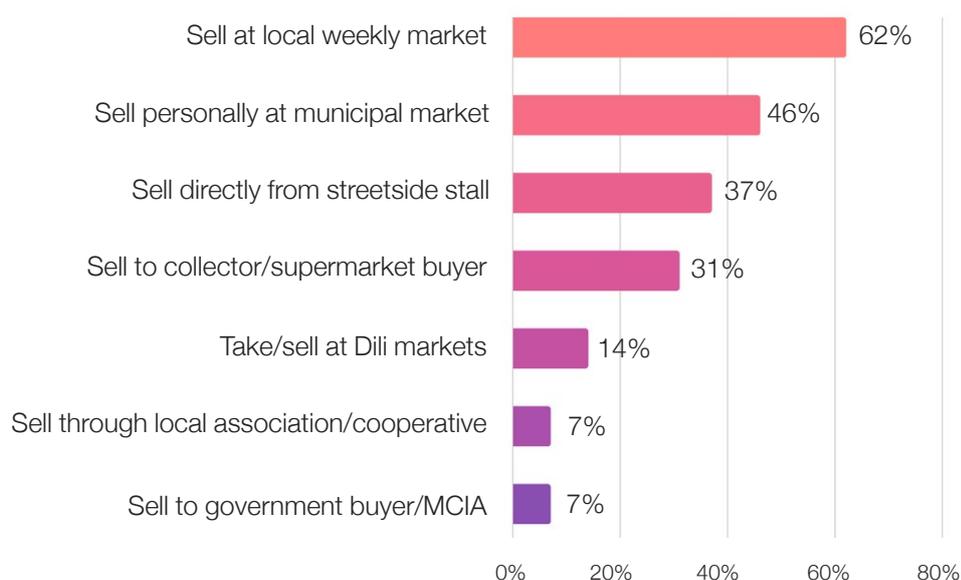
Investment activity	Baucau	Bobonaro	Viqueque
Introduced new farming technology	31%	70%	14%
Borrowed money to develop farm	5%	31%	4%
Better irrigation/water sources	16%	61%	9%
Took advice from local agricultural extension worker	40%	40%	17%
Expanded livestock production	10%	23%	52%
New type of crop/vege grown	47%	56%	39%
New inputs (fertiliser, pesticides etc.)	40%	52%	14%
Tried new varieties of existing crops/vegetables	21%	40%	34%
Sold more crops in local markets	47%	42%	61%
Sold more to buyers/collectors	16%	31%	44%

\*Shows col. %

## 5. Funding the farm: Marketing, credit & secondary income streams

### 5.1 Distributing and selling produce

Produce is most commonly sold at local weekly markets in the area close to the farm (Figure 8). Slightly under half mentioned selling in municipality markets (i.e. the main city in the municipality), while 37% sold directly from street-side stalls near the farm. A little over 1 in 10 farmers reported making a regular effort to take produce all the way to Dili.



**Figure 8. Where farmers sell their crops**

A typical farmer said they regularly sold via at least two of these methods, showing that some effort is being made to market goods. This is reinforced by Table 12 below, which shows places produce is sold, by the farmers main source of income from crops. (Note, this table does not necessarily show where farmers sell their main crop – the venues shown could be used to market secondary crops).

**Table 12. Place of sale for main cash crop**

Place sold	Main cash crop				
	Traditional (maize, cassava etc.)	Fruits	Vegetables	White rice	Other crops
Streetside stall	47%	27%	46%	24%	24%
Local weekly market	76%	74%	69%	29%	44%
Municipal market	38%	17%	46%	72%	64%
Take to Dili	4%	26%	15%	8%	12%
Collector/supermarket buyer	24%	48%	36%	16%	24%

\*Shows col. %

The large majority of vegetable, fruit and ‘traditional crop’ farmers sell in local weekly markets. Rice farmers and farmers producing other crops (most usually beans, nuts/peanuts) are more likely to favour larger municipal markets. Fruit and vegetable farmers also make relatively more use of collectors or supermarket buyers.

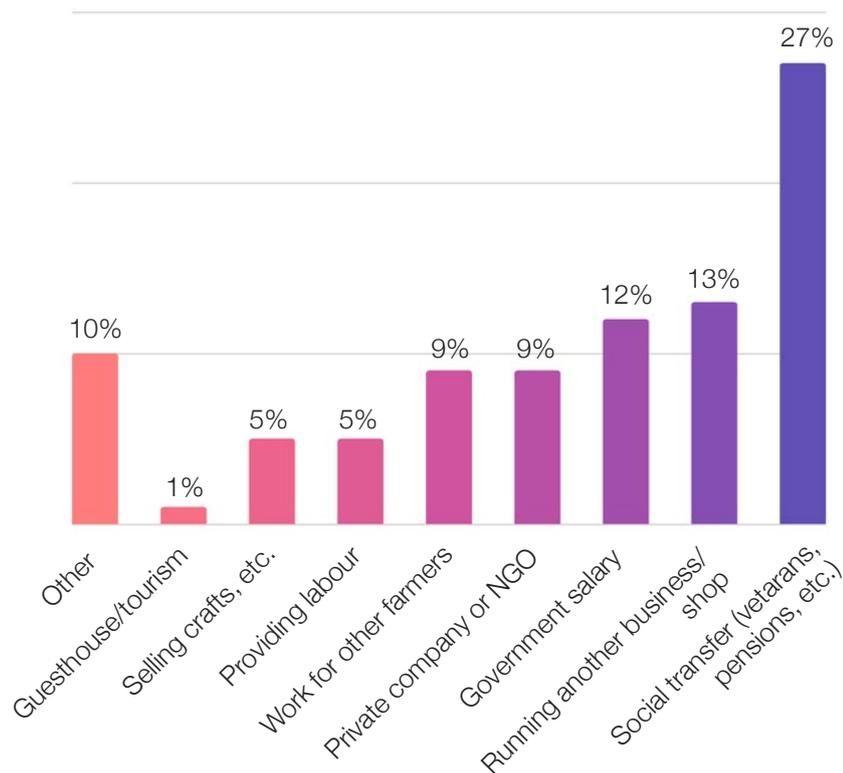
Notably almost the same proportion (a quarter) of fruit farmers take produce to Dili as sell on a streetside stall (and 17% sell in their municipality market). Since most such farmers in our sample were in Viqueque, this represents a lot of effort and travel and illustrates the importance they place on generating cash from farming. Increasing sales of fruit at local level could have both income and nutrition benefits, so it may be worth investigating whether the Dili sales relate to local over-supply (most locals having access to their own fruit), pricing, varieties grown or low demand for fruit in local diets.

An issue often raised by supermarket buyers is consistency of supply, with farmers providing produce one year, but not the next. The small volumes produced by each farm, and the seasonal nature of various crops clearly contribute to this problem. However, this data suggests that part of the issue may be that farmers sell through various mechanisms, and may need convincing to reserve bulk supply for collectors (in FGDs some farmers complained that buyers pay too little or are too demanding).

## 5.2 Secondary income streams

Thirty-nine percent of respondents mentioned that they, or members of their family, regularly made income from selling agricultural products in markets. Besides this, the most common secondary sources of income were via social transfer: pensions, veterans allowances etc. which benefit around a quarter of farm households surveyed (see Figure 9 below). Social transfers were more common in Bobonaro and Viqueque (approx. 40% of farms in each, compared to 17% in Baucau).

Several other secondary income sources were mentioned by around 1 in 10 farmers each: Working for other farmers, receiving a government salary, working for a private company/NGO, and running a shop or other business. Overall 41% of farming households had some sort of secondary income source aside from selling their produce, although this was often not ‘entrepreneurial’ in nature.



**Figure 9. Other sources of income for farmers**

### 5.3 Attitude to credit

Timor-Leste farmers, especially non-rice growing ones seem averse to taking loans. When asked “*If you could get a loan or credit from a bank, or micro-credit organisation, **that you could only use to improve your farm and had to pay back**, do you think it would be worth taking the risk to take that loan?*” most farmers (72%) replied “No”. Women farmers were slightly less likely than men to consider a loan under these conditions (76% of females, vs. 69% of males).

Moreover, almost all those who would take a loan were in Bobonaro, where 60% would take a loan, compared to less than 10% in the other municipalities. Similarly, 64% of farmers earning most of their crop money from rice were willing to take a loan (compared with 14% of vegetable or fruit farmers). There may be several factors that make such farmers more open to taking loans:

- The nature of rice farming means that some activities (e.g. harvest), occur in short, time-critical peaks, often when labour is in short supply. In addition, farms tend to be larger. This makes mechanisation, transport and similar investments highly attractive. This is exacerbated by social trends noted later in this report whereby many young people are leaving the farm. In the focus groups Bobonaro farmers were particularly vocal about young people being lazy, not wanting to be involved in key farming activities and the cost of replacement labour at harvest time and that this made mechanisation (e.g. hand tractors) more attractive. When those who asked what they would spend money on if they took a loan, the most common reasons were to hire/buy a tractor, pay for labour (harvesting or planting) and miscellaneous equipment like milling machines.
- Cash-flow is an issue on rice farms as most money comes in a single payment after harvest. This may increase the need for bridging finance (and the lump sum nature of their earnings may reassure lenders to advance loans). Notably, in our groups, vegetable farmers saw the faster turn-around of growing and sales they enjoyed as a major advantage.
- Nearly a third of Bobonaro farmers (31%) reported having taken a loan in the recent past.

There is likely to be more community exposure to, and acceptance of, the need to borrow to grow the farm.

In general farmers who were willing to take a loan seemed to be doing it to compensate for labour shortages (e.g. to pay for a tractor, or pay for seasonal labour), or to pay for immediate inputs (seeds, replacement stock, fertiliser, pesticides). A few mentioned longer-term investments in fencing, barns etc., but this was a minority.

Some farmers would take a loan to “improve the farm” or “do better business” etc., without having clear ideas on specifics they might use it for. In addition, despite the question wording saying the loan must be for farm improvement, 10 of the 58 farmers willing to take a loan said they would spend some of it on family support, usually education.

Overall then, most farmers (especially those on vegetable, fruit and traditional crop orientated farms), are funding their activities out of cash-flow and would need convincing to seek finance. Even when loans are sought, they seem to be mostly for purposes of keeping the farm going, rather than longer-term investment. Programmes that want to encourage self-funded investment in ongoing farm development, therefore need to firstly make the potential gains seem more desirable to farmers, and secondly provide education on worthwhile long-term investing and sensible borrowing practices.

## 6. Challenges and prospects

### 6.1 Main challenges reported by farmers

Farmers were asked to rate a list of possible problems, as “big”, “small” or “not a problem” in the context of their own farms. Most farmers chose several issues as “big”, with on average, 4.8 “big problems” being chosen (from a list of 12). They were then asked which of these problems was the most important one they faced.

**Table 13. Perceived problems faced by farmers**

Problem type	% reporting as MAIN problem	% rating as:		
		Big problem	Small problem	Not a problem
Lack right technology or machinery	29%	68%	15%	17%
Can't get good quality inputs	16%	59%	19%	22%
Hard to find buyers who will buy enough	19%	54%	22%	24%
Don't know how to market or sell crops	7%	52%	32%	15%
Need help/information on farming better	2%	49%	31%	21%
Poor transport/distribution	8%	46%	22%	32%
No money for improvements	5%	37%	35%	28%
Don't know about pricing for sale	3%	30%	34%	36%
Not enough land	4%	28%	17%	55%
Not enough time to get things done	3%	24%	25%	50%
Land not suitable	3%	21%	19%	59%
Too few workers	3%	19%	30%	51%

*“Not having the right machinery or technology to improve my farming”* was clearly perceived as the biggest problem for most farmers, with 68% saying it was a big problem, and 29% choosing it as the main problem they faced.

