



TOMAK – To’os Ba Moris Diak

Farming for Prosperity

INVESTMENT DESIGN DOCUMENT

EARLY RELEASE VERSION (DFAT WEBSITE) 1.0, AUGUST 2015

Table of Contents

Executive Summary	v
1 Introduction	1
2 Analysis and Strategic Context	2
2.1 Country/Regional and Sector Issues	2
2.2 Development Problem/Issue Analysis	5
2.3 Evidence-base/Lessons Learned	11
2.4 Strategic Setting and Rationale for engagement by the Australian aid program	13
3 Investment Description	17
3.1 Logic and Expected Outcomes	17
3.2 Delivery Mechanism	20
3.3 Resources	23
4 Implementation Arrangements	26
4.1 Management and Governance Arrangements and Structure	26
4.2 Delivery Arrangements	26
4.3 Monitoring and Evaluation	34
4.4 Sustainability	37
4.5 Gender Equality	39
4.6 Inclusiveness	40
4.7 Risk Management	40
4.8 Safeguards	41
Annex 1 Investment Risks	42
Annex 2 Investment Safeguards Checklist	48
Annex 3 Agricultural Value Chain Selection Criteria	50
Annex 4 Monitoring and evaluation arrangements	55
Annex 5 Livelihood Zones and Beneficiary Engagement	63
Annex 6 Comparison of TOMAK prioritised Livelihood Zones	65
Annex 7 Mainstreaming Nutrition	68
Annex 8 Gender Equality and Women's Economic Empowerment	80
Annex 10 References	103

The Department of Foreign Affairs and Trade (DFAT) design for TOMAK occurred between August 2014 and March 2015. The design team included representatives from DFAT, CSIRO (through Food Systems Innovation Initiative), ACIAR and a team of independent contracted specialists.

The views expressed in this document are those of the design team and do not necessarily reflect the views of the Australian Government or DFAT.

This document remains the property of DFAT. It is not permissible to copy or use any of the material in this document without the expressed permission of DFAT. Further information is available from tomak@dfat.gov.au

www.dfat.gov.au

© DFAT 2015

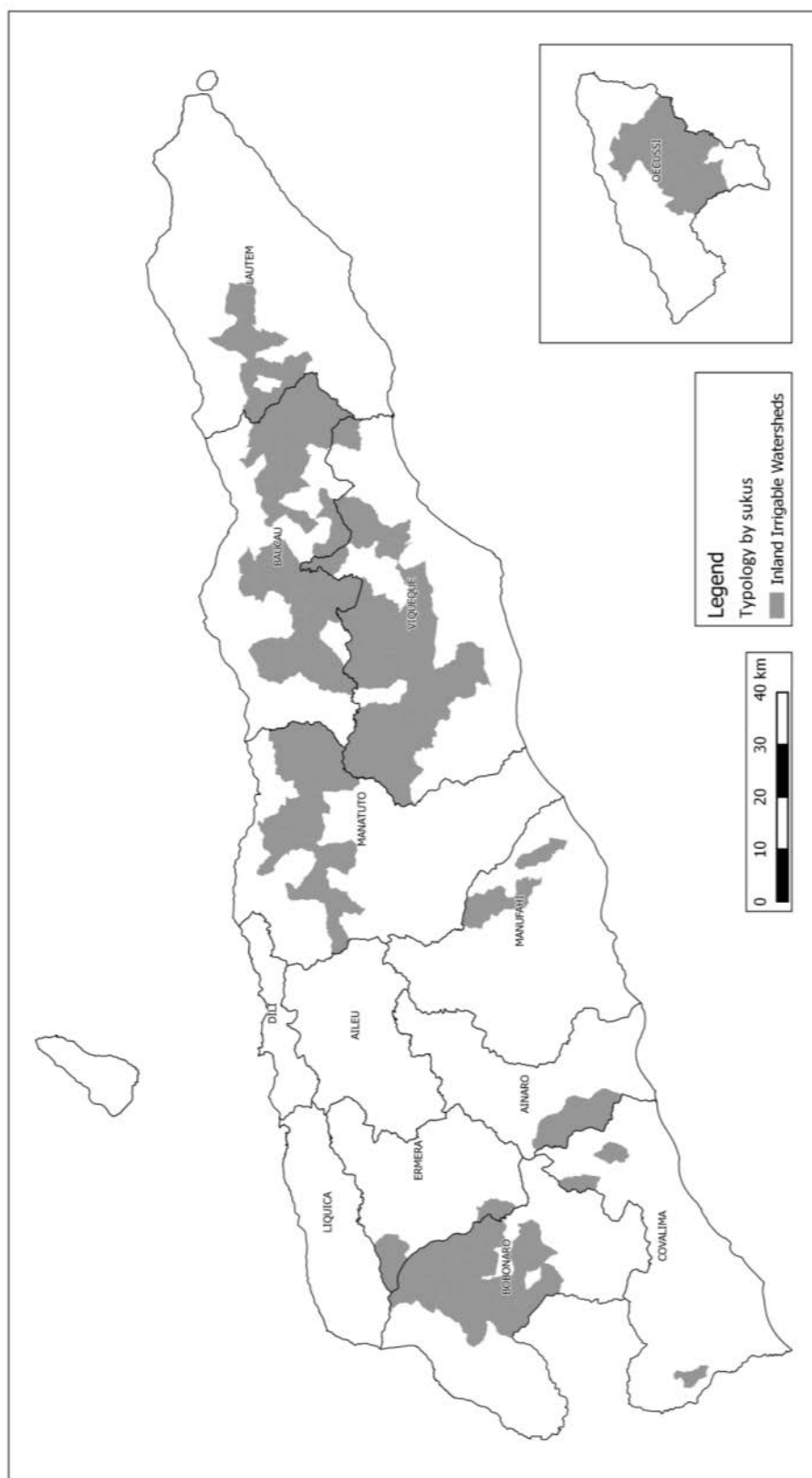


Figure 1: TOMAK will initially focus its activities on the inland irrigable watersheds (referred to as the inland watersheds for simplicity).

Acronyms

Acronym	Meaning
ACIAR	Australian Centre for International Agricultural Research
AS/FAS	DFAT Assistant Secretary and First Assistant Secretary
BCC	Behaviour change communication
BESIK	<i>Be'e Saneamentu no Ijiene iha Komunidade</i> (Rural Water Supply, Sanitation and Hygiene Program) – supported by the Australian aid program (DFAT)
CBO	Community Based Organisation
CSO	Civil Society Organisation
CSPG	Community Seed Producer Group (Seeds of Life and MAF)
DAC	Developing Agricultural Communities (USAID)
DCED	Donor Committee on Enterprise Development
DFAT	Australian Department of Foreign Affairs and Trade
DoA	Australia's Department of Agriculture
EU	European Union
FGD	Focus group discussion
GfD	Governance for Development – supported by the Australian aid program (DFAT)
GAFFSP	Global Agriculture and Food Security Program (MAF & WB)
GDP	Gross Domestic Product
GIZ	<i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i> (German Government owned development business)
GIS	Geographic Information System
GoTL	Government of Timor-Leste
GPFD	Government Partnerships for Development fund – supported by the Australian aid program (DFAT)
HH	Household
HOM	Australian Head of Mission (Australian Embassy in Dili)
IEC	Information, Education and Communication
IEE	Initial environmental examination
IFAD	International Fund for Agricultural Development
ILO	International Labour Organisation
KAP	Knowledge, attitude and practice
KONSSANTIL	National Council for Food Security, Sovereignty and Nutrition in Timor-Leste
MAD-C	Minimum acceptable diet for children
M&E	Monitoring and evaluation
M4P	Making Markets work for the Poor approach
MAF	Timor-Leste Ministry of Agriculture and Fisheries
MDD-W	Minimum dietary diversity for women
MDF	Market Development Facility – supported by the Australian aid program (DFAT)
MISP	Ministry of Agriculture and Fisheries (MAF) Institutional Strengthening Program (MAF & WB)
MoH	Ministry of Health
MPWTC	Ministry of Public Works, Transport and Communication
MTDP	Medium-Term Development Plan
MTIP	Medium-Term Implementation Plan
NGO	Non-Government Organisation
PAN-HAM-TIL	Zero Hunger Challenge (ZHC), National Action Plan for a Hunger and Malnutrition Free Timor-Leste (PAN-HAM-TIL)
PDID	<i>Planeamento Desenvolvimento Integrado Distrital</i> (Integrated District Development Planning)
PNDS	<i>Programa Nasional Dezenvolvimentu Suku</i> (National Village Development Program) (a Government of Timor-Leste initiative supported by the Australian aid program via the PNDS Support Program (DFAT)
PSF	Family Health Promoters
R4D	Roads for Development Program – supported by the Australian aid program (DFAT)
RDP	Rural Development Program (EU)
SED	South East Asia Maritime Division (DFAT)
SIPI	<i>Suku Ida, Prioridade Produto Ida</i> (One village, one priority product) (MAF)
SISCa	<i>Servisu Integradu da Saúde Comunitária</i> - The Timor-Leste Ministry of Health Integrated Community Health Services
SOSEK	The Socio-economics team within MAF
SoL	Seeds of Life (<i>Fini ba Moris</i>) a MAF program funded by DFAT

Acronym	Meaning
<i>SUN</i>	Scaling up Nutrition
<i>TRG</i>	Technical Review Group
<i>TOMAK</i>	<i>To'os Ba Moris Diak</i> (Farming for Prosperity)
<i>TLFNS</i>	Timor-Leste Food and Nutrition Survey 2013
<i>UN</i>	United Nations
<i>USAID</i>	United States Agency for International Development
<i>WASH</i>	Water, sanitation and hygiene
<i>WB</i>	World Bank
<i>WEE</i>	Women's economic empowerment
<i>WRA</i>	Women of reproductive age

TOMAK – To'os Ba Moris Diak

Farming for Prosperity

INVESTMENT DESIGN DOCUMENT – FINAL DRAFT, JULY 2015

Executive Summary

What is TOMAK?

TOMAK is a new agricultural livelihoods program funded by the Australian government's aid program in Timor-Leste. TOMAK is a Tetun word meaning "whole" or "complete", and also an acronym for *To'os Ba Moris Diak* (Farming for Prosperity). TOMAK's goal is to ensure its selected rural households live more prosperous and sustainable lives. TOMAK will achieve this through parallel and linked interventions that will:

1. establish a foundation of food security and good nutrition for targeted rural households; and
2. build their capacity to confidently and ably engage in profitable agricultural markets.

The Australian Government expects the five-year initiative (2016 to 2021) to be valued at around \$A25 million. An additional five years may be approved based on performance, resource availability, and ongoing alignment with the Australian Government's priorities.

Why is it important?

Analysis shows that economic growth in Timor-Leste has been inequitable, and that rural poverty is still stubbornly entrenched. Inequity and poverty are higher for women and youth, and further compounded by food insecurity and poor nutritional outcomes. The Government of Timor-Leste is deeply concerned about the need for the broader, equitable, economic development of its rural population (GoTL, 2015), and the debilitating impact that inadequate diets are having on current and future productivity (KONSSANTIL, 2014). The GoTL is eager to avoid the scenario where agriculture is neglected, where yields remain low or decline, where there is little commercial development of domestic agricultural value chains, and where food is increasingly imported. All of this risks a greater burden of malnutrition and significant rural-urban inequality.

Analysis demonstrates that the opportunities available for economic growth vary for different types of rural household. TOMAK defines three major classes:

- rural entrepreneurs;
- aspiring commercial farmers; and
- subsistence households.

The vast majority of Timorese households – between 75 and 85 per cent of the rural population - lie along the continuum between subsistence and aspiring commercial farming households, with households moving between the two groups as their circumstances vary. These two groups will be the primary beneficiaries of TOMAK, while rural entrepreneurs will be important delivery partners.

Analysis also shows that opportunity varies depending on location. The TOMAK design has sought support from the Seeds of Life (SoL) project to help characterise the major Livelihood Zones that define Timorese rural livelihoods. Sukus have been grouped based on the similarity of their demographic, productive, climatic, economic and agro-ecological characteristics. The design defines seven Zones and has identified, through careful scrutiny, TOMAK's initial focus on 'inland watersheds'.

The elements considered essential for Australia's investment in TOMAK, and the logic by which these contribute to long term change, are reflected in TOMAK's Theory of Change (Figure 2). In summary, TOMAK's hypothesis is that:

1. Given that the bulk of Timorese rural households are in the early stages of progression from subsistence to commercial livelihoods¹, it is essential to build the links between household food security, nutrition and economic growth.
2. Improved year round household food security, combined with appropriate changes in household knowledge, attitudes and practices with regard to the production, purchase and utilisation of a nutritionally diverse and sufficient diet, will contribute to the nutritional status of households, particularly nutritionally vulnerable groups within the household such as women and children.
3. Improved food security and nutrition will enhance household resilience and capacity to engage in economic opportunities.
4. The primary, short to medium term economic opportunity for the majority of rural households is in viable and appropriate agricultural value chains (crops and livestock). Opportunity exists to stimulate local markets and boost import replacement and export opportunities in the longer term.
5. Improved economic activity increases a household's capacity to purchase a greater range of nutritious foods that complement home production while improving nutritional status.
6. Well-nourished parents have healthier children, while increases in household income also increase the options and choices available to the household.
7. Healthier families and improved economic opportunities increase the capacity of Timorese rural households to live more prosperous and sustainable lives.

To achieve its outcomes, it is essential that TOMAK establish strong links with GoTL plans and supports the initiatives of other GoTL and development partner programs:

What will TOMAK do?

Under Outcome 1 TOMAK will ensure that “**local commercial producers are partnering sustainably and profitably with agribusiness and service providers in selected agricultural value chains**”. The inland watersheds have been selected as a target area for TOMAK, because of their economic potential, both in the short and long term. The availability of water, as well as their medium elevation, makes them ideal for the diversification of existing rice-based systems through the expansion of commercial agricultural value chains that exploit opportunities such as (but not limited to):

- incorporation of commercial legume crops (such as mung bean, soybean, red bean and peanuts) into either the dryland corn, or the irrigated rice rotations;
- expansion and use of irrigation for off-season vegetable production;
- significant escalation of livestock production, particularly pigs and cattle for the Dili market, and cattle for cross border trade with Indonesia;
- expansion of cassava and maize production for processing/milling for both human consumption and stock feed;
- longer term introduction and expansion of fruit and nut production (e.g. papaya, mango, cashew, banana and citrus); and
- integration of aquaculture into the farming system, accompanied by the expansion of local fish marketing.

Results possible within five years could include:

- four invigorated agricultural value chains deliver average increases in annual returns of \$500 to \$2,000 to 14,000 households within the chosen Livelihood Zone (over 50 per cent of its population);
- chosen agricultural value chains deliver equitable benefits for both women and men within households, especially in terms of decision making on the use of income and savings;
- all chosen agricultural value chains include at least one credible and appropriate opportunity for women's economic engagement;
- all of the entrepreneurial activities associated with improved agricultural value chains involve women in key decision making roles;
- agricultural value chains expand the production and availability of nutrient rich foods in local markets;
- sustained private sector and agribusiness investment in selected value chains (inputs, production, outputs) is sufficient to ensure their longer term viability; and
- employment opportunities for local and regional workers is stimulated by growth in the selected agricultural value chains.

Outcome 2 will ensure that TOMAK “**works with local partners to trigger household demand for year-round production and utilisation of diverse and sufficient food**”.

¹ be they agricultural, or non-agricultural

Each Livelihood Zone has unique nutritional challenges, and will therefore need a tailored approach. Outcome 2 appreciates that activities targeting the improved productivity, diversity and safe storage of food products must be combined with the promotion of appropriate nutrition for all age groups². Reliable data on production patterns and household utilisation across seasons and years, and the factors driving food choices, is therefore essential.

Results possible within five years could include:

- all household members (mothers, fathers, grandparents and children) across 80 per cent of the Livelihood Zone population will have improved knowledge, attitudes and practices related to the feeding and caring practices necessary to improve nutritional status, especially for the most nutritionally vulnerable groups, women of reproductive age (WRA) (aged 15-49 years) and children (aged 6 to 23 months);
- improved food security and household food consumption score (FCS);
- improved dietary diversity for WRA (minimum dietary diversity for women - MDD-W) and for children aged 6 to 23 months (minimum acceptable diet for children - MAD-C);
- decreased prevalence of underweight in WRA (Body Mass Index <18.5 and BMIZ for age) and in children aged 6 to 23 months (Weight for Age Z Score of <-2)³; and
- decreased rates of anaemia (measured by haemoglobin) in WRA and children (aged 6 to 23 months).

How will TOMAK be delivered?

A Managing Contractor will be engaged to coordinate and support activities and partnerships with Government agencies, local partners and communities for both Outcomes. The Managing Contractor will establish a small national office, ideally within, or close to, the MAF compound in Dili. This will allow effective engagement, liaison and coordination with national counterparts (e.g. MAF, KONSSANTIL, MOH, MOE etc.). However, TOMAK will be delivered through regional offices⁴ dedicated to local consultation and delivery of TOMAK activities. Initially, it is proposed that TOMAK could establish its regional offices in Baucau and Maliana, with provision for the subsequent establishment of an office in Oecussi depending resource availability and other local factors.

The design proposes that TOMAK will work collaboratively with the Australian-funded Market Development Facility (MDF) in the delivery of Outcome 1, and with the Australian Government's broader nutrition initiatives in the delivery of Outcome 2, and will be fully complemented by local and international specialists.

The monitoring and evaluation (M&E) arrangements proposed for TOMAK appreciate the underlying complexity and dynamism of Timor-Leste's rural Livelihood Zones, and will enable learning, responsive program management and accountability. The Managing Contractor will develop a detailed Results Framework and M&E Plan during the inception period of TOMAK. In line with established international practice, the Development Assistance Committee evaluation criteria⁵, the Donor Committee on Enterprise Development (DCED) standard⁶, and DFAT's corporate M&E standards⁷, TOMAK's M&E arrangements will capture, analyse and use information on TOMAK's goal, outcomes, deliverables and risks.

Whilst acknowledging the most vulnerable groups, TOMAK has been designed to ensure the equitable delivery of benefits to all women, men, youth and the aged. The approach taken identifies four key areas for TOMAK to specifically address gender equality and women's economic empowerment. These are:

1. **Selection Criteria:** criteria for Livelihood Zones, value chains, and nutrition engagements all integrate solid gender assessments.
1. **Analysis:** TOMAK needs a deeper understanding of the perspectives and roles of women, men, boys and girls in order to define its interventions more appropriately.
2. **Engagement:** all activities will integrate gender principles and approaches (gender accommodating), while some activities across key value chains and nutrition initiatives will be expected to be truly transformative for women (gender transformative).

² Safe storage must focus on reduced mycotoxin contamination.

³ WAZ (underweight) is measured routinely at health facilities and will be the unit of measurement for TOMAK. Broader issues, such as wasting (acute malnutrition) and stunting (chronic under-nutrition) are multifactorial and for stunting intergenerational and will not be used as specific indicators in TOMAK but considered as part of the broader Australian nutrition engagements

⁴ As part of the GoTL's deconcentration agenda Districts have been recently reclassified as Municipalities. Throughout the document the term Municipality is used.

⁵ Relevance, effectiveness, efficiency, impact, sustainability, gender equality.

⁶ 1. Articulating the Results Chain; 2. Defining indicators of change; 3. Measuring changes in indicators; 4. Estimating attributable changes; 5. Capturing wider changes in the system or market; 6. Tracking programme costs; 7. Reporting results; 8. Managing the system for results measurement.

⁷ <http://betterevaluation.org/sites/default/files/DFAT%20M%26E%20Standards.pdf>

3. **Delivery:** delivery will incorporate gender issues in the following ways:
 - a. the TOMAK team will include a full time Gender Specialist;
 - b. TOMAK must ensure that women are appointed to each regional office, and that women comprise at least a third of the national team⁸;
 - c. specific gender training and team coaching will be used to develop understanding and address issues;
 - d. specific strategies will be implemented to overcome gender-based constraints to participation.
4. **Outcomes and Evaluation:** the results chain and M&E guidelines for each activity and for TOMAK overall specifically identify the changes we are seeking for women for both Outcomes 1 & 2; and provide real time, gender sensitive, and gender disaggregated data to drive learning.

Risk management is essential for TOMAK's implementation, and integral to its Results Framework and M&E Plan. The Managing Contractor will develop a Risk Management Plan during inception, to include the tracking of key risks to support learning, and to enable more meaningful interpretation of program performance data.

⁸ While 50 per cent would be preferred the limited number of national professional women candidates in the agriculture sector may be a constraint.

TOMAK – To'os Ba Moris Diak

Farming for Prosperity

INVESTMENT DESIGN DOCUMENT – FINAL DRAFT, JULY 2015

1 Introduction

TOMAK is a new agricultural livelihoods program funded by the Australian government's aid program, managed by the Department of Foreign Affairs and Trade (DFAT), in Timor-Leste. TOMAK is a Tetun word meaning "whole" or "complete", and also an acronym for *To'os Ba Moris Diak* (Farming for Prosperity). TOMAK will help rural households through parallel and linked interventions that will:

1. establish a foundation of food security and good nutrition for targeted rural households; and
2. build their capacity to confidently and ably engage in profitable agricultural markets.

TOMAK will commence in 2016 for an initial five years, with an option of an additional five years.

TOMAK builds upon the foundation established by Australia's *Seeds of Life* (SoL) program⁹, and integrates with Australia's other relevant initiatives in the country, including its investments in market development, rural roads, water and sanitation, community development and economic governance, as well as the important research initiatives being undertaken by the Australian Centre for International Agricultural Research (ACIAR) and the Australian Department of Agriculture (DoA). It is expected that some transition activities will commence in early 2016. The main investment is expected to commence by 1 July 2016. General design information, processes and quality assurance are summarised below and detailed in Annex 9.

Investment Concept Title	TOMAK – (To'os Ba Moris Diak) Farming for Prosperity
Version	Early Release Version 1.0
Date	6 July 2015
Proposed start date and timeframe	Early 2016 for five years, with an option of an additional five years.
Proposed funding allocation	Up to A\$25 million over five years A\$5m/year
Investment Concept Approved by:	First Assistant Secretary, SED, November 2014 IC Endorsement by AIC: NA
Quality Assurance	Independent appraisal by both internal and external specialists. Wide socialisation of approved concept with stakeholders. HOM/AS/FAS review and approval.
Proposed Design Pathway	FAS Review

⁹ The Australian-funded Fini Ba Moris (*Seeds of Life*) program ends in mid-2016. The third phase of SoL commenced in 2011 as a \$25 million partnership between the Ministry of Agriculture and Fisheries (MAF), the Australian Centre for International Agricultural Research (ACIAR) and DFAT.

2 Analysis and Strategic Context

2.1 Country/Regional and Sector Issues

2.1.1 Economic growth in Timor-Leste is inequitable

Timor-Leste has benefitted from sizeable increases in Gross Domestic Product (GDP) since 2006, driven by a surge in petroleum revenues and the resulting GoTL contracts for infrastructure. This growth has, however, been strongly dependent on public sector investment, and geographically concentrated in the capital. Figure 2 (red line) shows the rapid growth that has been stimulated in the non-oil/non-agricultural sector, particularly in the wholesale, retail and construction sectors. Yet while growth in these sectors is positive, these sectors represent only a small part of the economy. Performance in the agriculture sector (blue line) in particular - where the majority of Timorese work - has remained flat, suggesting that national improvements have not stimulated agricultural growth, and economic opportunity for the majority of Timorese remains elusive.

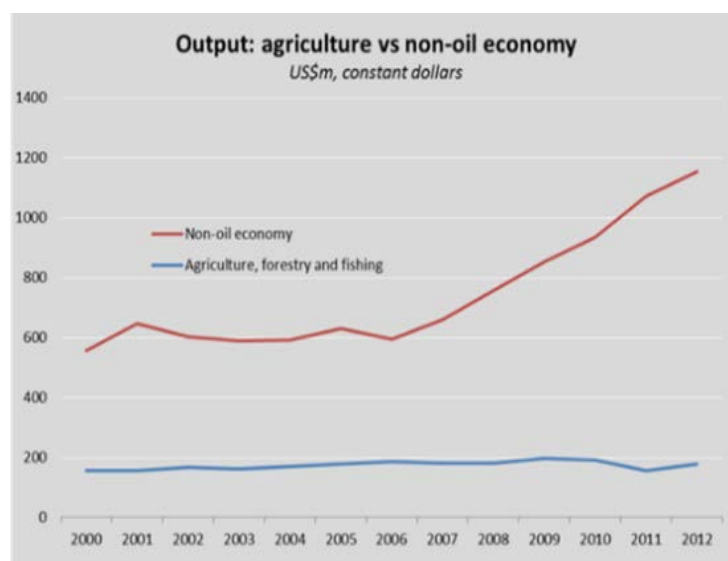


Figure 2: agricultural vs non-oil economic output

Timor-Leste's challenge is to expand economic growth in ways that are both sustainable and more equitable for all Timorese – men, women, children, youth and the aged, including people with a disability. Yet given that 70-75 per cent of the Timorese population (about 137,000 households) live in relatively remote rural areas outside of Dili or other urban centres (National Statistics Directorate, 2012) (GoTL, 2015) this is no easy task.

2.1.2 Inequity and poverty are largely rural phenomena

The difficulties facing rural households are significant. About half of Timor-Leste's 137,000 rural households – i.e. 68,500 households - are considered poor (National Statistics Directorate, 2012). Yet when data on the depth of this poverty is inconsistent, it remains uncertain just how poor these households are. Nevertheless, the 2007 *Living Standards Survey* notes that 51.5 per cent of the rural population was, at that time, living in poverty. The 2010 *Household Income and Expenditure Survey* (HIES) shows a mean household income of \$292/month¹⁰ – a figure that places most households well below the basic needs poverty line¹¹ if dependent solely on this income. It is evident, however, that most rural households own their own home, and produce the majority of their own subsistence requirements. A recent study undertaken by Australia's *Market Development Facility* (MDF) which took such factors into account, estimated that about 25 per cent of the households in their sample¹² were living in extreme poverty, while a further 65 per cent were vulnerable to poverty¹³ (Market Development Facility, 2014).

Poverty has many root causes, but key factors contributing to rural poverty in Timor-Leste include:

- High under- and unemployment - twice that of urban areas;
- High population growth rates of about 2 per cent per year, which currently equates to a fertility rate of six children for every woman of reproductive age (15-49 years) in rural areas¹⁴ (GoTL, 2010). However, there is some evidence that the rate of population growth has declined in recent years (GoTL, 2015);
- A young population – just over 50 per cent of the population are under 19 years of age¹⁵;

¹⁰ The HIES survey was not statistically significant in certain areas.

¹¹ The basic needs poverty line is set at \$US1.25/person/day. In the Timorese context this reflects a household income of \$US2,750 per annum, assuming six people per household.

¹² Although the total sample size is not statistically significant, these intensive surveys were undertaken across randomly selected households.

¹³ Vulnerability relates to those households living between \$US1.25 per person per day and \$US2.50 per person per day. Families in this group are particularly vulnerable to falling into poverty due to small changes in seasonal conditions, labour availability, sickness or disaster.

¹⁴ The *Timor-Leste Demographic and Health Survey* of 2010 shows a Total Fertility Rate of 6.0 for rural women compared with 4.9 for urban women (p49).

- Dependency on subsistence agriculture for between 63 and 75 per cent of households (World Bank, 2010);
- Limited access to land – an average of 0.9 ha of land per person for food and market production, while at the same time large areas of communal land remain undeveloped;
- Generally poor road access; and
- Poor market engagement other than the informal trade and exchange of subsistence products.

In summary, rural poverty is significant and the challenge for any program is to encourage equitable economic growth in rural areas.

2.1.3 Inequity and poverty are higher for women and youth

In Timor-Leste, gender inequality has narrowed in recent years, yet significant gaps remain (ADB, 2014). Women and men's economic advancement in rural areas are closely tied to the advancement of the household economy as a whole. Recent work by MDF shows that smallholder households operate as a single economic unit - individualistic endeavours are rare¹⁶. As such, increases or decreases in income for one member of a household affect all members of that household (Market Development Facility, 2014).

Both Timor-Leste's Constitution and its Strategic Development Plan (SDP) 2011-2030 aspire to gender equality, and for women's rights to be valued, protected and promoted. There are, however, many cultural and customary practices that limit the economic engagement of women. For example, customary law impacts women's ability to own assets, and therefore to borrow money and develop economically (SEAPRI, 2013). Furthermore, the majority of women over 25 are illiterate; experience very high birth rates, and high rates of maternal mortality, while they also score lower than men in terms of economic and political participation (UNDP, 2011). Nevertheless, recent evidence suggests that the perceived inequalities in gender relations may not be quite as stereotypical as once thought. MDF studies have, for instance, indicated that many women are involved in financial decision-making, and some men are involved in household work and local marketing (Market Development Facility, 2014).

Women form the larger part of the formal agricultural workforce in Timor-Leste, 46.3 per cent of women being employed in the agriculture sector compared to 37.9 per cent of men (GoTL, 2015). A 2002 UNDP study found that women often have primary responsibility for many horticulture-related activities. They therefore have considerable control over food production, seed management, selection of garden plots, harvesting, food utilisation and marketing of any surplus, and therefore play a key role in a family's food security, while also contributing to income generation (GoTL, 2014). Yet because most women focus their time on family food production, the GoTL estimates that 70 per cent of women engaged in agriculture do not receive cash income for their services (IFC, 2010). Thus, it appears that, women are less likely to be engaged in financially rewarding and meaningful economic roles than men. Yet women clearly want access to some income, as evidenced by the fact that an estimated 16 per cent of micro-enterprises are run by women (IFC, 2010). The number of hours worked by women farmers is also of concern (ADB, 2005), constraining, for instance, the ability of women to attend training and informal information networks. The ADB has further identified that women's participation in such events is compounded by their lack of mobility. Hence, despite overall progress being made in many areas (including access to education and improved literacy outcomes), women in Timor-Leste remain disadvantaged in terms of earning power, standard of living, life expectancy, and overall status, with Timor-Leste being ranked 118 out of 149 countries on the Gender Inequality Index (GII) in 2013 – much lower than many of its ASEAN neighbours (UNDP, 2013).

The opportunities for Timor-Leste's 200,000 youth (15 to 24 year olds) are also constrained, with just 30,000 youth comprising the official youth labour force (almost one in four of whom are un- or under-employed) (GoTL, 2015). Of the other 170,000, an estimated 30,000 are engaged in subsistence food production, with the bulk in formal education (GoTL, 2015). This lack of opportunity for youth is only exacerbated by the increasing levels of literacy that are broadening aspirations, and limiting the interest of young people in traditional subsistence activities. At the same time, youth are considered to be one of the most developmentally disengaged groups in the country. It is thus pleasing that recent evidence from a number of economic development programs indicates youth are enthusiastic partners in a variety of agriculture projects (e.g. horticulture production), as this provides them with a diversity of tangible opportunities, including the provision of skills in the longer term, as well as the opportunity to generate cash to pursue other aspirations (USAID, 2013). However, this fails to address the important concerns surrounding youth voice, agency, influence, and life choices.

¹⁵ The Timor-Leste Demographic and Health Survey of 2010 shows that across Timor-Leste 55.1 per cent of people are under 19 years old (p12). The more recent Labour Force Survey of 2013 shows that this figure has fallen to 50.8% (GoTL, 2015). Note that this relates to the full population of Timor-Leste, not only rural people.

¹⁶ However this survey focused on the male and female heads of the household. There are interesting considerations regarding the role of youth.

2.1.4 Poverty is further compounded by food insecurity and poor nutritional outcomes

Supply of staple foods, in particular, is inadequate during the hungry season, which generally occurs between December and February. This food insecurity, combined with limited knowledge of nutrition, lack of access to a diverse range of nutritious foods, poor feeding and care practices, and low income, has resulted in poor nutrition outcomes in rural Timor-Leste, including high rates of chronic under-nutrition and micronutrient deficiency disorders (Fanzo, 2013). 55 per cent of rural children under the age of five are stunted, compared to 39 per cent in urban areas, while over 75 per cent of infants and young children (aged 6-23 months) have insufficiently diverse diets, resulting in high rates of micronutrient deficiency disorders, in particular anaemia which 63 per cent of children under five suffer from in Timor-Leste (TLFNS, 2013). In addition, almost a third of rural women are under-weight, and 36 per cent are anaemic. This increases the risk of maternal mortality and the probability of pre-term and low birth weight deliveries. An intergenerational cycle of under-nutrition is apparent in Timor-Leste.

Improved nutritional outcomes have been shown to have a high return on investment, as they lower the disease burden, while raising productive capacity and cognitive skills. The World Bank estimates that improving the nutrition of infants and young children in Timor-Leste through effective education and counselling services could have a 1,400 per cent return on investments (World Bank, 2015). Current research builds a strong evidence base for supporting nutrition-based interventions targeting women and children from before conception to two years of age as an essential component of a comprehensive economic development strategy. Improved nutrition outcomes can increase a country's GDP by at least 2-3 per cent annually, and at the individual level, greatly improve health, educational achievement and earning potential (USAID, 2014).

2.1.5 GoTL strategies and programs are focusing on addressing rural poverty and nutrition

The GoTL is deeply concerned about the need for the broader, equitable, economic development of its rural population, and the debilitating impact that inadequate diets are having on current and future productivity (GoTL, 2014). Both Timor-Leste's Strategic Development Plan for 2011-2030 (RDTL, 2011), and the agenda of the current GoTL (RDTL, 2015), promote the important role that agriculture can play in the reduction of poverty, the promotion of rural development, and the assurance of the country's food security in the medium to long term – both through food production/utilisation, and as a principal source of income for the majority of poor rural households.

The GoTL has thus proposed a number of strategies to address these concerns. The more substantive economic growth initiatives have focused on social transfers, local and national infrastructure, and short term labour programs, including:

- veterans, aged and single parent social security payments;
- local construction and governance initiatives under the Integrated District Development Plan (PDID)¹⁷, and the National Program for Village Development (PNDS);
- road labour programs under SEFOPE¹⁸, and co-funding for the Roads for Development (R4D) with the Australian aid program; and
- rural electrification.