Many also agreed that *“It’s hard to get good quality inputs like seeds, fertiliser etc.”*, with 59% saying this is a big problem. Finding buyers who will buy enough of the crop is seen as a problem at a similar level, with 54% saying it is a big problem, and nearly 1 in 5 farmers seeing it as their main challenge.

Two knowledge related challenges are widely reported: Not knowing enough about how to market or sell crops, and needing help and information on better farming practices. Each of these were rated as big problems by around half of farmers, while in addition 30% said they needed more information on how to price produce for sale. Although these issues were seldom rated as the ‘main problem’ facing farmers, they do show that Timor-Leste farmers are interested in finding out about better marketing and farming practices.

Perhaps surprisingly, some of the more ‘structural’ problems faced by farmers: farm size or land suitability, transport and distribution, access to finance or lack of workers were lower down the list of reported problems. Technology, marketing and finding better ways to drive farm productivity seem more top-of-mind to the average farmer.

However, this is not to downplay these issues; transport issues, lack of finance or workers are big issues to significant numbers of farmers, and in our group discussions it was clear that when farmers do face these issues, they feel very frustrated and even angry. In particular the issue of transport, was explicitly related by some to the problem of lack of buyers. Similarly, in a couple of the discussions farmers noted the pointlessness of making improvements in other areas if local infrastructure (especially roads) remained poor.

Finally, as noted earlier, in the FGDs, animal control and housing (fencing, stables/barns, pigsties etc.) came up regularly as a growing issue for farmers, but unfortunately, we have no quantitative measure of the extent of these problems. It is recommended that these issues be included in any future survey of this nature.

Table 14 illustrates how problems varied with a farm’s main cash crop. Lack of machinery or appropriate technology was clearly an important issue for farmers of all types, but among those more dependent on ‘traditional’ or ‘other’ crops, the top ranked main problem was difficulty of finding buyers.

While 46% of vegetable farmers saw lack of buyers as a big problem, this was less than others, especially white rice farmers (61%). This, together with the fact that 54% of white rice farmers saw lack of money for improvements as a big issue (compared with 29% of vegetable farmers), reinforces the impression that vegetable farmers are better able to sell produce and manage the farm out of available cashflow.

In general, the data seems to indicate that rice farmers face a somewhat different set of problems from others, seemingly being less worried about transport and distribution, but more worried about pricing, money for improvements, finding labour and lack of land.

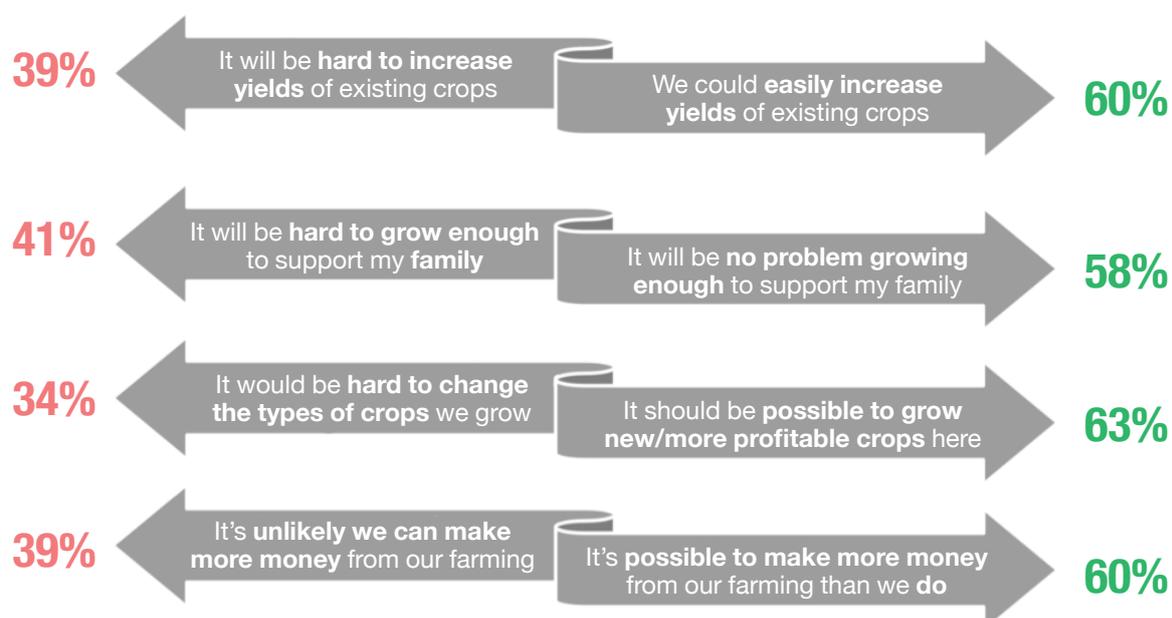
**Table 14. Problems faced by farmers, by main crop source of income**

% Big Problem (*)	Traditional Crops	Fruits	Vegetables	White Rice	Other Crops
Lack right technology or machinery	70%	<b>74%</b>	<b>70%</b>	<b>64%</b>	50%
Don't know how to market or sell crops	61%	74%	47%	41%	36%
Hard to find buyers who will buy enough	<b>59%</b>	55%	46%	61%	<b>60%</b>
Can't get good quality inputs	58%	69%	65%	42%	52%
Need help/information on farming better	53%	69%	46%	44%	24%
Poor transport/distribution	52%	57%	42%	33%	44%
No money for improvements	41%	36%	29%	54%	29%
Not enough time to get things done	30%	31%	15%	31%	24%
Don't know about pricing for sale	26%	29%	25%	49%	24%
Too few workers	20%	14%	11%	31%	36%
Not enough land	17%	36%	24%	41%	28%
Land not suitable	16%	24%	21%	26%	16%

\*Highlighted cells show top ranked "Most important problem" chosen by the farm type.

## 6.2 Prospects for the future

To understand how personally optimistic or pessimistic they were about the future of their own farm, farmers were asked to choose between a set of paired statements, one illustrating a positive future outcome, the other negative (See Figure 10, negative outcomes shown on the left, positive on the right).



**Figure 10. Farmer optimism about future growth scenarios**

Around 60% of farmers were positive for each statement, showing that overall farmers are hopeful about making money, feeding the family and achieving positive change in farming practices. However, this does not imply that 60% of farmers were consistently positive and 40% consistently negative. Typically, farmers chose 2-3 of the positive alternatives, with nearly a third (29%) choosing all four positives, and only 15% being consistently negative (Table 15).

A picture emerges therefore, of a cautiously optimistic farmer population.

However, note that women are slightly less likely to choose all four positive options (in particular women were less likely to be positive about growing enough for the family, 45% saying it will be hard to grow enough, compared to 38% of men).

**Table 15. Number of positive/optimistic items chosen**

	N Items	% All Farmers	% Males	% Females
<b>Number of 'positive about future growth' alternatives chosen</b>	0	15%	15%	15%
	1	10%	9%	11%
	2	22%	23%	22%
	3	24%	18%	30%
	4	29%	22%	29%
Avg N positive items	2.4			

### 6.3 Farmers' expenditure & reinvestment priorities

Unfortunately, there was not room in the survey to obtain measurable estimates of how much income farmers make, and how they spend it. In the focus groups however, moderators probed how farmers spent their farm income.

A broadly consistent order of expenditure (in terms of priority and amount), was evident across the groups:

1. Necessities for daily life (food, etc.)
2. Children's education expenses (books, cost of staying in Dili, fees, etc.)
3. *Adat/Lia* and Church obligations (cultural giving, ceremonies, etc.)
4. Basic costs of running farm (animal feed, etc.) loan repayments etc.
5. Building or improving the house
6. Extra/new inputs for farm (seeds, fertiliser etc.)

Given the relative poverty of most farmers, the fact that basic necessities top the list was not a surprise. However, **the relative importance placed on educational expenditure by farmers was remarkable.**

Many participants talked about this as being a major category not only in terms of financial expenditure, but also as main priority for money earned from the farm. It should be noted here that 'education' covers a number of levels (from local primary and secondary schools through various training institutes and colleges) and many types of expenditure including books, stationary, transport, food and 'extras' demanded by educational institutions in addition to any fees. A problem for farmers was that this expenditure is not entirely predictable, with unexpected demands for support coming up too regularly. While educational expenditure was talked about more in the women's groups, it was

also a big issue in the men's groups. Essentially education takes a high priority, and many farmers were explicit that if money is tight, supporting a child's education is often given higher priority than the needs of the farm itself.

Indeed, based on the comments around it, and the extent to which farmers see their children's future as being tied up in getting an education, it seems almost as if farmers sometimes view commercial farming as a vehicle for supporting children's education. One farmer in Baucau reported he was considering taking a loan, so he could "*improve my farm to help support my children at school*". In this sense the desire to educate the children may be driving a need to commercialise farming, and may also be an emotional lever to encourage improvements, but it is also clearly competitive to reinvest in the farm. Moreover, as noted later in this report, the purpose of this education is to help children leave farming behind, and it also often results in farm earnings leaving the local area as kids get their education in Dili or larger towns.

After necessities and education, items 3 to 5 in the list above (*adat*, basic farm costs and house renovation/building) seemed to receive relatively equal levels of mention and prioritisation.

*Adat* was discussed in some depth in the groups, as there had been some concern that it was siphoning off money that would otherwise be spent on the farm. All groups did see *adat* as a common and reasonably major expense (although less than education), and many felt that it should perhaps be reduced or regulated in some way. A core problem with *adat* was the fact that it was often centred around an unexpected event and required a large (for rural farmers) lump sum. All groups though, did see *adat* expenditure as necessary and part of their traditions and way of life, so while the women in particular wanted to see less spent on it, no-one argued for its elimination or suggested it was entirely bad. Males tended to be more supportive of the role and expenditure on *adat*, but even they tended towards feeling it should be reduced. A few suggestions were made about how *adat* might be reduced through community controls/sanctions (e.g. traditional '*tara bandu*' methods of community self-regulation) and even government regulation.

More notably in the context of this study, it seems likely that while *adat* may sometimes impose a burden on farmers, this does not necessarily mean that money spent on *adat* would be reinvested in farming. Indeed, several participants in the women's groups complained about the fact that *adat* took money away that should be available for education costs, or possibly for work on the house.

Typically farming development expenditure was one of the last things that farmers thought of when they talked about what they spent farm revenue on. Moreover, when such spending was mentioned, it focussed on inputs that were necessary to maintain production or which could drive quicker productivity gains (seeds, fertiliser etc.). Machinery, infrastructure (e.g. fencing) or other large expense, longer-term development items were seldom mentioned.

This may seem to indicate short-term thinking, but makes more sense if we think of the farm as a vehicle to drive cashflow. Generating quick cash seemed to be a core concern of many in our groups – rice farmers in Bobonaro complained about the periodic lump-sum nature of payments from their crops, while vegetable farmers in Baucau often praised vegetable farming because they could grow and sell crops quickly. This interest in regular, quick cash seems to derive at least in part from a strong perceived need to fund children's education.

In a business sense, farmers don't envisage their children as continuing to work on the farm or deriving much income from it, and so want very much to prepare them for a non-farming life by educating them. From this perspective running farms to maximise generation of short-term cash, and avoiding investments that neither the farmer (given their age) or children (given their new education) may benefit from can be seen as having a certain logic.

The farmers of Timor-Leste see themselves as investing for the future; the issue for the nation may be that this investment is in a better general education for their kids (or sometimes in better housing), not in farming *per se*.

## 7. Farmers as entrepreneurs: Attitudes and values

### 7.1 Farmers' perceptions of farming as a business

Farmers were asked to agree to a series of statements on a 7-point rating scale ('disagree strongly' to 'agree strongly'). Three key statements related to the extent they saw farming as being a kind of business, requiring a willingness to adopt new practices and understand marketing. (Figure 11).

The first of these asked farmers whether they agreed that “*these days a good farmer needs to understand marketing and selling as well as growing crops*”. Eighty-six percent (86%) of farmers ‘agreed’ or ‘agreed strongly’ with this statement, a point reinforced in our groups where farmers often talked about the problems of marketing and selling and their need for more information on how to do this better.

A second statement “*Farmers in Timor-Leste need to adopt new ways of farming to succeed*” found 88% of respondents agreed or strongly agreed. This too is in line with the group discussions, where farmers were vocal in believing that more ‘modern’ farming practices would need to be taken up by farmers in the future.

Farmers were also asked more directly if they thought “*Farming is just another kind of business, like running a shop or manufacturing things*”. Opinion on this was more divided, with only 44% agreeing/agreeing strongly a third (32%) disagreeing to some degree. In the group discussions, many farmers found it hard to conceptualise life outside farming, and to a large extent it was seen as simply the life they had to lead, perhaps making comparisons with alternative jobs difficult. Nonetheless, many did seem to feel that farming does indeed require ‘business skills’.

Overall these findings seem to support other results showing farmers as rather commercially minded, and not seeing farming in purely ‘traditional lifestyle’ terms.

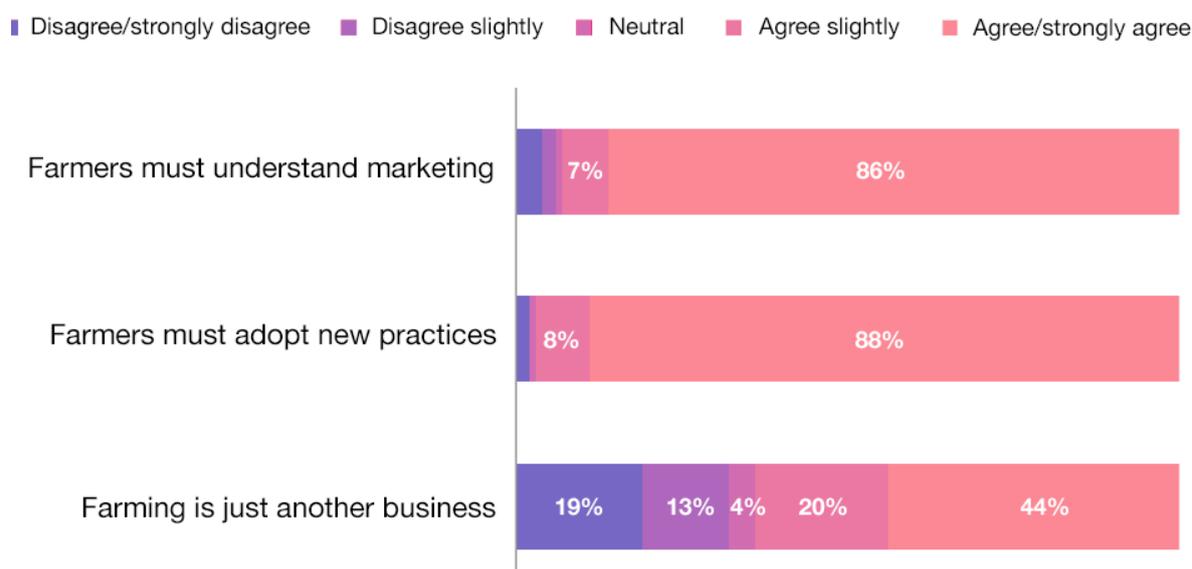


Figure 11. Farming as a business

### 7.2 Financial potential of farming

Farmers were remarkably optimistic about the general potential of their farms, with 82% agreeing/agreeing strongly that “*I see a lot of potential in farming – we could definitely increase our income from farming*”. This was true of both sexes, although women were slightly less likely to strongly agree with the statement. Once again, this was supported in the groups where farmers of both genders

tended to feel that with some changes and support, financial improvement was possible.

On a wider perspective however, farmers were more divided over whether “*In Timor-Leste it’s not really possible to make a good living from farming*” with 44% agreeing to some extent with this pessimistic assessment compared to 49% disagreeing. Again, women seemed slightly less likely to be positive on this measure, with 49% in the agreeing it was not possible to make a living, compared to 40% of men. Similarly, a large minority (37%) disagreed with the statement that “*the prices paid by buyers or in the market are enough for me to make a profit*”. Here too, women were slightly more negative on the potential to make a profit from current prices.

Clearly, there is some disconnection between attitudes to farming in Timor-Leste generally and the prices currently obtained, and their more optimistic assessments of the general potential on their own farm (See Figure 12 below).



Figure 12. Potential of farming

### 7.3 Perceptions of the need to change

Farmers perception of the need for a personal change in farming practices seems to be one of the key attitudinal divisions among farmers. While 88% of them perceive themselves as being open to new ideas (agreeing to some extent with the statement “*I’m always looking out for new ideas to improve the way I farm*”), most (58%) only agreed ‘slightly’, with only a minority 30% agreeing more strongly.

Moreover, when asked their opinion of the statement: “*I’m quite happy with the way I farm, and my way of life. There’s no real need to change*”, 55% agreed with this fairly complacent view (although 42% disagreed). The importance of traditional practices also divided farmers: 36% agreed or strongly agreed with the statement that “*I like to stay true to the farming traditions of my parents – they knew the best way to farm this land*” while 32% disagreed or disagreed strongly.

Thus, while farmers are largely optimistic about the potential of their farms, and even agree that farming is a business, there are signs they may be more divided in terms of **the extent they are personally committed to making changes** on the farm. This points to the importance of considering attitudinal factors when engaging farmers in agricultural reform or development programmes.

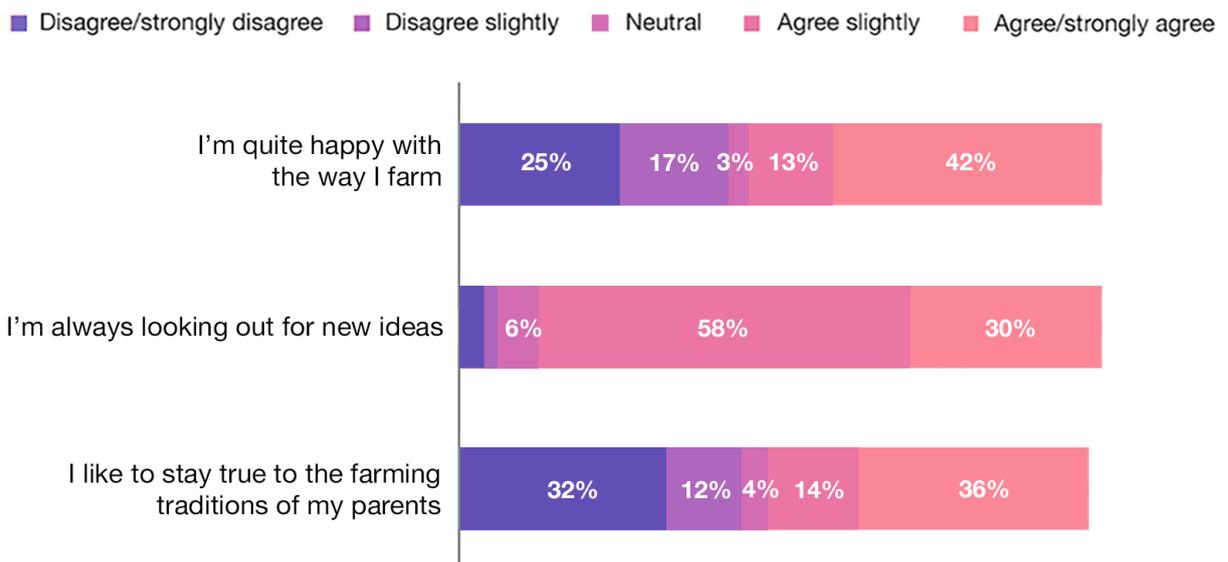


Figure 13. Willingness to change

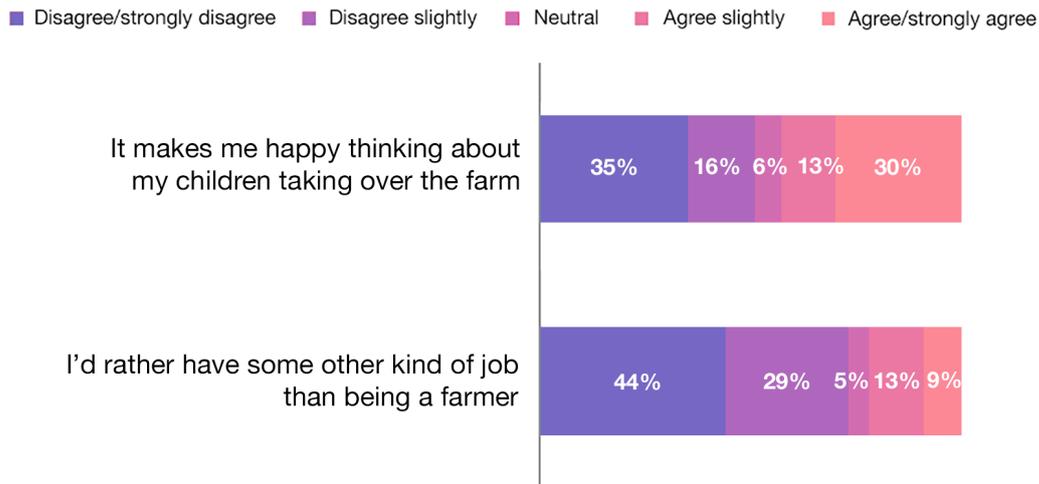
## 7.4 Farming as a career and way of life for future generations

In the FGDs most farmers found it hard to conceptualise the possibility of having another job. Farming was just their way of life, something they were fated to and not something they had considered changing. When asked what was good or bad about being a farmer they tended to focus on practical issues – weather, pests, prices in markets etc. Farming could be tiring and hot work, and for significant minorities it did not produce enough money to satisfy them. Wandering animals and issues with infrastructure (especially poor roads) were frustrations expressed by many.

Yet, in all the groups, there was no sense that they felt any personal resentment about their lot, or desire to change. Several said they would only consider looking for alternatives if disaster struck (e.g. a series of droughts was given as an example). Most farmers however, gave the impression of being generally contented with their lot. Several expressed the view that when the rains come or when there is less work to do it is a pretty good life. Other positives included:

- Farming is a job that uses **your own natural skills and capacities**. It's something you already know about and does not require an education etc.
- Independence: **You are your own boss**, you decide when to do what
- While it can be hard work, farming **allows time off and a flexible schedule**
- Farming **keeps you close to your family** and community
- It is healthy, and keeps you strong
- **Self-sufficiency and income**: Farming produces cash (a point made particularly by vegetable growers who often felt they were making more money than before, and who liked the cashflow advantages of quick turn-around crops), but also provides food for the family. You spend less on food than non-farmers, and if your income fails you still have something to eat.