Food security and nutrition are specifically being addressed by a comprehensive national *Zero Hunger Challenge* (ZHC) and its associated *National Action Plan for a Hunger and Malnutrition Free Timor-Leste* (PAN-HAM-TIL), which was endorsed by the *National Council for Food Security, Sovereignty and Nutrition* (KONSSANTIL) in July 2014. The ZHC clearly recognises the intrinsic links that exist between nutrition, agriculture and economic growth for the majority of the rural population. By 2025, the activities outlined in the PAN-HAM-TIL aim to meet the targets outlined under the following five strategic pillars of the ZHC:

- Pillar 1: 100 per cent equitable access to adequate, nutritious and affordable food all year round;
- Pillar 2: Zero stunted children less than 2 years of age;
- Pillar 3: All food systems are sustainable;
- Pillar 4: 100 per cent increase in small holder productivity and income; and
- Pillar 5: Zero loss or waste of food.

These aims are further embedded in the Ministry of Agriculture and Fisheries' (MAF) *Medium Term Development Plan* and *Medium Term Investment Plan*¹⁹ and the recently endorsed National Nutrition Strategy and costed action plan (2015-2019)

¹⁷ PDD 1 and PDD 2

¹⁸ Secretariat of State of Professional Training and Employment

¹⁹ MAF received Australian support to develop their MTDP and MTIP.

It is obvious that the GoTL is eager to avoid the scenario where agriculture is neglected, where there is little commercial development of domestic agricultural value chains, where yields remain low or decline, where food is increasingly imported, and where Timor-Leste is at risk of a greater burden of malnutrition and significant rural-urban inequality.

2.2 Development Problem/Issue Analysis

The TOMAK initiative will focus on the twin issues of *economic opportunity* and *food security and nutrition* for rural households. Yet to effectively influence these issues it is essential to understand that rural communities are not homogenous. TOMAK targeting therefore needs to take into account the significant variation in opportunity that occurs across the country.

2.2.1 Opportunities vary for different types of household

Almost all rural households depend on multiple livelihood options, with opportunities and aspirations varying according to individual household circumstances. In order to provide a more nuanced analysis, it is beneficial to consider how options vary for three broad household groups:

1. **Rural Entrepreneurs:** These households primarily depend on income from crop or animal sales, labour, and enterprise. Their income is also frequently supplemented by salaried employment²⁰. Generally these households receive in excess of \$US2,400 per household per year through formal channels. The 2010 *Labour Force Survey*²¹ indicates that around 15 per cent of the rural working-age population may fall within this income bracket. This group is often seen as an inspiration and model for others to follow, with many rural entrepreneurs willingly sharing their experience with others, and often engaging local people in sustainable employment. Yet this group's success is not only a result of their 'entrepreneurial skills'. Often they have better access to land, water resources and markets, a diversity of income streams, and/or better basic/vocational/professional education and skills development. Entrepreneurial rural households have a low dependence on subsistence food production, although their nutritional outcomes may also be less than ideal. A recent baseline study conducted by Mercy Corps and World Fish for COMPAC-TL²² showed that a high income does not necessarily guarantee food security or improved dietary diversity. In addition, there is some evidence of over-consumption and poor nutritional balance for households in the higher wealth categories. For example the TLFNS 2013 indicates that 18.7 percent of women in the highest wealth quintile are overweight compared to 3 per cent in the lowest wealth quintile. Many of the households also show lower levels of dependency (young children and the aged) than the rest of the population, with more evidence of family members pursuing individual enterprises or employment, while still contributing to the household as a unit.
2. **Aspiring commercial farmers:** The aspiring commercial farming households are those able to regularly supplement subsistence production and social transfers with economic activity through cash cropping, animal sales, labour or enterprise. These households generally receive \$US600-\$2400 per household per year (and thus most are also living below the basic needs poverty line). The 2010 *Labour Force Survey* estimates that around 40 per cent of rural households fall within this income bracket. These households are very similar to the households classified as subsistence households (see next), but with one or more factors in place that improve their economic opportunities e.g. more land, better road access, more available labour, and/or good health. Evidence shows that even though this group has better food security, the nutritional status of these households is only marginally better than that of subsistence households. This is also borne out by studies indicating that households do not often use additional income to improve dietary intake, apparently due to a pervasive lack of knowledge about healthy food choices (Monash, 2014).

For this group their short to medium term options lie in:

- a) increasing household income through agricultural enterprise (cash crops or livestock sale);
- b) having one or more family members find work as labourers - generally short-term as local seasonal farm workers or in local construction projects; or
- c) through migration to Dili or the larger regional centres.

Much more needs to be done to understand the opportunities and trade-offs when households make these decisions. However, it appears that the most common, consistent, and most likely opportunity to increase cash

²⁰ Salaried employment is primarily from Government service – many of these people (and/or their families) have established small businesses.

²¹ Although a 2013 Labour Force Survey has now been completed it has not yet published any income figures.

²² Combatting Malnutrition and Poverty through Aquaculture in Timor-Leste

income remains in crop and livestock sales. The experience of other development projects shows that increases in small scale production can increase family incomes between \$US1,000 and \$US2,000 per year, which, when combined with other income sources, can lift a household out of poverty and provide a more stable platform from which to make future livelihood choices.

3. **Subsistence Households:** Subsistence households primarily depend on subsistence production and social transfers, with minimal additional cash income. These households generally receive less than \$US600 per year, well below the basic needs poverty line. They are often constrained by a lack of access to productive resources (land and/or water), by remoteness, and/or by age, single parenthood, illness or disability. It is expected that female-headed households may form a comparatively larger proportion of this household group. Dependency rates are generally high, food insecurity is a regular occurrence, and chronic under-nutrition is common. Estimates vary, but it appears that between 25 per cent and 35 per cent of rural households in Timor-Leste could be classified as subsistence households (SEFOPE & DNE, 2010) (PNDS, 2014). The 2013 *Labour Force Survey* shows that 24 per cent of the working age population (15 years or older)²³ indicate that they are primarily 'subsistence foodstuff producers'. In addition, over 10,000 children (10-14 years) also work on these farms²⁴.

While these households actively pursue any available low risk options for economic income, the reality is that their choices are limited. For most households in this bracket, the pathways out of poverty are inevitably long term, often intergenerational, and frequently driven by the provision of better educational opportunities for the youth. Options for these households must therefore focus on ensuring sufficient year round access to, and utilisation of, nutritionally adequate foods for all household members, supplemented by income support through social transfers, the sale and exchange of - albeit limited - crop and livestock surpluses, and intermittent seasonal or construction labour.

The vast majority of Timorese households – between 75 and 85 per cent of the rural population - lie along the continuum between the subsistence and aspiring commercial farming households²⁵, with households moving between the two groups as their circumstances vary. Both of these groups rely heavily on the 'safety net' provided by subsistence agriculture - production that is essential for mitigating the risks of food insecurity, natural disaster, and income uncertainty. Rural households are therefore justifiably reluctant to risk change when the stakes are so high, i.e. when their own production of food may be compromised. These households require their subsistence food production to be: stable; sufficient; and adequately productive (per unit of labour). Without this, households will be reluctant or unable to take the inevitable risks associated with economic agricultural production.

2.2.2 Agriculture offers the most likely opportunity for rural economic growth

While in the long term, appropriate education and formal employment are seen as the most important pathway out of poverty (Curtin University, 2012), in the short term households will pursue whatever income opportunities arise. For instance, in recent years, construction labour for local, regional or national infrastructure has been a welcome source of additional income for many households. Nevertheless, such opportunities tend to be short term, opportunistic, and regularly associated with the need for household members to live away from home. Agricultural options, on the other hand, offer the best and most accessible opportunity for TOMAK to influence the economic advancement of rural households. In 2013, 41 per cent of formal workers (76,900) were engaged in agriculture, forestry or fisheries – the largest sector by far. Unfortunately, more than double this number (166,600) remains outside the formal workforce in subsistence agriculture (GoTL, 2015). The Government of Timor-Leste expects that *"a rapid structural transformation is thus crucial for Timor-Leste to ensure that those who are engaged in subsistence agriculture move into more productive forms of agriculture"* (GoTL, 2015). Over time, many of these households may choose to exit agriculture, having used it as a stepping stone to an alternative future.

Analysis and experience shows that there is unrealised economic potential in agriculture, but largely for non-staple food and commodity crops, as well as for those crop or animal products where a market demand currently exists. Examples include vegetables, fruits, nuts, coffee and livestock. In contrast, staple food production (especially rice and corn), remains in decline – still characterised by low agricultural productivity, uncertain access to land and water, and harsh working

²³ 166,600 subsistence food producers (not including those in the formal labour force) people out of a working age population of 696,200.

²⁴ Most of these children (90%) are also in school.

²⁵ This figure appreciates that, while poverty rates are about 50 per cent in rural areas, there are many households that lie just above this threshold and are particularly vulnerable.

conditions. There is also very little incentive to increase the production of the staple commodities²⁶ when the formal markets remain so limited and fragmented.

Recent examples have clearly demonstrated that establishing profitable agricultural value chains in Timor-Leste can improve household income, for example:

1. SoL demonstrated that farmers involved in the production of pulse crops (e.g. mung bean, red bean, and soy bean) can return \$1-2,000/ha per year.
2. USAID's Developing Agricultural Communities (DAC) program has supported the engagement of over 500 farmers in horticulture production, averaging a return of almost \$2,000/annum/household. Many communities are now replicating this model with the help of the GoTL, and other development partners²⁷.
3. Recent Australian economic modelling in rice producing areas shows households can increase their incomes from less than US\$1,000/ha to around US\$3,000/ha annually by diversifying and improving their farming systems (DFAT, 2013).
4. Analysis shows that livestock is the major source of cash income for most rural families (66 per cent), and that production can be increased through improved feeding and husbandry practices.

One risk to bear in mind as the program develops is that subsistence production is very different from commercial production, and that there is not necessarily a smooth continuum between the two. Links do exist, but it is unreasonable to assume that all subsistence households can easily transform into commercial farmers. The leap from subsistence livelihoods and informal trade into effective and equitable engagement in a profitable agricultural value chain is a challenging one. Evidence from both the USAID DAC and SoL programs show that, to be successful, interventions require long-term, deep, systemic, and transformative engagements that focus locally on farmers, engage with both men and women, and develop the linkages needed with the broader market systems (USAID, 2013).

2.2.3 Agriculture also offers the best option to improve food security and nutrition for subsistence farmers

Currently the majority of Timorese farming households depend on subsistence or semi-subsistence livelihoods. Across the whole agriculture sector, 65 per cent of farmers are dependent on foodstuff production (GoTL, 2015). Food security and nutrition outcomes for these people are very poor - the prevalence of stunting is classified as 'very high' and the prevalence of anaemia in children (U5) is classified as a 'severe' public health issue (WHO, 2010). Despite significant progress to combat food security and under-nutrition in Timor-Leste, results of the Timor-Leste *Food and Nutrition Survey* (GoTL, 2013) indicate that under-nutrition in women and children continues to be a major development issue across all municipalities. Yet SoL II and other programs have shown that opportunities exist for improving the year-round calorific intake, balanced nutrition and health of subsistence farmers through:

- improved land and labour productivity;
- diversification of subsistence crop and livestock options; and
- improved post-harvest storage to reduce spoilage, rodent damage and mycotoxin contamination.

Improving nutrition is key to improving economic development and productivity in Timor-Leste. If not addressed, nutritional deprivation can have intergenerational impacts, including poor cognitive capacity (Prado & Dewey, 2014), low school performance, and reduced productivity and economic opportunities, as well as reduced GDP (Hoddinott, 2011).

The causes of malnutrition are multi-faceted and not just related to insufficient intake of food. Nutrition-specific interventions need to be coupled with nutrition-sensitive approaches to prevent and control malnutrition throughout the lifecycle. Agriculture, however, plays a critical role in the provision of livelihoods, food and income, especially where agriculture is the main occupation of poor families in rural areas, and women are a large proportion of the agricultural labour force (FAO, 2011). Year-round food security and improved human nutrition through increased household production of diverse food will contribute to improved utilisation of a diverse diet.

2.2.4 Opportunity also varies depending on where you live

Experience also shows that food security, nutrition and economic opportunity vary significantly across the country. Timorese households depend on a diverse mix of subsistence and economic activities that vary according to factors such as rainfall, altitude and access. The TOMAK design has therefore sought support from SoL to help characterise the major Livelihood

²⁶ One exception is the increase in cassava production for flour. However this expansion is currently using 'bitter' varieties not suitable for household production.

²⁷ This program finished in 2014 and has now been replaced by USAID's Avansa Agrikultura Project working in the Dili Ainaro corridor.

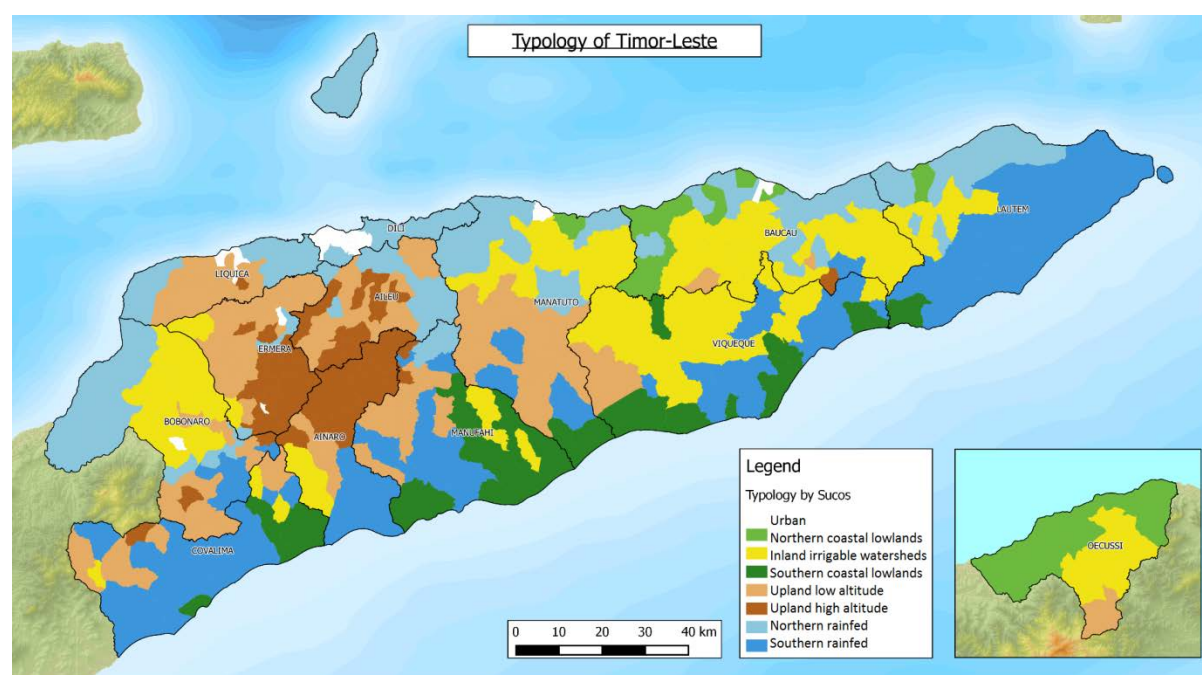
Zones that define Timorese rural livelihoods, through the grouping of *sukus* based on the similarity of their demographic, productive, climatic, economic and agro-ecological characteristics (see Annex 5). Many attributes were taken into account in the clustering, resulting in the identification of seven Livelihood Zones, as summarised in Table 1²⁸.

Table 1. A typology of rural *Sukus* in Timor-Leste (Data based on 2010 census for each *Suku*).

Livelihood Zone Name	Distinctive characteristic		No of Sukus	Population	Population (%)
Northern coastal lowlands	>35% HH grow rice	North	17	50,654	6.3
Inland irrigable watersheds	>35% HH grow rice	Mid	82	146,063	18.0
Southern coastal lowlands	>35% HH grow rice	South	17	42,182	5.2
Upland low altitude	>50% HH grow coffee	Below 900m	60	99,315	12.3
Upland high altitude	>50% HH grow coffee	Above 900 m	86	166,389	20.6
Northern rain fed	<35% grow rice and <50% grow coffee	North	61	130,901	16.2
Southern rain fed	<35% grow rice and <50% grow coffee	South (bimodal rainfall ²⁹)	91	173,720	21.4
Total			414	809,224	100

The major defining characteristics reflect the north (low summer rainfall) to south (higher rainfall) divide and elevation. These seven Livelihood Zones are also shown in Figure 3.

Figure 3: Timor-Leste Livelihood Zones



Subsistence production varies somewhat between Zones, but not as much as the viable options for commercial agriculture. Agricultural value chains were therefore used as the basis to determine economic opportunity and priority. SoL assessed 37 promising agricultural value chains within each Zone, against five criteria, in order to better understand the latent opportunities that exist within the Zones. The five criteria were:

²⁸ The data is largely generated from the 2010 Household Income and Expenditure Survey. Integrating many other characteristics would be beneficial (e.g. nutrition, institutional capacity) but compatible data sets for analysis are currently not available.

²⁹ Rainfall along the south coast is bimodal, that is, there are two rainy seasons.

1. whether technology was available to increase production of that value chain;
2. the impact that doubling production would have on the economic return of the household;
3. the extent of market demand;
4. the chance of success; and
5. the level of social constraint to increasing production.

Using these criteria the following three Livelihood Zones were identified as offering the greatest potential for economic growth:

1. **The high altitude uplands:** Highland regions (above 1,000m) are located mainly in Ermera, Aileu and Ainaro Municipalities, with pockets in other Municipalities. These are areas of very high rainfall, often with steep slopes. Sukus in this Zone have the highest population density, and second highest total population of all zones. Despite being relatively close to Dili, these Sukus are characterised by having low literacy rates, and very low access to health services, sanitation and potable water. This Zone has a strong focus on coffee production - particularly of the Arabica variety - with a low diversity of other crops and livestock. The farming systems do, however, prominently feature maize and cassava. Also, nearly one third of households have at least one horse, and most households have two or more pigs and a few chickens. At higher elevations, temperate crops - such as wheat, barley, plums and peaches - are sometimes grown. Unique economic opportunities for this zone include:
 - a. increased production of more temperate crops such as brassicas, tomatoes and off-season vegetables³⁰; and
 - b. a range of agroforestry options including coffee intensification, fuel wood production, and tropical and sub-tropical tree crop production (cocoa, citrus, and cloves).

Significant opportunity also exists to supplement commercial production with a diversified subsistence diet. Sourcing protein in these upland areas is difficult, thus intensified pig and chicken production, supplemented by an increased diversity of household vegetables and fruits, would be beneficial.
2. **The inland irrigable watersheds** (henceforth referred to as the 'inland watersheds'): This Zone is largely located in:
 - a. the Maliana basin;
 - b. the eastern mountain regions including most of Baucau and Viqueque, as well as parts of Lautem and Manatuto; and
 - c. the elevated area of Oecussi.

Sukus in this Zone have a high population with low access to health services and improved water and sanitation. They also have the lowest asset index. Farmers in this Zone focus their efforts on rice production, yet have a good diversity of other crops and livestock. The numbers of buffalo, in particular, are relatively high. Although these areas are warmer than the high altitude uplands, they are still cooler than the coastal regions. Significant opportunities are available to address food security and nutrition outcomes through the increase and diversification of household food production. Unique economic opportunities include:

 - a. inclusion of commercial legume crops (such as mung bean, soybean and peanuts) into either the dryland corn, or the irrigated rice rotations. These crops would also provide an alternative protein source;
 - b. the use of irrigation for off-season vegetable production; and
 - c. the inclusion of aquaculture.
3. **The southern, largely rain fed areas:** This Zone is located along the south coast and the eastern end of Timor-Leste, especially in the Municipalities of Covalima, Ainaro, Manufahi, Baucau and Lautem. This Zone has the largest population, but with low access to services such as health, electricity, improved water and sanitation. Farming systems in these rain fed areas lack diversity when compared with the irrigated coastal lowlands, with a lower frequency of all crop and livestock commodities, except for horses (which is still low). Very few households grow rice, and less than half grow maize, cassava or vegetables. Households that do grow maize presumably grow relatively large areas, as the Municipality of Lautem is one of the largest maize producers in the country. Even so, the occurrence of the one hectare lots that were assigned during Indonesian times is common. The potential for improving production systems for food security and economic growth in the south and east areas is, in fact, considerable, as there is a longer wet season, resulting in a longer growing season for crops, forages and pastures.

The larger land holdings and the higher rainfall offer unique scope for:

³⁰This is a focus of USAID's Avansa Agrikultura Project.

- a. increased Bali cattle production; and
- b. a range of agroforestry options such as timber and fuel wood production.

All three Livelihood Zones offer significant potential for TOMAK, albeit for different reasons. However, the resources available over the next five years limit TOMAK's capacity to work in all three. Nevertheless, TOMAK still needs sufficient scale to impact broadly. Its coverage must therefore be sufficient without being thin. A more focused and deeper program is therefore preferred.

An initial engagement within **one Livelihood Zone** will ensure that over 50 per cent of its rural community is targeted. The Australian and Timor-Leste Government have agreed to focus TOMAK's initial engagement on the **inland watersheds** (see Figure 4, the comparison table in Annex 6). This Livelihood Zone offers:

1. The best opportunity for short term wins for Outcomes 1 and 2 through legume supplementation³¹ of irrigated areas, and through livestock expansion;
2. Significant opportunities for TOMAK to diversify and improve irrigated farming systems (such as rice³²), with the inclusion of perennial crops and commodities (such as soybean, mung bean, vegetables, fruit and nuts, cassava, pig, poultry and cattle production);
3. Good coverage across the major rural areas of Oecussi, Maliana and Baucau;
4. The best opportunity to work collaboratively with USAID's new Avansa Agrikultura Project in neighbouring Municipalities (while not duplicating work in the high altitude uplands); and
5. Alignment with the significant work of other Australian aid program initiatives (SoL, BESIK, R4D).

Figure 4: Inland Watersheds Livelihood Zone



TOMAK will be complemented by the similar work of other development partners (especially, USAID's Avansa Agrikultura Project) and thus communities in other Livelihood Zones will not be neglected. Also, and importantly, TOMAK is scalable – able to increase (or decrease) as the need arises.

Even within the inland watersheds there will, however, be a need to stage engagement over time, and to approach engagements flexibly. The Livelihood Zone boundaries are not set in concrete. They were delineated through a desk-based exercise, and field analysis may identify logical activities that are broader than the current boundaries. Because of potential sub-regional variations, value chain and or nutrition interventions may have implications for adjoining areas. Of particular note is that many areas classified as inland watersheds share a physical boundary with those classified as southern rain fed, and consequently there may be scope to work in some of the latter areas where opportunities align with

³¹ Legume supplementation (e.g. planting mung beans, soybeans or red beans in rotation with maize or rice) brings benefits for economic opportunity, crop rotation and human nutrition.

³² While this design has commented on the challenges of rice production itself in Timor-Leste, TOMAK sees value in engaging in rice based farming systems, including by exploring options for diversification.

TOMAK's objectives. The final selection of initial engagement sites and interventions will occur during program start up, and involve assessment of:

- resources and services;
- technical, economic, environmental and social viability of the local agricultural value chains; and
- nutritional status of households, and the entry points for interventions to improve dietary diversity.

2.3 Evidence-base/Lessons Learned

The evidence and lessons from Australian, GoTL and other development partner programs have been essential defining the scope of Australia's engagement. The following lessons confirm much of the analysis already discussed, while at the same time defining ways in which TOMAK may operate more effectively. The lessons considered essential in the development of TOMAK include:

2.3.1 Lesson 1: Work at the local level within the main Livelihood Zones across the country to improve commercial agricultural value chains.

SoL has demonstrated the richness of Timorese Livelihood Zones, showing that these vary distinctively across the country. Rather than promoting a single national agricultural value chain, TOMAK will adopt a more nuanced approach based on the livelihoods of local communities, and the identification of the local value chains that exhibit the greatest potential for economic growth. TOMAK's reasoning is strongly supported by the evidence of the USAID DAC program, the ILO BOSS program, and the NZAID assistance to the coffee industry. TOMAK will be inclusive of all rural people - men, women, households and communities – assisting them to make whatever changes are necessary to their norms and behaviours, whether these are related to dietary diversity or commercial endeavours. Such assistance is, involves a long-term process of trust and confidence building.

2.3.2 Lesson 2: Approaches must be tailored to the needs of the different household types.

Approaches will need to be tailored to the status of each household, differentiating between: a) subsistence farmers; b) aspiring commercial farmers; and c) rural entrepreneurs. TOMAK notes that these groups are fluid rather than fixed - economic shock, natural disaster or ill-health, for instance, can easily result in an aspiring commercial household becoming a subsistence one. For TOMAK, the first two groups should be the beneficiaries, while the rural entrepreneurs could become partners in developing the relevant agricultural value chains. Again, it needs to be recognised that significant effort is needed to help communities to adjust culturally to commercial production, with many initiatives taking five to ten years to achieve appreciable change (as testified to by many development partners³³). There is recent evidence that the rate of change within households and Sukus is increasing, driven by householder aspirations for economic growth, and the evidence of success in other places. Furthermore, NGOs and development partners alike have, over the years, gained significant experience in how to do this well.

2.3.3 Lesson 3: The need for activities that specifically focus on women's economic empowerment in order to improve household nutrition outcomes, to increase their relative incomes, to reduce their workload, and to promote their position, both within the household and the wider economy.

Despite widespread agreement that economic opportunities for women in Timor-Leste are limited, women play a significant role in contributing to household food security and the rural economy as a whole. Nevertheless, practical measures are needed to increase their participation, access and agency, and thereby enable them to more gainfully engage in local and national agricultural value chains, in particular in vegetable and cash crop cultivation, livestock rearing, and trading.

Experience from SoL shows that although women and men share work in the fields, the specific roles undertaken are strongly influenced by tradition, gender, age, fitness and infirmity. In Timor-Leste, men and women have different:

- access to resources (including land), and control over resources;
- roles and responsibilities (as determined by the socio-cultural background);
- knowledge (as a consequence of their differing roles in the agricultural value chains and household nutrition);
- criteria on which they base decisions;
- access to information and sources of information; and
- needs, and therefore priorities to improving their situations.

³³ Confirmed by contacts in SoL, MDF, USAID, ILO, IFAD, EU, GIZ and other development partners in Timor-Leste

Understanding these differences is critical if gender issues are to be effectively addressed, equity improved, and the best strategies to achieve TOMAK's outcomes identified (while avoiding those strategies likely to produce negative unintended consequences). Also, gender-based work roles and power relations vary greatly across the two main target groups (subsistence and aspiring commercial farm households), a fact that is likely to significantly impact on the development of strategies needed to address these equity issues. Also, farmers engaged in subsistence agriculture tend to be older, while those engaged in commercial agriculture (whether men, women or youth) tend to be younger (USAID, 2013).

2.3.4 Lesson 4: Detailed gender analysis must be conducted for each Livelihood Zone TOMAK supports. This information must be used to inform the choice and design of the specific activities to be supported in a community.

The Gender Analysis (Annex 8) emphasises that the socio-cultural context in Timor-Leste is diverse, dynamic and complex. Hence it cannot be assumed that the existing data is still relevant or accurate, or that data from one Livelihood Zone is applicable to another. Approaches to improving nutrition and the range of economic options available to farmers must be based on current, localised information. Men's and women's roles and responsibilities within their households and communities must also be considered. Information must also reflect the roles and responsibilities of different groups of men and women (such as older women) within both the household and the community.

2.3.5 Lesson 5: The need to build agribusiness and broader private sector capacity and linkages to ensure that markets function properly. Approaches that focus solely on improved productivity must be avoided.

Economic development programs such as Australia's MDF, USAID's DAC, and the ILO BOSS program all emphasise that effective economic opportunity for rural households can only arise out of programs that deal with both local production issues, and local linkages with agribusiness and the broader private sector. This ensures that the entire market system operates effectively. MDF has had some success working with larger national private sector players to improve agricultural markets. However, its partners have been continuously constrained by the following issues:

- multiple small, low capacity, resource-limited rural households;
- inconsistency of production resulting from poor scheduling of production at the local level;
- inability to consolidate local production to achieve the "line sizes" necessary to meet transport efficiency and market demands; and
- inconsistent, often poor quality products that fail to meet consumer expectations

Significant opportunities exist for a localised program such as TOMAK to address many of these gaps and to complement MDF's broader agenda. Synergies between these programs is much better than parallel delivery mechanisms, while also offering scope for more efficient use of Australia's aid budget.

2.3.6 Lesson 6: The need to promote year-round production and utilisation of diverse and sufficient food, thereby enabling households to engage more confidently and beneficially with the broader economy.

In the past, many programs in Timor-Leste have tried to address food insecurity and improve nutrition through agricultural interventions. A 2013 exercise mapping seventeen nutrition-sensitive agriculture projects across the country concluded that 92 per cent of these were focused on the pre-harvest phase, i.e. on increasing the yield/productivity of the major food crops (Curran, 2013). This same exercise stressed, however, that while a 'supply' side push is important, there is also a need to address the 'demand' side - the way food is used in the home, and opportunities that exist to influence behaviours.

SoL has also come to the same conclusion - that simple improvements in the productivity of basic food crops are insufficient in themselves to adequately address Timor-Leste's nutrition and food security needs. The last phase of SoL attempted to address this issue by piloting "nutrition sensitive agriculture" approaches that provided IEC materials³⁴ to help rural households better understand food production needs, as well as the need for a diversified diet. However, this was not scaled up. It is clear that TOMAK should complement crop and animal productivity with strategies that focus on the desired changes in household production and utilisation behaviours.

³⁴ A blend of information, education and communication tools

2.3.7 Lesson 7: The need to help communities manage and access their land and water resources more productively, sustainably and equitably, thereby promoting sustainable economic growth.

SoL, along with other development partners, has demonstrated the economic, social cohesion and sustainability benefits derived by communities through the assessment, planning and effective management of their productive natural resources. Understandably, traditional 'custom' practice and customary law often fail to encapsulate practices that maximise economic return while maintaining ecosystem services.

This gap can, however, be filled by community-based catchment planning, enabling households to more confidently enter into commercial agricultural production. The benefits of such catchment planning include community agreements/regulations that:

- categorise land use capability and access;
- improve water source management and water use planning;
- control free stock grazing;
- define boundaries;
- influence infrastructure planning,
- lessen conflict;
- improve social cohesion; and
- improve women's engagement in resource planning and economic enterprise.

2.3.8 Lesson 8: The need to build and nurture the full range of dynamic service delivery partnerships required at the national and local levels.

Significant success has been achieved through the long-term partnership between SoL and specific MAF operational units. The exit phase of SoL is now focused on sustaining these achievements to ensure that the gains made will not be dissipated. As such, TOMAK should maintain some level of national alignment with MAF in order to facilitate planning, linkages, resourcing and leverage. Nevertheless, the main focus of TOMAK will be at the Municipal level where MAF has an appreciable presence through its Municipal Directorates and its network of Sukus-based agricultural extension officers and other extension workers. MAF is committed to increasing local service delivery in line with the GoTL's "deconcentration" agenda. The MAF Minister and the MAF Director General have instrumental roles in the cross ministerial *National Council for Food Security, Sovereignty and Nutrition in Timor-Leste* (KONSSANTIL), and the KONSSANTIL Permanent Technical Secretariat. One of the responsibilities of KONSSANTIL is providing oversight to the *Action Plan for a Hunger and Malnutrition Free Timor-Leste*, part of which involves the establishment of Municipal cross-agency KONSSANTIL councils.

TOMAK will be aligned closely with Municipal level GoTL agencies, particularly MAF and MoH, to whose agenda the issues of food security, nutrition and economic opportunity are central at the local level. Several development partners are now working with MAF to improve its local level relevance and service delivery. TOMAK must also work collaboratively with MAF's Municipal and sub-Municipal structures to improve the coverage and sustainability of its efforts.

2.3.9 Lesson 9: The need to engage with MAF nationally on a case by case basis to help develop and support national enabling policies that can stimulate local/regional economic growth.

MAF aims to institute a range of broad-based institutional reforms. To this end, the World Bank has developed a pilot *MAF Institutional Reform and Transformation Project* (MIRTP)³⁵. Development partners have also formed a *MAF Development Partners* group to help synchronise and streamline assistance to MAF, in line with its *Strategic Development Plan*, as well as the MTDP and the MTIP. MAF has also been successful in its request for budget funding through the multilateral *Global Agriculture and Food Security Program* (GAFSP). At the national level of governance, Australia will continue to participate and monitor progress - particularly the outcomes and opportunities arising from the MIRTP and GAFSP initiatives as these progress – while using its influence to press for change as opportunity arises. TOMAK will align with these reform interventions and complement them by focusing on sub-national interventions. However, to maintain continuity and integration it is appropriate that TOMAK establishes its national office within or close to MAF.

2.4 Strategic Setting and Rationale for engagement by the Australian aid program

The stimulation of broad-based economic development in Timor-Leste will not be easy. Both agricultural and non-agricultural options are limited. However, in the short to medium term, the best options are offered by a program that:

³⁵ Supported by a small World Bank Institutional Development Grant

1. creates equitable economic opportunity in Timor-Leste by promoting profitable agricultural value chains within a priority Livelihood Zone; and
2. supports rural households to achieve better nutritional outcomes so people can live more productive lives, and engage more effectively in commercial activities.

This approach offers the most significant opportunity to improve the engagement of rural households with the emerging economy. Furthermore, such support would not only align with Australia's interests in strengthening the rural economy and improving the nutrition and food security of rural households in Timor-Leste, but would build off Australia's already significant contributions.

The elements considered essential for Australia's investment in TOMAK, and the logic by which they contribute to long term change, are reflected in TOMAK's Theory of Change (Figure 2).

In summary, TOMAK's hypothesis is that:

1. Given that the bulk of Timorese rural households are in the early stages of progression from subsistence to commercial livelihoods³⁶, it is essential to build the links between household food security, nutrition and economic growth.
2. Improved year round household food security, combined with appropriate changes in household knowledge, attitudes and practices will contribute to the improved nutritional status of households. These improvements are particularly vital for nutritionally vulnerable groups including women and children, and relate to the production, purchase and utilisation of a nutritionally diverse and sufficient diet.
3. Improved food security and nutrition will enhance household resilience and capacity to engage in economic opportunities.
4. The primary, short to medium term economic opportunity for the majority of rural households is viable and appropriate agricultural value chains (crops and livestock). Opportunity exists to stimulate local markets and boost import replacement and export opportunities in the longer term.
5. Improved income increases a household's capacity to purchase a range of nutritious foods that complement home production while improving nutritional status of household members.
6. Well-nourished parents have healthier children, while increases in household income also increase the options and choices within households, including decisions on the effective use of women's and men's labour.
7. Healthier families and better options increase the capacity of Timorese rural households to live more prosperous and sustainable lives.