This relative contentment with farming as a way of life is reflected in farmers reaction to the statement: *"I'd rather have some other kind of job than being a farmer"*. A large majority of farmers (73%) disagreed, most of them fairly strongly. Only one in five farmers (22%) agreed even slightly that they'd like a change of occupation (Figure 14).



**Figure 14. Personal optimism/pessimism**

Yet this reaction contrasts markedly with reaction to a statement about their children: “*It makes me happy to think about my children growing up and taking over the farm*”. Here opinion was strongly divided – 30% agreeing or agreeing strongly, while 35% disagreed or disagreed strongly.

Moreover, in every one of our group discussions it became clear that even among those who might feel happy about their children taking over, this was highly conditional. Basically, participants across the groups were only happy for children to take over if they did not succeed at school; in other words (and several expressed it in exactly this way), farming was for the less clever among their children.

In all the groups it was made very clear that they generally wanted their kids to do better at school than they had, and to see them get an education and a job outside the village. Education is thus a huge imperative for farmers (as will be seen later, it is a big item of expenditure for most). Exploring the key drivers of this we noted:

- In terms of social status, farmers are seen as traditionally at the ‘bottom of the heap’ in traditional Timorese society. This is reinforced by changes in society which expose rural people to more ‘modern’ seeming occupations. Farmers want their kids to do better.
- At community level, farmers get considerable ‘bragging rights’ when a child graduates with some qualification. Festivities and celebrations around such events reinforce the family’s own community status. There are few equivalents for being a great young farmer!
- While farmers want children to have other jobs, they have little real idea of what these jobs might be, their availability, the level of qualification really needed, or what might be involved in the work. It is just felt that office jobs (government ones were mentioned by several) must be more comfortable and lucrative and that education is the path. One ambitious mother mentioned that the current generation of senior politicians were aging, so there must be openings for younger ones like her kids soon. There is little understanding of possible negatives that might be involved for the children or the difficulties they may face beyond farming.
- It is felt that the kids themselves do not want to farm, seeing it as dirty, hot and “not modern” generally. Some farmers expressed the feeling that young people were “lazy” and avoided farm work. In addition, as children are exposed to modern media, and have more friends and family members in Dili or the municipalities, there is an increasing desire to see life beyond the village and try something different.
- While, as noted above, most farmers are optimistic about the commercial prospects of their own farms, there is a considerable minority who are more pessimistic about the possibility for improvement and who see education as a way out for their kids.

Taken together these factors seem to be driving most farmers to want to push their children towards

another occupation. Despite this, many FGD participants recognised that not all their kids would succeed at school or college, and that some of them (a minority) might prefer to stay on the farm. For these types of children, many expressed a desire for them to be exposed to more modern farming techniques, saying that if they were going to stay on the farm they wanted them to be more ‘modern’ farmers than they themselves were.

Overall though, given the age of the current generation of farmers, this lack of interest in having the children become farmers raises serious issues of intergenerational skills transfer, and – if we believe younger people are generally more experimental – may limit innovation. Given the current need for intensive labour to sustain most Timor-Leste farms, the move of the strongest and most active age-group from rural areas must also limit productivity increases unless machinery or other alternatives can be found.

## 7.5 Entrepreneurial personality among farmers

A key concern of this study was whether the culture and history of Timor-Leste, with its community focussed values and low exposure to market economics, might result in farmers lacking an ‘entrepreneurial spirit’ in some way. As already seen, the basic attitudes of farmers to marketing and commercialisation do not seem to support this, but it could be suggested that more fundamental personal values still constitute a barrier to development.

The concept that some personality characteristics or personal values are key to becoming a successful entrepreneur has been widely suggested in academic literature, and while this concept attracts some controversy, the literature offers some support for the idea that entrepreneurs can be identified by such characteristics. A 2006 review suggests that four dimensions are especially key:

1. **Openness to experience.** Degree of willingness to experiment and try out new ideas etc.
2. **Conscientiousness.** Work ethic. Commitment to putting in sustained and/or extra levels of effort to achieve goals.
3. **Low neuroticism.** Willingness to take risk, not worry too much etc.
4. **Agreeability.** Extent to which personal (or perhaps family) interests take precedence over avoiding arguments and getting on with others.

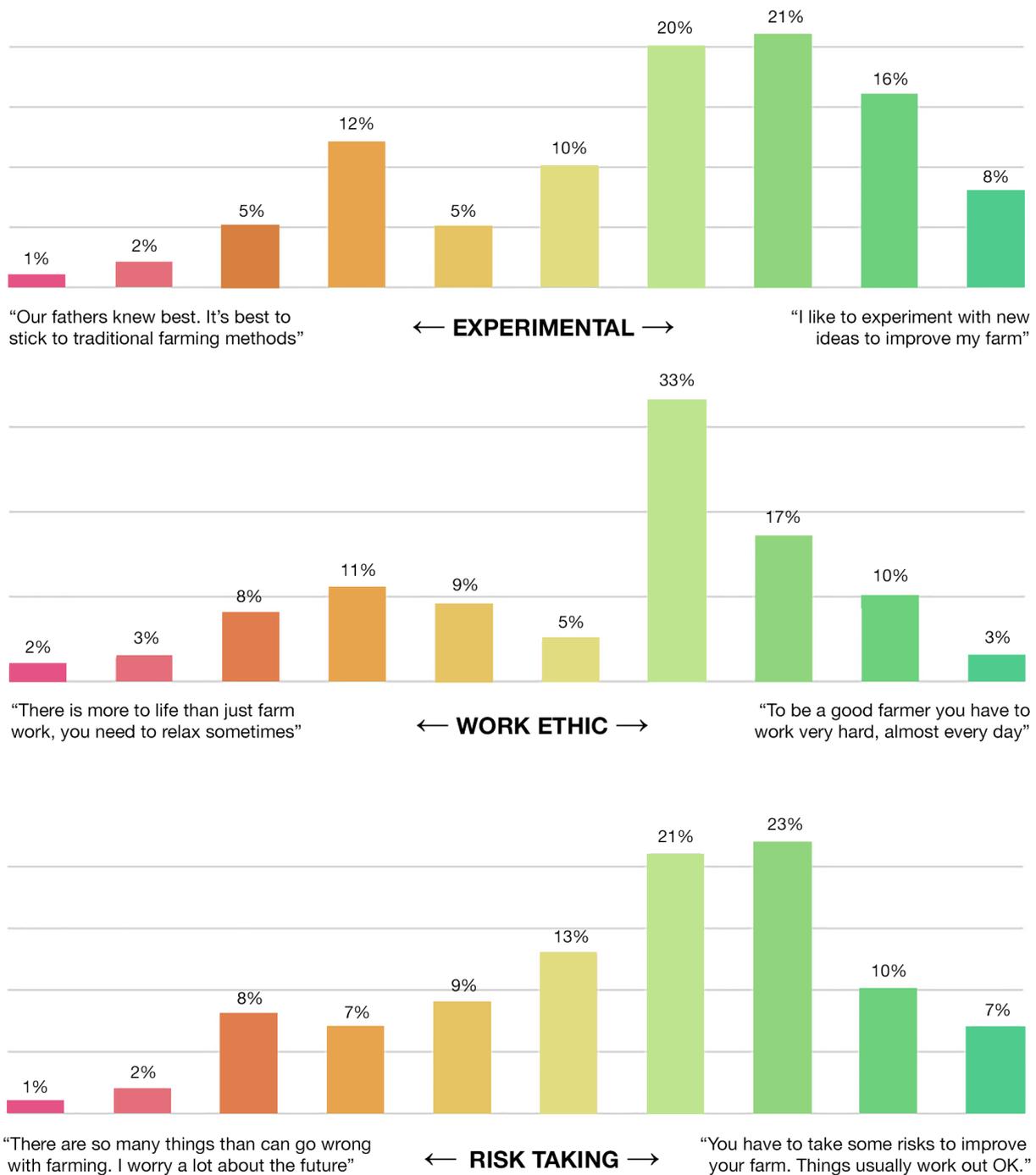
To check how farmers measure up on these characteristics, a projective exercise was used in the survey. Farmers were shown a diagram representing two hypothetical farmers (A and B) at either ends of a 10-point scale. They were then read out a statement purporting to be by farmer A, and another from farmer B and were asked to then position themselves on the diagram depending on how ‘close’ they felt to each statement. The statements each represented opposing ends of the different entrepreneurial dimensions.

Figure 15 on the following page illustrates the range of responses obtained for first three of the more ‘personal entrepreneurial’ dimensions noted above. While there is a good spread of response, farmers generally tended to put themselves closer to the experimental end of the scale, and to a somewhat lesser extent the risk-taking one.

It should be noted, however, that in the FGDs the concept of ‘taking a business risk’ was not well understood by participants – the idea that farmers sometimes need to take some longer-term gambles to develop the farm was something many had not considered, and was outside their usual decision-making framework. In some cases, farmers could not think of any real examples of big investments or risks they might take. In addition, several group participants (especially those who lived on remote farms), expressed the view that while the roads were bad and access to markets and buyers was poor, taking major risks would be foolish. Thus, while our data suggests that farmers are usually not ‘worriers’ and may well be prepared to take a few general risks, this may not apply to substantial investments or major initiatives (e.g. as seen earlier, towards taking loans).

On the subject of work ethic, while farmers tended to lean towards the idea that a farmer had to work hard, response to the associated statement was more moderate, just a bit above the mid-point. This may partly reflect some of the positives seen for farming in the groups; that it allows flexibility and some time off.

Overall though, there is little in the data that suggests that a lack of entrepreneurial spirit is a major barrier to developing more commercial approaches to farming in Timor-Leste.



**Figure 15. Personal entrepreneurial values**  
(green bars indicate a more entrepreneurial response)

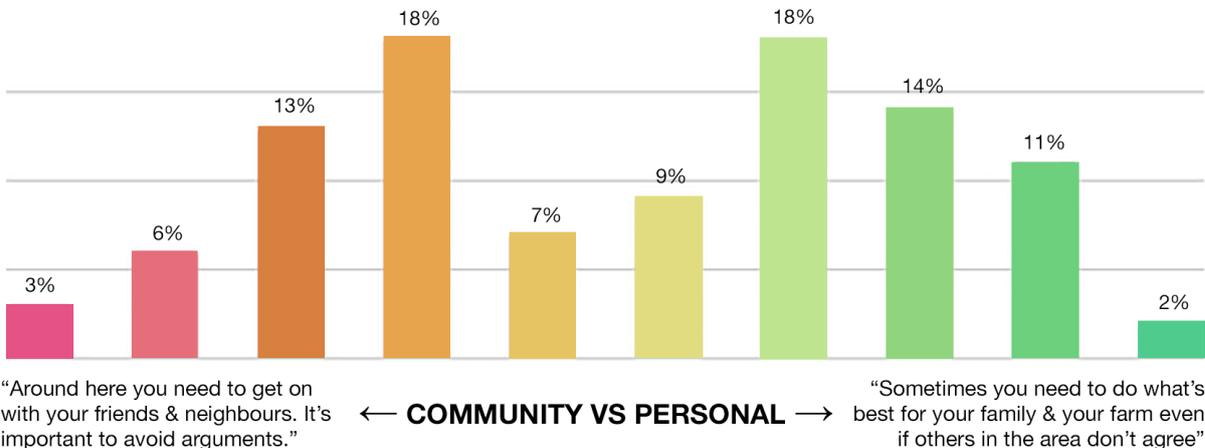
However, in a society like rural Timor-Leste, it is possible that ‘mental barriers’ to development could be rooted in community and cultural values. For that reason, the same exercise was used to look at some possible issues of this type (see Figure 16 below).

It has been suggested that in Timor’s small, rural villages, something approaching ‘tall poppy syndrome’ may operate, whereby successful farmers attract jealousy and sabotage of their efforts. However, this is not reflected in our results, with most people clustering towards the statement that “if I made more money from farming most people around here would be happy and would support me”. In addition, when asked about the same subject in group discussions, most people did not see this as an issue.

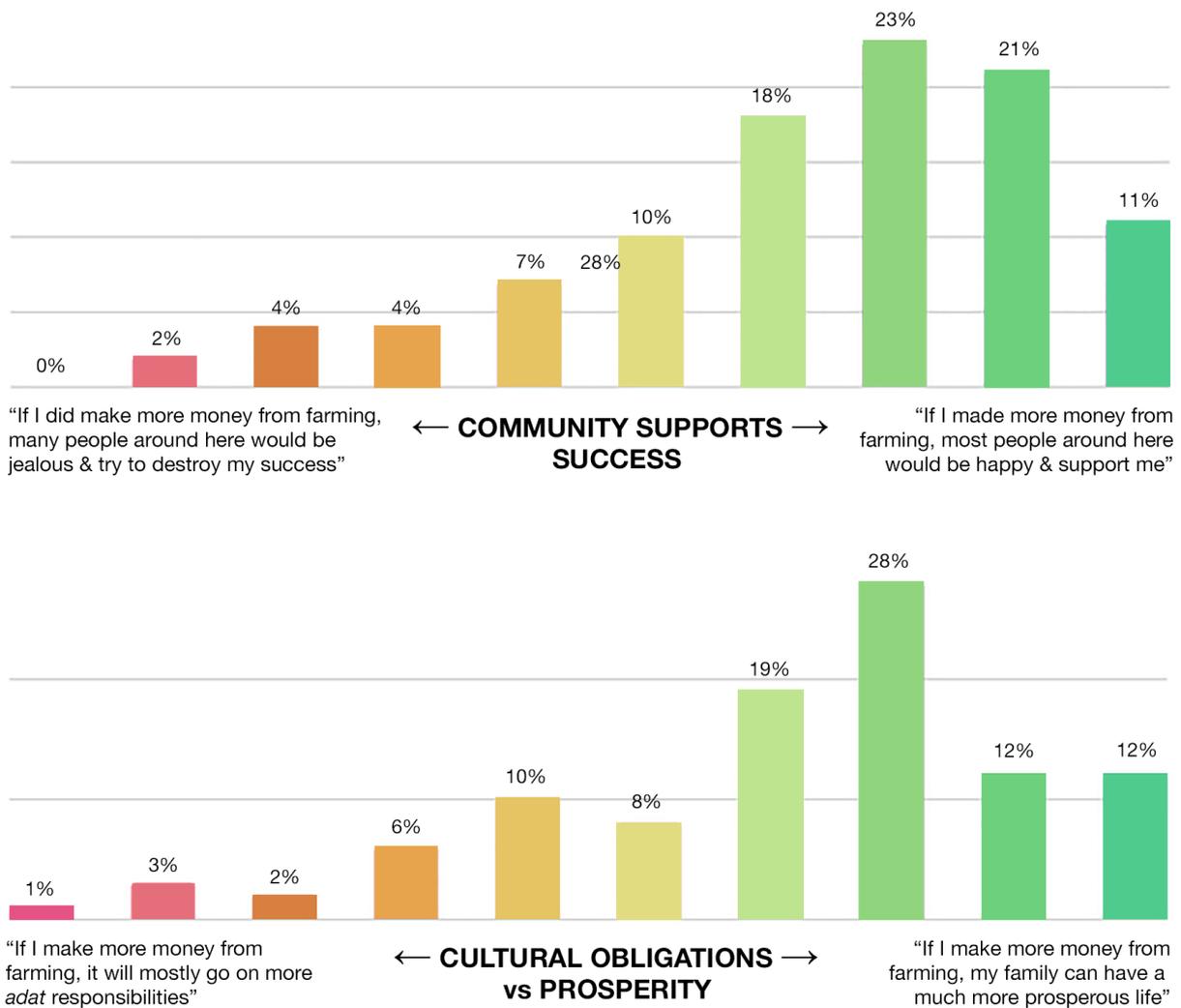
Another issue raised in the context of Timor-Leste relates to the often-extensive levels of cultural giving and similar community related expenditure associated with weddings, funerals and other cultural events. It has been speculated that such expenditure, (commonly referred to using the Indonesian word *Adat*, or as *Lia* in Tetun), may act as a disincentive to farmers becoming more productive or efficient, as increased earnings might not benefit them or their family. Once again this was not seen as a major impediment to success, with most people leaning towards the belief that increased money from farming would go to their family, not *adat*. There seemed less certainty about this than about general community support however, with fewer at extreme end of the ‘money will make us prosperous’ statement, and 21% of farmers tending slightly towards the idea that money will go to *adat*. This is consistent with the group discussions where, while *adat* was not seen as a major impediment to growth, it was often seen as being “too high” (this subject is discussed in more detail in the context of household expenditure).

However, there was another area where the survey clearly showed a division among farmers: the extent to which a person should avoid local arguments versus doing the best for their own family or farm. As shown below, roughly half (47%) tended towards the “avoiding arguments with friends and neighbours” point of view, while a similar proportion (53%) tended to prioritise “doing the best for your family and farm”. Notably relatively few chose ‘middling positions’, perhaps indicating that views on this issue are fairly clear-cut and potentially divisive.

As noted, it has been suggested that somewhat more self-serving values and less ‘agreeability’ may be important to be a successful entrepreneur (although many of these studies have come out of Western societies), and on that basis, it seems that there are fair number of farmers in Timor-Leste who meet this value criteria. Yet the data also indicates that there are many who have quite a contrary viewpoint, and given the small scale and interconnected nature of rural communities in Timor-Leste, agricultural programmes might be wise to look for community consensus for changes that might impact the whole community, rather than simply relying on change that is solely driven by the more ‘self-centred’ farmers.



**Figure 16a. Social and cultural entrepreneurial values**  
(green bars indicate a more entrepreneurial response)

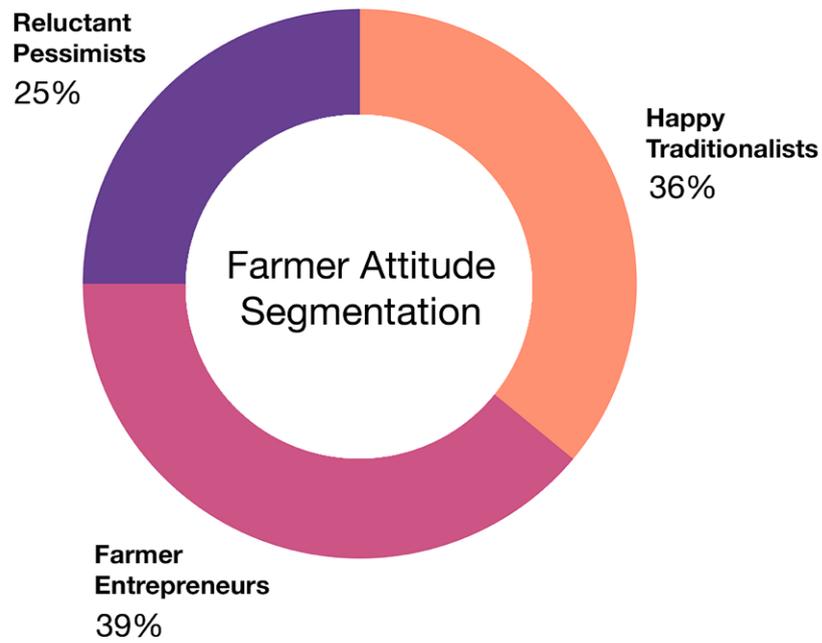


**Figure 16b. Social and cultural entrepreneurial values**  
(green bars indicate a more entrepreneurial response)

## 4.1 Farmer attitude/value segmentation

To try and summarise the mindsets of farmers, and see if we could identify groups based on communality of attitudes, a segmentation analysis was carried out. Hierarchical cluster analysis on the statements in questions 6 and 10 of the questionnaire (attitude rating statements and responses to alternative values and 'entrepreneurship' statements) was undertaken, and the best solution identified three clusters, shown in Figure 17 below.

Our core conclusion from this analysis is that **39%** of farmers (labelled '**farmer entrepreneurs**') can be distinguished by attitudes and values that can be thought of as more entrepreneurial overall. A slightly smaller percentage (36%) were in a cluster we called '**happy traditionalists**' because, while relatively positive about their lives, they also seemed more conservative and traditional compared to others. Finally, a quarter were in a group, who seemed less happy, almost reluctant, to be farmers and more likely to be pessimistic about their future and the farming challenges they faced (labelled '**reluctant pessimists**').



**Figure 17. Farmer attitude segmentation**

The reason for the labels assigned to each group can be more clearly seen in table 16 below, which shows the mean rating on the key questions for each group.

**Table 16. Farmer attitude segments by component attitudes**

Attitude Statements	Happy Traditionalists	Farmer Entrepreneurs	Reluctant Pessimists
Timor-Leste farms can make more money	7.2	<b>7.9</b>	5.3
Farming is just a business	6.3	<b>7.4</b>	5.0
I'd prefer another job	4.2	3.5	4.9
Farming is not a good living	4.9	4.6	<b>6.7</b>
Should follow traditions of parents	<b>7.5</b>	4.8	4.1
Farmers must know marketing	8.4	8.9	7.7
Am happy with the way I farm	<b>7.6</b>	4.7	5.2
Happy to see child take over farm	<b>6.7</b>	4.7	3.7
Buyer prices are OK	<b>7.1</b>	6.1	4.3
I worry (low) vs take risks (high)	6.8	7.5	5.4
Favour traditions (low) vs experiment (high)	6.4	<b>8.3</b>	5.5
Get on with community (low) vs. put farm/ family first (high)	5.2	6.2	5.4

Farmer entrepreneurs see farming as a business, believe Timor-Leste farms generally can make money, and are experimental. Interestingly, in contrast with happy traditionalists, they are not happy

with the way they farm now.

The segments identified are differentially distributed by source of income on the farm (Table 17). Unsurprisingly those growing traditional crops tend to be in the happy traditionalists segment. Fruit farmers are mixed, but compared to other farmers are more likely to be pessimists. Rice farmers are most likely to be farmer entrepreneurs, while ‘other’ and vegetable farmers are split mostly between happy traditionalists and farmer entrepreneurs. Nonetheless, farms of all types have significant minorities in all three attitudinal segments – indicating that an entrepreneurial mindset is not merely a reflection of the type of farm.

**Table 17. Main cash crop grown by attitudinal segment**

Segment	Traditional crops (maize, cassava etc.)	Fruits	Vegetables	White rice	Other crops
Happy Traditionalists	<b>53%</b>	33%	36%	21%	<b>38%</b>
Farmer Entrepreneurs	27%	33%	<b>41%</b>	<b>54%</b>	<b>42%</b>
Reluctant Pessimists	20%	<b>35%</b>	24%	26%	21%
<b>Total</b>	100%	100%	100%	100%	100%

It is however likely, that maintaining more entrepreneurial attitudes is easier on a more suitable farm - 44% of farmer entrepreneurs lived on farms that are nearer the main municipality centre (within a 1 hour drive) and larger than average (greater than 1 hectare). This compares to 19% of reluctant pessimists, and 26% of happy traditionalists found on such ‘large/near’ farms.