The above hypothesis is also central to Australia's newly approved *Strategic framework for Australia's aid investments in the agriculture, fisheries and water sectors* (DFAT, 2015). TOMAK will be Australia's primary agricultural intervention in Timor-Leste and will contribute to two of the Strategy's three objectives, namely:

- **increased incomes of poor people:** poor women and men improve their livelihoods through enhanced productivity, inclusive growth, access to markets and other sectoral improvements; and
- **enhanced food, nutrition and water security:** food and water are available, accessible and sustainably utilised to meet nutritional needs and increasing demands at the individual, regional and national levels.

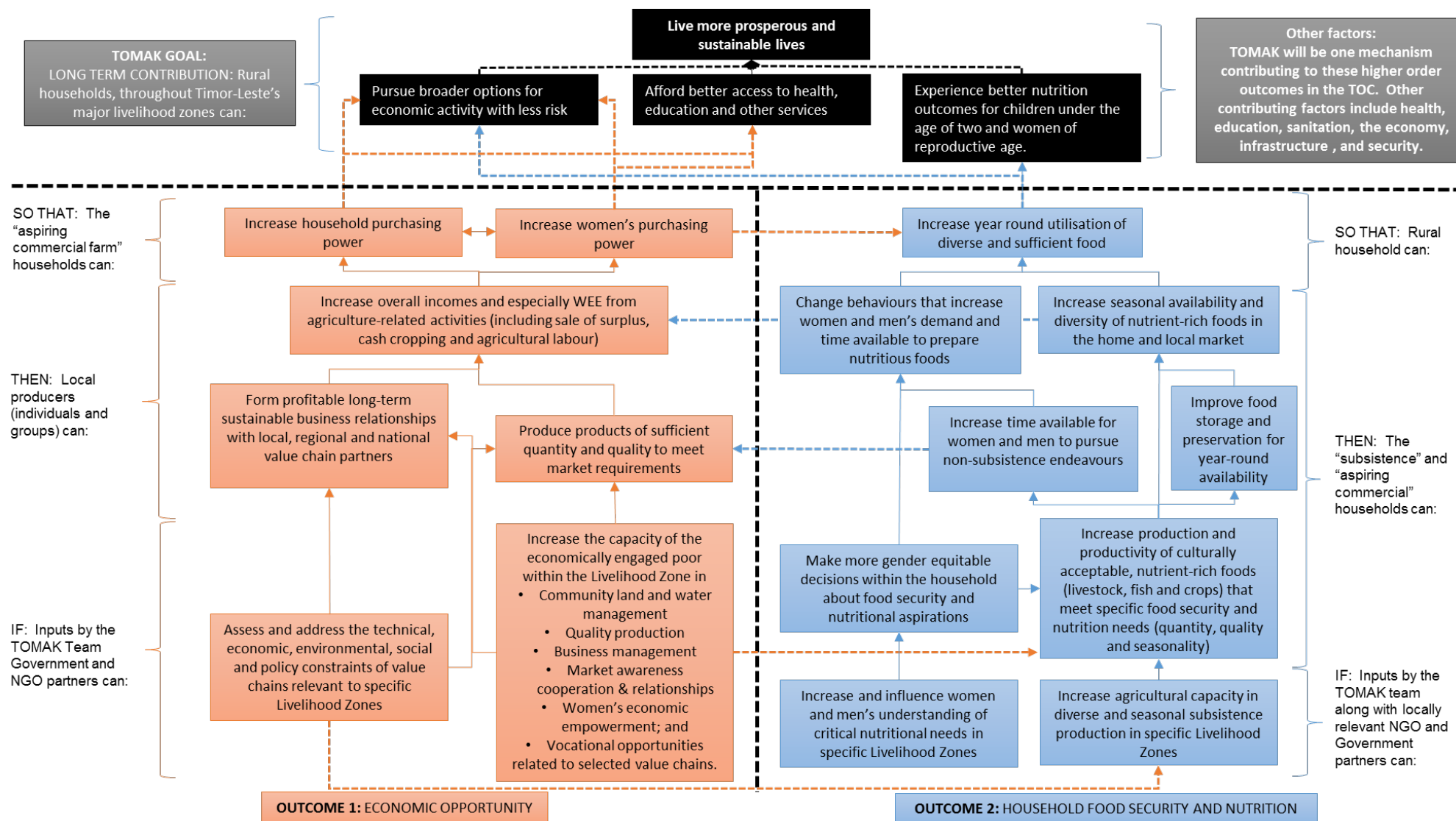
This Strategy is also supported by DFAT Guidance Notes that have helped formulate TOMAK's approach including:

1. *Nutrition-Sensitive Agriculture (NSA)* – which has helped frame a nutrition-sensitive approach for both Outcome 1: Economic Opportunity, and Outcome 2: Household Food Security and Nutrition³⁷; and
2. *Gender Equality and Women's Economic Empowerment in Agriculture* - which has helped TOMAK identify the appropriate entry points for gender sensitive approaches.

³⁶ be they agricultural, or non-agricultural

³⁷ The NSA approach aims to maximise the impact of nutrition outcomes for the poor, while minimising the unintended negative nutrition consequences of agricultural interventions and policies on the poor, especially women and young children.

Figure 2: TOMAK's Theory of Change



TOMAK is well aligned with Australia's approach to private sector development, which recognises the important role of small informal businesses in economic growth. Australia's approach involves addressing constraints to private sector growth in markets which have the potential to reduce poverty and increase the incomes of the poor. Timor-Leste's agriculture sector offers great potential to support large numbers of farmers out of poverty, if the constraints to growth are effectively addressed. TOMAK, once established, will constitute around 90 per cent of the Australian aid program's support to Timor-Leste's agriculture sector, as well as forming part of its broader rural/economic development portfolio. Furthermore, TOMAK will meet a considerable proportion of Australia's funding target to Aid for Trade initiatives in Timor-Leste, while also boosting the Australian aid program's direct private sector engagement.

2.4.1 Harmonisation

To achieve its outcomes, it is essential for TOMAK to establish strong links with GoTL plans, and the initiatives of other programs, including:

MARKET DEVELOPMENT FACILITY: One of TOMAK's crucial links will be with MDF. MDF is a national program that collaborates with the private sector, one of its focus areas being agribusiness and rural distribution. MDF's scope, however, does not enable it to work with small household businesses on a large scale. Market development approaches are currently testing models to improve the reach of market development programs within transition economies (e.g. the Nepal Market Development Program, the Chars Livelihood Program in Bangladesh, and the PRISMA program in Indonesia). The synergy proposed between MDF and TOMAK integrates lessons from each of these models.

ZERO HUNGER CHALLENGE (PAN-HAM-TIL): TOMAK and its partners will directly contribute to two of the five Zero Hunger Challenge pillars within its target Livelihood Zone:

- Pillar 1: 100 per cent equitable access to adequate nutritious and affordable food all year round; and
- Pillar 4: 100 per cent increase in smallholder productivity and income.

In addition, it will be indirectly influence the other three Pillars:

- Pillar 2: Zero stunted children less than two years of age;
- Pillar 3: All food systems are sustainable; and
- Pillar 5: Zero loss or waste of food.

Australia is committed to collaborating with the GoTL in order to achieve the activities and outcomes outlined in PAN-HAM-TIL. Several activities have already commenced, including Australia's commitment to improving rural water supply and sanitation through BESIK, and through advisory support to the Office of the President, and involvement of KONSSANTIL in the implementation of the President's Nutrition Awards. Also, many of the other activities planned and implemented under PAN-HAM-TIL, will complement the activities of TOMAK. TOMAK will, however, need to keep abreast of new developments, and thereby ensure its appropriate and ongoing integration with national policies, structures (e.g. Municipal KONSSANTIL councils) and programs.

OTHER AUSTRALIAN-SUPPORTED PROGRAMS: TOMAK will also need to integrate with:

- *Programa Nasional Dezenvolvimentu Suku* (National Program for Village Development - PNDS) - a Ministry of Planning and Strategic Investment-led program for village development. TOMAK will work collaboratively with PNDS to help communities identify and prioritise local infrastructure projects that will improve economic activity. TOMAK will also work with the emerging municipal and local Governance structures to affirm their importance, harmonise planning mechanisms, and ensure effective consultation.
- *Be'e Saneamentu no Ijiene iha Komunidade* (Rural Water Supply, Sanitation and Hygiene Program - BESIK) – a joint Ministry of Health (MoH) and Ministry of Public Works Transport and Communication (MPWTC) program aimed at improving access to potable water, sanitation and hygiene. Links will focus on the broader water resource planning of the water needs for irrigation, livestock, processing and WASH³⁸ requirements.
- Roads for Development (R4D) – a MPWTC program to improve rural roads in Timor-Leste. Links will focus on the planning of roads to areas of economic importance, and on helping communities realise the economic potential of these new roads.
- Governance for Development (GfD) - a national program, part of which focuses on supporting the GoTL to develop key economic policy frameworks. Links will focus on improving the policies that enhance rural economic development.

³⁸ Potable water, sanitation and hygiene

- ACIAR's next phase of collaborative agricultural Research for Development initiatives - links will focus on ensuring that value chains, catchment and nutrition initiatives both respond to, and influence, the research agenda. ACIAR has worked with the TOMAK design team to ensure that agency planning occurs in parallel.
- The Australian Department of Agriculture³⁹ - links will focus on improving household nutrition and economic opportunity through poultry, as well as on potential policy issues related to cross border bio-security.
- President's Nutrition Awards Program (PNP) - a national program designed to raise awareness of the nutrition situation in Timor-Leste, and promote and award best practice nutrition programming at the Suku level.

OTHER DEVELOPMENT PARTNERS: Work in the agriculture sector of Timor-Leste is currently supported by many development partners. Of these, TOMAK's direction most closely aligns with:

- USAID's past DAC project, and its new Avansa Agrikultura Project. Avansa Agrikultura will be focusing on improving horticultural value chains and nutrition outcomes in the central uplands. The Australian Government and USAID are in close dialogue to ensure that their respective programs are delivered in collaboration, and their activities aligned.
- The EU in partnership with MAF has long been supporting significant extension programs through the four stages of the Rural Development Program (RDP). RDP4 ends in 2015, and the EU's new program will support rural development initiatives (mostly horticulture, poultry and aquaculture) and improved household nutrition outcomes over six years, commencing in 2016. The Australian Government and the EU are in close dialogue to ensure that their programs are complementary.
- World Bank support to MAF through the pilot MIRTP, and the subsequent grant from the multilateral Global Agriculture and Food Security Program (GAFSP).

Collaboration between development partners working in agriculture will be essential. TOMAK must ensure that its activities and progress are shared at the Agriculture and Fisheries Development Partners Working Group and other relevant forums (e.g. the Health Development Partners working group, and the Food Security working group which covers nutrition) to maximise coordination.

NGOS: Of the hundreds of local and international NGOs present in Timor-Leste, many claim specialisation in agriculture or enterprise development. Of these, eleven local NGOs and four international NGOs have been delivering significant programs in commercial agricultural development in recent times. In addition, several NGOs have specific programs focused on improving food security and nutrition. These groups represent a unique skills base, and a significant opportunity for partnerships in the delivery of TOMAK.

3 Investment Description

3.1 Logic and Expected Outcomes

The following logic underpins the TOMAK program.

3.1.1 Goal

Rural households, throughout one of Timor-Leste's major Livelihood Zones,
live more prosperous and sustainable lives.

This goal anticipates significant and lasting changes ('prosperity and sustainability') in the lives of 'rural households'. The program does not, however, have resources to work across all rural areas. It will therefore be initially focused on just one of the major Livelihood Zones of the country – the inland watersheds.

- **'Rural households'** experience the highest burden of chronic under-nutrition, poor dietary diversity, entrenched poverty, and weak or absent economic opportunities in Timor-Leste.
- **'Households'** - including men, women, youth, children and the elderly - are both the unit of analysis and the point of influence for change. Within TOMAK's Livelihood Zone many individual households will participate in both the economic and food security and nutrition aspects of the program.

³⁹ DoA received A\$1.36m in 2013 from DFAT's *Government Partnerships for Development Fund* (GPDF) to implement the *Timor-Leste Village Poultry Health and Biosecurity Program*.

- **'Prosperous lives'** refers to the anticipated improvements in household economic status, and is a function of improved agricultural value chains, increased economic opportunity, and improved nutritional status.
- **'Sustainable lives'** primarily refers to the anticipated stability brought about by improvements in nutritional status. This is partly a function of year-round food security, diversified household food production, the improved utilisation of more diverse and nutritious foods, improved community-based management of - and equitable access to - their natural resources, as well as the enabling policy that underpins the livelihoods of the target communities.

The Goal appreciates that the lasting changes brought about by TOMAK must be evident for all people living in rural Timor-Leste (men and women, youth and children). Economic growth and food security at the local level will ensure that all are better fed, more prosperous, and less likely to recede into poverty when shocks occur. Economic growth will also improve the future prospects for youth and children by creating enterprise, employment and personal development options, both within and outside the agriculture sector.

Australia envisages that at the end of the five years TOMAK will have built a foundation for significant, lasting and sustainable change for communities within the inland watershed livelihood zone. This will be underpinned by the improved capacity of Government, NGO and civil society partners to sustain economic, food security and nutrition services. Based on the results emerging during this phase of TOMAK, Australia will (for the proposed five year second phase):

1. promote the livelihood zone approach to Government and donors to leverage broader, more effective sub-national engagement;
2. consider expanding to other Livelihood Zones dependent on resources available,
3. deepen and expand the engagement within the inland watersheds, or
4. a combination of all three.

The Goal will be realised through two interrelated Outcomes:

3.1.2 Outcome 1: Economic Opportunity

Local commercial producers are partnering sustainably and profitably with agribusiness and service providers in the selected agricultural value chains.

Elaboration:

- **'Selected agricultural value chains'** reflects the systematic process undertaken to identify the program's economic focus by selecting those viable value chains that link inputs, production and markets.
- **'Commercial producers'** reflects the need for the program to nurture technical and business skills amongst both individuals and groups of women, men and households who aspire to engage in emerging economic opportunity. Grouping will be driven by beneficiary desire, and may be focused on geographic, common interest or gender groups. A diversity of such groups already exists, many based on extended family groups.
- **'Agribusinesses'** refers to those private sector partners who will form long term partnerships with local commercial producers (both individuals and groups) for the provision of farm inputs, and to consolidate, process, transport, and market produce at both the wholesale and retail levels. Agribusiness will include the rural entrepreneur households in the Livelihood Zone, but also encompass other local, regional and national agribusiness.
- **'Service providers'** refers to agents such as MAF extension staff, private sector partners or civil society organisations who will advise farmer groups on production, business and marketing.

Outcome 1 appreciates that economic development programs must deliver significant increases in real incomes for households engaged in the chosen value chains. Donor experience shows, however, that it takes time for commercial farmer groups and agri-businesses to develop the skills, trust, relationships and protocols necessary to ensure sustainability.

Outcome 1 contributes to the goal by delivering increased enterprise options and market access. This will not only benefit local farm enterprises and agribusiness operators, but will also benefit the wider communities through the stimulation of labour and value adding opportunities. It is proposed that TOMAK will initially focus on one of Timor-Leste's major Livelihood Zones (the inland watersheds), by defining and supporting up to four of its most promising agricultural value chains.

Results possible within five years could include:

- four invigorated agricultural value chains deliver average annual returns of \$500 to \$2,000 to 14,000 households within the chosen Livelihood Zone (over 50 per cent of its population);

- chosen agricultural value chains deliver equitable benefits for both women and men within households, especially in terms of decision making on the use of income and savings⁴⁰;
- all chosen agricultural value chains include at least one credible and appropriate⁴¹ opportunity for women's economic engagement;
- all of the entrepreneurial activities associated with improved agricultural value chains involve women in key decision making roles;
- agricultural value chains expand the production and availability of nutrient rich foods in local markets;
- sustained private sector and agribusiness investment in selected value chains (inputs, production, outputs) is sufficient to ensure their longer term viability; and
- employment opportunities for local and regional workers is stimulated by growth in the selected agricultural value chains.

3.1.3 Outcome 2: Household Food Security and Nutrition

Locally relevant partners trigger household demand for year-round production and utilisation of diverse and sufficient food.

Elaboration:

- **'Locally relevant partners'** acknowledges the need to work with the most appropriate nutrition partners in the targeted Livelihood Zone. A flexible approach to identifying and funding partners is warranted – the program needs to be responsive as the understanding of the approaches necessary to change behaviour, and as the availability of potential partners evolve. Ideally, these partners will be able to influence household food production (supply), and advocate for better household utilisation patterns (demand). Partners may include government agencies, local civil society, international or local NGOs, private sector or academic institutions.
- **'Triggering'⁴² household demand'** appreciates that an increase in food production (supply) will not, by itself, necessarily lead to improved nutrition outcomes. Household demand for better nutrition and food utilisation practices must be 'triggered' through a range of behaviour change communication (BCC) strategies.
- **'Year-round consumption'** reflects the fact that, in many areas, a food deficit at certain times of the year contributes to poor dietary diversity and poor nutrition outcomes.
- **'Diverse and sufficient food'** acknowledges the need to influence household food norms so that an increased and diversified amount of nutritious food is consumed. This will particularly apply to the dietary diversity of women of reproductive age (aged 15-49 years) and children between 6 and 23 months.

Outcome 2 will help ensure that people in the targeted Livelihood Zone have diets that are sufficient in both quantity and quality to ensure optimal health, growth and development, and are thus in a better position to participate in the opportunities arising out of economic growth (be these on-farm or off-farm).

TOMAK will work with the whole household, but focus the measurement of impact on its core target group - women of reproductive age (15 to 49 years) and children (aged 6 to 23 months)⁴³. This is in line with international best practice targeting the first 1,000 days (i.e. pre- conception to 2 years) - the 'window of opportunity' where optimum nutrition has the greatest impact. Good nutrition during this period has life-long impacts on health, education and productivity. After two years of age, the impact of poor nutrition is more difficult to reverse.

Results possible within five years could include:

- all household members (mothers, fathers, grandparents and children) across 80 per cent of the Livelihood Zone population will have improved knowledge, attitudes and practices related to the feeding and caring practices necessary to improve nutritional status, especially for women of reproductive age (WRA) (aged 15-49 years) and children (aged 6 to 23 months);
- improved food security and household food consumption score (FCS);

⁴⁰ Balanced decision making by women and men on the use of income and savings should result in families dedicating part of this to the purchase of foods that diversify and balance their diets. This improved food utilisation will contribute directly to Outcome 2.

⁴¹ Particularly emphasising the importance of balanced time availability

⁴² See http://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/Guidelines_for_triggering_CLTS_0.pdf.

⁴³ Using SUN definitions, the nutrition target group is the group in which we want to see nutrition changes. The nutrition target group is a subset of the broader TOMAK target groups i.e. it is individuals within the households TOMAK will work with. This does not mean that we will not work with other members of the household, but change will be measured only for those who fall in the target criteria. NB Children younger than six months will be exclusively breastfed and thus not a target for increased dietary diversity.

- improved dietary diversity for women of reproductive age (minimum dietary diversity for women - MDD-W) and for children aged 6 to 23 months (minimum acceptable diet for children - MAD-C);
- decreased rates of underweight women of reproductive age (Body Mass Index <18.5 and BMIZ for age) and under-weight children aged 6 to 23 months (Weight for Age Z Score of <-2);
- decreased rates of anaemia (measured by haemoglobin) in women of reproductive age, and children from 6 to 23 months; and
- local partners have the capacity to assess food security and nutritional gaps in local communities and respond in effective ways.

3.1.4 Related issues

A range of factors will necessarily underpin the delivery of these two outcomes, with analysis having highlighted two for particular attention and resourcing within TOMAK:

- Catchment-based, community agreements on access to land and water; and
- Improved enabling policy.

3.1.4.1 CATCHMENT-BASED, COMMUNITY AGREEMENTS ON ACCESS TO LAND AND WATER

The investment must ensure that the communities living in the targeted Livelihood Zone manage access to their productive land and water resources in ways that are both equitable and sustaining of economic growth, food security and nutritional needs. There is a particular need for community agreements to control the access to land and water required for commercial activities or basic food production. One proven way of achieving this is by communities establishing (or strengthening already established) catchment management committees to effectively undertake community-based catchment planning. Community-wide benefits are known to derive from measures that define boundaries, stabilise water resources, control grazing, increase access to productive resources, and revegetate marginal lands. Collectively these benefits help to sustain growth, improve local resilience, and reduce the impact of disasters. Women's active engagement in these committees is particularly important.

This initiative will be supported by: Municipal Administration planning units⁴⁴, local NGOs, and Municipal extension staff. These will help new (or already established) Catchment Management Committees to assess their natural resources, and develop plans for equitable access and sustainable management, and will be of particular benefit in cases of resource-based conflict management within/between communities. The work will be supported by ACIAR's proposed collaborative research with MAF, and will integrate with the planning being undertaken by the GoTL's PNDS, R4D, and BESIK programs (supported by Australia).

3.1.4.2 IMPROVED ENABLING POLICY

The GoTL has been committed to improving the nation's economic livelihoods, food security and nutritional outcomes. Policy development would benefit from an increased awareness of the broader evidence-based research, particularly with regard to the consequences policy decisions have on markets, private sector investment, food security and food sovereignty. TOMAK will enhance its two outcomes by supporting relevant national/local government agencies to ensure that current and future policies enhance the development of value chains, markets, and household food security. TOMAK will have a small pool of funds to support such studies, and will also coordinate with Australia's GfD program and the World Bank investments in this area.

3.2 Delivery Mechanism

TOMAK's agenda will be delivered through three main mechanisms:

1. appointment of a Managing Contractor;
2. collaborative implementation of Outcome 1 with MDF, and Outcome 2 with the Australian aid program's broader nutrition initiatives; and
3. partnerships with locally relevant groups to deliver mutually beneficial outcomes.

3.2.1 Appointment of a Managing Contractor

A **Managing Contractor** will be engaged to coordinate and support subnational activities and partnerships with locally relevant partners and communities for both Outcomes. The Managing Contractor will establish a small national office ideally

⁴⁴ Under the GoTL's de-concentration agenda new Municipal Administrations will be established. These will largely mimic the geographic coverage of the current 13 District Administrations but have up-scaled Municipal autonomy. Throughout this document the term Municipal is used.

within or close to the MAF compound in Dili to engage, liaise and coordinate with national counterparts and coordinating bodies (e.g. MAF, KONSSANTIL, MOH, MOE etc.)⁴⁵. This will complement the regional offices dedicated to local consultation and delivery of TOMAK activities.

The engagement of a Managing Contractor will ensure a tailored approach to links and partnerships in the target Livelihood Zone, strong accountability practices, and the capacity to engage international and locally skilled staff in a manner that is responsive to emerging issues and concerns.

3.2.2 Collaboration with MDF

The Managing Contractor will **work collaboratively with MDF** in the delivery of TOMAK's Outcome 1 where possible. Alternative consideration was given to embedding all the necessary structures and resources within TOMAK itself to independently deliver Outcome 1. However, this would have resulted in significant parallel activities – a situation that would be neither efficient nor effective in a small economy. The design has considered various delivery options to best utilise MDF expertise without reaching beyond MDF's mandate. The design proposes an integrated delivery model where the two programs work closely together. The precise arrangements will be negotiated with MDF in the inception period.

Personnel working for MDF under a proposed regional business development service would work closely with (or be co-located with) TOMAK offices to achieve shared objectives. There are, however, risks associated with this strategy, particularly in the need for TOMAK and MDF to work closely together to build economic opportunity. TOMAK governance and oversight must closely monitor its collaboration with MDF to ensure that this operates both effectively and innovatively. The Australian Embassy in Dili will oversee the relationship between the two programs.

3.2.3 Collaboration with Australia aid's broader nutrition initiatives

The Managing Contractor will work collaboratively with the Australian Government's broader nutrition initiatives in the delivery of TOMAK's Outcome 2. While TOMAK will be responsible for behaviour change communication related to dietary diversity in the chosen Livelihood Zone, a proposed broader Australian nutrition initiative will, if approved, focus on preventing and controlling stunting in sentinel sites where Australia's programmes overlap. It will do this through the integrated programming of key messages, joint monitoring and interventions related to:

- improved food access and utilisation by both women and men (as implemented by TOMAK);
- family planning and health (with the aim of increasing the demand for services);
- infant and young child feeding;
- improved water and sanitation; and
- other lifestyle messages.

With regard to TOMAK's role in improving food access and utilisation, the Managing Contractor will focus on, but not be limited to, activities that:

- increase the agricultural skills in diverse and seasonal subsistence production suited to the Livelihood Zone;
- increase the production of culturally acceptable, nutrient-rich foods (livestock, fish and crops) that meet identified food security and nutrition needs (quantity, quality and seasonality);
- improve food storage and preservation for year-round availability of safe and nutritious foods⁴⁶; and
- provide key messages and other support necessary to stimulate women's and men's demand for nutrient rich foods.

The broader nutrition initiative is, however, yet to be designed. If implemented, it will take leadership for the coordination of nutrition messaging and monitoring across Australia's programs in all sectors, while each program will continue to be responsible for its own activities. It will aim to promote synergies in behaviour change communication across sectors, recognising the multi-sectoral and highly complex nature of the nutrition challenge in Timor-Leste. Given the current uncertainty, it is likely that some nutrition activities may be subject to change.

3.2.4 Collaboration with MAF

It is important to stress the TOMAK program's important relationship with MAF. MAF will:

1. be the primary signatory to the TOMAK subsidiary arrangement (refer Section 4.1);
2. host TOMAK's central office in Dili to ensure its ongoing collaboration and information exchange with MAF management (refer Section 4.2.1);

⁴⁵ The Managing Contractor should pursue the opportunity to share this office with the new ACIAR program.

⁴⁶ Ensuring both reduced loss and less mycotoxin contamination

3. be one of the Coordination Partners at both the national level (through the TOMAK Reference Group) and subnational level through the Liaison Committees (see Section 4.1); and
4. be one of the Delivery Partners, primarily through the MAF Municipal Offices and associated extension services in the target Municipalities, but also through central services related to policy support and its SOSEK⁴⁷ and GIS services.

3.2.5 Partnership Agreements with locally relevant groups

The implementation arrangements underpinning TOMAK will include the multi-stakeholder partnerships as mentioned in Section 3.1, along with the links to other Australian programs outlined on page 15. The Managing Contractor will engage with locally relevant partners through mechanisms such as collaborative dialogue, MOUs, grants, or specific delivery contracts tailored to meet the needs of the Livelihood Zone. A summary of the possible partnerships for coordination and delivery are reflected in Table 2.

Table 2: Possible TOMAK coordination and delivery partnerships

Outcome	Coordination Partnerships	Delivery Partnerships
Economic Opportunity	<ul style="list-style-type: none"> • Municipal Administration and Municipal MAF • Roads for Development, MDF, PNDS and GfD • Other development partners 	<ul style="list-style-type: none"> • MDF for broader private sector market system linkages • International NGOs • Municipal extension staff and local NGOs • Agribusiness and the broader private sector • Farmer groups and community businesses • ACIAR and DoA Research for Development in key value chains
Household food security and nutrition	<ul style="list-style-type: none"> • Australian government broader nutrition initiatives • KONSSANTIL national and Municipal councils • Family Health Promoters (PSFs)/Sanitarians • Agricultural extension workers • BESIK and GfD • Civil society including church leaders and other groups • Other development partners • MOH • Food Security working group 	<ul style="list-style-type: none"> • MAF extension staff and MOH staff (e.g. nutrition workers, PSFs and nutrition assistants) • International and local NGO • Local community, faith based and civil society groups • ACIAR and DOA Research for Development initiatives in nutrient rich staple foods.

Testing the feasibility, functionality, sustainability and likely cost of local delivery partnerships will be a key focus during the Inception Period. A considerable number of effective partnerships with innovative individuals and community-based producer or nutrition groups have already been established by SoL, USAID and local NGOs, a fact that clearly demonstrates the viability of developing effective local delivery partnerships. TOMAK recognises the social capital built in community groups, such as the Community Seed Producer Groups supported by SoL. TOMAK will seek opportunities to partner with these groups where they are relevant.

The partnership agreements are not proposed as purely contractual relationships. Each agreement reflects a partnership between TOMAK and those entities that are already committed to engaging with, and serving, local communities. As such the partnership agreement will set out the relative contribution of both partners to the relationship. TOMAK's contribution will usually supplement what is already committed by the partner. The partnership with TOMAK will allow each partner to expand and enhance their engagement. In the case of GoTL this may be through the development of improved processes and capacity. For the private sector it may be through co-funding that reduces the investment risk in situations where the business case is compromised by inexperienced suppliers or other market failure. For civil society and NGOs it may be through improvements to their reach and engagement within the target communities.

TOMAK's relationship with delivery partners will not be simply functional. TOMAK must actively work with the delivery partners by: assessing their capacity, understanding gaps, improving capacity building through training and resourcing, and assessing the sustainability of the partner's relationship with local communities. It is critical for TOMAK's success that local

⁴⁷ The SOSEK (socio-economics) team has capacity to undertake ongoing monitoring and evaluation services for TOMAK. Similarly the GIS team can assist with mapping of georeferenced data. Both teams have been supported strongly by Australia through SoL for many years.

GoTL partners are better able to plan, resource, deliver and assess their services to local communities. Similarly, committed local civil society and NGO organisations must be strengthened in order to maintain their roles in the long term. Finally, TOMAK and MDF will work with the private sector to ensure they develop solid business cases that will enable them to continue to function sustainably.

3.3 Resources

Currently, the Australian Government expects the five-year initiative (2016 to 2021) to be valued at approximately \$A25 million. It is proposed that TOMAK's initial five year engagement be optioned with an additional five years based on performance, resource availability, and ongoing alignment with the Australian Government's priorities.

It is estimated that TOMAK will initially cover up to four value chains within one Livelihood Zone (the inland watersheds). Interventions targeted at improving household food and nutrition security will be delivered both directly and through a range of Partnership Agreements. This should ensure that the program delivers significant outcomes (including the stimulation of economic growth and improved dietary diversity) to at least half of the rural population (14,000 households) in the target Livelihood Zone. Should more funding become available, the program can easily scale up its resources to work in additional Livelihood Zones.

The Managing Contractor will be responsible for the delivery of all TOMAK funds, with specific activities being delivered either directly, or through Partnership Agreements. Collaborative activities implemented by MDF, DFAT's broader nutrition initiatives, ACIAR and others (see Section 3.2) will be covered under their own budgets.

The Managing Contractor will provide high calibre program direction and leadership, and also establish a pool of national and international technical expertise. The staffing roles and responsibilities outlined in Table 3 are provided as initial guidance, and variations are possible. It will, however, be the Managing Contractor's responsibility to propose a team with an appropriate skills mix that covers (or enhances) the skills outlined. Once again, the actual location of staff will be finalised by the Managing Contractor during the Inception Period with DFAT's approval.

The Managing Contractor will establish a national office co-located in or near to the MAF compound, as well as strategically located regional offices. The Managing Contractor may elect to engage a national Development Partners Liaison Officer to support the Team Leader to engage with MAF policies and programs, and with those of other development partners. In the case of the Inland Watersheds Livelihood Zone, three offices could be established – in areas such as Maliana, Baucau and Oecussi. The design proposes that, of these, priority may initially be given to the offices in Maliana and Baucau depending on resource availability and other local factors.

Because of the important role that women will play in achieving TOMAK outcomes, TOMAK must have the capacity to recognise the important role of women and engage effectively. Yet for it to do so, the TOMAK Team must itself mirror gender equality and integration. As such, TOMAK staff in each regional office must, wherever possible, include a balanced gender profile. TOMAK should aim to ensure a minimum standard in these roles of one third women. TOMAK will also need to implement workplace safety guidelines for all staff, but especially for women working in regional offices and remote locations. Protocols already employed within other Australian aid programs have proved effective, and will be used as a basis for operations.

PNDS and other programs are already proving the effectiveness of the mentoring of national specialists to assume increasing responsibility for roles at both the sub-national and national levels. As such, each sub-national office could be managed by a national Livelihood Zone manager. Initially, this person will work collaboratively with, and be mentored by, one of the international specialists appointed within the Livelihood Zone. Over time, however, they would assume more and more responsibility. A key principle of TOMAK will be to partner international with national expertise across the program's activities, with a strong focus on mentoring in all offices and all skill areas in order to build the capacity of TOMAK's national team.

Terms of reference for each role will be finalised by the Managing Contractor during Inception. However, indicative roles for key positions are summarised in Table 3. The composition of the administrative support team of TOMAK will be proposed and finalised by the Managing Contractor.