In terms of major challenges confronted, farmer entrepreneurs are more likely to be most worried about lack of machinery or suitable technology compared to pessimists who are most often concerned about inputs and finding buyers (see Table 18).

**Table 18. Most important problem by attitudinal segment**

Main Problem Mentioned by Segment	Happy Traditionalists	Farmer Entrepreneurs	Reluctant Pessimists
Lack right machinery or technology	<b>27%</b>	<b>42%</b>	12%
Hard to get good quality inputs	8%	17%	<b>26%</b>
Hard to find buyers	18%	14%	<b>26%</b>
Don't know how to market or sell crops	6%	9%	5%
Hard to arrange transport/distribution	11%	4%	9%

This is reflected in recent activities undertaken to develop the farm, with 47% of farmer entrepreneurs having introduced new machinery or technology in “recent years”, compared to 29% of happy traditionalists and 36% of reluctant pessimists.

Remarkably the farmers who might be thought to most benefit from support and encouragement, ‘reluctant pessimists’, were least likely to have obtained advice from their local MAF extension officer (only 17% reporting taking advice, compared to nearly 40% of other farmers).

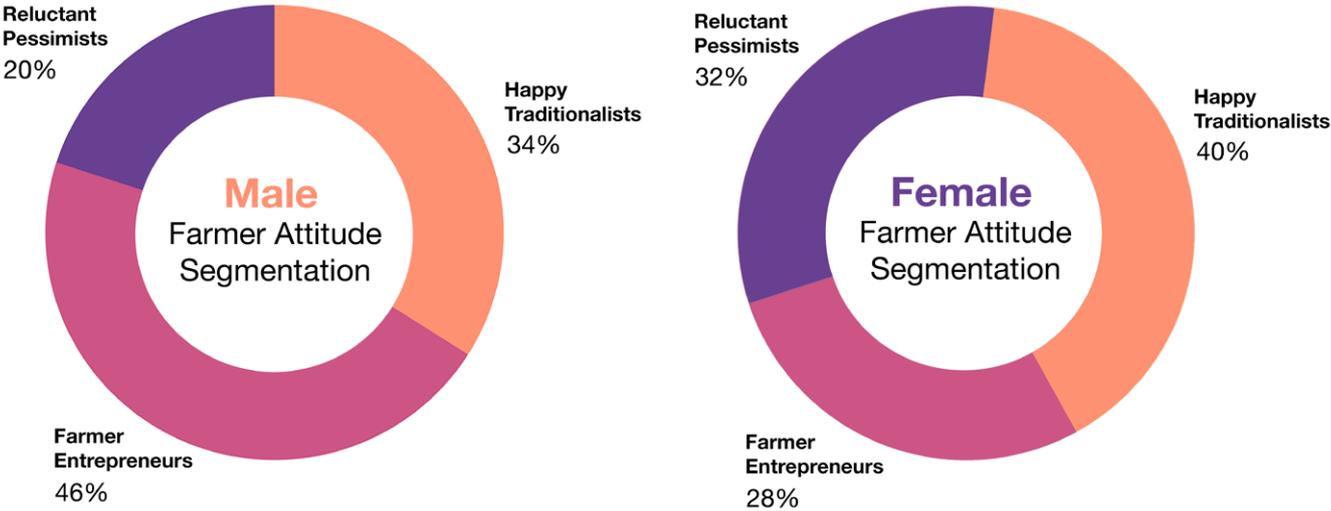
Perhaps the main behavioural differentiator between the segments however, was where they carried

out personal marketing activities (see Table 19 below). Farmer entrepreneurs seem more likely to be taking their goods further afield than other farmers (especially reluctant pessimists).

**Table 19. Places selling crops by attitudinal segment**

Where Sell Crops:	Happy Traditionalists	Farmer Entrepreneurs	Reluctant Pessimists
Streetside stall	36%	32%	44%
Local weekly markets	58%	62%	63%
Municipal markets	46%	57%	30%
Take to Dili markets	10%	21%	9%

In terms of demographics, we saw no clear differences between the segments in terms of age groups, number of people in the household or number of children. Farmer entrepreneurs are relatively more common in Bobonaro, and proportionally less so in Viqueque. The main difference however, was by gender - **71% of farmer entrepreneurs were male** (c.f. 59% of the total sample), while females are over-represented among reluctant pessimists (52% of that group being female, vs 41% of the sample). It must be emphasised that segmentation represents a holistic assessment across a range of attitudes and does not mean that all women are ‘pessimistic’. On many attributes, women exhibit progressive and entrepreneurial attitudes. Moreover, as shown in Figure 18 below, the number of women farmer entrepreneurs is nearly equal to the number of ‘reluctant pessimists’. However, analysis suggests that attitudes of the women farmers (in particular to the potential of farming, and their own farm’s ability to earn enough) tend to make them less likely to fit into the more consistently optimistic ‘farmer entrepreneur’ category.



**Figure 18. Farmer attitudes by gender of farmer/spouse**

This relative pessimism about the economics of farming and similar issues is a concern on its own account, but is even more of a challenge if we consider firstly that – as noted in this report – women play a full role in many farm decisions in Timor-Leste, and secondly the general issue with farmers not wanting their children to take over the farm. Having mothers who are pessimistic about farming issues seems likely to exacerbate this problem. Future development and education programmes for farmers should consider in more depth what is making women less optimistic about farming, and

how to mitigate the concerns that drive this pessimism among rural women.

Finally, it should be noted that this segmentation is based on only 236 farmers in three municipalities. Inclusion of more farmers and a wider range of farm types might result in the model being refined and perhaps more segments being identified. (A larger sample might also enable computation of a predictive model, allowing in turn the development of a simple questionnaire to be used in field to classify farmers attitudinally and hence to help assess what kinds of farmers are most likely to benefit from different kinds of support). Nonetheless while we have noted many farmers who are more traditional or even pessimistic, this segmentation does seem to indicate that a large proportion of Timor-Leste farmers have a reasonably consistently positive and 'entrepreneurial' mindset.

It seems likely that enough farmers have sufficiently developed entrepreneurial attitudes and values to provide a good basis for programmes promoting adaptation and development of farming in the nation.



*“The farmers of Timor-Leste, at least the ones covered in this study, are more commercially orientated than a casual observer might realise.”*

# Summary & recommendations

## 5. Summary

The farmers of Timor-Leste, at least the ones covered in this study, are more commercially orientated than a casual observer might realise. Most sell several types of crops and some livestock, some travelling large distances to do so. While the small size of their farms, large families, access to markets and similar factors require them to maintain some subsistence crops, in general they are keen to increase cash sales. A lot of their produce (notably vegetables and fruits) is already grown primarily for sale, and most report that they raise chickens and pigs mainly for this purpose. In interviews and group discussions there was a lot of talk about prices and ways to find buyers. Overall they are motivated by, and farming for, money – cash is not simply an added benefit on top of food production for the family.

These farmers have seen many changes in farming practices in their lifetime, and tend to believe that more are needed. Most are surprisingly supportive of changes that might ‘modernise’ farming. Culturally farmers feel that other members of the community are likely to support any success they achieve, and while issues such as ‘cultural giving’ and an orientation towards community consensus-

seeking impacts farmers' economic lives, our findings suggest these may not be as significant as feared. Thus, while our study demonstrates that some farmers are more 'traditionally' orientated than others, there is little to support the idea that deep-rooted cultural resistance to change will be an impediment to development.

Behaviourally, many of these farmers have tried new crop types, are increasing inputs to the farm and plan to push into more commercial crops. Many report increasing the amount of direct selling they are doing in recent years. Interest in, and plans to increase vegetable plantings are indicative of these trends.

In terms of general mindset and values, most claim to be open to new ideas and experimentation, and believe that farmers need to know more about marketing and business. A majority are optimistic about the potential of farming, plan to increase production and are personally content with being farmers – few would like to do anything else. While they see all the usual negatives of farming; temperamental climates, working in the heat, often dirty and hard and so on, they also like being their own bosses, its flexibility and the fact that it is a healthy lifestyle.

On an overall basis, our segmentation analysis suggests that almost 40% of farmers can be labelled as farmer entrepreneurs - having a generally entrepreneurial mindset. While we do not have any good comparison of this percentage with similar countries, it does seem that there are a substantial number of farmers with values and attitudes that could be aligned with agricultural development efforts (assuming these are explained and marketed to them in the right way). These farmer entrepreneurs are more likely to be male, on larger farms and living near municipalities.

However, while the overall mindset of farmers may be less of a barrier than feared, this study does show that there are some key issues in moving farmers from a generally positive disposition towards change to actual concrete changes in behaviours. There are five main types of barriers:

**1. Structural Issues.** Farmers face some major challenges that limit their capacity to grow, and reduce their interest in making long-term commitments to development:

- Roads and transport remain big issues and limit access to market and types of crops that can be grown
- The small size of most farms reduces potential for development
- Irrigation systems are limited and often poorly maintained
- Need for better warehousing and permanent markets (especially Viqueque)

**2. Practical, on-farm problems.** The large number of crops/livestock types produced (usually around 6 types per farm) reduces risk for farmers. It may also limit spread of pests and have nutritional benefits. However, it limits focus and ability to achieve scale to attract big buyers.

Farmers also believe they face a number of problems that limit their ability to improve returns:

- A need for more technology /machinery
- Lack of access to quality inputs (seeds, fertiliser etc.)
- Lack of fencing / wandering animals interfering with cash crops

In many cases they see these as issues that the government or other agencies should help with. This attitude of relying on outside support is partly due to the scale of their farms, partly historic (government and NGOs have intervened with such support in the past), and also relates to their attitude to risk and investment noted below.

**3. Knowledge and training issues.** Respondents usually felt that farmers need to be more business-like, and improve their marketing and selling skills. But their idea of what is involved in this is vague. Most of their selling experience is local, and they have little ability to describe buyer's needs, especially when dealing with supermarket buyers or consumers in larger towns and cities. In terms of farming practices while most want to modernise, they are far less specific about exactly what is implied by that.

There are gaps in terms of *technical knowledge/training*, including:

- Modern farming practices generally
- Possible crops and livestock outside their current repertoire
- Making better decisions about what to grow
- Spreading expert advice/support to the crops and livestock that make most money for farmers (vegetables, fruit and chickens)

Farmers also recognise gaps in their understanding of markets and a need for improved *business skills* including:

- Business networking & finding buyers
- Managing cashflow and running the farm as a business
- Bookkeeping, pricing and profitability analysis.
- Balancing household and farming needs
- Taking finance and investment decisions

Finally, in this area it is worth noting that while large number of rice farmers report having had support from their MAF suku extension officer, this was less evident for other types of farmers. Many of these, especially those whose main income derives from traditional crops or fruits say they want advice on better ways to farm so this may represent a gap.

- 4. Attitudes to risk, finance and investment.** Farmers in Timor-Leste did not choose farming as a vocation, or buy into their farms. Their investment in their farms is personal, social and cultural, not based on an investment in career development or capital. This means they often have little experience or understanding of the need for a business to make longer-term trade-offs, or take risks to grow. Few are open to taking loans to develop the farm, and when they are it is often for short-term purposes.

While, in general, farmers are willing to innovate and take some risks, their orientation to this is short term and limited (experiment with a new crop on a small scale, not save up and build a pigsty). Farms are operated mainly on a cashflow basis, with low levels of understanding of profitability and costs. Reinvestment of cash in the farm is very limited.