Table 3: TOMAK indicative staffing schedule

Proposed role	Key functions	
TOMAK Team Leader (International)	<ul style="list-style-type: none"> Leads the TOMAK Team and the implementation of TOMAK based on the design and approved annual plans; Primary contact point with the Australian Embassy in Dili; Maintains open and effective links with GoTL and other development partners; 	Dili

Proposed role	Key functions	
	<ul style="list-style-type: none"> Ensures the quality of all TOMAK reporting; Ensures compliance with DFAT and GoTL Policy (including gender). Appoints and manages performance of all TOMAK staff; Manages performance of all TOMAK sub-agreements with local partners. 	
Value Chain Specialist (International)	<ul style="list-style-type: none"> Primary responsibility and management of Outcome One; Assists with the Livelihood Zone Analysis, Engagement Strategy, identification of target value chains, and development of an Implementation Plan; Ensures selection of value chains supports women's economic empowerment. Manages implementation of Outcome 1 activities and Partnership agreements; Mentoring responsibility for local staff. 	Sub-national
Nutrition Specialist (International – supported by specialist short term experts)	<ul style="list-style-type: none"> Primary responsibility for the management of Outcome 2 with a strong focus on behaviour change communication aspects of nutrition programming (with the support of international short term experts); Assists with the Livelihood Zone Analysis, Engagement Strategy, identification of target value chains, and development of an Implementation Plan; Mentoring responsibility for local staff. 	Sub-national
Other short term or long term specialists (International or National)	<ul style="list-style-type: none"> Strengthen, facilitate and organise small-holders, micro and small businesses; Support agricultural initiatives (cropping and livestock) related to subsistence and economic production and adoption of a WEE approach; Drive nutrition behaviour change communication approach; Institutional assessment and capacity building; Communication and Web development; Environment/GIS (needed for GIS support, resource and climate mapping, IEEs of catchment or value chain plans, assessments of catchment plans, and climate change adaptation activities); Mentoring responsibility for local staff and/or junior specialists. <p>Monitoring and evaluation expertise including:</p> <ul style="list-style-type: none"> Development of the Results Frameworks and M&E Plan for TOMAK; Advice on operational research / learning agenda Ensuring the methodological rigor of the methods/tools developed; Review of key baseline and annual studies; Quality assurance of M&E implementation; Day to day implementation of the M&E Plan, including: <ul style="list-style-type: none"> compiling monthly data on program deliverables, tracking risks, supporting/coordinating contracted researchers/enumerators; 	Dili or sub-national
Gender Specialist (National or junior International)	<ul style="list-style-type: none"> Works to ensure gender issues are fully integrated into TOMAK activities; Trains the team on gender integration; Reviews key TOMAK plans, studies, analysis and reports to ensure that gender issues have been addressed. 	Dili
Livelihood Zone regional managers and officers (National)	<ul style="list-style-type: none"> Primary responsibility for the implementation of TOMAK activities (outcomes 1 & 2) within each Municipality of the Livelihood Zone; Maintain key relationships with the Municipal Stakeholders; Mentored by International advisers. 	Sub-national
Administration officers	<ul style="list-style-type: none"> Oversee and manage TOMAK Administrative, Finance, Procurement, Human Resources and Logistical requirements based on the TOMAK Operations Manual in central and regional offices. 	Dili, sub-national

It is proposed that the TOMAK Team Leader will be based at the national office in Dili. It is hoped that the other long-term international specialists can spend the bulk of their time working in, and between, the regional offices. These international staff will be located depending upon their professional skills and personal circumstances, as well as upon the logistical costs. It is hoped, however, that - with careful selection - at least one staff member at each office will be sufficiently multi-skilled to mentor and support the Livelihood Zone officers with management and operational implementation. The preferred outcome is to have all international specialists mentoring the regional office teams, and providing analysis, training, systems and procedures across the other regional offices.

The three offices will inevitably have differing workloads and responsibilities, a situation that will need to be dynamically managed by the Managing Contractor. Given the distribution of Sukus associated with the Inland Watershed Livelihood Zone, the Municipal affiliations will differ. Additional support could be considered from Australian volunteer programs to help with activities across TOMAK.

It is expected that the Managing Contractor will ensure that employment conditions for international staff are in line with their obligations under the Australian Remuneration Framework. In the case of national staff, it is expected that the Managing Contractor will liaise with the Australian Embassy in Dili, as well as the Team Leaders of other Australian funded programs in Timor-Leste, to ensure that their employment conditions adhere to GoTL employment legislation, and are commensurate with the norms currently in place for development partners.

4 Implementation Arrangements

4.1 Management and Governance Arrangements and Structure

There are two important issues related to TOMAK governance and oversight:

1. The limited resources at the Australian Embassy in Dili to manage TOMAK; and
2. The need, given TOMAK's primary focus on private sector and Suku-driven development, for it to align with the GoTL's 'de-concentration' agenda.

As such, it is proposed that:

1. The Australian Government will seek **subsidiary arrangement** signoff at the national level with the MAF, as well as endorsement from the multi-sector KONSSANTIL. This is in addition to the standard arrangements for GoTL endorsement of partner development programs⁴⁸. Both economic growth and nutritional outcomes require multi-sector engagement at the Municipal and National levels. The endorsement by KONSSANTIL will confirm the sub-national and multi-agency nature of the TOMAK program.
2. The Australian Government will continue to engage the following positions to support TOMAK and the wider rural development portfolio:
 - a. a part-time **rural development (design and monitoring) specialist**; and
 - b. a full time **nutrition specialist** to be based at the Australian Embassy in Dili.
3. The Australian Government will appoint a **Technical Review Group (TRG)** to assist the Australian Embassy in Dili to specifically manage and review TOMAK. The TRG members will be determined on a task-by-task basis by DFAT, depending on the particular advice or support required. The TRG will be led by the Timor-Leste Rural Development Specialist⁴⁹, and will include combinations of the following representatives as determined by DFAT:
 - i. the Timor-Leste Senior Nutrition Specialist⁵⁰;
 - ii. an external evaluation specialist;
 - iii. representatives of ACIAR where relevant;
 - iv. representatives of the Government of Timor-Leste where relevant and available; and
 - v. additional technical assistance intermittently engaged (as determined by DFAT), to address any emerging issues confronting TOMAK.

The TRG will help provide technical guidance, review progress and performance, appraise key program deliverables, study key emerging risks, and advise the Australian Embassy in Dili on contractual compliance, collaboration, management and outcomes. TRG missions will be scheduled for once or twice a year.

4. Implementation consultation will occur at two levels. These arrangements will be revisited based on ongoing assessments of relevant GoTL working groups and committees that could later form alternative oversight mechanisms for TOMAK:
 - a. A **TOMAK Reference Group** will be formed at the national level. This will be an inclusive and relatively informal group of stakeholders made up of representatives of:
 - i. The Australian aid program;
 - ii. National GoTL agencies, particularly MAF and MoH;
 - iii. Municipal Administrators;
 - iv. Key local agencies (CSOs, CBOs, Church and Private Sector);
 - v. The TOMAK TRG;
 - vi. Key TOMAK managers;
 - vii. Other Australian aid programs; and
 - viii. Other development partners whose work is directly relevant to TOMAK's engagement in the Inland Watersheds.

The TOMAK Reference Group will form part of TOMAK's technical consultation and communication network, and will aim to build joint ownership of TOMAK, and promote its alignment with GoTL priorities and other activities in the sector. The group will not have a program oversight or governance role, but will meet informally every six months (often in association with other planned TOMAK events) to discuss TOMAK progress and other issues, as well as build opportunities for linkages and leverage

⁴⁸ This may include Ministry of Finance engagement as appropriate

⁴⁹ This position is contracted by DFAT to provide design and monitoring support to the Rural Development portfolio.

⁵⁰ This position is contracted by DFAT to support nutrition activities across the Country Program.

with other engagements. All group members will receive regular, relevant information as part of TOMAK's Communication Plan.

- b. **Liaison Committees** will be formed within each of the Livelihood Zone regional offices (initially proposed for Maliana and Baucau) in consultation with the appropriate planning, oversight and review mechanisms of the Municipal Administration⁵¹, as well as with line Ministries, private sector and community leaders. Opportunity particularly exists for TOMAK to link with and support the processes of the proposed KONSSANTIL Municipal councils. Consultation with local partners should be scheduled to align with the planning processes already in place at the Municipal level, and should be used as a vehicle to enhance, consolidate and empower the sub-national planning that is emerging as part of the GoTL's de-concentration agenda. Where current systems are non-existent or weak, TOMAK will use its influence to build the capacity of local administration by facilitating and supporting its engagement. Engagement will evolve in line with MIRTP findings (see 2.4).

The two Liaison Committees, as well as their members as individuals, will be the focus of regular TOMAK communications and consultations related to the planning, resourcing and delivery of the Program at the local level. The Liaison Committees will meet formally on a quarterly basis. It is expected, however, that their members will be in regular communication with local TOMAK staff.

4.2 Delivery Arrangements

TOMAK brings together a number of important elements of development practice, the strategic overlap and synergies of which must be identified and enhanced by the Managing Contractor. The core approaches to be integrated into TOMAK include the following:

1. At its most basic level, TOMAK will employ solid participatory and inclusive approaches to community engagement and community development in order to build the understanding, ownership, decision making and sustainability of all community members. Analytical tools such as Participatory Rural Appraisal⁵², Participatory Learning and Action⁵³, the Sustainable Livelihoods Framework⁵⁴, and participatory approaches to resource management (as piloted by SoL) provide effective tools for TOMAK to use in its scoping assessment and characterisation of communities. These same community development principles must ultimately flow through to the inclusive engagement of individuals, households, groups and/or communities as a whole.
2. Under Outcome 1 (Economic Development) TOMAK (in conjunction with MDF) will engage in an assessment of the market development opportunities of households within the target Livelihood Zone, and then form partnerships that can develop these identified opportunities. Making Markets Work for the Poor (M4P) principles will be used for both this assessment and the subsequent implementation. Given the thin formal private sector, the often inaccessible communities, and the abundance of households aspiring to commercial agriculture, the M4P approach will use civil society and emergent community enterprise to support local implementation (e.g. Samarth in Nepal⁵⁵, the Chars Livelihood Programme⁵⁶ in Bangladesh, and DFAT's AIP-PRISMA program in Indonesia⁵⁷).
3. Under Outcome 2 (Food Security and Nutrition) TOMAK will employ a nutrition sensitive agriculture (Kurz, 2014) approach, along with emerging best practice in influencing improved dietary diversity in households. The approach will specifically adopt the recommendations from the ICN2 Action Framework⁵⁸ aimed at ensuring sustainable food systems and healthy diets⁵⁹.

TOMAK will commence in the first half of 2016, with a four to six month inception/scoping phase prior to full implementation commencing in the second half of 2016. TOMAK will initially establish a small office in Dili that, in the short term, will be a base of operation for the Inception Phase, and, in the longer term, provide central administration, finance and human resource support to the TOMAK teams based in the regional offices within the inland watersheds zone. While TOMAK will not be embedded within MAF (its principal counterpart agency), it is proposed that the program be physically

⁵¹ Noting that the proposed livelihood zone does not correspond to municipal boundaries, meaning that multiple administrations may need to be involved

⁵² (Chambers, 2014)

⁵³ (Pretty, Guijt, Thompson, & Scoones, 1995)

⁵⁴ (IFAD, 2015)

⁵⁵ (SAMARTH, 2015)

⁵⁶ (Chars Livelihood Programme, 2015)

⁵⁷ Australia-Indonesia Partnership for Promoting Rural Income through Support for Markets in Agriculture

⁵⁸ From the Second International Conference on Nutrition in 2014 in Rome

⁵⁹ Specifically recommendations 9 to 13 (FAO, 2014)

located either close to MAF or within the MAF compound, so that it can consult closely with government, and align with other development activities, including those led by other donors.

4.2.1 Inception/Scoping (Jan-June 2016)

During the inception period a number of key deliverables are expected.

4.2.1.1 HANDOVER, MOUS AND RECRUITMENT

An initial consultation process will be undertaken by the TOMAK team in collaboration with MDF, SoL, Australia's upcoming nutrition program, and national and local GoTL agencies. This consultation will aim to:

1. Finalise the transfer of assets from SoL;
2. Develop an MOU with MDF for the delivery of Outcome 1 that defines roles, responsibilities, resources and timelines;
3. Develop an MOU with Australia's proposed nutrition partnership initiative - if and when this is finalised - for support to the delivery of Outcome 2 that defines roles, responsibilities, resources and timelines⁶⁰;
4. Identify, discuss, agree and document roles and responsibilities with key national and local stakeholders related to TOMAK oversight, consultation and planning, including formation of the TOMAK Reference Group; and
5. Based on these discussions, finalise a TOMAK Stakeholder Communication Plan that identifies the TOMAK stakeholder community, along with the methods and tools that will ensure ongoing engagement, consultation, communication and information exchange.

This consultation process will be complemented by the parallel mobilisation activities of the Managing Contractor related to office identification and establishment, banking, procurement, and recruitment. The Australian Embassy in Dili requires the Managing Contractor to keep them fully informed of progress, and to consult with them on key decisions that may impact on the Australian Embassy's broader programing (e.g. the location of offices). The Managing Contractor will provide the Australian Embassy in Dili with copies of key documentation e.g. an Operations Manual (including procurement, transparency and fraud management practices), Security Plans, Human Resource Manuals etc.

Key deliverables expected include:

- MOUs with MDF and the Australian aid program's proposed nutrition initiative;
- Establishment of the TOMAK Reference Group;
- Establishment of Managing Contractor Administrative Procedures; and
- Approval of the TOMAK Stakeholder Communications Plan.

4.2.1.2 LIVELIHOOD ZONE ENGAGEMENT - CHARACTERISATION

Once these preliminary agreements are underway, TOMAK will begin the process of engagement within the Inland Watersheds Livelihood Zone. As mentioned in Section 4.1, TOMAK will liaise closely with local Municipal authorities to align its planning, delivery and monitoring with their processes and/or needs. Given the limited capacity expected at the Municipal level, this will inevitably require TOMAK to liaise and coordinate with PNDS, BESIK, R4D and other Australian Government sub-national initiatives in supporting local administrators to establish a planning and reporting system that harmonises GoTL with development partner activities. The key deliverable will be the integration of TOMAK implementation with the emerging systems of de-concentration. This will also entail the establishment of local Liaison Committees (see Section 4.1) which will function as simple governance and oversight mechanisms for TOMAK delivery at the local level.

Characterisation of the Livelihood Zone will provide essential data for TOMAK planning, and an important resource for local GoTL and development partner activities. The resulting analytical framework will act as both a baseline and evidence base for TOMAK engagement. All analysis will both engage with and include the Municipal Administration, MAF, MoH and other GoTL units wherever possible. In consequence of the analysis, the boundaries of the chosen Livelihood Zone may be redefined more appropriately by the Contractor in consultation with key stakeholders, including the GoTL and the Australian Government.

Characterisation will include (but not be limited to):

1. A **resource survey** (drawing on existing analysis completed by SoL, BESIK and other initiatives) that classifies and maps the natural resources and populations within the selected Livelihood Zone including:
 - a. climate patterns;
 - b. topography (elevation and gradients);
 - c. hydrology and catchments; and
 - d. demography.

⁶⁰ Table 11 on page 62 provides an initial breakdown of roles and responsibilities.

2. A **socio-economic analysis** of target communities that focuses broadly on gender roles, power, conflict and livelihood opportunities. TOMAK needs a deeper understanding of the perspectives and roles of women, men, boys and girls in order to define its interventions more appropriately. This analysis must consider:
 - a. each socio-cultural group within each Livelihood Zone;
 - b. the specific roles of women, men, girls, boys and the aged within each socio-cultural group; and
 - c. must also be disaggregated to a household group level.

This information must then be used to inform both the choice and integration of specific activities supported in a community, as well as the way in which these are designed and implemented;

3. An assessment of **local infrastructure** including roads and water supply as well as future plans.
4. A **baseline survey** of representative households in order to understand:
 - a. the current diversity of both the formal and informal “income” streams (including social protection payments);
 - b. the food systems;
 - c. the nutritional status of WRA and children under two years of age;
 - d. nutrition causal analysis;
 - e. knowledge, attitudes and practice (KAP) surveys of appropriate food utilisation, and infant and young child feeding practices, as well as general nutrition.
 - f. gender roles as relevant to both economic opportunity and family food production;
 - g. the nature and frequency of disability;
 - h. formal and informal engagement in markets; and
 - i. access to, and use of, land and water resources.

The survey needs to align with, and complement the surveys already carried out by the GoTL (e.g. HIES) and development partners (e.g. SoL, PNDS) in order to maximise efficiency, and the usefulness of the data. Survey outcomes will be used to scope the situation, plan interventions, and set program baselines for M&E.

5. A technical, economic, environmental and social **assessment of the agricultural value chains** driving economic opportunity (and dual nutrition outcomes) within the Livelihood Zone (to be jointly conducted with MDF). Key criteria to be used in the assessment and selection of agricultural value chains for Outcome 1 are outlined in Annex 3. Where economic opportunities of candidate agricultural value chains are similar, priority will be given to the more nutrient-rich option/s. This will maximise the availability of ‘dual purpose’ options contributing to both economic and nutritional outcomes for farmers and households. The analysis will define the likely breadth and depth of benefit to local women and men of each of the value chains;
6. A **stakeholder analysis** of locally relevant partners and existing coordination mechanisms for TOMAK. This will identify and map those stakeholders, partners and programs in the TOMAK Livelihood Zone who are working in nutrition and agriculture, including:
 - a. GoTL agencies and established coordination mechanisms (e.g. KONSSANTIL councils);
 - b. private sector;
 - c. church and local civil society; and
 - d. NGOs (local and international).

The assessment should include:

- a) capacity;
- b) skills and experience;
- c) resources;
- d) sustainability;
- e) long-term commitment to local engagement;
- f) transparency, community profile and reputation.

Complementarity, and possible synergies and partnerships, can then be determined. Stakeholder analysis will be used to inform the composition of the TOMAK Liaison Committee.

7. An **assessment of current development plans** within the Livelihood Zone including the plans of GoTL, the Australian aid program (R4D, BESIK, and PNDS), other development partners, churches, NGOs and the private sector.

Key deliverables expected include:

- harmonisation of TOMAK with Municipal de-concentration efforts;
- establishment of local Liaison Committees;
- characterisation of the inland watersheds Livelihood Zone; and
- selection of the focal communities and/or watersheds within the Livelihood Zone, as well as target value chains.

4.2.1.3 LIVELIHOOD ZONE ENGAGEMENT – ENGAGEMENT STRATEGY AND IMPLEMENTATION PLAN

TOMAK will develop a Livelihood Zone Engagement Strategy and associated Implementation Plan based on the analytical work undertaken. The Livelihood Zone Engagement Strategy will summarise the context, rationale and expected results for

TOMAK, while the Implementation Plan will focus on roles, responsibilities, schedules and resourcing. These documents will be agreed with local counterparts, integrated with local planning processes, and submitted to DFAT for approval. Preparation of the Livelihood Zone Engagement Strategy and Implementation Plan will require TOMAK to:

1. Identify the economic growth and nutrition priorities for the TOMAK investment.
2. Confirm priority Sukus within the Inland Watersheds for value chains and nutrition engagement;
3. Work with these communities to incorporate economic and nutrition activities into their community planning processes. Current community action plans will be expanded to include:
 - a. multi-sectoral nutrition activities in line with the findings of the nutrition analysis⁶¹; and
 - b. the steps needed by men and women, groups, and other stakeholders to scale up effective production and market linkages for the selected value chains;
4. Integrate findings into a TOMAK Livelihood Zone Engagement Strategy.
5. Determine what agriculture-related activities TOMAK could work on to improve the economic growth, household food systems, and nutrition outcomes relevant to the Livelihood Zone Engagement Strategy. These will be integrated into the TOMAK Implementation Plan.
 - a. In the case of Outcome 1 (economic opportunity) TOMAK will draw on the support of MDF in the development and delivery of the TOMAK Implementation Plan. Selection of market/value chain interventions should include M4P criteria such as poverty, gender, growth potential, the enabling environment, and private sector traction.
 - b. In the case of Outcome 2 (Food Security and Nutrition) TOMAK will work with KONSSANTIL Municipal councils (as well as MAF and the nutrition department in MoH) to develop Municipal-level nutrition Implementation Plans in line with the PAN-HAM-TIL. This work will be undertaken in collaboration with the Australian Government's broader nutrition program, but led by TOMAK in its target Livelihood Zone. Activities will include:
 - i. supply-side actions such as:
 - post-harvest processing, storage and preservation;
 - household livestock (particularly poultry) and aquaculture initiatives;
 - time and labour saving technologies, especially for women;
 - improvements to irrigation, particularly during the dry season; and
 - improved varieties or breeds of nutrient-rich foods.
 - ii. demand-side actions, including BCC activities to improve the utilisation of year-round diverse foods that meet nutritional needs.
 - c. Implementation planning needs to identify the potential of an activity to reduce/change the gender asymmetries within households. Potentially negative consequences must be identified, and strategies developed that avoid these.
6. The Engagement Strategy should identify potential implementation partnerships based on the characterisation of local partners (see Section 4.2.1.2). While the Managing Contractor will consult widely, the choice of partner, and the negotiation of agreements, will be confidential and under the delegated authority of the Managing Contractor. These partnerships will include resources to assess, build and monitor the capacity of partners over time.
7. The Engagement Strategy should also identify critical bottlenecks requiring inputs that would best be supplied through other donor engagements e.g. R4D, Rural Electrification, PNDS, BESIK, local micro-finance, savings and loan schemes etc. As such, TOMAK will need the capacity to work with local Municipal and Community leaders to co-ordinate with/influence the intervention plans of a range of other locally relevant development partners.
8. TOMAK's Engagement Strategy and Implementation Plan must also be prepared in combination with its:
 - a. Gender Analysis;
 - b. Results Framework and M&E plan - prepared in the format outlined in Section 4.3; and
 - c. Risk Management Plan (see Section 4.7)

Key deliverables include:

- development and approval of the TOMAK Livelihood Zone Engagement Strategy;
- development and approval of the TOMAK Implementation Plan; and
- development and approval of the TOMAK Results Framework, M&E Plan, and Risk Management Plan.

⁶¹ This analysis would not just be aimed at improving dietary diversity (TOMAK's focus). It could, for example, also include actions that improve water supply safety. These could then be actioned through other mechanisms e.g. PNDS, PDID or BESIK.

4.2.2 Engagement/Implementation

This will commence in mid-2016 in accordance with the Engagement Strategy and Implementation Plan established during the Inception Phase. During implementation, engagement must continue and deepen the functional relationships established with the key planning and decision-making stakeholders, especially the Municipal Administration, MAF, MoH, other line Ministries, and community leaders.

4.2.2.1 DELIVERY APPROACH - OUTCOME 1: ECONOMIC OPPORTUNITY

TOMAK will work to improve the economic opportunity of aspiring commercial farm households living in the inland watersheds by enhancing the economic return and market sustainability of selected value chains. Currently these households find it difficult to engage with formal markets and are often disadvantaged. Such households depend on subsistence cropping for the majority of their household food needs, but earn some cash through the sale of market surplus and livestock (mainly pigs and some cattle).

The inland watersheds have been selected as a target partly because of their economic potential in both the short and long term. The availability of water, as well as their medium elevation, makes them ideal for the diversification of their rice-based systems through the expansion of commercial agricultural value chains that exploit opportunities such as (but not limited to):

- The incorporation of commercial legume crops (such as mung bean, soybean, red bean and peanuts) into either the dryland corn, or the irrigated rice rotations;
- The expansion and use of irrigation for off-season vegetable production;
- The significant escalation of livestock production, particularly pigs and cattle for the Dili market, and cattle for cross border trade with Indonesia;
- The expansion of cassava and maize production for processing/milling for both human consumption and stock feed;
- The longer term introduction and expansion of fruit and nut production (e.g. papaya, mango, cashew, banana and citrus); and
- The integration of aquaculture into the farming system, accompanied by the expansion of local fish marketing.

As mentioned, TOMAK proposes to work collaboratively with MDF to build the market opportunities for four or more strategically selected value chains. The Engagement Strategy and Implementation Plan will identify the most appropriate value chains. TOMAK's Managing Contractor will focus on the delivery of activities related to community engagement, group mobilisation, local agricultural productivity, quality, and supply consistency, as well as on the essential issue of building local private sector capacity for individual farmer entrepreneurs, farmer cooperatives, and/or community-based value-added enterprises. It is proposed that MDF will also allocate resources to build the necessary private sector linkages so that inputs, services and markets integrate smoothly with both regional and national players, thus ensuring that local production functions effectively and sustainably.

TOMAK will use the same principles that underpin MDF's approach to economic engagement, as encapsulated in the Making Markets Work for the Poor (M4P) approach⁶². M4P takes a systemic approach that not only focuses on household production, but also assesses the wider value chain and system functions that facilitate or constrain these. The M4P approach provides a clear process for designing effective economic interventions that are owned by local stakeholders, and sustainable in the long term. The entry points identified in the Engagement Strategy will focus on those issues which are catalytic to getting the production and market systems both functioning and effectively linked (locally, regionally and nationally). Interventions will be identified for both TOMAK and MDF collaboration.

TOMAK's use of M4P will, however, broaden what would otherwise be its conventional relevance, to include households that aspire to engage in commercial agricultural markets. TOMAK thus acknowledges the unique challenges of Timor-Leste, especially the need for interventions to be "locally" relevant. It also appreciates the past history of "market failure"⁶³ in the country, and the fact that outside of the major centres the private sector is weak. As such, M4P's principles will be applied to both formal market systems (to be led by MDF), as well as to micro and small scale household businesses (to be led by TOMAK). Within each value chain, TOMAK will build off the current situation - informal barter, social exchanges, and the existing functioning of local markets - to assist households to enter, and sustain engagement in, the formal economy.

TOMAK's interventions within each value chain could include:

- community mobilisation;

⁶² SDC & DFID (2008). *A Synthesis of the Making Markets Work for the Poor Approach*. Swiss Agency for Development and Cooperation, United Kingdom Department for International Development 2008.

⁶³ Factors such as geographic isolation, lack of natural resources, pervasive social exclusion, or conflict undermine the feasibility of traditional "market" interventions.

- planning, on-farm technology demonstration;
- appropriate training (e.g. farmer field schools);
- producer collaboration (group or cooperative formation);
- facilitation of local input markets;
- product consolidation, handling and storage;
- quality management;
- scheduling;
- market awareness;
- local value adding;
- local agribusiness collaboration and investment;
- establishment of market agreements and maintenance of market relationships; and
- local savings and loan mobilisation.

Importantly, TOMAK's engagements will specifically promote the empowerment of women, in particular, to:

- increase their decision making power over how additional income is spent (especially to ensure that household nutritional needs are met); and
- increase their available time (and through Outcome 2 their knowledge and capacity), to ensure appropriate feeding and caring practices for infants and young children.

In addition, TOMAK's approach exploits M4P's capacity to help develop pragmatic and functional interventions well beyond "formal" private sector partnerships. TOMAK can thus acknowledge the significant blurring of civil society, private sector and government roles within isolated communities, and the need to be open to work with whichever group is available and capable in a particular situation.

Outcome 1 will be delivered through:

- Municipal agricultural extension staff and local NGOs delivering advice, demonstrations, and training to commercial farmers and farmer groups on inputs, production, harvesting, quality control, scheduling, and on-farm or village-based storage. This work will be supported by a Value Chain Specialist and other specialists, and link to ACIAR's proposed collaborative research with MAF.
- Partnerships with agribusiness and the broader private sector to establish the most workable market systems for the targeted products. This work will be supported by a Value Chain Specialist and other specialists in collaboration with MDF. It is proposed that MDF will provide business development services that support TOMAK to establish the inter-regional and national private sector linkages necessary for appropriate input and output services.
- Local NGOs and Municipal agricultural extension staff to mentor new or existing commercial growers and producer groups (addressing, as necessary, the needs for: productivity, cooperative input and output marketing, value adding, business skills, market awareness, and savings and loan mobilisation). Specific skills will be sought to increase women's engagement in enterprises, leadership and decision making. This work will be supported by the Gender Specialist and other specialists.

Annual reviews and reflection on progress will feed into revised annual implementation plans.

The deliverables expected for this Outcome include:

1. participatory assessment of local resource capability and constraints using a catchment based livelihoods approach;
2. identification of those products and associated agricultural value chains with comparative market potential on which TOMAK will work;
3. establishment of links with local service providers;
4. improvement to the productive end of the value chains (inputs, production, harvesting, quality, scheduling, and on-farm storage) by enhancing the skills of commercial farmers/farmer groups. Opportunities for women's economic engagement must especially be provided;
5. partnering with MDF in the provision of business development services, and regional/national market linkages for producer groups; and
6. galvanizing of market partnerships between farmer groups and local, regional and national agribusiness (inputs, services, transport, processing, storage, handling, wholesaling, and retailing activities).

These core outputs will be supplemented by support for improved natural resource management (NRM) and policy interventions, most likely through other parties, but with scope for modest direct funding if this is deemed necessary.

4.2.2.2 DELIVERY APPROACH - OUTCOME 2: FOOD SECURITY AND NUTRITION

Whilst Outcome 2 of TOMAK aims to improve household nutrition through improved dietary diversity, the program does not have the necessary scope to address the other multiple causes of chronic malnutrition. Preventing and controlling malnutrition in Timor-Leste requires a coordinated and integrated multi-sectoral response, as well as strong technical leadership. While TOMAK will be responsible for Outcome 2 activities, it will do so in coordination with the Australian Embassy in Dili, with GoTL initiatives, and the activities of development partners. Australia may fund a future nutrition coordination mechanism to take the lead on nutrition messaging across sectors. In this event, TOMAK will continue to lead on Outcome 2 activities, while drawing on this mechanism to support effective behaviour change communication.

With a performance benchmark on stunting, the Australian Government has commenced planning the development of 'integrated nutrition sentinel sites'. The sites will be selected based on the degree of overlap of Australian Government funded nutrition sensitive investments including TOMAK. The project will involve joint monitoring to measure the impact of these interventions on nutrition indicators including stunting.

In areas where TOMAK geographically overlaps with other Australian-funded nutrition-specific and nutrition-sensitive programs (e.g. BESIK, HAI and MSI, PNDS, R4D etc.) and other programs, TOMAK will work collaboratively to synergise and maximise nutrition impact. TOMAK will also collaborate with the nutrition-specific and nutrition-sensitive activities of other development partners in Timor-Leste, as appropriate. The geographic target areas of TOMAK may be extended in order to incorporate sentinel sites.

TOMAK will lead on the design of the nutrition analyses, on community action planning, on behaviour change (including developing and testing information, education and communication (IEC) tools), and on nutrition indicators relevant to food and dietary diversity within its target Livelihood Zone(s). Behaviour change must take into account personal, social and environmental factors (COI, 2009), including:

1. Personal or individual: beliefs, knowledge, attitudes, skills, and genetics;
2. Social: interaction with other people including friends, family and the community; and
3. Environmental: the area in which an individual lives, e.g. school, work place and local facilities, as well as wider factors including the economy (such as prices) and technology.

These factors are poorly understood in Timor-Leste, and TOMAK will need to assess their potential relevance at the local level within each Livelihood Zone. TOMAK must therefore adopt an 'operational research' approach to its demand side undertakings, by building a portfolio of learning about what works to influence demand and change behaviours, and under what conditions. Such an approach will not only prove essential for TOMAK, but will be a valuable contribution to the broader global nutrition-sensitive agriculture evidence base. In the event that a broader Australian nutrition mechanism is established, a division of responsibilities will be established between the two initiatives. This includes the responsibility to collate, adapt and test simple targeted comprehensive IEC materials and inputs⁶⁴, to be used by TOMAK and other programs.

Each Livelihood Zone faces unique nutritional challenges. Hence TOMAK's approach within its chosen Livelihood Zone will need to be 'tailored'. Outcome 2 will work with existing community groups⁶⁵ (rather than forming new groups), and will particularly identify and support those involving/led by women. Outcome 2 appreciates that activities targeting the improved productivity, diversity and safe storage of food products must be combined with the promotion of appropriate nutrition for all age groups. Reliable data on production patterns and household utilisation across seasons and years, and the factors driving food choices, is therefore essential.

Delivery of Outcome 2 could be supported by local partners including:

- KONSSANTIL Municipal councils, Municipal agricultural extension staff, other extension staff and NGOs working with local community groups. These may deliver demonstrations, and improved crop lines and livestock, along with advice on food garden production, safe food storage, and food utilisation across the seasons. This work will be supported by TOMAK specialists, and link to ACIAR's proposed collaborative research with MAF.
- Where available and with support, PSFs engaged to deliver services at SISCa and in the home⁶⁶, Health Sanitarians, local NGOs, and local organisations such as churches, may be able to develop and deliver behaviour change communication activities (supported by appropriate IEC materials) to improve household nutrition and nutrition related practices. The focus should particularly be on vulnerable groups such as women of reproductive age, pregnant women, and children. This work will be supported by a TOMAK nutrition specialist.

⁶⁴ This may include but not be limited to advocacy, interpersonal communication through counselling or community groups, community mobilisation, mass media communication and targeted use of local data for community nutrition. It will outline key nutrition specific and nutrition sensitive messages.

⁶⁵ e.g. faith based groups, community seed producer groups, WASH groups etc

⁶⁶ *Servisu Integradu da Saúde Comunitária* - The Ministry of Health's Integrated Community Health Services.

- The DFAT Senior Nutrition Specialist (with the support of the proposed Australian nutrition support program) will be involved in providing technical inputs and 'quality control' for activities such as surveys, and will oversee the development of comprehensive multi-sectoral nutrition-related IEC materials and inputs across the aid program.
- TOMAK partners may have only limited capacity to deliver nutrition-sensitive agriculture. The TOMAK Managing Contractor will need to explore pathways to build the capacity of partners in this area.
- To promote behaviour change or adoption of technology, TOMAK should consider innovative cost-sharing mechanisms.

The deliverables expected under Outcome 2 include:

1. identification of important gaps by participatory food security and nutrition assessments of local communities;
2. identification of target groups and an engagement strategy to address food security and nutrition gaps;
3. participatory development of improved production, storage, preservation and marketing practices that ensure the year round availability of nutritious and sufficient food;
4. partnerships with local groups (MAF, MOH, NGOs, CBOs, churches) to assist with implementing practices that improve local food availability and utilisation;
5. identification, refinement and integration of the nutrition messages and delivery mechanisms necessary to trigger behaviour change related to improved food utilisation in local communities (e.g. training, advocacy, mass media, cooking demonstrations etc.) in association with the proposed Australian nutrition program;
6. partnerships with local groups (MAF, MOH, NGOs, CBOs, churches) to assist with implementing triggering activities within local communities; and
7. promoting women's empowerment, decision-making power, and time availability.

4.3 Monitoring and Evaluation (M&E)

The monitoring and evaluation (M&E) arrangements proposed for the TOMAK appreciate the underlying complexity and dynamism of Timor-Leste's rural Livelihood Zones and will enable learning, responsive program management and accountability. An outline of the essential elements of the Results Frameworks and M&E Plan are detailed in Annex 4. The Managing Contractor will develop a detailed Results Frameworks and M&E Plan during the Inception Period of TOMAK.

In line with established international practice, the Development Assistance Committee evaluation criteria⁶⁷, the Donor Committee on Enterprise Development (DCED) standard⁶⁸ and DFAT's corporate M&E standards⁶⁹, TOMAK's M&E arrangements will capture, analyse and use information on TOMAK's Goal, Outcomes, Deliverables and Risks.

4.3.1 Goal level M&E

Goal level M&E will collect data to assess:

- the program's *impact* within its target populations,
- its ongoing *relevance*,
- evidence of changes in *gender* equality, and
- the likelihood of *sustainability*.

Goal-level M&E methods will decipher impacts in two dimensions:

- **Within households:** the differing impact of the program on men, women, youth, children and the elderly.
- **Between households:** especially within the two target categories of 'rural households' (i.e. subsistence and aspiring commercial households).

Capturing 'within household' changes will be especially important for interpreting the effectiveness of food utilisation and nutrition improvement strategies (particularly for women of reproductive age, and children 6 – 24 months). The 'between households' changes will illuminate the effectiveness of strategies to improve economic opportunity. Household 'prosperity' will be assessed by examining the nature and extent of rural household engagement in the selected value chains, and any subsequent changes in real incomes or expenditure.

⁶⁷ Relevance, effectiveness, efficiency, impact, sustainability, gender equality.

⁶⁸ 1. Articulating the Results Chain; 2. Defining indicators of change; 3. Measuring changes in indicators; 4. Estimating attributable changes; 5. Capturing wider changes in the system or market; 6. Tracking programme costs; 7. Reporting results; 8. Managing the system for results measurement.

⁶⁹ <http://betterevaluation.org/sites/default/files/DFAT%20M%26E%20Standards.pdf>

TOMAK's M&E arrangements will employ multiple time-series datasets to assemble a narrative about the program's impact; using both primary and secondary data. Methods will focus on capturing evidence of household-level changes in the targeted Livelihood Zone. A summary of the tools to be used is provided in Table 5, and described further in Annex 4.

Table 4: TOMAK Goal level M&E methods

Logic	Method	Focus	Timing	Responsible	Audience
Goal	Secondary data assimilation	Broad changes in household economic status; comparison between target areas and national trends	Baseline; when available/ possible thereafter	M&E specialist	DFAT
	Annual household case studies	Household knowledge and attitude RE nutrition and food utilisation	Baseline, annual	M&E specialist	MoH, Program management, TRG
	WRA and child nutrition surveys	Changes in nutritional status of a cohort of WRA and children over the life of the program	Baseline, mid-term, end line	M&E Specialist and trained enumerators	DFAT, TRG

4.3.2 Outcome level M&E

Outcome level M&E will collect the data relating to the feasibility and *effectiveness* of approaches, partnerships and tactics employed in implementation; the *sustainability* of systemic changes in the selected value chains; and the capacity of key stakeholders. TOMAK will revise its outcome targets during inception, and agree these with stakeholders and DFAT.

The core assumption of **Outcome One** (Economic Opportunity) is that commercial partnerships will develop between the actors in a way that allows the nascent agricultural value chains to evolve, thereby creating economic opportunity in rural areas. The value of these opportunities will be assessed in terms of their 'profitability'⁷⁰ and 'sustainability'⁷¹. M&E methods for Outcome 1 will assess the nature and extent of partnerships between producer households and commercial actors in the selected value chains. Specific methods to assess progress towards Outcome 1 will necessarily evolve during the Inception Phase in response to the technical, economic, social and environmental studies in the candidate value chains within the target Livelihood Zone (to be undertaken in conjunction with MDF). M&E methods associated with Outcome 1 will adhere to the DCED standard (which provides guidance for the M&E of private sector development programs).

The core assumption of **Outcome Two** (Food Security and Nutrition) is that cultural values and household food norms are amenable to influence within the life of the program, through supply-side interventions to increase the year-round availability of nutritious food, and demand-side interventions to trigger its improved utilisation. M&E methods for Outcome 2 will focus on the role and performance of local partners in both these areas. Regular reviews will routinely inform BCC strategies to ensure their efficacy. M&E methods for Outcome 2 will focus on the messages and methods used by local implementing partners to trigger the necessary changes.

Given the relative uncertainty as to what might prove effective in Timor-Leste in the way of approaches to influencing behaviour change in food utilisation, the M&E of Outcome Two will incorporate experiential learning from short feedback loops wherever appropriate. Learning from the interventions in this way will iteratively shape the adaptation of the BCC approaches by identifying approaches that are most likely to achieve success and the necessary scale. Lessons from the less successful interventions in this component are equally important for the ongoing learning in the sector, and must therefore also be recorded and communicated through reports and to a wider group of nutrition stakeholders in Timor-Leste. This approach will be detailed in the M&E Plan.

A summary of the tools to be used is provided in Table 6 and described further in Annex 4.

⁷⁰ Defined as: increased enterprise options and increased market access.

⁷¹ Defined as: the presence of necessary skills, trust and protocols.

Table 5: TOMAK Outcome level M&E methods

Logic	Method	Focus	Timing	Responsible	Audience
Outcome 1	Private sector development surveys	Number and type of private sector actors engaged in priority value chains; factors influencing engagement and specifically WEE; commercial confidence	Baseline, annual	Trained enumerators	Program management, MDF, TRG
	Annual household case studies	Nature and extent of commercial partnerships; changes in household/ farm economy, changes in women's economic roles and opportunity.	Baseline, annual	M&E officers/ researchers	MAF, program management, MDF, TRG
Outcome 2	Productivity and availability of food.	Change in year-round availability of targeted nutritious foods in household production and local markets. Changes in the work roles of women and men.	Baseline and annual	M&E officers/ researchers	MAF, MoH, program management, TRG
	KAP surveys; FGD	Efficacy of key messages and methods to 'trigger' households; the role and influence of men and women in households in behaviour change.	As required	M&E officers/ researchers	MoH, Program management, CSOs, TRG

4.3.3 Deliverable level M&E

Deliverable level M&E will collect data about the quality and reach of the program's products and services, and the *efficiency* of implementation. This will include the revised targets as proposed and approved in the first Annual Plan.

4.3.4 Risk level M&E

Risk level M&E will collect data concerned with the prevalence and consequence of key factors that erode each of the above elements of the program logic. The key risks with respect to the program goal and outcomes - phrased as evaluation questions to be integrated into the M&E methods - are listed in Section 4.7. The tracking of key risks is necessary to support learning, and to enable more meaningful interpretation of program performance data.

4.3.5 Performance Oversight

The regular TRG missions will coincide with (and benefit from) the generation of key M&E outputs, such as annual household case studies, and annual private sector development surveys. The TRG will draw on these M&E products to offer advice on improving the effectiveness and sustainability of the interventions. The TRG may also be called upon by DFAT to appraise the quality of the key program deliverables, and to study the consequences of emerging risks.

An independent mid-term review (MTR) will be commissioned to test the ongoing relevance of the TOMAK design. This will be especially important given the dynamic and evolving context. An MTR team will comprise an evaluation specialist supported by relevant technical and context specialists. The focus will be strategic, will complement rather than duplicate the work of the TRG, and will particularly target high-level cross-cutting issues such as the likelihood of sustainability; the extent of gender empowerment; the extent of private sector development; medium-term economic prospects; ecological impacts etc.

TOMAK's context necessitates that the Results Frameworks and the M&E Plan are flexible, and inform the refinement and evolution of the design. In practice, this means that the M&E system must itself be reviewed and refined on an annual basis. As such, there will be an annual internal review and refinement of the M&E plan to ensure its ongoing relevance, and to verify the rigor and economy of the methods employed.

4.3.6 M&E Resourcing

In line with DFAT's M&E standards, TOMAK's investment in M&E will be in the order of five to seven percent of program budget, and cover:

- **The M&E staff;**
- **The TRG;**
- **Contracted enumerators/researchers:** trained individuals and/or local organisations engaged to carry out planned and ad hoc studies and surveys.
- **Independent evaluators:** specialists engaged to conduct key reviews commissioned by DFAT such as mid-term and completion reviews, with a focus on relevance, sustainability and key cross-cutting themes.

Budget will also be allocated to support the appropriate communication and dissemination of M&E findings to a broader audience in Timor-Leste, including for policy advocacy and public diplomacy.

A deliverable during the Inception Phase will be a Results Frameworks and an M&E Plan that elaborates the methods proposed in this design, and refines the timing and focus of the key M&E products.

4.4 Sustainability

The sustainability of investments aimed at improving economic opportunity for aspiring commercial farmers and the associated improvements in food availability and utilisation, are challenging areas for not just Australian aid, but for the engagements of governments and development partners more generally. TOMAK's use of DCED criteria to guide private sector development, and Scaling Up Nutrition (SUN) principles to guide nutrition interventions, specifically aim to ensure the effectiveness and sustainability of all its activities.

Figure 5 considers the sustainability of TOMAK investments from the six perspectives shown in Table 7, then links each of these issues to the ways it will be addressed by TOMAK. The achievement of sustainability is, however, a dynamic and evolutionary process, and it is inevitable that other risks and challenges to sustainability will arise over time.

Figure 3: *Perspectives of TOMAK sustainability*



Table 6: TOMAK mechanisms to address the different dimensions of sustainability

Sustainability Dimension	Key basis for sustainability	How TOMAK will address this
Political and Policy	Timor-Leste's political economy and the associated policy architecture for nutrition and rural private sector development must be supportive, comprehensive and responsive to its society and development aspirations.	<p>TOMAK includes politically relevant representation, communicates widely to influence the political economy, and establishes broad representation to build awareness of the importance of local economic livelihoods, food security and nutrition.</p> <p>TOMAK supports policy studies and advice that prioritises best practice as outlined by Markets for the Poor (M4P) and SUN principles.</p> <p>TOMAK will transparently assess all policy implications, and build the evidence base for solid policy interventions.</p>
Technical	Rural populations in Timor-Leste are well nourished year-round and thus physically and mentally able to make informed choices about their economic future based on a suite of appropriate options.	<p>TOMAK's nutrition interventions for rural households in Timor-Leste's inland watersheds are based on solid analysis of nutritional gaps and appropriate responses that not only build access to year-round nutritious food, but aim to improve utilisation of that food by the whole family.</p> <p>Integrated assessments of economic opportunity in the Livelihood Zone ensure options that are:</p>

		<ul style="list-style-type: none"> • technically feasible; • culturally acceptable; and • based on safe agricultural practice standards.
Economic	Rural populations in Timor-Leste have sufficient income to escape poverty, and reduce dependence on subsistence.	<p>TOMAK will increase the access of aspiring commercial producers to viable agricultural value chains linked to local, regional and national markets.</p> <p>TOMAK will build the business case within selected markets to stimulate crowding-in by the private sector as a leading agent of change.</p> <p>TOMAK will inform families of the need to supplement diets and reduce dependence on subsistence through appropriate and nutritious food purchases.</p>
Institutional	Local level MAF, KONSSANTIL and CBOs operate effectively to address economic and nutritional needs.	TOMAK will be based in local centres specifically to strengthen emerging Municipal structures responsible for planning, oversight and implementation of nutrition sensitive agricultural programs. Central to this will be work with KONSSANTIL (if local mechanisms are approved), as well as local MAF, MoH, CBO, church and private sector agencies.
Skills	There are sufficient skills and commitment within Government, the Private Sector and Communities to effectively deliver nutrition sensitive agriculture and economic opportunity.	<p>TOMAK activities specifically focus on the sustainability of locally relevant partners, commercial farmer groups, and market relationships to embed the skills necessary for ongoing activity.</p> <p>Included amongst 'locally relevant partners' but warranting specific mention are the specific GoTL local agencies of MAF, MoH, and KONSSANTIL. TOMAK will provide training and mentoring to assist their planning, implementation and oversight knowledge and skills related to TOMAKs focal areas.</p>
Environmental	That access to local resources by local farmers occurs within the resource capability and protects essential environmental services	<p>TOMAK inception activities include substantial participatory work with local communities to map resource capability, ensure equitable access (especially for land and water), and develop community-based plans for catchment management.</p> <p>These Plans will ensure compliance with GoTL and Australian aid standards on environmental impact.</p> <p>In keeping with the Decree Law on Environmental Licencing TOMAK will undertake initial environmental examination (IEEs) of all activities, and undertake impact assessments on those activities deemed to be a moderate or high risk.</p> <p>TOMAK activities will all integrate the need for climate change adaptability and thus aim to reduce the impact of climate variability on food production and economic return.</p> <p>TOMAK also integrates and sustains the work of SoL on GIS, resource mapping, and climate data collection through the use of a sort-term environmental/GIS specialist.</p>
Social	Are the necessary mechanisms in place to help communities capture the maximum benefits, while at the same time safeguarding communities from any negative social impacts?	<p>TOMAK will work in collaboration with local authorities and communities to ensure that all actions are culturally and socially appropriate.</p> <p>Significant efforts will be made to ensure women and youth have stronger advocacy, equity and opportunity in both their nutrition and economic roles.</p>

TOMAK will develop a Capacity Building Plan in its first year to outline principles and approaches for developing the capacity of government, private sector and civil society partners in a sustainable way. This will include methods for assessing the existing capacity of partners, and will propose methods for capacity development appropriate for each partner, including strategies for transitioning responsibility for activities to partners as appropriate. For example, work to strengthen skills of Municipal MAF officers will differ in nature to support to emerging private sector actors. This plan will also include details on TOMAK's approach to the sequenced use of international and national specialist personnel, and the mentoring strategies that TOMAK will follow to ensure the sustainable transfer of skills within the program team itself.

It remains clear that some areas of sustainability are impacted by circumstances outside of TOMAK's control. TOMAK will remain sensitive to these factors, integrate them into its risk mitigation and M&E Plans, and respond accordingly.

Central to TOMAK sustainability will be the conditions necessary for phased withdrawal of assistance as communities and partners demonstrate emerging skills and competencies. TOMAK will develop assessments of partner competency in critical areas, and build these into its exit strategy for each community or value chain. This will occur upfront, and form part of the development of the Results Chain expected for each intervention. DCED guidelines for intervention Results Chains specify the need for specific targets – these will not only apply to deliverables, but to partner competencies, and will be assessed regularly as part of the M&E Plan.

4.5 Gender Equality

TOMAK will contribute to improved nutrition and economic opportunities for rural households in Timor-Leste. Thus gender inequities and dynamics will be a significant factor in achieving successful economic and nutritional outcomes. Hence for TOMAK to be efficient and effective, it must respond to men's and women's different roles and power status within the agricultural sector, it must contribute to improvements in gender equity, and it must build women's economic empowerment. Significant analysis has been undertaken of the opportunities available to TOMAK to promote women's economic empowerment and nutritional outcomes, including:

1. economic advancement through increased incomes;
2. access to opportunities, such as skills development and job openings;
3. access to assets, services, and the support needed to advance economically;
4. availability, access, and utilisation of nutritious foods for WRA and children from 6 to 23 months;
5. increased decision-making authority in different spheres, including household finances; and
6. promoting manageable workloads that balance women's reproductive, productive and community roles.

Annex 8 summarises the current analysis which identifies six implications for TOMAK, all of which have been integrated into this design.

TOMAK's approach specifically addresses gender equality and women's economic empowerment in five key areas:

1. **Selection Criteria:** Criteria for Livelihood Zones, Value Chains and Nutrition engagements all integrate solid gender assessments;
2. **Gender Analysis:** A detailed field-based gender analysis must be conducted in order for TOMAK to appropriately define and refine its interventions through a deeper understanding of the perspectives and roles of women, men, boys and girls. This analysis must:
 - consider each socio-cultural group and Livelihood Zone;
 - consider the specific role of older women;
 - be disaggregated to a household group level;
 - be used in the identification, design and implementation of all TOMAK's community-specific activities.
3. **Engagement:** All activities will integrate gender principles and approaches (gender accommodating), while some activities across key value chains and nutrition initiatives will be expected to be truly transformative for women (gender transformative). All activity planning must also identify if/in what ways an activity may reduce or change gender asymmetries within the household. **Potentially negative consequences must be identified, along with strategies to prevent these occurring.**
4. **Delivery:** Delivery will incorporate gender issues in the following ways:
 - a. The TOMAK team will include a full time national Gender Specialist (or a junior international specialist if no suitable national specialist can be identified), to be based in Dili, who will work across the program to assist and coach the team to integrate gender into all activities. The Gender Specialist will be mentored by a Senior Gender Specialist providing short term intermittent inputs across the program timeframe.
 - b. TOMAK must ensure that women are appointed to each regional office, and that women comprise at least a third of the national team, with particular attention given to the selection of the regional livelihood zone officers.

- c. The design requires that the TOMAK Team and partners understand and model gender equality in their work. To this end, the Gender Specialist will:
 - develop a Gender Framework to guide gender mainstreaming into TOMAK;
 - undertake team training and otherwise coach the teams on better gender integration⁷²;
 - undertake collaborative reviews of community selection, the Engagement Strategy, the Implementation Plan, and the community engagement activities.
- d. When groups are used, specific strategies will be implemented to overcome gender-based constraints to participation. Appropriate support (such as facilitation and capacity development) may be needed to achieve this. Finally, TOMAK should integrate with the Australian Embassy's gender action plan, and actively participate in the established formal mechanisms that share gender learning between DFAT-funded programs
- 5. **Outcomes and Evaluation:** The Results Chain and M&E Guidelines for each activity and TOMAK overall will:
 - specify the changes being sought for women by Outcomes 1 & 2; and
 - provide real time, gender sensitive, and sex and equity disaggregated data⁷³ to drive learning.
 TOMAK has also included specific gender targets into its expected development outcomes, as it appreciates the equal and essential role that women play in household economic and nutrition outcomes. For Outcome One the gender targets include:
 - a. chosen agricultural value chains deliver equitable benefits for both women and men within households, especially in terms of decision making on the use of income and savings;
 - b. all chosen agricultural value chains include at least one credible and appropriate opportunity for women's economic engagement; and
 - c. all of the entrepreneurial activities associated with improved agricultural value chains involve women in key decision making roles.

For Outcome 2 the gender targets include:

- a. improved knowledge, attitudes and practices of all household members (mothers, fathers, seniors and youth) related to the feeding and caring practices necessary to improve nutritional status, especially for women of reproductive age and children aged 0 to 23 months;
- b. improved dietary diversity for women of reproductive age (minimum dietary diversity for women - MDD-W) and for children aged 6 to 23 months (minimum acceptable diet for children - MAD-C);
- c. decreased rates of underweight in WRA (Body Mass Index <18.5 and BMIZ for age) and underweight in children (aged 6 to 23 months) (Weight for Age Z Score of <-2); and
- d. decreased rates of anaemia (measured by haemoglobin) in WRA and children (aged 6 to 23 months).

4.6 Inclusiveness

Increased economic opportunity and improved nutrition are essential outcomes for those who are marginalised within rural communities. Women, children and the aged have been especially identified as target groups for specific economic and nutrition outcomes. People with disability are, however, also an important, if largely unseen, segment of Timor-Leste's rural communities. Yet there is little indication of the type, nature and frequency of disability within rural communities given by any previous work of the Australian aid program or of other development partners. TOMAK's baseline assessments will therefore try to ascertain the nature and frequency of disability within the target rural households in Timor-Leste. Such an understanding will be a significant step in helping to improve the inclusion of people with disability into TOMAK's activities.

4.7 Risk Management

Risk management is essential for TOMAK's implementation, and integral to its Results Framework and M&E Plan. The Managing Contractor will develop a Risk Management Plan during inception, and include the tracking of key risks to support learning, and to enable more meaningful interpretation of program performance data. The principal risks identified during the design phase have been catalogued in Annex 1, of which management risks are primary:

1. The five year (plus five) timeframe outlined for TOMAK is based on adoption rates experienced by other rural livelihoods programs in Timor-Leste. TOMAK will, however, be working in up to four value chains in the chosen Livelihood Zone, some of which will inevitably move faster than others. The TOMAK design will therefore not only need a long-term vision of nurturing change, but also very clear exit strategies from failing value chains.

⁷² Coaching is about facilitating teams to do the work themselves rather than leaving gender activities to gender specific staff.

⁷³ Understanding gender equality requires an understanding of both the sex and equity dimensions (i.e. level of education, location, etc.)

2. Government service delivery at the Municipal level is limited, and in need of substantial strengthening. Significant facilitation will also be needed to ensure that NGO and private sector partners are effective in supporting both households and the value chains. There is a risk that the availability of sufficiently robust local delivery partnerships will be limited.
3. Lastly, the Concept predicts that TOMAK will be dependent on a reasonable level of contracted advisory support to assist with delivery, and to mentor emerging partnerships. Such support has, however, attendant risks related to perception and sustainability. Collaboration with USAID (and others) will help. However, alternatives to contracting advisory support for the key roles are limited.

A range of basic assumptions underpinning TOMAK's approach would also constitute risks if these were found to be wrong. TOMAK's Results Framework and M&E Plan will specifically target these development risks, including:

- Risks to rural households (goal-level):
 - Are there sufficient 'aspiring commercial farmer' households in the target zone to warrant engagement? While all evidence indicates that many rural farmers strongly aspire to commercial production, engagement is dependent on both the extent of farmer interest, and the availability of viable agricultural value chain options related to these interests. The Managing Contractor will therefore need to closely analyse viability in collaboration with MDF during the Inception Period, and thereafter monitor the situation closely.
 - Are cultural values and household norms in relation to food and nutrition amenable to influence during the life of the program?
 - Is there sufficient motivation among subsistence and aspiring commercial farmer households to engage in program activities?
 - Do subsistence and aspiring commercial farmer households in the target zone have the requisite resources, motivation (risk orientation), and skills to engage in the nascent value chains?
 - Can local markets respond to the increased demand for nutritious food to be built by the program?
- Risks to agribusiness partnerships (economic opportunity outcome):
 - Are there sufficient agribusinesses (including rural entrepreneurs) and service providers to make agricultural value chains viable?
 - Is there sufficient commercial opportunity for agribusiness to engage with aspiring commercial farmers?
 - Are aspiring commercial farm households able to provide the required quality and quantity of product to meet commercial expectations?
 - Do MAF extension staff have the required resources, motivation and skill to engage in program activities?
- Risks to food availability and demand-triggering partnerships (food security and nutrition outcome):
 - Are there viable and culturally acceptable options to improve the year-round availability of nutritious food?
 - Are there sufficient local partners to conduct enough nutrition triggering activities for change to be effected?
 - Are triggering activities effecting the desired behaviour changes?

This design includes activities that specifically assess, monitor and review program risks including:

- a detailed risk assessment matrix, including appropriate mitigation strategies;
- the allocation of appropriate resources to the monitoring and reporting of identified and emerging risks; and
- a requirement for both TOMAK and the Australian Embassy staff to regularly review/update the risk profile.

4.8 Safeguards

The safeguard assessments already completed (Annex 2) indicate a low risk of adverse impacts on child protection and displacement, and a low to moderate risk for the environment, depending on which specific value chains are chosen. Procedures are in place to monitor these safeguards, both for the program as a whole, and specifically for each intervention.

Because TOMAK's specific activities in the chosen Livelihood Zone are not yet defined, certain potential environmental impacts are listed in Annex 2 as 'not sure'. Once these activities and geographical areas have been specified during the inception period, an initial environmental examination (IEE) will be undertaken, following which some cases may require a more formal Environmental Impact Assessment.

Annex 1 Investment Risks

	Event	Impact	Mitigation	Responsibility	Rating after mitigation applied		
					Likelihood ⁷⁴	Consequence ⁷⁵	Rating
Operating environment ⁷⁶	Potential significant economic shocks at the macro level and reduced GDP	TOMAK depends on reasonable broader economic stability if it is to stimulate investment and economic growth in the agriculture sector. Significant shocks will certainly compromise economic opportunity.	This will need to be closely monitored and the impacts on the effectiveness of the program assessed. If changes compromise the scope for economic growth Australia must consider the ongoing effectiveness of TOMAK.	DFAT	Possible	Moderate	High
	Insufficient rural households see their future in commercial agriculture, fail to engage with TOMAK, and seek other opportunities.	TOMAK appreciates that not everyone will see commercial agriculture as a long term option. However analysis shows that the majority of rural households see farming as the primary short term opportunity. Initially many households may engage, but as assets improve, many households will see their future elsewhere. These	TOMAK will undertake upfront and ongoing assessments that generate a better understanding of the incentive structures driving rural households. Current commercial development pilot projects in vegetables demonstrate that rural households greatly value commercial production.	DFAT	Unlikely	Moderate	Moderate

⁷⁴ 1=Rare; 2=Unlikely; 3=Possible; 4=Likely; 5=Almost Certain

⁷⁵ 1=Negligible; 2=Minor; 3=Moderate; 4=Major; 5=Severe

⁷⁶ What factors in the operational or physical environment (political instability, security, poor governance, lack of essential infrastructure etc.) might impact directly on achieving the objectives?

	Event	Impact	Mitigation	Responsibility	Rating after mitigation applied		
					Likelihood ⁷⁴	Consequence ⁷⁵	Rating
	GoTL social protection payments may influence economic incentives in agriculture.	alternative pathways are to be encouraged. Additionally, Timorese households may rely on GoTL assistance rather than seeking to innovatively improve their livelihoods.					
	The Managing Contractor finds it difficult to leverage the delivery partnerships necessary to deliver outcomes	TOMAK implementation is slower or more constrained than envisaged.	There is little evidence that the use of a MC is, in itself, a constraint to establishing robust delivery partnerships. Evidence from MDF shows that partners appreciate that their relationship is with the Australian Embassy (through a MC) and are not perturbed by the relationship. This is also borne out across the Australian aid program. The MC must always promote the Australian profile and work closely with DFAT to ensure that Australian ownership is clear.	TOMAK DFAT	Unlikely	Minor	Low
	Government momentum and resourcing to support nutrition outcomes decreases	Lessened focus and resourcing for nutrition nationally. However, the Government has always maintained the importance of household level food security and now closely links this with nutrition. It is unlikely that the dual issues of food security and nutrition will	TOMAK will actively communicate its findings to build the understanding and evidence base within MAF, MoH, and KONSSANTIL. TOMAK will also work with the Australian nutrition adviser to the President's office to keep them informed of the current status and results. TOMAK will	TOMAK DFAT Nutrition Adviser	Unlikely	Minor	Low

	Event	Impact	Mitigation	Responsibility	Rating after mitigation applied		
					Likelihood ⁷⁴	Consequence ⁷⁵	Rating
		diminish given the political importance of the rural poor.	work collaboratively with other donors in the nutrition space to share understandings and jointly advocate for the ongoing Government prioritisation of FS and N outcomes.				
	Insufficient emphasis placed on gender roles by Government, agencies and the community	Gender inequity continues and activities to engage with these inequities receive little support.	TOMAK will work actively with MAF, KONSSANTIL, MOH and communities to build the evidence base that shows the impact that gender inequity is having on nutrition, food security and economic outcomes.	TOMAK DFAT Gender teams	Unlikely	Moderate	Moderate
Results	TOMAK's engagement with communities and the characterisation and community planning of resource use may reveal inherent conflicts and inequities.	Inherent community inequity, injustices, prejudices and power relationships may lead to strife and unwanted conflict in decision making on resource use.	TOMAK will initially undertake assessments to understand potential conflict issues. If political or power relations are too entrenched TOMAK may choose not to work in those communities. All engagement with communities must anticipate conflict and provide the community with tools to identify, engage with and resolve issues as they arise.	TOMAK	Likely	Moderate	High
	Adoption and uptake may be slower than anticipated. TOMAK will be working in up to four value chains in three to five Livelihood Zones. Inevitably some will move faster than others.	TOMAK produces lower than expected results in early years	The five year (plus five) timeframe outlined for TOMAK is based on adoption rates seen in other economic development programs in Timor-Leste. However, TOMAK predicts that about a third of targeted value chains will establish successfully. TOMAK will not only need patience to nurture change, but will also need	DFAT	Likely	Minor	Moderate

	Event	Impact	Mitigation	Responsibility	Rating after mitigation applied		
					Likelihood ⁷⁴	Consequence ⁷⁵	Rating
			clear criteria to trigger exit strategies from failing value chains. The design will need to incorporate these mechanisms.				
	Lack of sufficient options for robust delivery partnerships at the local level	Lack of effective partnerships may mean TOMAK has insufficient capacity on-the-ground to influence community-level responses to commercial opportunity, basic food production, and household food consumption.	TOMAK has assessed this issue carefully and review approaches used by other development partners and Programs to alleviate the risk. Currently, TOMAK will be dependent on a reasonable level of contracted advisory support to assist with delivery and mentor emerging partnerships.	DFAT	Likely	Moderate	High
	The program is not able to identify sufficiently commercial agricultural value chains within selected Livelihood Zones.	Program is not able to achieve the economic impact proposed within the timeframe.	TOMAK has sufficient commercial value chains available and preliminary analysis shows sufficient promise to deliver a sound economic return.	Inception analysis should include assessments of likely value chains.	Unlikely	Moderate	Moderate
	Defining the anticipated scope and scale of TOMAK as it will not have the capacity to provide universal coverage.	Possible disenfranchisement due to some regions/areas not enjoying coverage.	Australia is a lead donor in rural development and thus its engagement should be of sufficient scale to have broad impact. Delivery will ensure that the coverage is sufficient without being thin. A more focused and deeper program is preferred. The initial selection of one major Livelihood Zone should ensure that over 25 per cent of the rural community are targeted. TOMAK is not alone and can work with other similar donor engagements to broaden the base (USAID's Avansa Agrikultura Project).	DFAT TOMAK	Likely	Minor	Moderate

	Event	Impact	Mitigation	Responsibility	Rating after mitigation applied		
					Likelihood ⁷⁴	Consequence ⁷⁵	Rating
			Importantly, TOMAK is scalable – able to be increased (or decreased) as required.				
	Activities lead to negative changes in gender asymmetries within households.	Negative outcomes for women, children and families	Potential changes identified as part of the planning of each activity and specific strategies developed to address. Monitoring changes.	Gender Officer M&E Specialist.	Likely	Moderate	High
Safeguards ⁷⁷	Poor assessment and monitoring of impacts of economic growth.	Economic growth delivered by value chain activities have unintended and effects on productive and reproductive roles in ways that negatively affect children or communities (e.g. child labour and school participation)	All TOMAK activities must include assessments of their impact on children, women, communities and the environment.	TOMAK Managing Contractor must ensure appropriate safeguards are incorporated based on DFAT and Australian standards.	Rare	Minor	Low
	TOMAK fails to assess or respond to environmental risk	Activities of the program impact in ways that negatively affect the environment.	TOMAK will undertake an initial environmental examination (IEE) for all activities. Where these are determined to have moderate or high potential impacts these will be subject to more comprehensive EIAs. TOMAK's M&E includes provision for monitoring of environmental impacts of target activities.	TOMAK Managing Contractor must ensure appropriate safeguards are incorporated based on DFAT and Australian standards.	Rare	Minor	Low
Fraud/Fiduciary ⁷⁸	Poor Managing Contractor systems lead to fraud or other fiduciary risk.	TOMAK partnership agreements, assets purchases or other funds are stolen or	The Managing Contractor will adhere to Australia's strict zero tolerance policy for fraud and	Managing Contractor	Rare	Minor	Low

⁷⁷ Do any of the activities involved in this investment have the potential to cause harm relative to safeguard issues (child protection, displacement and resettlement and environment protection)?

⁷⁸ Are there any significant weaknesses through which fraud could occur or funds not being properly managed by a recipient individual, organisation or institution? If partner government systems are being used, is there a risk of fungibility (replacement of funds)?

	Event	Impact	Mitigation	Responsibility	Rating after mitigation applied		
					Likelihood ⁷⁴	Consequence ⁷⁵	Rating
		diverted to other uses.	corruption. They will be expected to develop administrative and audit systems for all funds that demonstrate their compliance with sound practices.				
Reputation ⁷⁹	No unique risks identified.						Low
Partner relations ⁸⁰	Delivery partners are either not available or of insufficient capacity to immediately implement TOMAK.	Delays occur in TOMAK start-up and delivery.	Poor partner capacity at the local level is anticipated by TOMAK. A key sustainability mechanism is to build capacity over time so that the initiatives of the Program can be maintained.	TOMAK Team	Likely	Minor	Moderate
Other ⁸¹	No unique risks identified.						
Overall Risk Rating	Overall TOMAK is assessed as a LOW RISK program						

⁷⁹ Could any of the risks, if they eventuated, cause damage to DFAT's reputation as a service provider? Could any aspect of the implementation damage bi-lateral relations?

⁸⁰ Could a relationship breakdown occur with key partners/stakeholders and would this prevent the objectives/results from being achieved? Does the intended partner (if known) have the capacity to manage the risks involved with this investment? Could differing risk appetites affect the relationship?

⁸¹ Are there any other factors specific to this investment that would present a risk (e.g. this is a new area of activity or it is an innovative approach), including potential opportunities? If yes, please describe and rate the risk.

Annex 2 Investment Safeguards Checklist

	Yes	No	Not Sure
Child protection			
Is the investment likely to involve contact with or access to children (0-18 years old) due to the nature of the activity or the working environment?	Yes		
Will the investment involve personnel working with children?		No	
Displacement and resettlement			
Does the investment involve construction on: exclusion from: or repurposing of land that is occupied, accessed to generate livelihoods or of cultural or traditional importance?		No	
Does the investment's success depend on other development activities that may involve construction on; exclusion from; or repurposing of land that is occupied, accessed to generate livelihoods; or of cultural or traditional importance?		No	
Does the investment involve planning for, advising on or designing the economic or physical displacement of people to make way for infrastructure development, disaster risk reduction or exclusion of the local population from land accessed to generate livelihoods?		No	
Environment			
Will the investment support any of the following: <ul style="list-style-type: none"> • medium to large-scale infrastructure such as roads, bridges, railways, ports, infrastructure for energy generation; or • development of irrigation and drainage, diversion of water; or • land clearing, intensification of land use; or • hazardous materials and wastes; or • activity in mining, energy, forestry, fisheries, water supply, urban development, transport, tourism or manufacturing sectors? 		No	
Will the investment support any of the following: <ul style="list-style-type: none"> • small to medium scale infrastructure such as localised water supply and/or sanitation infrastructure; irrigation and drainage; rural electrification, rural roads; or • construction/renovation/refurbishment/demolition of any building for example: schools, hospitals or public buildings; or • localised use of natural resources, including small-scale water diversion, agriculture, or other types of land-use change? 	Yes		
Will the investment contribute to, directly or indirectly, or facilitate, activities such as those listed above, including through: <ul style="list-style-type: none"> • trust funds, procurement facilities; or 	Yes		

<ul style="list-style-type: none"> • co-financing contributions; or • support for planning, change to regulatory frameworks, technical advice, training or; • applied research? 			
Has an environmental review of the proposed investment already been, or will be completed by an implementing partner or donor?	Yes – will be in inception		
Does this investment need to meet any national environmental standards or requirements?	Yes		

Annex 3 Agricultural Value Chain Selection Criteria

Assessment of potential agricultural value chains will include the ranking assessment against the following criteria. Two broad areas of assessment are proposed. Firstly, assessment against strategic and partnership features (Table 8), and secondly assessment against value chain features (Table 9). The findings in each area will be summarised in a 'spider' diagram that reflects the various merits of each value chain. Assessments are not 'definitive' but are completed to guide the selection process, involve a broader group of stakeholders in the analysis and increase transparency. Each of the value chains that are finally prioritised will then undergo a significant assessment of its economic, social and environmental characteristics. The aim of this study will be to develop an intervention plan for TOMAK engagement.