This problem partly relates to a lack of commercial experience, but perhaps even more important may be that farmers generally view commercial farming not as long-term business investment, but as a vehicle to generate cash for other purposes (household necessities and education being most important, but also improving housing, cultural giving/ceremonies etc.).

- 5. Aging farmers and household demographics.** Many of the challenges to development outlined in this report ultimately relate to some key demographic factors, and the attitudes and values that are derived from those. This includes large household size (6 on average), which puts pressure on farm budgets and leads farmers to keep some areas planted in crops that may not be commercially lucrative, but which are easy to manage, reliable and produce cheap, bulk food.

Women are generally as keen (or keener!) on cash sales of crops than men but, for whatever reason, are generally more likely to be pessimistic about farming and less entrepreneurial in terms of risk and change than the male farmers. Since farm decision-making is joint this may help feed the 'short-term cashflow' view of farming, and may also influence the attitudes of their children.

The farming population is an older cohort, and importantly they do not want to hand on way of their way life. Farmers are fairly positive about farming - but only a minority see it as a vocation for their children. Furthermore, they don't believe their children want to take on the job either. Notably, those who were happy with the idea of their kids being farmers, were more likely to be happy traditionalists – not the more entrepreneurial-minded needed for future development.

The reasons for this are partly due to the nature of farm work, but mostly about the cultural and community status of a farmer versus other occupations. This issue gives rise to the huge importance given to children's' education (in the hope it will lead to alternative jobs) and the priority it is given over farm reinvestment.

It also in turn means that:

- Farmers are less likely to think long-term (they may not benefit from improvements and they don't see the farms as a priority for their kids).
- The next generation is not getting training in farm skills.
- Reinvestment in farms is lowered (education, housing, *adat* comes first)
- Productivity is lowered as kids leave and labour availability declines
- As noted earlier, while education can act as an incentive to sell produce, it also means short-term cash flow/cost control assumes an exaggerated level of importance.
- Because farmers know little about what alternative jobs are available or what they involve, money is being spent on education that may ultimately be wasted.

Perhaps the most important mindset issue identified in this report then, is not the lack of 'entrepreneurial' drive among farmers postulated originally, but more general perceptions of farming as a vocation. Farming in Timor-Leste suffers from an image problem among farmers themselves.

## 6. Recommendations

Many of the structural and infrastructure issues identified by farmers are well known, and although very important, they require major government level policy and investment decisions. In making recommendations therefore, this report focusses on those related to farmers' attitudes and on-farm issues impeding commercialisation. Given the nature and purpose of this study recommendations can only be general in nature, and are not targeted at any particular agency or government department. However, the findings suggest agricultural policy and programme development would benefit from focussing on the following issues:

### 1. Improve the status of farming in Timor-Leste

There is a clear need to change perceptions and imagery associated with farming, and farmers' views about its long-term potential as a money earning vocation for their children. While the issue of young people deserting farming is not unique to Timor-Leste, the nature of the nation's economy and the lack of jobs outside of agriculture makes this a particularly serious issue here. There is a need to leverage farmers' desire for their children to 'better themselves' in ways that will result in better outcomes for agriculture and the children themselves. Selling farming as a vocation is a complex issue, and deserves serious planning and consideration, but it might involve:

- Government, NGOs and other agencies working together to create better, more available agriculturally orientated education for farmers. Having more vocational training available at local and municipality level may help save on other education costs for farmers.
- Educating farmers and children about the potential of farms to produce cash if properly managed
- Developing programmes about farming for basic and secondary schools so children see the alternatives before making career decisions
- Ensuring that rural children understand some of the advantages that their parents see in farming (being your own boss, flexibility, feeding your family, staying healthy, etc.). Conversely, helping educate rural people about the actual availability of jobs off-farm, what those jobs involve and what kinds of education they really require.
- General awareness and education campaigns to raise the status of farming and improve

self-esteem. Showing the public and the farmers themselves that they are seen as vital to the success of the nation.

- Some agriculturally focussed nations have TV/radio programmes that aim to both spread information/ideas among the rural community, and educate the general public about the importance of farming. Variations on these could be adapted to or developed for Timor-Leste.
- Awards, certificates and public recognition for successful farmers. Village officials should encourage local people to celebrate farmers who succeed and are helpful to others.
- Sponsorship and development of young farmers networks/clubs, where they can share ideas, see examples of best practice and gain recognition.
- Exploring ‘farmer apprenticeship’ schemes that combine subsidised training with work on identified best practice farms.

## **2. Target development programmes and education by segmenting farmers based on their attitudes and values**

Farmer behaviour does seem to be influenced by mindset. As such, it would be useful to develop instruments to quickly identify ‘farmer entrepreneurs’ and other segments in the field so that programmes and education can be targeted appropriately towards these segments.

In the short-medium term, programmes involving major changes or higher degrees of farmer commitment may be better focussed on farmer entrepreneurs, with more general farming education efforts focused on other segments.

## **3. Respond to the needs of farmer entrepreneurs (and other types of farmers) based on their interests and motivations**

Training efforts should be focussed on the knowledge gaps identified in the summary above. Many of these are about marketing and selling issues not farming *per se*. Given the number of issues, and the particular needs of farmers, additional programme development and customised resources may be needed.

Farmers are driven by short-term cash generation and are likely to be most receptive to ideas that help cashflow. Programmes may thus be more effective if they focus in the first instance on short-term measures that demonstrate good cash returns. There seems to be a desire and need for more programmes to support key income generating produce, for instance: vegetables, fruit and chickens. While in many cases big changes to crops farmed may be necessary, in the medium-term NGO advisers and MAF extension officers may be perceived as more useful, and more immediately effective, if they focus on the crops that already produce the most income for farmers.

While farmers are generally open to innovation and new ideas, awareness of specific possibilities and best practice is vague and gained through local word of mouth. Awareness building around new ideas and showing examples of best practice is likely to be key.

### *Farmer entrepreneurs*

Farmer entrepreneurs, or at least those living in communities with high numbers of such people (larger farms, nearer municipalities, already doing a fair amount of marketing etc.) are more likely to be receptive to programmes offering longer-term gains. As well as ideas for improving farming practices, these farmers need help with understanding how to manage credit. Government and other agencies should work with IADE, banks and micro-financing institutions to identify and help farmer entrepreneurs obtain and manage necessary financing.

Given the importance of joint decision-making between husband and wife in a farming household, then if simple ways to identify farmer entrepreneurs can be established, it may be useful to focus on farms where both husband and wife are more ‘entrepreneurial’ as these are more likely to be early

adopters of new ideas.

#### *Other farmers*

More traditional and more pessimistic farmers are likely to be more interested in ideas that show most immediate potential for themselves and their families. They are also more in need of convincing about the general possibilities in farming. Providing help with ways to manage cash, price and market, and examples of ways better farming practices can help build income streams could benefit all farmers in Timor-Leste. But for farmers who are less naturally entrepreneurial, these may be necessary precursors to more substantive initiatives to change behaviour.

#### *Women farmers*

Women especially need convincing about the possibilities of farming, and government and development agencies need to understand the factors that lead them to be relatively less optimistic about its potential. Awareness building based around positive examples and targeted education and development programmes for women would be helpful. There is a need to improve capacity and confidence in terms of entrepreneurial behaviour, to understand buyers, and to show farm development can deliver tangible benefits for both themselves and their children. Further research on the drivers of female farmers' attitudes, and how gender and community values impact farm decision-making would be valuable to help inform such programmes.

### **4. Conduct more research among farmers to add to our understanding of their needs.**

It may be valuable to conduct more research among farmers to add to our understanding of their needs. Expanding the sample to new municipalities would be helpful in order to confirm the results of this study and to include other types of farmers. A larger sample size could also allow development of instruments to identify farmers' entrepreneurial inclination in-field. More importantly, research around the specifics of farmers' knowledge gaps and needs would help in the implementation of educational and marketing programmes and could form a basis for tracking the development of commercial skills in the future. Similarly, additional research should probe the underlying reasons for women being less optimistic about the potential of farming. This could include issues related to land-ownership, family responsibilities, support from extended family, and women's connectedness to agricultural support services and networks.

# Appendices

## Appendix 1: English questionnaire

[ASK TO SPEAK TO OWNER/MANAGER OF THE FARM OR THEIR SPOUSE]:

INTRODUCTION: .....

[RECORD – DO NOT ASK]:

**S1. Gender:**

(1) Male (2) Female

[RECORD MUNICIPALITY & SUKU DETAILS]:

**S1. Municipality:**                      **S2 Suku:** \_\_\_\_\_

(1) Baucau      (2) Bobonaro      (3) Viqueque

**S3.** Thinking about the crops, fruits, vegetables or livestock you usually grow on this farm, are there any which you grow **mainly for the purpose of cash sale?** (not for food, barter or ceremonies etc.)

(1) Yes, grow crops or livestock for cash

(2) No, none grown mainly for cash sale → **[IF NONE MOSTLY FOR SALE. Thank and Exit]**

-----  
**Q1.** How big is this farm? \_\_\_\_\_ (ha?)

**Q2a.** What crops, vegetables or fruits do you regularly grow on your farm? [**PROBE:** Any others?]

**Q2b.** Which, if any, of these are grown/raised **primarily for cash sale** (not mostly for food for family or animals etc.)?

**Q2c.** Of the crops you mainly sell for cash, which **one** makes you the most money overall?

	2a NOT Grown	2a Crop Grown	2b Cash Sale	2c Most [SA]
(a) Maize	0	1	2	1
(b) Cassava	0	1	2	2
(c) Fruits: banana, lemon, mango, papaya, honey dew, etc.	0	1	2	3
(d) Vegetables like green leafy vegetables, carrots, pumpkin, etc.	0	1	2	4
(e) Beans, peas or other nuts (string beans, green peas, etc.	0	1	2	5
(f) Sweet potato	0	1	2	6
(g) Other root crops like taro, yam, arrowroot, etc.	0	1	2	7
(h) Coconut	0	1	2	8
(i) Peanut	0	1	2	9

	2a NOT Grown	2a Crop Grown	2b Cash Sale	2c Most [SA]
(j) Coffee	0	1	2	10
(k) White rice	0	1	2	11
(l) Other rice (red, black etc.)	0	1	2	12
(m) Other crops/cereals: [RECORD]	0	1	2	13
(n) NO Crops/veges/fruits grown	88			99

→ [IF NO CROPS GROWN, CODE 88 and GO TO Q3]

**Q2d. [CHECK Q2a. ASK ABOUT EACH CROP/VEGE/FRUIT CURRENTLY GROWING]:** Thinking about [CROP] in the next few years do you think you think the amount of [CROP] produced or land planted in that crop will:

- (1) Decrease,
- (2) Stay about the same, or
- (3) Increase
- (88) **[DON'T READ]:** DK/Unsure

**Q2e.** Are there any of crops, vegetables or fruits that you don't currently grow, but are considering growing in the future? **[MA: Code all mentioned]**

**[CHECK FOR EACH CROP MENTIONED IN 2a]**

	2d Decrease	2d Same	2d Increase	2d DK (don't read)	2e Future
(a) Maize	1	2	3	88	1
(b) Cassava	1	2	3	88	1
(c) Fruits: banana, lemon, mango, papaya, honey dew, etc.	1	2	3	88	1
(d) Vegetables like green leafy vegetables, carrots, pumpkin, etc.	1	2	3	88	1
(e) Beans, peas or other nuts (string beans, green peas, etc.)	1	2	3	88	1
(f) Sweet potato	1	2	3	88	1
(g) Other root crops like taro, yam, arrowroot, etc.	1	2	3	88	1
(h) Coconut	1	2	3	88	1
(i) Peanut	1	2	3	88	1
(j) Coffee	1	2	3	88	1
(k) White rice	1	2	3	88	1
(l) Other rice (red, black etc.)	1	2	3	88	1
(m) Other crops/cereals: [RECORD]	1	2	3	88	1

**Q3.** Where do you usually sell your crops, fruits or vegetables?

**[READ OUT. MA. PICK ALL that apply]:**

- (1) Directly from a local streetside stall
- (2) Sell through local association/co-op
- (3) Sell at stall at local weekly markets
- (4) Take ourselves into larger municipality to sell at markets there
- (5) Take ourselves into Dili to sell at markets there
- (6) Sell to collector, supermarket buyer
- (7) Sell to government buyer/MCIA

**Q4a.** Which, if any, of these livestock do you regularly raise/produce on this farm?

**Q4b. [ASK FOR ALL MENTIONED IN Q6a]:** And which, if any, of these are raised primarily for cash sale (not mostly for food for family or ceremonies/barter etc.)?