Table 7: TOMAK Agricultural Value Chain selection criteria related to strategic and partnership features

Strategic and partnership features	Question	1	2	3	4	5
Timor-Leste's priorities	How well does the chain fit with Timor-Leste's National and Sub-National priorities? (NB A score of less than 3 excludes work in this value chain)	<i>Not at all</i>	<i>In a minor way</i>	<i>Moderately aligned but key elements outside the strategy</i>	<i>Good alignment but some cross-cutting issues poorly covered</i>	<i>Perfectly aligned</i>
Australian priorities	How well does the chain fit with Australian priorities? (NB A score of less than 3 excludes work in this value chain)	<i>Not at all</i>	<i>In a minor way</i>	<i>Moderately aligned but key elements outside the strategy</i>	<i>Good alignment but some cross-cutting issues poorly covered</i>	<i>Perfectly aligned</i>
Timor-Leste Partner	Are relevant Timor-Leste collaborators available?	<i>No obvious collaboration opportunities</i>	<i>Some collaboration opportunities but poor capacity</i>	<i>Good collaboration opportunities but poor capacity</i>	<i>Good collaboration opportunities with good capacity</i>	<i>Excellent collaboration opportunities and good capacity</i>
Complementarity	Is there potential for complementarity with investments of national/Municipal governments, the Australian aid program, or other development partners?	<i>No other project partners to support or scale up initiatives</i>	<i>Links with local extension staff only to support or scale up initiatives</i>	<i>Local government programs active to support or scale up initiatives</i>	<i>Local and national government programs to support or scale up initiatives</i>	<i>Local and national government, as well as some donor programs to support and scale up initiatives</i>
Private sector	Is the private sector willing and able to collaborate in the initiatives	<i>Informal value chain with no engagement of the private sector</i>	<i>Largely informal value chain with limited engagement of the private sector</i>	<i>A blend of formal and informal elements in the value chain with an emerging private sector in either Input or Output functions.</i>	<i>A blend of formal and informal elements in the value chain with a solid private sector Input or Output functions.</i>	<i>A blend of formal and informal elements in the value chain with a strong private sector engagement throughout.</i>
External risks	Are there any significant external risks or killer issues? (Outside the control of the project)	<i>Major external risks</i>	<i>Significant external risks</i>	<i>Moderate external risks</i>	<i>Minor external risks</i>	<i>No external risks</i>

Figure 4: Spider diagram of strategic and partner features of possible value chains (indicative only)

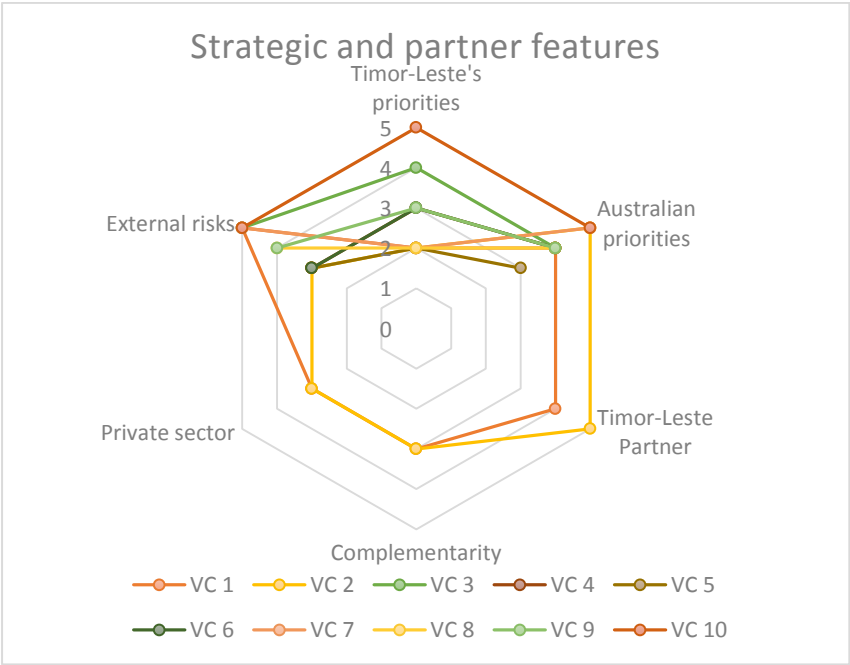


Table 8: TOMAK Agricultural Value Chain selection criteria related to value chain features

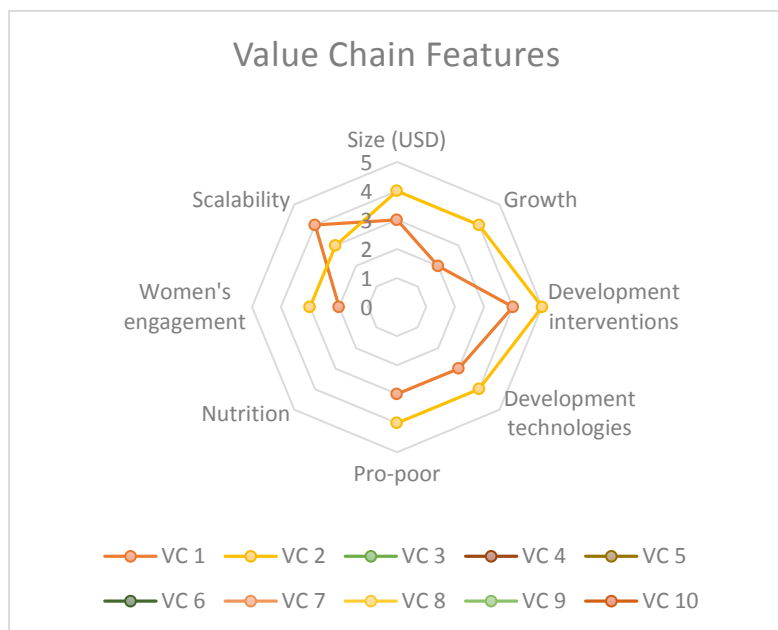
Value chain features	Question	1	2	3	4	5
Size (USD)	What is the size of the value chain?	<i>Wholesale <0.5m USD</i>	<i>Wholesale 0.5-1.0m USD</i>	<i>Wholesale 1-10m USD</i>	<i>10-50m USD</i>	<i>>50m USD</i>
Growth	Does this value chain have the capacity to grow over the next five years if constraints are reduced?	<i>No growth potential</i>	<i>Limited growth potential (<10%)</i>	<i>Moderate growth potential (10-30%)</i>	<i>Good growth potential (30-50%)</i>	<i>Huge growth potential (>50%)</i>
Development interventions	Are the key issues affecting performance of the value chain able to be addressed through TOMAK over a five year period? (NB A score of less than 3 excludes work in this value chain)	<i>None of the constraints can be solved</i>	<i>Only some short term constraints can be solved</i>	<i>Most short term and some long term constraints can be solved</i>	<i>Most constraints can be solved</i>	<i>All constraints can be solved</i>
Development technologies	What are the prospects for enhancing the value chain through adaptation of existing technologies ?	<i>No technologies available related to key value chain problems</i>	<i>A few possible technologies available but only from different environments and circumstances</i>	<i>Some good technologies available from similar agro-climates and circumstances</i>	<i>Many technologies available requiring minimal adaptation</i>	<i>Many technologies that can be immediately applied</i>
Pro-poor	What is the potential for large numbers of poor households to economically benefit from improvements in this value chain? (either on-farm and/or further along the chain) within two years of the completion of TOMAK?	<i><1,000 HH achieve a 25% income improvement</i>	<i>1000-2000 HH achieve a 25% income improvement</i>	<i>2,000 to 4,000 HH achieve a 25% income improvement</i>	<i>>4,000 HH achieve a 25% income improvement</i>	<i>>4,000 HH achieve a 50% income improvement</i>
Nutrition	Does the value chain provide the additional benefit of improving availability of a nutrient rich food for either household consumption or in local markets?	<i>No direct nutritional benefit - purely economic (e.g. coffee)</i>	<i>Some nutritional benefit but basically replicating products in common supply (e.g. corn, rice etc.)</i>	<i>Good nutritional benefits for producer households and local market, but only seasonally.</i>	<i>Good nutritional benefits for producer households and local markets year round.</i>	<i>Excellent nutritional benefits for producer households filling a key nutritional gap on a year round basis.</i>
Women's empowerment	What is the potential to economically empower women and girls in this	<i>No change to engagement,</i>	<i>20% increase in women's engagement</i>	<i>> 20% increase in women's engagement</i>	<i>> 20% increase in women's</i>	<i>> 20% increase in women's engagement;</i>

Value chain features	Question	1	2	3	4	5
	chain within two years of the completion of TOMAK? ⁸²	<i>income, access or agency</i>	<i>OR income; limited other benefits</i>	<i>AND > 20% increase in income; limited other benefits</i>	<i>engagement; >20% increase in income; AND evidence of EITHER access and agency improvements</i>	<i>>20% increase in income; AND evidence of BOTH access and agency improvements</i>
Scalability	What is the feasibility of taking the outcomes to scale within the TOMAK timeframe?	<i>No scale up likely</i>	<i>Local or Suku value chain impacts</i>	<i>Scope to influence the value chain at Municipal level</i>	<i>Scope to influence the value chain across the whole Livelihood Zone</i>	<i>Scope to influence the value chain nationally</i>

⁸² Assessed through contribution to:

- Economic advancement – increased income and return on labour
- Access to opportunities and life chances such as skills development or job openings
- Access to assets, services and needed supports to advance economically
- Decision-making authority in different spheres including household finances
- Manageable workload

Figure 5: Spider diagram reflecting value chain features of target interventions (indicative only)



Annex 4 Monitoring and evaluation arrangements

The monitoring and evaluation (M&E) arrangements for the TOMAK program must appreciate the underlying complexity and dynamism of Timor-Leste's rural Livelihood Zones in order to enable learning, responsive program management and accountability.

In line with established international practice, the Development Assistance Committee (DAC) evaluation criteria⁸³, the Donor Committee on Enterprise Development (DCED) standard⁸⁴ and DFAT's corporate M&E standards⁸⁵, TOMAK's M&E arrangements will capture, analyse and use four main types of information drawn from the program logic:

- **Goal:** data to assess program *impact* among target populations, the program's ongoing *relevance*, evidence of changes in *gender* equality, and the likelihood of *sustainability*;
- **Outcomes:** data concerned with the feasibility and *effectiveness* of approaches, partnerships and tactics employed in implementation; the *sustainability* of systemic changes in selected value chains; the capacity of key stakeholders;
- **Deliverables:** data about the quality and reach of the program's products and services, and the *efficiency* of implementation;
- **Risks:** data concerned with the prevalence and consequence of key factors that erode each of the above elements of the program logic.

Each of these aspects of the M&E arrangements is elaborated below.

Program Logic

Goal-level changes

The TOMAK goal is: *Rural households, throughout one of Timor-Leste's major Livelihood Zones, live more prosperous and sustainable lives.*

This goal anticipates significant and lasting changes ('prosperity and sustainability') in the lives of 'rural households' within at least one of seven 'livelihood zones'. The program design disaggregates 'rural households' in two ways:

- **Within households:** the differing impact of the program on men, women, youth, children and the elderly⁸⁶.
- **Between households:** especially within two of the three different categories of 'rural households' (i.e. subsistence and aspiring commercial households).

Goal-level M&E methods will need to decipher impacts along these dimensions. Capturing 'within household' changes will be especially important for interpreting the effectiveness of food utilisation and nutrition improvement strategies (particularly for women or reproductive age, and children 6 – 24 months). The 'between households' changes will illuminate the effectiveness of strategies to improve economic opportunity. Household 'prosperity' will be assessed by examining the nature and extent of rural household engagement in selected value chains, and any subsequent changes in real incomes.

Outcomes

The TOMAK design defines two outcomes that will contribute to achieving the goal:

- **Outcome 1 (economic opportunity):** *Local commercial producers are partnering sustainably and profitably with agribusiness and service providers in selected value chains.*
- **Outcome 2 (household food security and nutrition):** *Locally relevant partners trigger household demand for year-round production and utilisation of diverse and sufficient food.*

The **first** outcome concerns 'aspiring commercial households'⁸⁷ (both individual farmer households and clustered/cooperative households), and the extent to which they engage productively with an array of agribusinesses⁸⁸ and

⁸³ Relevance, effectiveness, efficiency, impact, sustainability, gender equality.

⁸⁴ 1. Articulating the Results Chain; 2. Defining indicators of change; 3. Measuring changes in indicators; 4. Estimating attributable changes; 5. Capturing wider changes in the system or market; 6. Tracking programme costs; 7. Reporting results; 8. Managing the system for results measurement.

⁸⁵ <http://betterevaluation.org/sites/default/files/DFAT%20M%26E%20Standards.pdf>

⁸⁶ Note that the Gender Annex provides valuable direction RE deciphering gender-related changes.

⁸⁷ Appreciating that there is a 'grey' margin between subsistence and aspiring commercial households.

service providers⁸⁹. A core assumption of the design is that commercial partnerships will develop between these actors such that nascent agricultural value chains will evolve, thereby creating economic opportunity in rural areas. The value of these opportunities will be assessed in terms of their 'profitability'⁹⁰ and 'sustainability'⁹¹. M&E methods for Outcome 1 will assess the nature and extent of partnerships between producer households and commercial actors in selected value chains. Results possible within five years could include:

- four invigorated agricultural value chains deliver average annual returns of:
 - \$1,500 to \$2,000 to 7,000 households within the chosen Livelihood Zone within five years; and
 - \$500 to \$1500 to 7,000 households within the chosen Livelihood Zone within five years;
- chosen agricultural value chains deliver equitable benefits for both women and men within households, especially in terms of decision making on the use of income and savings⁹²;
- all chosen agricultural value chains include at least one credible and appropriate⁹³ opportunity for women's economic engagement;
- all of the entrepreneurial activities associated with improved agricultural value chains involve women in key decision making roles;
- agricultural value chains expand the production and availability of nutrient rich foods in local markets;
- sustained private sector and agribusiness investment in selected value chains (inputs, production, outputs) is sufficient to ensure their longer term viability; and
- employment opportunities for local and regional workers are stimulated by growth in the selected agricultural value chains.

The **second** outcome concerns 'locally relevant partners'⁹⁴ who will conduct activities aimed at improving year round production of nutritious foods and triggering demand for better household food utilisation practices. 'Triggering'⁹⁵ is a term borrowed from the water, sanitation and hygiene (WASH) sector and refers to a practice of stimulating households to abandon unhygienic sanitation practices. In the context of TOMAK, household demand for better nutrition and food utilisation practices will be 'triggered' through a range of behaviour change communication (BCC) strategies. The success of these strategies assumes that cultural values and household food norms are amenable to influence within the life of the program. M&E methods for Outcome 2 will focus on the role and performance of local partners involved in improving year round availability of nutritious foods and triggering demand. Regular reviews will routinely inform BCC strategies to ensure their efficacy. Results possible within five years could include:

- Improved knowledge, attitudes and practices of all household members (mothers, fathers, grandparents and youth) across 80 per cent of the Livelihood Zone population related to the feeding and caring practices necessary to improve nutritional status, especially for women of reproductive age (WRA) (aged 15-49 years) and children (aged 6 to 23 months);
- Improved household food consumption score (FCS);
- Improved dietary diversity for women of reproductive age (minimum dietary diversity for women - MDD-W) and for children (aged 6 to 23 months) (minimum acceptable diet for children - MAD-C);
- Decreased rates of under-weight women of reproductive age (Body Mass Index <18.5 and BMIZ for age) and under-weight children (aged 6 to 23 months) (Weight for Age Z Score of <-2); and
- Decreased rates of anaemia (measured by haemoglobin) in women of reproductive age, children (6 to 23 months) and men.

Deliverables

A Managing Contractor (MC) will be responsible for coordinating implementation. M&E of deliverables will predominantly involve tracking the *reach*, *coverage* and *quality*⁹⁶ of technical assistance (TA)⁹⁷; and assessing the effectiveness of local

⁸⁸ Farm input suppliers, consolidators, processors, transporters, business and marketing advisers, wholesalers and retailers. Agribusiness will include the rural entrepreneur households existing in the Livelihood Zone, but also encompass other local, regional and national agribusiness.

⁸⁹ Principally Ministry of Agriculture (MAF) extension staff.

⁹⁰ Defined as: increased enterprise options and increased market access.

⁹¹ Defined as: the presence of necessary skills, trust and protocols.

⁹² Balanced decision making by women and men on the use of income and savings should result in families dedicating part of this to the purchase of foods that diversify and balance their diets. This improved food utilisation will contribute directly to Outcome 2.

⁹³ Particularly emphasising the importance of balanced time availability.

⁹⁴ Community-based organisations (CBO), local civil society organisations (CSO), international CSOs, academic institutions and private sector actors.

⁹⁵ See http://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/Guidelines_for_triggering_CLTS_0.pdf.

⁹⁶ These terms are used in line with DFAT's corporate M&E system standards (2.10).

⁹⁷ Including inputs provided by partners such as the Market Development Facility (MDF) and DFAT's broader nutrition program.

organisations engaged to conduct nutrition and food utilisation triggering. Defining the specific nature of these deliverables will be a focus of the inception phase. However initial suggestions include the following.

For Outcome One (Economic Opportunity):

1. Participatory assessment of local resource capability and constraints using a catchment based livelihoods approach;
2. Identification of those products and associated agricultural value chains with comparative market potential on which TOMAK will work;
3. Establishment of links with local service providers;
4. Improvement to the productive end of the value chains (inputs, production, harvesting, quality, scheduling, and on-farm storage) by enhancing the skills of commercial farmers/farmer groups. Opportunities for women's economic engagement must especially be provided;
5. Partnering with MDF in the provision of Business Development Services, and regional/national market linkages for producer groups; and
6. Galvanizing of market partnerships between farmer groups and local, regional and national agribusiness (inputs, services, transport, processing, storage, handling, wholesaling, and retailing activities).

For Outcome Two (Food Security and Nutrition)

1. Participatory food security and nutrition assessments for local communities that identify important gaps;
2. Identification of target communities and engagement strategy to address food security and nutrition gaps;
3. The participatory development of improved production, storage, preservation and marketing practices that ensure the year round availability of nutritious and sufficient food to meet food security and nutrition gaps;
4. Partnerships with local groups (MAF, MOH, NGOs, CBOs church) to implement practices to improve local food availability;
5. In association with other nutrition programs identify and refine integrated nutrition messages and delivery mechanisms (e.g. training, advocacy, mass media, cooking demonstrations etc.) necessary to trigger behaviour change related to improved food utilisation in local communities;
6. Partnerships with local groups (MAF, MOH, NGOs, CBOs church) to implement triggering activities within local communities; and
7. Promoting women's empowerment, improved decision-making power and time availability.

Key risks

The program management must be cognisant of risks that are implicit in the program logic. The key risks are listed below with respect to the program goal and outcomes—phrased as evaluation questions to be integrated into the M&E methods discussed below. The tracking of key risks is necessary to support learning, and to enable more meaningful interpretation of program performance data.

Risks to subsistence households (goal-level):

- Can the three categories of rural household be discerned?
- Are there sufficient 'aspiring commercial farmer' households in the target zone to warrant engagement?
- Are cultural values and household norms in relation to food and nutrition amenable to influence during the life of the program?
- Is there sufficient motivation among subsistence and aspiring commercial farmer households in the target zone to engage in program activities?
- Do subsistence and aspiring commercial farmer households in the target zone have the requisite resources, motivation (risk orientation) and skill to engage in nascent value chains?

Risks to agribusiness partnerships (economic opportunity outcome):

- Are there sufficient agribusinesses (including rural entrepreneurs) and service providers to make agricultural value chains viable?
- Is there sufficient commercial opportunity for agribusiness to engage with aspiring commercial farmers?
- Are aspiring commercial farm households able to provide the required quality and quantity of product to meet commercial expectations?
- Do MAF extension staff have the required resources, motivation and skill to engage in program activities?

Risks to demand-triggering partners (food security and nutrition outcome):

- Are there sufficient local partners to conduct the volume of nutrition triggering activities required to effect change?

- Are triggering activities effecting the desired behaviour changes?

Evaluability

A program design is said to be 'evaluable' insofar as the logic is plausible and coherent; and key stages in the change anticipated by the design are amenable to measurement. Correspondingly, M&E is challenging when the causality of the design is ambiguous, and when key changes anticipated by the design are amorphous.

A 'mind map' of the design is presented in [Figure 8](#) from an 'evaluability' standpoint. This exercise identified key issues that are likely to pose a challenge in operationalising M&E for TOMAK:

- The basis for distinguishing between the **categories of producer households** will require further definition (i.e. the characteristics of subsistence, aspiring commercial, and rural entrepreneurs).
- Methods to assess the nature and extent of **engagement by aspiring commercial households in selected value chains** will require further refinement.
- Methods to assess **changes in household food utilisation practices** are notoriously challenging (in terms of validity and reliability), and hence will require review and refinement during the inception phase.
- The notion of **'profitable and sustainable partnerships'** between aspiring commercial households and value chain actors is inherently amorphous and will require a raft of methods to interpret. This is especially challenging in the Timor-Leste context given the nascent nature of commercial value chains in rural areas.
- The design process identified a general lack of capacity in Timor-Leste in the food and nutrition sector. **'Locally relevant food utilisation partners' are not yet identified**, and so the definition of appropriate criteria and methods to assess the quality of nutrition and food utilisation triggering will require discussion and elaboration.

TOMAK's context is complex and dynamic, and hence the program design has accommodated a degree of flexibility. This necessitates an M&E system that is also be flexible, and in fact informs refinement and evolution of the design. In practice, this means that the M&E system itself must be reviewed and refined on an annual basis.

M&E methods

The following sections propose methods to assess TOMAK's progress and achievements to: i) enable learning (by DFAT, GoTL and civil society); ii) inform decision-making (by the program implementing team and DFAT); iii) support DFAT's corporate reporting and accountability obligations. The table below summarises the discussion which follows.

Table 9: M&E methods to be used in TOMAK

Logic	Method	Focus	Timing	Responsible	Audience
Goal	Secondary data assimilation	Broad changes in household economic status; comparison between target areas and national trends	Baseline; when available/ possible thereafter	M&E specialist/ researcher	DFAT
	Annual household case studies	Household knowledge and attitude re nutrition and food utilisation	Baseline, annual	M&E officers/ researchers	MoH, Program management, TRG
	WRA and child nutrition surveys	Changes in nutritional status of a cohort of WRA and children over the life of the program	Baseline, mid-term, end line	Trained enumerators	DFAT, TRG
Outcome 1	Private sector development surveys	Number and type of private sector actors engaged in priority value chains; factors influencing engagement and specifically WEE; commercial confidence	Baseline, annual	Trained enumerators	Program management, MDF, TRG
	Annual household case studies	Nature and extent of commercial partnerships; changes in household/ farm economy, changes in women's economic roles and opportunity.	Baseline, annual	M&E officers/ researchers	MAF, program management, MDF, TRG
	Environmental impact monitoring	Those issues that have been deemed to present a risk from adverse environmental impacts,	Case specific based on environmental assessment	Contracted monitoring	DFAT, GoTL, communities
Outcome 2	Farmer trials and actual production Annual household case studies	Change in year-round availability of targeted nutritious foods in household production and local markets. Changes in the work roles of women and men.	Baseline and annual	M&E officers/ researchers	MAF, MoH, program management, TRG

Logic	Method	Focus	Timing	Responsible	Audience
	KAP surveys; FGD	Efficacy of key messages and methods to 'trigger' households; the role and influence of men and women in households in behaviour change.	As required	M&E officers/researchers	MoH, Program management, CSOs, TRG
	Capability assessments	Local partners have increased skills and capacity to address food security and nutrition needs	Baseline and annual	M&E officers/researchers	MoA, MoH, CSOs, TRG

Goal-level M&E

TOMAK's M&E arrangements will employ multiple time-series datasets to assemble a narrative about the program's impact; using both primary and secondary data. Methods will focus on capturing evidence of household-level changes in the targeted Livelihood Zone.

An assimilation of **secondary data** (e.g. the GoTL's Household Income and Expenditure Survey; Food and Nutrition Survey, and MoH child stunting surveys) will be used to compare changes in the targeted Livelihood Zone with wider national trends. This assimilation of available data will be conducted early in implementation to establish the baseline; and then subsequently as GoTL data is made available during the life of the investment. GoTL data may be supplemented with studies by other development partners as available. The purpose of this exercise will be to understand the broader context, and test the ongoing relevance of TOMAK interventions.

In addition, **primary data** concerning goal-level changes will be captured through two methods:

- Annual household case studies (baseline + 4)
- WRA and child nutrition surveys (baseline, mid-term, end line)

The focus of annual **case studies** in the targeted Livelihood Zone will be to accrue nuanced information about social and economic changes emerging within sampled households—both in relation to improving economic opportunity and improving food security and nutrition⁹⁸. Case study questions will probe issues such as:

- Knowledge and attitudes of household members concerning dietary diversity and food utilisation key messages
- Changes in household expenditure on food (especially nutritious food items)
- Changes in household food production (quantity, type and value)
- Use of particular food storage and preservation methods
- The nature and influence of women's decision-making concerning household food intake
- The nature and extent of commercial partnerships with private sector actors
- Changes in farm input expenditure; and changes farm sales (type, quantity, value, location of sale etc.)
- The nature and extent of engagement in catchment management committees, and implementation of recommended natural resource management initiatives

Sample frame criteria for selecting the case study households will be agreed during the inception phase; as will the specific case study questions⁹⁹ and data collection tools. The number of households sampled will be determined by practicability, but should be sufficient to ensure that findings are indicative of dynamics in the target communities. The ethics and impost of annual interviews will be openly discussed with households as part of establishing the sample and method—since they will be subjected to five interviews over the life of the program.

⁹⁸ The issues for probing are drawn broadly from directions in the TOMAK design.

⁹⁹ The issues for probing will be elaborated and sharpened during the inception phase, drawing on economic analysis of the economic guidance on mainstreaming nutrition (see Annex 6).

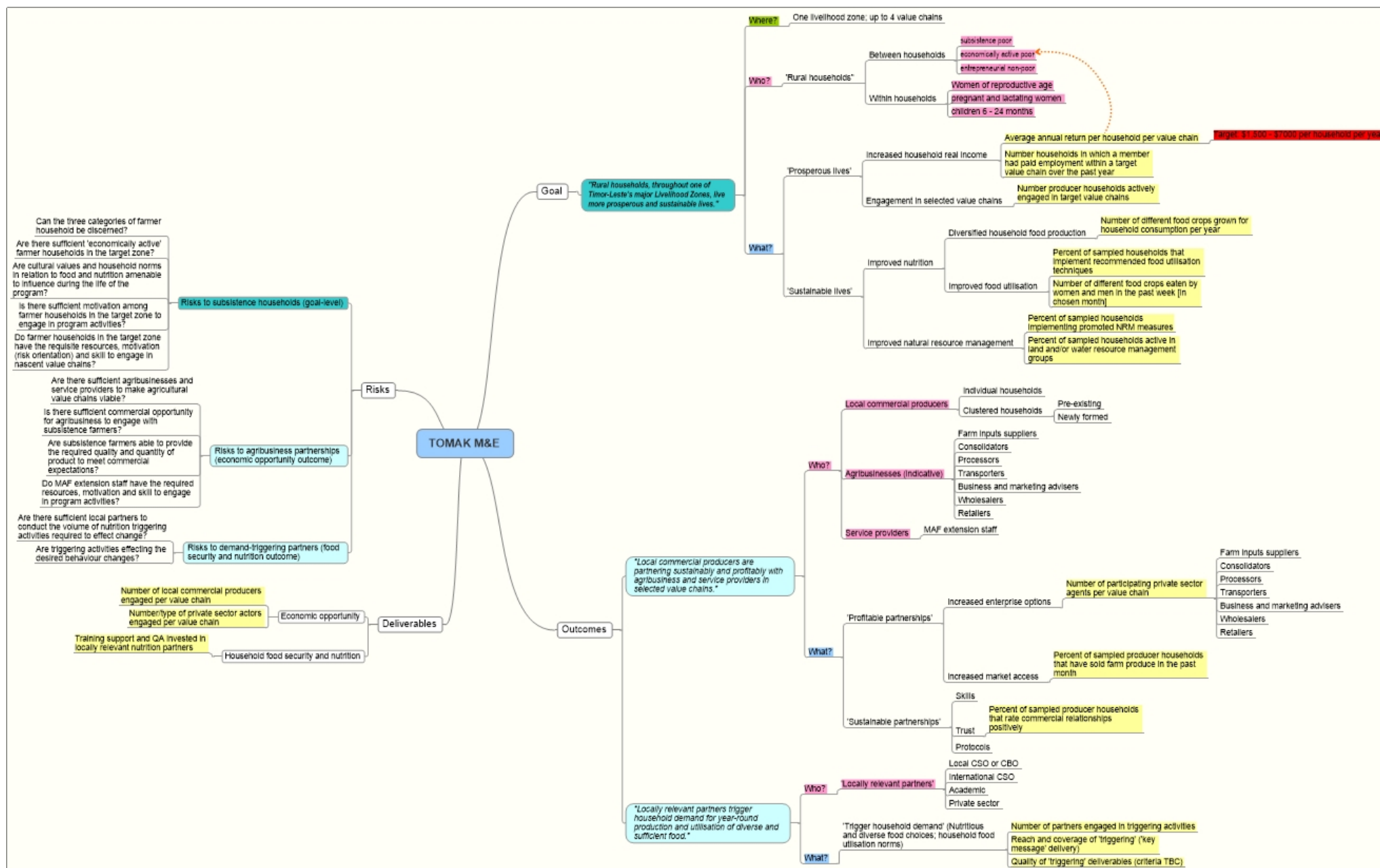


Figure 6: Mind map of TOMAK design from an 'evaluability' standpoint

WRA and child nutrition surveys will be conducted with a cohort of WRA and children over the life of the program to provide DFAT with specific insights into changes in nutritional status within a key beneficiary group. A sample¹⁰⁰ of WRA and children (aged between six and 24 months) will be recruited during the inception phase, and will be studied three times over the life of the program (i.e. baseline, mid-term and end line).

M&E of Outcome One

Specific methods to assess progress towards Outcome 1 will necessarily evolve during the inception phase following MDF's lead in studying technical, economic, social and environmental variables in candidate value chains within the target Livelihood Zone. Once priority value chains have been selected—and more nuanced information about actors in those value chains is available—appropriate M&E methods can be developed. It is likely that a private sector development survey will be employed to track changes in the number and type of private sector actors engaged in selected value chains; and factors that influence their involvement through time¹⁰¹. Established measures of 'market confidence' will also be tested for relevance. M&E methods associated with Outcome 1 will be guided by the DCED standard, which provides guidance for M&E of private sector development programs.

M&E of Outcome Two

M&E methods for Outcome 2 will focus on the messages and methods used by local implementing partners to increase the year round availability of nutritious food and trigger household demand. An appropriate mix of Knowledge Attitude Practice (KAP) surveys and focus group discussions (FGD) will be employed to test the relevance and efficacy of key nutrition and food utilisation messages among target households—inconsideration of gender, age and education. The timing and scope of these methods will be a management decision, influenced more broadly by the timing of large awareness campaigns for triggering drives.

Performance Oversight

A Technical Review Group (TRG) will be appointed to provide direction and oversight of the program. TRG missions will be scheduled at least twice-annually, and will coincide with (and benefit from) the generation of key M&E outputs such as the annual household case studies, and annual private sector development surveys. The TRG will draw on these M&E products to offer advice on improving the effectiveness and sustainability of interventions. The TRG may also be called upon by DFAT to appraise the quality of key deliverables of the program and to study the consequence of emerging risks.

An independent mid-term review (MTR) will be commissioned to test the ongoing relevance of the TOMAK design. This will be especially important given the dynamic and evolving context. A MTR team will comprise an evaluation specialist supported by relevant Government, technical and context specialists. The focus will be strategic and will complement rather than duplicate the work of the TRG; focussing particularly on high-level cross-cutting issues such as the likelihood of sustainability; the extent of gender empowerment; the extent of private sector development; medium-term economic prospects; ecological impacts; nutritional impacts etc.

As noted earlier, there will be an annual internal review and refinements of the M&E plan to ensure its ongoing relevance and to verify the rigor and economy of methods employed.

M&E resourcing and management

Investment in M&E will be in line with DFAT's M&E standards, covering:

- **Senior M&E expertise:** responsible for the M&E 'architecture' and for ensuring methodological rigor of methods/tools developed. Significant inputs are expected during the inception phase with intermittent inputs thereafter focussing on quality assurance, major studies, and annual reviews of the M&E arrangements.
- **Junior M&E expertise:** responsible day-to-day implementation of the M&E plan including: compiling monthly data on program deliverables, tracking risks, supporting/coordinating contracted researchers/enumerators.

¹⁰⁰ Sufficient for a confidence level of 90%.

¹⁰¹ The survey will supplement insights about household-level economic changes captured in the annual case studies (discussed in section 0).

- **Contracted enumerators/researchers:** trained individuals and/or local organisations engaged to carry out planned and ad hoc studies and surveys. TOMAK will also consider partnering with the SOSEK and the GIS teams in MAF, as resources for monitoring and evaluation, especially for conducting commissioned case studies.
- **Technical review group (TRG):** to provide technical guidance; appraising key program deliverables; study key emerging risks.
- **Independent evaluators:** specialists engaged to conduct key reviews commissioned by DFAT such as mid-term and completion reviews, with a focus on relevance, sustainability and key cross-cutting themes.