**Q4c.** And which of the livestock that you currently raise for **cash sale**, which makes your family the **most** money?

	4a NOT Raised	4a Raised	4b Cash Sale	4c Most [SA]
(a) Buffalo	0	1	2	1
(b) Cows	0	1	2	2
(c) Goats	0	1	2	3
(d) Sheep	0	1	2	4
(e) Chickens	0	1	2	5
(f) Eggs	0	1	2	6
(g) Horses	0	1	2	7
(h) Pigs	0	1	2	8
(i) Other livestock [RECORD]	0	1	2	9
(n) NO Livestock raised	88			

**Q5.** Besides money earned from selling your crops, vegetables, fruit and livestock do you or other family members living in this house regularly earn money in any of these ways?

**[MA. READ OUT]:**

- (1) Doing work for other farmers
- (2) Selling crafts or other items
- (3) Selling agriculture products in the market
- (4) Running another business, kiosk or shop
- (5) Providing labour for contractors, builders etc.
- (6) Working in a guesthouse, or as a tourism guide etc.
- (7) Government salary
- (8) Working for private company or NGO
- (9) Social transfer (veteran pensions, bolsa de mae etc.)
- (10) Other: \_\_\_\_\_
- (11) **[DO NOT READ]** No other income sources

**[SHOW CARD A]**

**Q6.** I am going to read out some things other farmers have said to us. Please tell me how much you agree or disagree with each of them. For each statement, point to the number or symbol on the card that is closest to how you feel about the statement

1. Means you **completely disagree**, 2. Means you **disagree quite strongly**, 3. Means you **disagree slightly**, 4. Means you are **undecided** 5. Means you **agree slightly**, 6. Means you **agree quite strongly** and 7. Means you **agree completely**.

	1 Comp. Dis	2 Dis. Strong	3 Dis. Slight	4 Unde- ecided	5 Agree Slight	6 Agree Strong	7 Agree Comp	8 DK (don't read)
(a) Most farms in Timor-Leste could make much more money from their farms than they do	1	2	3	4	5	6	7	88
(b) Farming is a just another kind of business, like running a shop or manufacturing things	1	2	3	4	5	6	7	88
(c) Farmers in Timor-Leste need to adopt new ways of farming to succeed.	1	2	3	4	5	6	7	88
(d) I'd rather have some other kind of job than being a farmer	1	2	3	4	5	6	7	88
(e) I'm always looking out for new ideas to improve the way I farm	1	2	3	4	5	6	7	88
(f) In Timor-Leste it's not really possible to make a good living from farming.	1	2	3	4	5	6	7	88
(g) I like to stay true to the farming traditions of my parents – they knew the best way to farm this land	1	2	3	4	5	6	7	88
(h) These days a good farmer needs to understand marketing and selling as well as growing crops	1	2	3	4	5	6	7	88
(i) I see a lot of potential in farming – we could definitely increase our income from farming	1	2	3	4	5	6	7	88
(j) I'm quite happy with the way I farm, and my way of life. There's no real need to change	1	2	3	4	5	6	7	88
(k) It makes me happy to think about my children growing up and taking over the farm	1	2	3	4	5	6	7	88
(l) The prices paid by buyer or in the market are enough for me to make a profit	1	2	3	4	5	6	7	88

**Q7.** Which, if any, of these things have you done on your farm the last few years:

**[MA: READ EACH ITEM OUT]:**

- (1) Introduced any new, different farming technology or machinery
- (2) Borrowed money specifically to improve or develop the farm
- (3) Started using better irrigation or new water sources
- (4) Expanded livestock or animal production

- (5) Tried growing a new crop, or type vegetables/fruit
- (6) Started adding new inputs like fertiliser, insecticide or other pest control measures
- (7) Tried new varieties or types of our existing crops or vegetables/fruit
- (8) Sold more of your crop in stalls, local markets
- (9) Sold more of your crop to large collectors or supermarkets outside this suco
- (10) Got agriculture or livestock advice from my suco extension officer

(99) **[DO NOT READ]:** None of Above.

**Q8.** Just thinking about your farm and its potential in the future, which of these statements is nearest to your situation?

- Q8a.** (1) We could easily increase yields of existing crops, **or**  
 (2) It will be hard to increase yield of existing crops?

(88) [DO NOT READ]DK/Unsure

- Q8b.** (1) I don't think we will have trouble growing enough to support my family, **or**  
 (2) It will be hard to ensure we grow enough to support the family

(88) [DO NOT READ]DK/Unsure

- Q8c.** (1) It should be possible to grow different, more profitable crops here, **or**  
 (2) It would be hard to change the kind of crops we grow

(88) [DO NOT READ]DK/Unsure

- Q8d.** (1) It should be possible to make more money for our family than we do now, **or**  
 (2) It's unlikely we can make more money from our farming

(88) [DO NOT READ]DK/Unsure

**Q9a.** I am going to read out some challenges that other farmers have told us they face. As I read each out, please tell me if it is either:

(3) A **very big** problem, (2) A **small** problem, or (3) **Not really a problem** for you

**Q9b.** Which, of those you said were problems for you, is the **one** single biggest problem you face?

[READ OUT EACH STATEMENT]	Q9a BIG Problem	Q9a Small Problem	A9a NOT a Problem	Q9a DK (don't read)	Q9b BIGGEST Problem
Not having enough time to get things done	1	2	3	88	1
Not having enough workers to get things done	1	2	3	88	2
Not having the right machinery or technology to improve my farming	1	2	3	88	3
It's hard to get good quality inputs like seeds, fertiliser etc.	1	2	3	88	4
I don't know enough about how to price my crops for sale	1	2	3	88	5
I can't get enough money to make improvements to the farm	1	2	3	88	6
I need more help or information to find better ways to farm	1	2	3	88	7

[READ OUT EACH STATEMENT]	Q9a BIG Problem	Q9a Small Problem	A9a NOT a Problem	Q9a DK (don't read)	Q9b BIGGEST Problem
We don't have enough land to grow enough	1	2	3	88	8
Our land is not suitable for growing good crops	1	2	3	88	9
It's hard to arrange transport or distribution of my crops	1	2	3	88	10
I don't know enough about how to market or sell my crops	1	2	3	88	11
It is hard to find buyers who will buy enough of my crops	1	2	3	88	12

**Q10a.** If you could get a loan or credit from a bank, or micro-credit organisation, that you could only use to improve your farm and had to pay back, do you think it would be worth taking the risk to take that loan?

- (1) Yes
- (2) No → [GO TO Q11]
- (3) Might Consider - Depends on: \_\_\_\_\_

(88) DK/Unsure

**Q10b.** [IF YES/ MIGHT] What would do with such a loan? What would you spend it on exactly?

\_\_\_\_\_

**Q11.** [INTRO TO "PAIRED RESPONSE" Q. SHOW CARD B and GIVE FACE SYMBOL]

Now I'd like to play a bit of a game. Imagine two farmers are talking, farmer "A" and farmer "B".

Farmer "A" says "I enjoy cock-fights – they are a lot of fun", BUT

Farmer "B" says "I hate cock-fights – they are a waste of money"

[GIVE FACE SYMBOL] Now pretend this "face" is you. Put yourself on the picture to show which of the two farmers you agree with. If you really agree a lot with Farmer "A", you'll put yourself close to him, but if you agree with farmer "B" you'll put yourself beside him. The more you agree, the closer you should put yourself. For example:

[ASK THEM TO TRY IT OUT ON SHOWCARD]:

**Q11a.** So now imagine if farmer A said.....

A) If I make more money from farming, it will mostly go on more adad obligations,

.... but Farmer B said.....

B) If I make more money from farming, my family can have a much more prosperous life

[Q11a. RECORD NUMBER NEAREST TO WHERE THEY PUT THE FACE]: \_\_\_\_\_

**Q11b.** and what if farmer A said.....

A) To be a good farmer you have to work very hard, almost every day,

.....but Farmer B said.....

B) There is more to life than just farm work, you need to relax sometimes

[Q11b. RECORD NUMBER NEAREST TO WHERE THEY PUT THE FACE]: \_\_\_\_\_

**Q11c.** and how about....

A) There are so many things that can go wrong with farming, I worry a lot about the future

B) You have to take some risks to improve your farm. Things usually work out OK.

[Q11c. RECORD NUMBER NEAREST TO WHERE THEY PUT THE FACE]: \_\_\_\_\_

**Q11d.** and how about....

A) Our fathers knew best. It's best to stick to traditional farming methods

B) I like to experiment with new ideas to improve my farm

[Q11d. RECORD NUMBER NEAREST TO WHERE THEY PUT THE FACE]: \_\_\_\_\_

**Q11e.** and how about....

A) Around here you need to get on with your friends and neighbours. It's important to avoid arguments

B) Sometimes you need to do what's best for your family and your farm – even if others in the area don't agree.

[Q11e. RECORD NUMBER NEAREST TO WHERE THEY PUT THE FACE]: \_\_\_\_\_

**Q11f.** and what if farmer A said....

A) If I did make more money from farming, many people around here would be jealous and try and destroy my success

B) If I made more money from farming, most people around here would be happy, and would support me.

[Q11f. RECORD NUMBER NEAREST TO WHERE THEY PUT THE FACE]: \_\_\_\_\_

**Thanks for your help. I just have a few final questions about yourself.**

**Q12.** How old are you, are you: [READ OUT]

(1) Under 30 years,

(2) 31- 35,

(3) 36 – 40,

(4) 41 -45,

(5) 46 or older?

**Q13a.** How many people are living in this household: \_\_\_\_ \_\_\_\_

**Q13b.** And how many of them are children under 16: \_\_\_\_ \_\_\_\_

**Thank and close.**

**[INTERVIEWER RECORD]:**

**S4.** Approximately how long would it take for a car or motorbike to get from this farm to the nearest municipality food market?

(a) Municipal Centre \_\_\_\_\_ hrs \_\_\_\_\_ minute



This report focusses on the degree of commercial activity among the farmers of Timor-Leste; what they perceive as key barriers and opportunities for development, and the extent to which culture and attitudinal factors limit capacity for growth and adaptation. The report is based on a survey of 237 farmers in Bobonaro, Baucau and Viqueque and six focus groups in the same municipalities.

Overall the study concludes that Timor-Leste farmers are reasonably commercially oriented and that the most important ‘mindset’ challenge to development is not their low ‘entrepreneurial drive’ but lack of a long-term perspective partly driven by perceptions of farming as a vocation. Farming in Timor-Leste suffers from important knowledge gaps, and an image problem among farmers themselves.