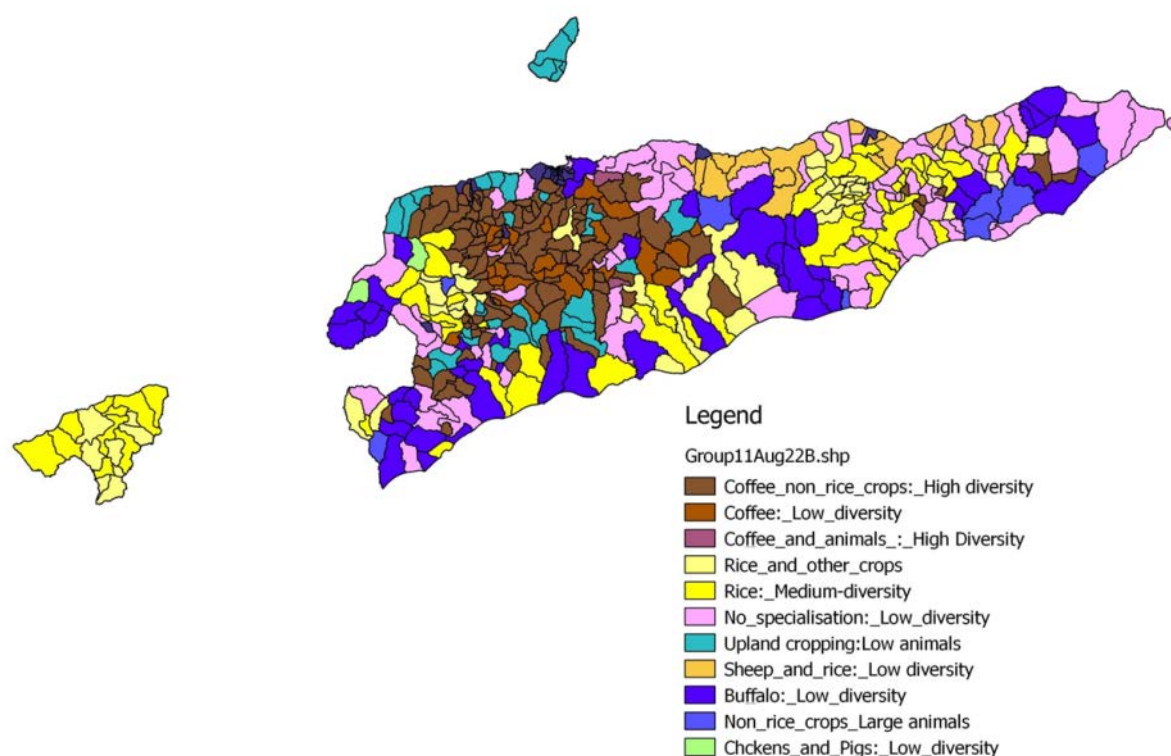
Budget will also be allocated to support the appropriate communication and dissemination of M&E findings to a broader audience in Timor-Leste, including for policy advocacy and public diplomacy.

An early deliverable during the inception phase will be the Results Framework and M&E Plan that elaborates the methods proposed in this design, and refines the timing and focus of key M&E products.

Annex 5 Livelihood Zones and Beneficiary Engagement

Timorese households depend on a diverse mix of subsistence and economic activities that vary according to factors such as climate and location. The new program needs to therefore define a simple typology that appropriately groups the major Timorese rural Livelihood Zones. Planned interventions can then be tailored to each Livelihood Zone, rather than - more conventionally, but less effectively - being defined by political/administrative boundaries. Initial work on a cluster analysis of current Livelihood Zones is already showing good results (Figure 9).

Figure 7: Clustering of similar Suku livelihoods (based on census data)



The clustering of the Sukus resulted in the definition of 11 groups that maintains 86 per cent of the original variation. The largest group has 106 Sukus and 187,000 people. There are two small groups, each of two Sukus.

Each of the 11 groups has been given a description. In general the description includes the dominant feature of that group, and some comment on the level of diversity within that group.

Three of the 11 groups have the majority of households growing coffee, and includes 33 per cent of the population. In these areas, more than 60 per cent of households grow coffee, which is above the average of 44 per cent of households growing coffee. The 3 groups can be further described as follows: one with relatively low diversity, the second with relatively high diversity, and the third is a very small group consisting of only 2 Sukus. This small group is unique in having high levels of chicken, pigs and coconut also in the Suku.

Rice cropping dominates another set of three groups with one group showing high diversity, another with medium diversity and the third with high sheep ownership level. All the 14 Sukus with high sheep ownership are based on the north coast, in Manatuto and Baucau. This is the driest part of the country, and seems to be suitable for sheep production. Rice production is spread throughout the country, from the western border with West Timor, the Maliana plain, irrigation areas on the south coast, the Baucau-Viqueque transect and elevated areas in the Municipality of Los Palos. Overall these three rice Zones cover 229,000 people (28 per cent of the population).

Among the 11 groups, two seem to have higher numbers of large animals than other groups. One group (8 Sukus) has more cows than average, and the second (48 Sukus) has more buffalo than other groups. These Sukus tend to occur in the far east end of the country, and are more common in non-rice areas on the south coast.

One of the groups (73 Sukus) seems to have no specialisation, and below average participation in almost all commodities. In this group a low 32 per cent percent of households grow maize, compared to the national

average of 88 per cent. Household in these Sukus seem to have livelihoods that are not included in the census information and rely on non-agriculture sources of income. For those households living on the coast, that would likely be fishing and firewood collection. Other income streams not collected in the data include production and sales of crops like tobacco and betel nut and palm wine.

A smaller group (32 Sukus) has an average level of non-rice cropping, but has fewer animals than the average. These areas include the island of Atauro, and quite a few Sukus bordering on coffee based Sukus. The low number of households with animals is a major feature of this group.

Finally there is small group (two Sukus both in the north east of the country) that have very high chicken and pig numbers per household.

It is planned to now expand the initial data set used to develop the above classification. New statistics will include climatic, topographical, elevation, ethno-linguistic, income, expenditure and infrastructure data. Zones of similar Sukus should then become evident – and thus allow the new program to have a much more tailored/nuanced approach to its planned engagements. This typology should not only offer a unique targeting mechanism for Australia's future assistance, but - if found to be sufficiently robust – should also be a significant development tool for GoTL, and other development partners.

The focus on the major Livelihood Zones - particularly those with obvious potential for significant growth - should ensure that Australian assistance remains both focused and scalable. This is especially necessary given that the scope of the interventions will depend on budget availability.

Further work is now needed to define the selection criteria for the target Livelihood Zones. Logic suggests, however, that such criteria might include the following:

- A significant percentage of rural households are engaged in the Livelihood Zone;
- there is obvious capacity to significantly improve the system's resilience (especially production variability), by reducing its susceptibility to climate variability and disaster;
- there is scope within the system to positively influence the current status of family wellbeing and nutrition;
- there is also scope to significantly improve household access to resources, services and markets, and thereby stimulate greater agricultural productivity; and
- there is opportunity for significant growth in rural incomes through the development of a wider range of economic enterprises.

Household Engagement



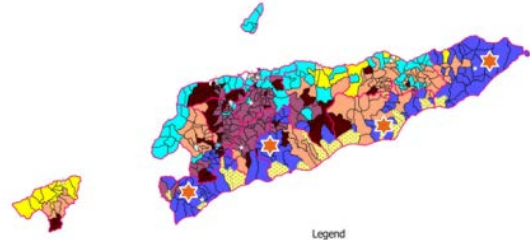
Within each of the chosen Livelihood Zones TOMAK will identify the three to five most profitable agricultural value chains available. Target beneficiaries who wish to engage in these value chains will be categorised using the following broad typology:

1. The poorest and most vulnerable – these households will be formed into groups to receive the skills and capacity to commence small scale commercial production. However, this will occur in parallel with support under Outcome 2 (focused on better subsistence farming, food security and nutrition strategies).
2. Aspiring commercial farmers: TOMAK will work with these households both independently and collaboratively to improve their commercial farming performance. They will also receive support under Outcome 2 related to healthy nutrition.
3. Emerging Private Sector Leaders: this will enable individual entrepreneurs, cooperative groups (e.g. *SoL* Community Seed Producer Groups), and those working as market intermediaries to develop commercial production and marketing partnerships and relationships. This group will be a key source of information and linkage for aspiring commercial farmers. In addition, as commercial enterprises evolve, employment opportunities will emerge for both the above groups.

TOMAK proposes a tailored approach to engagement based on these three beneficiary groups and ensure activities are focused on a logical development pathway for each, including advancement through each group.

Annex 6 Comparison of TOMAK prioritised Livelihood Zones

The following table compares the three priority Livelihood Zones identified by TOMAK. After consultation within the Australian aid program and with the GoTL the initial focus for TOMAK will be the inland (irrigable) watersheds.

	HIGH ALTITUDE UPLANDS	INLAND (IRRIGABLE) WATERSHEDS	SOUTHERN RAINFED AREAS
LOCATION	 <p>Legend</p> <ul style="list-style-type: none"> 1. Northern coastal lowlands 2. Inland irrigable watersheds 3. Southern coastal lowlands 4. Upland low altitude 5. Upland high altitude 6. Northern rainfed 7. Southern rainfed <ul style="list-style-type: none"> • Ermera, Aileu and Ainaro, with pockets in other Municipalities. • Concentration in only one area of the country. 	 <p>Legend</p> <ul style="list-style-type: none"> 1. Northern coastal lowlands 2. Inland irrigable watersheds 3. Southern coastal lowlands 4. Upland low altitude 5. Upland high altitude 6. Northern rainfed 7. Southern rainfed <ul style="list-style-type: none"> • Maliana basin; eastern mountain regions of Baucau, Luro and Viqueque, and elevated area of Oecussi. • Interventions in four key areas spanning the country (greater presence and spread) 	 <p>Legend</p> <ul style="list-style-type: none"> 1. Northern coastal lowlands 2. Inland irrigable watersheds 3. Southern coastal lowlands 4. Upland low altitude 5. Upland high altitude 6. Northern rainfed 7. Southern rainfed <ul style="list-style-type: none"> • South coast and the eastern end of Timor-Leste, especially Covalima, Ainaro, Manufahi, Baucau and Lautem. • Interventions in four key areas spanning the country (greater presence and spread)
DEMOGRAPHY	<ul style="list-style-type: none"> • Highest population density, and second highest total population (166,389) of all seven Livelihood Zones • 86 sukus 	<ul style="list-style-type: none"> • High population (146,063) • 82 sukus 	<ul style="list-style-type: none"> • Most people (173,720) of all seven Livelihood Zones • 91 sukus
CLIMATE	<ul style="list-style-type: none"> • High altitude (>900m) • High rainfall, often with steep slopes. 	<ul style="list-style-type: none"> • Reasonable rainfall. Still cooler than the coastal regions. Has irrigation allowing for diversification. 	<ul style="list-style-type: none"> • Longer wet season for crops, forages, pastures and trees.

	HIGH ALTITUDE UPLANDS	INLAND (IRRIGABLE) WATERSHEDS	SOUTHERN RAINFED AREAS
ACCESS	<ul style="list-style-type: none"> • Close to Dili with good access to major town through upgrades to Dili Ainaro corridor. • Road access off major trunk roots is limited especially during the wet season 	<ul style="list-style-type: none"> • Reasonable road access but more spread out. Difficulty during the wet season. • Roads for Development in most areas 	<ul style="list-style-type: none"> • Most remote and often difficult access.
SOCIAL	<ul style="list-style-type: none"> • Low literacy rates, and very low access to health services, sanitation and water. 	<ul style="list-style-type: none"> • Low access to health services, improved water and sanitation. • Lowest asset index. • Some of the larger BESIK systems. 	<ul style="list-style-type: none"> • Low access to services such as health, electricity and sanitation.
CURRENT LIVELIHOODS	<ul style="list-style-type: none"> • More than 50 per cent of HH grow coffee - particularly of the arabica variety - with a low diversity of other crops and livestock. • Farming features maize and cassava and a few pigs and chickens 	<ul style="list-style-type: none"> • More than 35 per cent of HH grow rice. • Good diversity of other crops and livestock (buffalo). 	<ul style="list-style-type: none"> • Low levels of diversity of its farming systems • Compared with irrigated suku lower frequency of all crop and livestock commodities, except for horses. • Very few households grow rice, and less than half grow maize, cassava or vegetables.
ECONOMIC OPTIONS	<ul style="list-style-type: none"> • Many private sector players established in traditional crops e.g. coffee • Increased production of more temperate crops such as brassicas, tomatoes and off-season vegetables, sub-tropical fruits • A range of agroforestry options including coffee intensification, fuel wood production, and tropical and sub-tropical tree crop production (cocoa, citrus, cloves). 	<ul style="list-style-type: none"> • Reasonable private sector engagement • Inclusion of commercial legume crops (such as mung bean, soybean and peanuts) into either the dryland corn, or the irrigated rice rotations; • The expansion and use of irrigation for off-season vegetable production; • Significant escalation of pig and cassava production; and • The inclusion of aquaculture. 	<ul style="list-style-type: none"> • Poor private sector engagement • Larger farm areas and “Indonesia” lots • Increased Bali cattle production • Significant escalation of pig and cassava production • A range of agroforestry options such as timber and fuel wood production

	HIGH ALTITUDE UPLANDS	INLAND (IRRIGABLE) WATERSHEDS	SOUTHERN RAINFED AREAS
NUTRITION	<ul style="list-style-type: none"> • Opportunity to supplement and diversify subsistence diet. Households struggle to source sufficient protein. 	<ul style="list-style-type: none"> • Opportunity to supplement and diversify subsistence diet. 	<ul style="list-style-type: none"> • Opportunity to supplement and diversify subsistence diet.
SUMMARY	<ul style="list-style-type: none"> • Significant seasonal advantages for cool climate crops • Heavy presence of the new USAID Avansa Agrikultura project in horticulture (fruit and vegetables) • TOMAK would be concentrated in one area of the country that is already heavily serviced. 	<ul style="list-style-type: none"> • Best opportunity for short term wins • Significant opportunities for TOMAK to diversify and improve irrigated farming systems. • TOMAK would be well spread including key areas of Oecussi, Maliana and Baucau. • Aligns with the Ramoco Pilot Project • Need to stage engagement over time. 	<ul style="list-style-type: none"> • Solid but longer-term opportunities for larger scale commercial agriculture and contract farming.

Annex 7 Mainstreaming Nutrition

TOMAK will use a **nutrition-sensitive agriculture¹⁰² (NSA) approach** to ensure that both Outcome 1 (Economic Opportunity) and Outcome 2 (Household Food Security and Nutrition) contribute to better nutrition. The NSA approach aims to maximise the impact of nutrition outcomes, while minimising the unintended negative nutrition consequences of agricultural interventions and policies on the poor, especially women and young children.

In line with international best practice of focusing on nutrition of infants and young children in the first 1,000 days (conception to 2 years), TOMAK has an intention to achieve nutrition results for **women of reproductive age (WRA, aged 15 to 49 years) and children(aged 6 to 23 months)**. This group of individuals is referred to as the 'nutrition target group'¹⁰³, and is a subset of TOMAK beneficiaries. That is, they are individuals within households that TOMAK will work with.

This Annex is structured into three parts: First, it outlines the nutrition situation in Timor-Leste; secondly, it provides the rationale for a nutrition-sensitive approach in TOMAK; and thirdly, it outlines TOMAK's approach to improve nutrition.

The Situation

Despite significant progress to combat under-nutrition in Timor-Leste, results of the Timor-Leste Food and Nutrition Survey (TLFNS, 2013)¹⁰⁴, indicate that under-nutrition (specifically, stunting, under-weight and some micronutrient deficiencies in particular, anaemia) in women and children continues to be a major development issue across all Municipalities. The results also indicate that the prevalence of over-nutrition (particularly over-weight) in women of reproductive age (WRA) has tripled since 2003¹⁰⁵, raising concerns of an emerging double burden of malnutrition (DBM) where over and under-nutrition co-exist within the same population.

Malnutrition is widespread across Timor-Leste, independent of income and location. While the prevalence of stunting and under-weight reduces as incomes rise, the prevalence of stunting, even among wealthier quintiles, is still classified as 'very high'¹⁰⁶, representing a national public health problem¹⁰⁷ and in fact, the prevalence of anaemia and wasting is actually more widespread in the wealthier quintiles¹⁰⁸.

Children under 5 years (U5)

Wasting (termed '*krekas*' in Tetum) is a sign of acute malnutrition (WHZ/WLZ<-2) and often coupled with infection or disease. Severe wasting increases a child's risk of dying, their susceptibility to infectious disease and the duration and severity of the infection¹⁰⁹. In non-emergency situations where endemic malnutrition is common, moderate wasting often co-exists with stunting in the same child¹¹⁰.

With the exception of Bobonaro, Oecussi, and Covalima, the prevalence of wasting in children (U5) has declined from critical levels (above 15 per cent) in 2009/10 to prevalence's classified as 'serious' (10-14 per cent) in Liquica, Manatuto and Dili and 'poor' (5-9 per cent) in the remaining Municipalities. Lautem has the lowest

¹⁰² World Bank, Rapid Social Response, DFID, Government of Japan, 2013. [Improving Nutrition through Multisectoral Approaches: Agriculture and Development](#)

¹⁰³ We use the Scaling Up Nutrition (SUN) movement definition of 'targeting' here, where we target *individuals*, though actions may be targeted at households, communities or nations. That is, if we target 'children under 2', we will have an intention to achieve and measure results with this group.

¹⁰⁴ Timor-Leste Food and Nutrition Survey, 2013

¹⁰⁵ Ministry of Health and National Statistics Office, Timor-Leste and the University of Newcastle, The Australian National University, ACIL Australia PTY LTD. Timor-Leste Demographic and Health Survey, 2003

¹⁰⁶ World Health Organization (2010) Nutrition Landscape information System (NLIS). Country Profile Indicators. Interpretation Guide

¹⁰⁷ Timor-Leste Food and Nutrition Survey, 2013

¹⁰⁸ Ibid

¹⁰⁹ Black RE, Victora CG, Walker SP, Bhutta ZA, Christian P, de Onis M, Ezzati M, Grantham-McGregor S, Katz J, Martorell R, Uauy R; Maternal and Child Nutrition Study Group. Maternal and child under-nutrition and over-weight in low-income and middle-income countries. *Lancet*. 2013 Aug 3; 382(9890):427-51. World Health Organization (2010) Nutrition Landscape information System (NLIS). Country Profile Indicators. Interpretation Guide

¹¹⁰ Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? Prof Zulfiqar A Bhutta PhD, Jai K Das MBA, Arjumand Rizvi MSc, Michelle F Gaffey MSc, Neff Walker PhD, Prof Susan Horton PhD, Prof Patrick Webb PhD, Prof Anna Lartey PhD, Prof Robert E Black PhD, *The Lancet* The Lancet - 3 August 2013 (Vol. 382, Issue 9890, Pages 452-477) DOI: 10.1016/S0140-6736(13)60996-4

prevalence (5 per cent) while the highest prevalence is in Oecussi where nearly 1 in 5 (19.8 per cent) children are wasted¹¹¹.

Stunting (termed '*isin-ki'ik*' in Tetum) is an indicator of chronic nutritional deprivation (HAZ/LAZ<-2) causing impaired skeletal growth and increasing the risk of delayed cognitive development, poor school performance and reduced intellectual capacity¹¹²; affecting income earning ability and economic productivity¹¹³.

A stunted child is more likely to become a stunted adult or a woman of short stature (<145cm). Women who are short are at greater risk of maternal mortality, dystocia (obstructed labour) and delivering a low birth weight (LBW) infant or a premature baby, which, in turn contributes to the intergenerational cycle of under-nutrition apparent in Timor-Leste¹¹⁴.

Nationally, the prevalence of stunting in children (U5) has decreased from 58 per cent in 2009/10 to 50 per cent in 2013. Aileu is the only Municipality which has not demonstrated a downward trend in stunting¹¹⁵. Despite this progress, the prevalence of stunting across every Municipality remains 'very high' (≥ 40 per cent)¹¹⁶. Given the short and long term intergenerational consequences of stunting, there is still an urgent need to prevent and control stunting in Timor-Leste. This is a national priority as outlined in Pillar 2 of the PAN-HAM-TIL which calls for zero stunted children aged 0 to 23 months by 2025¹¹⁷.

Both the Demographic and Health Survey (DHS) of 2009/10 and the TLFNS of 2013 indicate that stunting is higher in boys than girls; more common in rural than urban children; more common in children of mothers who are under-weight (BMI< 18.5) than mothers who are over-weight (BMI>25); and more common in women in the lowest wealth quintile and who have completed fewer years of education^{118,119}.

Both surveys demonstrate that stunting is apparent in children less than 6 months of age and the 2009/10 DHS reports that stunting is more common in children who were reported to be small at birth (LBW) than normal birth weight babies, thus supporting the intergenerational nature of under-nutrition in Timor-Leste.

Women of Reproductive Age

Similar to trends in other countries in the region, the prevalence of **under-weight** in women of reproductive age (WRA) is decreasing in Timor-Leste¹²⁰. There are some Municipalities however, where the prevalence has increased since 2009/10 (namely Ermera, Ainaro, Manatuto, Aileu and Baucau)^{121, 122}.

Following a similar trend to other developing countries in the region, the prevalence of **over-weight** in WRA is increasing across all Municipalities in Timor-Leste. Two in every 10 women in Dili are over-weight (BMI \geq 25) and the national prevalence has tripled since 2003¹²³. Preventing and controlling the growing burden of over-weight and subsequent nutrition related chronic disease and other morbidities is essential. The DBM is already an issue in many other developing countries in the region such as Indonesia where 33 per cent of WRA and 12 per cent of children (U5) are over-weight and under-nutrition in both groups still persists¹²⁴.

¹¹¹ Timor-Leste Food and Nutrition Survey, 2013

¹¹² Prado E.L & Dewey K.G (2014) Nutrition and brain development in early life. In Nutrition Reviews® Vol. 72(4):267–284

¹¹³ Hoddinott et al (2011). Consequences of early childhood growth failure over the life course. IFPRI Discussion Paper 01073 March 2011

¹¹⁴ Black RE, Victora CG, Walker SP, Bhutta ZA, Christian P, de Onis M, Ezzati M, Grantham-McGregor S, Katz J, Martorell R, Uauy R; Maternal and Child Nutrition Study Group. Maternal and child under-nutrition and over-weight in low-income and middle-income countries. Lancet. 2013 Aug 3; 382(9890):427-51.

¹¹⁵ Timor-Leste Food and Nutrition Survey, 2013

¹¹⁶ World Health Organization (2010) Nutrition Landscape Information System (NLIS). Country Profile Indicators. Interpretation Guide

¹¹⁷ National Council for Food Security, Sovereignty and Nutrition in Timor-Leste (KONSSANTIL), 2014 Zero Hunger Challenge. National Action Plan for a Hungry and Malnutrition Free Timor-Leste

¹¹⁸ Timor-Leste Demographic and Health Survey, 2009/10

¹¹⁹ Timor-Leste Food and Nutrition Survey, 2013

¹²⁰ Noting that the 2009/10 survey measured WRA (aged 15 to 49 years), whereas the 2013 survey measured non-pregnant women (aged 14 to 60 years).

¹²¹ Timor-Leste Demographic and Health Survey, 2009/10

¹²² Timor-Leste Food and Nutrition Survey, 2013

¹²³ Ministry of Health and National Statistics Office, Timor-Leste and the University of Newcastle, The Australian National University, ACIL Australia PTY LTD. Timor-Leste Demographic and Health Survey, 2003

¹²⁴ Shrimpton, Roger; Rokx, Claudia. 2013. The double burden of malnutrition in Indonesia. Washington DC; World Bank Group. <http://documents.worldbank.org/curated/en/2013/11/18599764/double-burden-malnutrition-indonesia>

Micronutrient deficiencies

The TLFNS 2013 measured zinc and vitamin A deficiency in children (aged 6-59 months) and vitamin A and iodine deficiency in women. While the prevalence of vitamin A deficiency is classified as 'mild'¹²⁵ in children at 8.7 per cent¹²⁶, in WRA the prevalence is 14 per cent¹²⁷, representing a 'moderate' public health issue¹²⁸. 27 per cent of women are iodine deficient and 34 per cent of children deficient in zinc¹²⁹. Improving dietary diversity can prevent and control these micronutrient deficiencies.

Data on anaemia in children (6-59 months) from the 2013 TLFNS, indicates an increased prevalence since 2009/10 across all Municipalities except Manatuto, with prevalence classified as 'critical' (>40 per cent)¹³⁰ in all Municipalities. In all Municipalities, again, except Manatuto, the TLFNS data indicates that the prevalence of anaemia in WRA has also increased¹³¹.

Improving access to a year round supply of a range of foods and improving the utilisation of a more diverse diet to ensure that high and low bio-available (haem and non-haem) iron foods sources are consumed regularly with each meal and that food substances that inhibit the uptake of iron (e.g. tannins) are not consumed with meals is important to prevent and control anaemia. However, because there are several other causes of anaemia, multi-faceted, integrated approaches are needed. Non-dietary prevention measures include regular deworming and appropriate hygiene and sanitation interventions to prevent helminthic infestations, preventing and controlling malaria through the distribution and use of insecticide treated bed-nets (ITNs) and appropriate malaria treatment, delayed cord clamping, and preventative iron/folic acid supplementation for pregnant women and WRA.

Dietary intake

The World Health Organisation (WHO) recommends early initiation of breastfeeding within one hour of birth, exclusive breastfeeding until 6 months and continued breastfeeding until two years or more. The protection, promotion and support of breastfeeding is one of the package of ten interventions which if scaled up, can reduce child mortality by nearly 15 per cent (i.e. 1 million lives saved worldwide)¹³².

Breastfeeding within 24 hours of birth is associated with a 44-45 per cent reduction in all-cause and infection related neonatal mortality and the earlier the initiation, the lower the risk¹³³. Timor-Leste has one of the highest rates of **early initiation of breastfeeding** (within the first hour of birth) in the region. Since 2003 rates have increased from 47 per cent to 93 per cent in 2013.

Breastfeeding exclusively for the first six months is all an infant requires before complementary foods are introduced at six months. Exclusive breastfeeding (EBF) to six months reduces the incidence and mortality associated with infectious diseases. In 2013, 62 per cent of children (<6 months) were exclusively breastfed in Timor-Leste, indicating an improvement of 10 per cent since 2009/10 and similar rates to other countries in the region. However, by the age of 5 months the prevalence of EBF is only 37.6 per cent, indicating that complementary foods are introduced too early for many children in Timor-Leste.

In addition to the timely introduction of complementary foods at six months of age, WHO recommends continued breastfeeding to at least two years of age. One third of a child's energy requirements are derived from breast milk from 12 months of age and breast milk continues to provide protection against infections such as diarrhoea and pneumonia. A recent study has confirmed that breastfeeding is associated with improved intellectual performance 30 years later, and children who are breastfed for longer may have better educational outcomes and thus income in adulthood¹³⁴.

¹²⁵ World Health Organization (2010) Nutrition Landscape information System (NLIS). Country Profile Indicators. Interpretation Guide

¹²⁶ Timor-Leste Food and Nutrition Survey, 2013

¹²⁷ Timor-Leste Food and Nutrition Survey, 2013

¹²⁸ World Health Organization (2010) Nutrition Landscape information System (NLIS). Country Profile Indicators. Interpretation Guide

¹²⁹ Timor-Leste Food and Nutrition Survey, 2013

¹³⁰ Timor-Leste Food and Nutrition Survey, 2013

¹³¹ Ibid

¹³² Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? Zulfiqar A Bhutta, Jai K Das, Arjumand Rizvi, Michelle F Gaffey, Neff Walker, Susan Horton, Patrick Webb, Anna Lartey, Robert E Black, The Lancet - 3 August 2013 (Vol. 382, Issue 9890, Pages 452-477) DOI: 10.1016/S0140-6736(13)60996-4

¹³³ Owusu-Agyei and Betty R. Kirkwood Karen M. Edmond, Charles Zandoh, Maria A. Quigley, Seeba Amenga-Etego, Seth. Owusu-Agyei and Betty R. Kirkwood. Delayed Breastfeeding Initiation Increases Risk of Neonatal Mortality Paediatrics 2006;117:e380 DOI: 10.1542/peds.2005-1496

¹³⁴ Cited 27/03/2015 at: [http://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(15\)70002-1/abstract](http://www.thelancet.com/journals/langlo/article/PIIS2214-109X(15)70002-1/abstract)

While 73.9 per cent of children (aged 12-15 months) are still breastfed, the percentage drops significantly by 20 to 23 months when only 38.7 per cent are still breastfed. Compared with other countries in the region this is low and an area requiring improvement.

Complementary feeding refers to the timely introduction of safe, nutritious foods in addition to breast milk from six months of age to 23 months and beyond. Significant associations exist between appropriate complementary feeding practices and reduced stunting. Analysis of DHS data from 11 countries used to create a dietary diversity score based on seven food groups, showed that improved dietary diversity was positively associated with reductions in stunting in 9 of the 11 countries¹³⁵. A study of 14 DHS data sets from low income countries, indicated that improved dietary diversity reduces the risk of both stunting and being under-weight, whereas minimum meal frequency was associated only with a lower risk of being under-weight (WAZ < -2)¹³⁶.

Anecdotal evidence and survey results indicate the imperative in Timor-Leste to find innovative and effective ways to protect, support and promote appropriate complementary feeding practices, particularly in the 6 to 23 month period when appropriate linear growth is essential to prevent stunting and wasting.

Results from the TLFNS 2013 indicate that **37.2 per cent of children (aged 0 to 23 months) are stunted** and **63.5 per cent of children (aged 26 to 59 months) are stunted** when already some of the damage caused by chronic under-nutrition is difficult to reverse. The EBF and complementary feeding period (0 to 23 months) is the 'window of opportunity' to ensure adequate infant and young child feeding practices are in place to prevent delayed linear growth and the subsequent long-term and irreversible effects of stunting.

Similarly, even though data on low birth weight is not reliable (only 24 per cent of birth weights are recorded), DHS data indicates that delayed skeletal growth is apparent even in children less than 6 months, indicating that poor nutrition and growth restriction in pregnancy, and/or suboptimal breastfeeding practices in the first 6 months, is common. Without doubt, promoting nutritionally adequate diets for WRA including, pre-pregnancy and during pregnancy; and protecting, promoting and supporting appropriate breast feeding and complementary feeding practices in Timor-Leste is essential.

The TLFNS (2013) indicates that grains/roots and tubers make up the bulk of the diet, with 99 per cent of children receiving these frequently. 79 per cent of children (aged 6 to 23 months) met the **minimum meal frequency**, whereas only 27.5 per cent met the **minimum dietary diversity**. Overall, only 17.6 per cent of children (aged 6 to 23 months) in Timor-Leste met the requirements of a **minimum acceptable diet**¹³⁷. Only 14.9 per cent of children from rural areas met the criteria compared with 24.8 per cent in urban areas¹³⁸.

Knowledge, practices and attitudes (KAP) about nutrition in Timor-Leste

Limited data is available on household nutrition knowledge and practices in Timor-Leste. However, anecdotal evidence suggests that knowledge of nutrition, contemporary feeding practices and the consequences of poor nutrition is low.

In 2013, CARE International conducted a study on food habits in three Sukus (in the Municipalities of Liquica and Ermera)¹³⁹. The study was conducted to gain an insight into the social factors (including traditional and cultural practices, behaviour's and beliefs) that may affect nutritional status. Key results included:

- a full meal is a large quantity of rice or maize ('*hahan*'). Side dishes ('*modo*'), if available, are not considered as important as '*hahan*';
- rice has a higher status value than maize which is often stigmatized to reflect 'lack of resources' or being 'rural';
- consumption of meat is mostly associated with traditional ceremonies and rituals;
- the 'convenience' of food stuffs is a strong determinate of food choice;

¹³⁵ Airmond, M., and Ruel, MT (2004). Dietary diversity is associated with child nutritional status; evidence from 11 demographic and health surveys. *J Nutr* 134(10):2579-2585. Available at : <http://jn.nutrition.org/content/134/10/2579.full.pdf+html>

¹³⁶ Marriott BP, White A, Hadden L, Davies JC, Wallingford JC. World Health Organization (WHO) infant and young child feeding indicators: associations with growth measures in 14 low-income countries. *Maternal and Child Nutrition* 2012; 8: 354-70. DOI: 10.1111/j.1740-8709.2011.00380.x Available at: <http://onlinelibrary.wiley.com/doi/10.1111/j.1740-8709.2011.00380.x/pdf>

¹³⁷ Timor-Leste Food and Nutrition Survey, 2013

¹³⁸ Ibid

¹³⁹ An approach to the food habits of three communities in Timor-Leste- Final report (2013): Care International Timor-Leste. Available at <http://www.care.org.au/document.doc?id=1400>

- the nutritional value of foods and/or their health benefit is not a strong consideration in food choices or linked to nutritional know how. Foods are classified in binary terms such as 'hot or cold foods' and 'soft or hard foods' and the binary system determines whether a food is appropriate for the particular age group or status (e.g. pregnant and lactating women);
- animistic beliefs and lineage systems are strong drivers of food choice; and
- women and children are recognised as vulnerable groups and in need of special nutritional care but the choice of foods consumed by these groups is not underpinned by a scientific or nutritional rationale.

Similarly, the results of the 2007 *Timor-Leste Asistencia Integrada Saude* (TAIS) community consultation on child health¹⁴⁰ revealed that the most common complementary food is watery plain white rice porridge ('*sosara*') because it is 'easier for children to eat'. Non-scientific beliefs influence infant and young child feeding practices (e.g. dark green leafy vegetables cause diarrhoea in children; breastfeeding should cease during illness; and 'nutritious foods are more expensive and difficult to prepare').

In addition, a recent study conducted by Monash University in 2014 on poverty and the agricultural household in Timor-Leste¹⁴¹ made the following conclusions:

- income sources affect food intake and providing improved access to local markets for local produce is key to improving food consumption and dietary diversity;
- understanding the decision making powers within the household is critical to understanding the links between income and consumption. For example, with the emerging middle-income class in Timor-Leste, there is a risk that imported, processed foods which often symbolise economic success are purchased at the expense of more nutritional local foods;
- for poorer families, increased income does not necessarily result in improved household intake of nutritional foods; and
- when income increases in higher income households, more money is spent on food, and the diet changes from mostly staple foods to a diet with less staple foods and larger amounts of non-cereal foods such as other vegetables, meat and fish.

Further supporting these findings, a recent baseline study for the project, Combating Malnutrition and Poverty through Aquaculture in Timor-Leste (COMPAC-TL)¹⁴², across six Municipalities found that:

- a high income does not guarantee food security;
- dietary diversity does not relate to the level of income;
- better food security does not mean a high dietary diversity; and
- ownership of paddy fields does not mean a higher dietary diversity.

In addition, the results indicated that over half the households surveyed suffered food shortages throughout the year for an average of 1.96 months. The most common months were January to March. The most common coping mechanisms included reducing the meal size, consuming less preferred foods and reducing the number of meals. The survey also showed that the motivation to grow vegetables was not driven by their nutritional value but the saleability of the vegetables and taste preference. Respondents on the other hand knew the health benefits of consuming fish and considered aquaculture on their own farm as the most effective way of increasing consumption. One of their recommendations of this survey was to ensure that programs include activities that raise the awareness and understanding of the nutritional benefits of different foods for different age groups.

Rationale for a nutrition-sensitive approach in TOMAK

Improving nutrition is key to improving economic development and productivity in Timor-Leste. If not addressed, nutritional deprivation leading to chronic under-nutrition can have intergenerational impacts, including poor

¹⁴⁰ Community Consultation on Child Health Practices in Timor-Leste (2007); Timor-Leste Asistencia Integrada Saude (TAIS), United States Agency for International Development (USAID) and MoHTL Available at <http://www.comminit.com/?q=early-child/node/277361>

¹⁴¹ Monash Centre for Development Economics and Sustainability. Research Paper Series on Timor-Leste. RP-TL1. Poverty and the Agricultural Household in Timor-Leste: Some patterns and Puzzles. Research Report June 2014

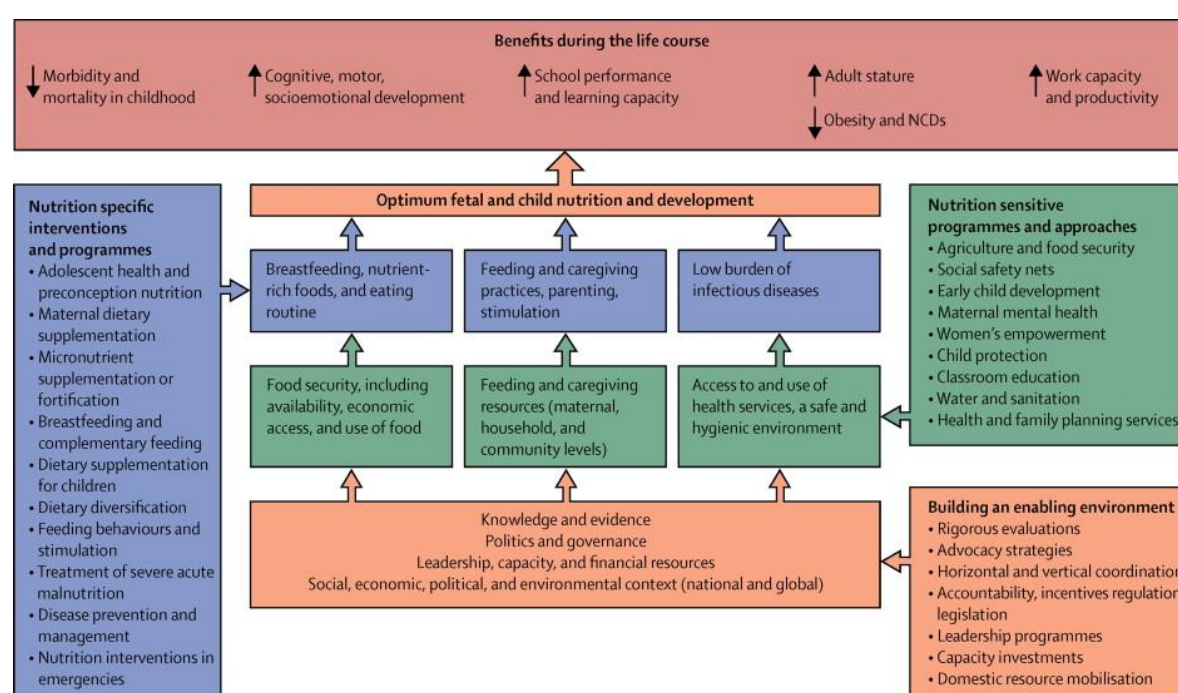
¹⁴² COMPAC-TL Baseline report- December 2014

cognitive capacity¹⁴³, low school performance, reduced productivity and economic opportunities as well as reduced GDP¹⁴⁴.

The causes of malnutrition are multi-faceted and not just related to insufficient intake of food. Nutrition-specific interventions need to be coupled with nutrition-sensitive approaches to prevent and control malnutrition across the life cycle as outlined in Figure 13 below. A coordinated multi-sectoral response is needed to improve child nutrition.

Within this framework, agriculture and food security play a critical role. Year-round food security and improved human nutrition through increased household income and improved utilisation of a diverse diet to meet nutrition requirements is a pre-condition for improving maternal and child nutrition in Timor-Leste. Within Timor-Leste, agricultural systems play a crucial role in the provision of livelihoods, food and income, especially when agriculture is the main occupation of poor families in rural areas and women make up a large proportion of this labour force¹⁴⁵. However, despite increases in agricultural production in some areas in Timor-Leste, under-nutrition still remains a significant issue in every Municipality with the prevalence of stunting classified as 'very high' and the prevalence of anaemia in children (U5) classified as a 'severe' public health issue¹⁴⁶.

Figure 13: Framework for action to achieve optimum foetal and child nutrition and development. (Reproduced with permission Black et al. 2013)



Targeted agricultural development programs can impact on nutrition positively and negatively through several pathways¹⁴⁷, including:

- Providing a source of food and/or income, thereby increasing household food availability and access;
- Affecting supply and demand of food, which can influence price and purchasing power;

¹⁴³ Prado E.L & Dewey K.G (2014) Nutrition and brain development in early life. In Nutrition Reviews Vol. 72(4):267–284

¹⁴⁴ Hoddinott et al (2011).Consequences of early childhood growth failure over the life course. IFPRI Discussion Paper 01073 March 2011

¹⁴⁵ FAO. The state of food and agriculture, 2010-2011. Women in agriculture. Closing the gender gap for development. Available at <http://www.fao.org/dorep/013/i2050e/i2050e00.htm>

¹⁴⁶ World Health Organization (2010) Nutrition Landscape Information System (NLIS). Country Profile Indicators. Interpretation Guide

¹⁴⁷ Nutrition-sensitive interventions and programs: how can they help to accelerate progress in improving maternal and child nutrition? Marie T Ruel, Harold Alderman, the Maternal and Child Nutrition Study Group The Lancet - 10 August 2013 (Vol. 382, Issue 9891, Pages 536-551) DOI: 10.1016/S0140-6736(13)60843-0

- Influencing women's social status and empowerment. This can affect women's access to, and control over resources and assets, and improve their power to make decisions about intra-household allocation of food, health and education etc.;
- Influencing the allocation of time between food production, income generation activities and household and care giving activities, especially for women; and
- Influencing the nutritional status and well-being of women. For example, agricultural activities, while providing a source of food or income, potentially require additional energy expenditure, increasing nutritional requirements. If nutritional requirements are not met, there is a risk that agricultural activities can contribute to under-nutrition.

Targeted agricultural programs which aim to boost production and increase incomes, can enhance access to a more diversified diet (particularly in rural areas), promote the empowerment of women and provide a delivery platform to assist in the scale up of nutrition specific interventions such as breastfeeding promotion and the improvement of complementary feeding.

TOMAK's approach to improving maternal and child nutrition through agriculture

TOMAK will use a **nutrition-sensitive agriculture**¹⁴⁸ (**NSA**) approach to ensure that both Outcome 1 (Economic Opportunity) and Outcome 2 (Household Food Security and Nutrition) contribute to better nutrition. The NSA approach aims to maximise the impact of nutrition outcomes for the poor, while minimising the unintended negative nutrition consequences of agricultural interventions and policies on the poor, especially women and young children. Specifically, **Outcome 1** increases income and thus improves access to food; **Outcome 2** improves food security and especially the year-round supply of diverse nutrient-rich food at the household level. Both outcomes contribute to women's empowerment, improved decision-making power and time availability. TOMAK's activities will also improve the availability of nutrient-rich food in local markets.

In line with international best practice of focusing on nutrition of infants and young children in the first 1,000 days (conception to 2 years), TOMAK has an intention to achieve nutrition results for **women of reproductive age (WRA, aged 15 to 49 years) and children (aged 6 to 23 months)**. These groups are referred to as the 'nutrition target groups'¹⁴⁹, and are a subset of TOMAK beneficiaries. That is, they are individuals within households that TOMAK will work with.

Nutrition is an implicit priority for the Australian-funded SoL project. SoL is a 'supply-side intervention' that has improved production and access to high yielding, nutrient rich local foods, such as orange-fleshed sweet potato and peanuts¹⁵⁰. TOMAK will build on this, and also **trigger household demand for nutrient-rich foods** so that households have access to and utilise year-round diverse and sufficient food. The demand will be triggered by TOMAK developing and incorporating consistent **nutrition messages** that build household knowledge, not just of sustainable food systems and markets, but of improved utilisation of local foods. To further enhance these nutrition messages it is hoped that TOMAK can collaborate with other nutrition initiatives in Timor-Leste in the delivery of complementary messages related to infant and young child feeding practices, as well as improved hygiene and sanitation that can collectively improve nutrition at the household level. TOMAK will coordinate with the nutrition department, MOH, national nutrition working group partners, central and Municipal KONSSANTIL councils to ensure integration across sectors and comprehensive approaches/messaging.

Nutrition is a priority across the Australian aid program in Timor-Leste. A multi-sectoral approach to preventing and controlling malnutrition necessitates collaboration across the health, rural development (TOMAK), WASH (BESIK), and governance (PNDS and MDF) portfolios. The Australian Embassy in Dili will have technical and policy leadership and coordination for nutrition. In collaboration with TOMAK, the Australian Embassy will advise on the design of nutrition analysis; nutrition KAP surveys; and nutrition indicators and measurement systems. TOMAK will lead on the design of the nutrition information, education and communication (IEC materials and inputs) relevant to agriculture and dietary diversity. The proposed Australian nutrition program would support cross-sectoral coordination and quality assurance of these materials and inputs. Further information on

¹⁴⁸The World Bank, Rapid Social Response, DFID, Government of Japan, 2013. [Improving Nutrition through Multi-sectoral Approaches: Agriculture and Development](#)

¹⁴⁹ We use the Scaling Up Nutrition (SUN) movement definition of 'targeting' here, where we target *individuals*, though actions may be targeted at households, communities or nations. That is, if we target 'children under 2', we will have an intention to achieve results and measure them with this group.

¹⁵⁰ However nutrition indicators were never measured

responsibilities is detailed in Table 11 below. TOMAK will coordinate with the Australian Embassy particularly in the streamlined delivery of messages aimed at changing nutrition behaviours at the household level.

Mainstreaming nutrition in Outcome 1 (Economic Opportunity)

Outcome 1 can lead to better nutrition through three pathways including:

1. increasing income, thus increasing purchasing power and access to food and health services;
2. promoting women's economic empowerment, improved decision-making power and time availability; and
3. improving the availability of a diverse range of nutrient-rich foods in markets, particularly local markets.

This can be enhanced through the following actions:

- Include 'nutrition' criteria in the selection of agricultural value chains. Where economic opportunities are similar, priority should be given to nutrient-rich options when selecting agricultural value chains under Outcome 1. This will maximise the availability of 'dual purpose' options that maximise the potential for economic and nutritional outcomes for farmers.
- Support households to integrate 'dual purpose' crop or livestock options into their farming system e.g. interventions in poultry, fish or legumes.
- Incorporate nutrition messaging to encourage households to use additional income to purchase a diverse range of nutrient-rich foods year round rather than low nutritional value, calorie-dense food (such as processed noodles).
- Incorporate nutrition messaging to improve household dietary diversity by promoting the home consumption of 'dual purpose' options selected through Outcome 1.
- Promote the empowerment of women, in particular, to:
 - increase their decision making power over additional income; and
 - ensure that they have sufficient time for appropriate feeding and caring practices for infants and young children.

What are nutrient-rich foods?

A commodity is defined as nutrient-rich or nutrient-dense if it meets any of the following criteria:

1. Is bio-fortified;
2. Is a legume, nut, or some seeds such as sesame, sunflower, pumpkin seeds, wheat-germ or sprouted legume seeds;
3. Is an animal sourced food, including dairy products (milk, yoghurt, cheese), fish, eggs, organ meats, meat, flesh foods, other miscellaneous small animal protein (e.g., grubs, insects); or
4. Is a dark yellow or orange-fleshed root or tuber.

[Summarised from the USAID draft Technical Brief on Nutrition Sensitive Agriculture.]

Indicative activities for Outcome 2 (Household Food Security and Nutrition):

Outcome 2 can lead to better nutrition through two pathways including:

1. improving the availability and utilisation of year –round nutrient-rich food through improved household production and demand creation; and
2. promoting women's empowerment, improved decision-making power and time availability.

This can be enhanced through the following activities:

- Identify and map stakeholders, partners and programs in the TOMAK livelihood zone who are working in nutrition and agriculture to determine complementarity and possible synergies and partnerships.
- Work with central MOH, central and Municipal KONSSANTIL councils to develop Municipal-level nutrition action plans in line with the PAN-HAM-TL, identify (geographical) areas of priority need, as well as define and prioritise target Sukus. This will be undertaken in collaboration with the DFAT's broader nutrition program, but led by TOMAK in its target livelihood zones.
- During the inception phase, collaborate with government (local and national), local NGOs and other development partners to conduct analysis to support the development of Outcome 2 activities. This will include:

- Resource, food systems and gender analyses; and
- Understanding the current nutritional context including:
 - the nutritional status of WRA and children (6 to 23 months);
 - common types of malnutrition (e.g. wasting, stunting, overweight, micronutrient deficiencies etc.);
 - nutrition causal analysis;
 - knowledge, attitudes and practice (KAP) surveys of food utilisation, nutrition and infant and young child feeding and general nutrition practices¹⁵¹.
- Work with communities to incorporate nutrition actions in their community planning processes. Current community action plans would be expanded to include multi-sectoral nutrition actions in response to the findings of the nutrition analysis¹⁵².
- From the community action plans, determine what agriculture-related actions TOMAK could work on to improve household food systems for nutrition outcomes. Likely actions could include:
 - Post-harvest processing, storage and preservation;
 - Livestock (particularly poultry) and aquaculture;
 - Time and labour saving technologies, especially for women;
 - Irrigation, in particular for the dry season; and
 - Improved varieties or breeds of nutrient-rich foods.
- Improve household food systems through training, improved access to livestock vaccinations, improved access to agricultural inputs and equipment, etc.
- Create demand for food utilisation necessary for a diverse healthy diet by developing and implementing targeted messaging, training, advocacy (including mass media), cooking demonstrations, and supplemental food purchases¹⁵³ at the household/Suku level.
- Promote the empowerment of women, in particular regarding women's crops, and to ensure that they have sufficient time for good feeding and care practices for infants and young children

Nutrition and Gender

Gender and women's empowerment play a key role in nutrition. Women's time is a crucial factor for improving child nutrition, as it impacts on the regularity and quality of feeding and care of children. Women's work can lead to increased income, which may be spent on food, resulting in improved nutrition outcomes. Anecdotal evidence however suggests that any savings made are normally used for children's school costs and ceremonies. Additional income does not necessarily change food utilisation, unless there is demand created for this. Women's empowerment can also lead to increased decision-making autonomy on how household incomes are allocated, potentially resulting in more income being allocated to nutritious food and health. Men and paternal grandmothers have strong roles in family decision making about food production, child-care practices, women's time use and health and nutrition decisions, and therefore need to be included in nutrition messaging.

In Timor-Leste, preparation of meals for the family is the primary responsibility of women. This is the norm in both urban and rural families. Documented and anecdotal evidence suggests that nutrition is not a key driver of food choices, and in many places nutrition is poorly understood. Convenience, short preparation time, food taboos and being able to satisfy hunger are key determinants to the choice of food prepared.

Assumptions

- Preventing and controlling malnutrition in Timor-Leste requires a coordinated and integrated multi-sectoral response as well as strong technical leadership. In areas where TOMAK geographically overlaps ('sentinel sites') with other Australian-funded nutrition-specific and nutrition-sensitive programs (e.g. BESIK, HAI and MSI, PNDS, R4D etc.), TOMAK will work collaboratively with them to synergise and maximise nutrition impact. TOMAK will also collaborate with other nutrition-specific and nutrition-sensitive activities (that are not necessarily Australian-funded) as appropriate.

¹⁵¹ Municipal-level nutrition data is available for some indicators from the TLFNS, 2013 and any upcoming DHS surveys. If the data is not available, where appropriate, TOMAK will work with the DFAT Nutrition program to ensure that the analysis is conducted. The Nutrition program will provide technical advice and formats for the analysis, but the 'on-the-ground' gathering of data will be undertaken by TOMAK.

¹⁵² This is not necessarily just to improve dietary diversity (TOMAK's focus). It can, for example, also include actions that improve safe water supply. This would clearly not fall into what TOMAK can do, but can be actioned through other mechanisms e.g. PNDS, PDID or BESIK.

¹⁵³ Potentially using additional outcome generated through Outcome 1.

- TOMAK will work through partners including central and municipal governments, NGOs or CBOs to promote these resources in the Sukus through existing mechanisms. TOMAK will deliver some of the nutrition messaging through locally relevant partners.
- The DFAT Senior Nutrition Specialist will be involved in providing technical inputs and 'quality control' for activities such as surveys and nutrition IEC materials and will participate in the TOMAK TRG.
- The capacity of TOMAK co-facilitators and partners may be limited in delivering nutrition-sensitive agriculture. The TOMAK Managing Contractor may need to build the capacity of co-facilitators and partners in this area.
- To promote behaviour change or adoption of technology, TOMAK should consider innovative cost-sharing mechanisms¹⁵⁴

Table 10: Responsibilities for a multi-sectoral nutrition response for the Australian aid program in Timor-Leste

Stakeholder	Responsibility
Australian Embassy in Dili, including inputs of senior nutrition specialist and a potential future Australian nutrition program	<ul style="list-style-type: none"> • Development of a country-level nutrition strategy/action plan • Overall coordination and leadership of programs to ensure a coordinated and integrated multi-sectoral nutrition response, including development and execution of 'sentinel sites'. • Providing nutrition technical inputs and 'quality control' for activities such as analysis, surveys, development of nutrition indicators, etc. • Participate on the TOMAK TRG • Collate, adapt and quality assure IEC materials
TOMAK, including Managing Contractor, and partner agencies	<ul style="list-style-type: none"> • Nutrition analysis during the inception phase to determine the nutritional situation within selected Livelihood Zones. This would include nutritional status of WRA and children from 6 to 23 months, common types of malnutrition (e.g. wasting, stunting, overweight, micronutrient deficiencies etc.), nutrition causal analysis, and knowledge, attitudes and practice of food utilisation, infant and young child feeding and general nutrition practices. • Work with communities to incorporate nutrition actions in their community planning processes. That is, as part of their community action plans, work with them to develop multi-sectoral nutrition actions in response to the findings of the nutrition analysis. • From the community action plans, determine what agriculture-related actions TOMAK could work on to improve the household food environment for nutrition outcomes. • Develop, adapt and test IEC materials • Delivery of activities that improve the food environment and access to year round nutritious food focused on household food production, women's time availability, storage, preservation and utilisation. • Promote behaviour change for household food utilisation; • Monitor and evaluate as detailed below.

Monitoring and evaluation

TOMAK's nutrition objective is to increase household access and utilisation of sufficient and diverse nutritious food. In the longer term, and along with complementary nutrition activities of other development partners, this will contribute to reducing the prevalence of stunting in children under the age of two. Figure 14 shows the logic of how TOMAK's activities will achieve this through first triggering demand for nutritious and sufficient food (in Outcome 2) as well as improving the food environment and women's empowerment.

¹⁵⁴ For example, households with young children or pregnant or lactating women could be provided with fresh food vouchers. These vouchers could cover the cost of about 25 per cent of a nutrient-rich food at the local market such as eggs. This could have the additional impact of stimulating demand of production of that nutrient-rich food product. Similarly, new technologies, such as dry-season irrigation or storage drums, can be introduced with some cost sharing mechanism, with for example, TOMAK paying for 25 per cent of the cost. Ideally, new agricultural technologies should be introduced via a private sector partner.

Figure 14: Results chain to demonstrate how TOMAK's activities will contribute to improving child (U2) nutrition



It is critical that changes are measured along this results chain. Internationally, agricultural interventions have lacked the design and methodological rigour to detect or attribute nutritional impacts¹⁵⁵. TOMAK will therefore focus on measuring its contribution to boxes 1 to 3. Box 4 (stunting) will require the co-contribution of many other nutrition sensitive and specific initiatives across Timor-Leste and will not be measured as part of TOMAK. Measurement of stunting will occur over the longer term and is a key responsibility of the PAN-HAM-TL initiative. TOMAK, as one of many GoTL and development partner interventions will be interested and guided by the outcomes of future GoTL assessments of stunting.

To better understand if TOMAK is achieving this, the following questions will be asked:

Questions	Possible sources
1. Trigger demand for nutritious and sufficient food a. Have knowledge attitudes and practices changed? b. Do community action plans include actions to improve nutrition?	<ul style="list-style-type: none"> • KAP survey results • Community action plans
2. Better food access and women's empowerment a. Do households have increased income? Have they spent additional income on a range of nutrient-rich foods? b. Are households producing a range of year-round nutrient-rich food or storing / preserving it better? c. Do households have better access to food? d. Are women more empowered to make household decisions? e. Do women have more time for feeding and care of infants and young children?	<ul style="list-style-type: none"> • Household income surveys • Project reports • Household dietary diversity survey (HDDS) • Women's focus group discussions
3. (Contribute to) improved diet for children aged 6 to 23 months, and WRA	<ul style="list-style-type: none"> • Dietary diversity for children under the age of 2 as

¹⁵⁵ Massett E, Haddad L, Cornelius A and Isaza- Castro J (2011), A systematic review of agricultural interventions that aim to improve nutritional status of children. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London. ISBN:978-1-907345-09-08

<p>a. Are TOMAK's actions then contributing to children aged 6 to 23 months and WRA eating more diverse food</p>	<p>measured by a minimum acceptable diet (MAD-C)</p> <ul style="list-style-type: none"> • Minimum Dietary Diversity for Women (MDD-W)
<p>4. (Contribute to) improved nutrition in children under the age of two.</p> <p>a. Are TOMAK's actions then contributing to reduced stunting? Note that if dietary diversity has increased, but stunting persists, then this needs to be referred to the Australian Embassy in Dili for further exploration.</p>	<p>There are a number of indicators that can be used to measure improved nutrition. This may include stunting, anaemia or other indicators (as measured through DHS, HIES and other surveys)</p>

Summary of implications drawn from consideration of gender equality & WEE

Implication 1 - 4: A detailed field based, gender analysis must be conducted. This must consider each: socio-cultural group and Livelihood Zone, the specific role of elder women, and be disaggregated to a household group level. This information must be used to inform the specific activities supported in a community and the way in which they are designed and implemented.

Implication 5: To prevent interventions doing harm to intended beneficiaries, activity planning should identify whether the activity may reduce or change gender asymmetries within the household. Where this may occur, potentially negative consequences must be identified and strategies identified to avoid these occurring.

Implication 6: Selection of Livelihood Zones and value chains must include gender criteria.

Implication 7: The M&E system must provide real time data to drive learning and improvement.

Implication 8: A formal mechanism should be established to share learning between similar DFAT funded programs.

Implication 9: Groups should only be used where specific strategies are implemented to overcome gender based constraints to participation. Appropriate support (such as facilitation and capacity development) must be provided.

TOMAK will contribute to improved nutrition and economic opportunities for rural households in Timor-Leste. International research has shown that gender inequities and dynamics are a significant factor in nutritional outcomes, particularly for children (UNICEF, 2011). Thus, for TOMAK to be successful, it must respond to each gender's different role and power within the agricultural sector (equity), contribute to improvements in gender equality, and build women's economic empowerment. This Annex:

- Establishes the gender context in which TOMAK will operate;
- Outlines the approach TOMAK will use to integrate and apply gender principles; and
- Identify possible strategies and entry points to address gender equity and equality.

Context

Available gender data for Timor-Leste is both limited and dated. Most refers back to 2002 and 2003, soon after independence. While some Government data from 2001 to 2007 is available, GoTL has identified that it is not detailed enough for gender analysis as only a limited range of tasks were measured (GoTL, 2014). More recent data collected for specific initiatives may be available, however what was identified did not provide the detail required for TOMAK. Since independence, the situation has changed significantly (Jones, 2014). Because of this dynamic situation, the actual situation may not reflect "*conventional wisdom on women in Timor-Leste*" (Jones, 2014, p.7). Consequently, this Annex sets out a brief summary of the key relevant points identified in literature, but is not exhaustive. For this reason, TOMAK includes early implementation of a gender analysis within its target Livelihood Zone.

Historically, three main historical influences on the status of women in Timorese societies have been identified:

- Portuguese colonial patriarchal elite committed to conservative Catholicism;
- the violent and militarised society under Indonesian occupation during which women's roles and responsibilities shifted radically; and
- the progressive international norms and gender policies of the UN administration and international agencies since 1999 (Wigglesworth, 2012).

Consequently, the current practices that are termed as "traditional" are cultural norms which have changed considerably over time and that are continuing to change in the post-independence era (Wigglesworth, 2012).

¹⁵⁶ This annex merges work in relation to women's economic empowerment undertaken by Linda Jones (2014) for the MDF relevant to Outcome 1, with additional work focused on Outcome 2. Linda Jones' work was presented in full in the TOMAK concept note.

Since independence, GoTL has consistently recognised the importance of gender equality and women's empowerment. Consequently, Timor-Leste has a strong formal base that supports gender equality and women's empowerment. For example, equality for women is enshrined in the Constitution, and the GoTL ratified the Convention on the Elimination of All Forms of Discrimination (CEDAW). The government also recognised the importance of empowering women through the Dili Komprimisu. This is a public declaration that acknowledges the importance of gender equality and investing in women and girls, to achieve equitable sustainable development, address poverty and strengthen society. To support this, quotas for women's participation in parliament were established in 2006 in the Election Law. As a result, Timor-Leste has one of the highest rates of female representation in parliament in the world (29 per cent in 2011) (UN, 2014). In 2008, the status of the national women's machinery was elevated to a State Secretariat reporting directly to the Prime Minister's Office. This change strengthens its authority to develop and implement policies and programs that address women's needs and concerns (UN, 2010). As a consequence of high rates of domestic¹⁵⁷ the Law Against Domestic Violence was passed in 2010. This followed historic changes to the penal code making domestic violence a punishable public crime. The ongoing importance of equality is also recognised in Timor-Leste's Strategic Development Plan (SDP) 2010 – 2030 which states that *"For Timor-Leste to reach its full potential, our sons and daughters must be able to participate equally in our society."* (GoTL, 2011, p. 47).

However, the constitution also stresses that the legal system should adopt customary law. Since customary law predominates in rural areas, and as it gives preference to men over women, the majority of rural women are highly disadvantaged (GoTL, 2013, p.17). For example, customary law impacts women's ability to own assets, and therefore borrow money, and develop economically. In addition, under customary laws in patrilineal communities, women cannot inherit the land although they have some rights in matrilineal communities (IFC, 2010, p.36).

In this complex environment, the formal framework has not yet had the desired impact on gender equality. As a consequence, despite significant improvements in women's health and education, the disparity between men and women remains high (GoTL, 2011). The 2013 female Human Development Index for Timor-Leste is 0.574, in contrast with 0.656 for males, resulting in a Gender Development Index value of 0.875 (UNDP, 2014). This ranks Timor-Leste as 134th across 186 countries, or 72 per cent of countries are rank ahead of Timor-Leste in terms of gender inequalities in achievement in three basic dimensions of human development - health, education and command over economic resources. It is in this context that TOMAK seeks to improve nutrition and economic opportunities for rural households in Timor-Leste. For TOMAK to be successful, it recognise the current gender inequities and complex cultural environment, and the changes in this environment that will influence gender equality and women's empowerment as the Program is implemented.

Gender relationships in Timor-Leste are complex, dynamic and demonstrate significant variations between communities in cultural roles, responsibilities, power dynamics (UNDP, 2011, p17). While secondary sources often describe a static society where women are subordinate to men, and women's ability to advance economically is compromised by their status and barriers such as access to assets and opportunities, this is an oversimplification and generalisation.

Timorese society is generally described as being patriarchal, upholding traditional norms in rural areas that are *"based on the clear distinction of roles and responsibilities of men and women, different patterns of the exchange of goods and services between household members, and arrangements regarding individual and collective decisions"* (IFC, 2010, p.5). However, this oversimplification of relationships reflected in many reports does not necessarily capture the reality of Timor-Leste; there is significant variation across Timor-Leste. For example, there are three matrilineal groups: the Bunak and Tetun-Terik-Fehan (living in Manufahi, Covalima, Bobonaro and Manatuto Municipalities) and the Galolen (living in Manatuto Municipality) (Niner, 2012, p144). Together, these groups comprise approximately 15 per cent of the population. Jones (2014) reported that while women in Timor-Leste are often characterised as being victims and lacking access to and control over resources and benefits, in practice many women have, and wield, considerable influence in the community and within the household. Jones' position is supported by (Niner, 2012, p. 140) who reported that *"women are profoundly important within indigenous Timor-Leste society and elite women are very privileged. Women can be powerful within their own domestic sphere."*

Further, Timor-Leste is a society in rapid change and this change has the potential to change gender relations. For example, in 2012, UNICEF identified that over half the population had access to mobile phones, male and

¹⁵⁷ Nearly 40 per cent of women in Timor-Leste over the age of 15 have experienced physical violence. Of women who have been married, 34 per cent have experienced physical violence from their husbands and many have not been able to obtain justice and redress for their grievances (GoTL, 2011, p.47).

female youth literacy rates had climbed to over 80 per cent and 78 per cent respectively¹⁵⁸, and oil income has led to some improvements in infrastructure such as roads and electricity¹⁵⁹. It is yet to be determined how women and the poor will be affected by these changes, but there are positive opportunities for women that can be leveraged to women's advantage and the well-being of their households.

Thus, the gender relationships are far more complex than the simple characterisations often presented in available reports (and presented in this analysis). These complexities and variations are not well recognised in the available literature and must be considered when planning activities supported by TOMAK. Therefore, a 'one-size fits all' approach to gender is inappropriate. To develop the range of initiatives required for TOMAK to achieve its intended outcomes, a detailed understanding of the local gender relations is required. Only with this information, can strategies be developed that will effectively achieve the outcomes, avoid unexpected adverse outcomes and more specifically, support gender equality and women's economic empowerment. Therefore, the design has incorporated the completion of a gender and social inclusion analysis as part of the planning process. This is discussed later in this Annex. These findings must be integrated into the strategies TOMAK adopts to achieve the planned outcomes.

Implication 1: A detailed field based, gender analysis must be conducted for each socio-cultural group. This information must be used to inform the specific activities supported in a community and the way in which they are designed and implemented.

Household Groups

TOMAK has identified three household groups with whom it will work: subsistence farmers, aspiring commercial farmers, and the rural entrepreneurs. The first two groups are beneficiaries while the rural entrepreneurs are potential private sector partners in developing the value chains. While these three household groups have different characteristics, there is limited detail available on each household group, and no gender disaggregated detail. Relevant generalised available data is summarised in Table 1.

Table 11: Summarised characterisations of different household groups.

	Subsistence Farmers	Aspiring Commercial Farmers	Rural Entrepreneurs
Food insecurity	Regular occurrence	Less frequent occurrence	Not a concern
Under consumption	Significant issue		Over-consumption
Poor nutritional balance	Significant issue	Significant issue	Poor nutritional balance
Female headed households	Greater frequency ¹⁶⁰	Lower frequency	Low frequency
Economic security	None	Little – seeking greater economic security	Higher
Role of the individual and household	Household members focus on the household.	Few household members pursue individual enterprises and employment opportunities	Many household members pursue individual enterprises and employment opportunities
Primary role with TOMAK	Partner and beneficiary	Partner and beneficiary	Partner

It is important to recognise that there is no hard line between households classified as 'subsistence' and those classified as 'aspiring commercial farmers'. In reality, it is more of a continuum, with many households moving between the two groups depending on events. For example, weather conditions in one season may move a particular household from poor subsistence to aspiring commercial farmers or the reverse. Consequently, while aspiring commercial farm households are more focused on economic outcomes than subsistence households, it remains critical to support improved and more sustainable food security.

¹⁵⁸ http://www.unicef.org/infobycountry/Timorleste_statistics.html

¹⁵⁹ http://www.indexmundi.com/timor-leste/economy_profile.html

¹⁶⁰ Significant numbers of Timor-Leste's poor are women who were widowed by the conflict and have become heads of households and sole providers for their families (UN, 2010).

Because of the differences between household groups, the strategy adopted for each household group will be different, the focus when working with subsistence households will emphasise nutrition (Outcome 2) while when working with aspiring commercial farmers, the focus will be on both nutrition (Outcome 2) and economic empowerment (Outcome 1). Consequently, the gender issues that need to be considered for each of the household groups will be different.

Implication 2: The gender analysis must disaggregate data to a household group level. This information must be used to inform the specific activities supported in a community and the way in which they are designed and implemented.

Gender analysis using the WEE Framework

There are numerous conceptual frameworks available through which gender equality and women's economic empowerment can be considered. Each framework provides a structure to help focus research, planning, implementation, monitoring and evaluation of gender issues. As such, the use of a framework ensures that gender is systematically considered throughout all stages of program design, implementation and M&E.

The range of frameworks available is almost endless. Examples include the: Harvard Framework, People-Oriented Planning (POP), Moser Framework, Gender Analysis Matrix (GAM), Capacities and Vulnerabilities Analysis Framework, Social Relations Approach, Women's Empowerment (Longwe) Framework, Women's Empowerment in Agriculture Index (WEAI), Making Markets Work for the Poor (M4P) WEE Framework, and the Donor Committee for Enterprise Development (DCED) WEE Framework. Each of these frameworks has a different focus. Consequently, the choice of framework is a function of the context, type of program and spheres the program seeks to influence.

A number of these approaches would be suitable for TOMAK. The design has adopted the Making Markets Work for the Poor (M4P) WEE Framework for Outcome 1, Economic opportunity. This has been selected as it reflects the approach recommended by DFAT's Agricultural Productivity and Food Security (AFS) section and embodied in their Guidelines on Gender and WEE. The WEE Framework draws on a definition of women's economic empowerment that is compatible with pro-poor and market development initiatives (Jones, 2012) enabling projects to articulate WEE objectives and opportunities, and to monitor if both income gains and empowerment have been achieved. The WEE Framework comprises five domains of empowerment:

1. Economic advancement – increased income;
2. Access to opportunities and life chances such as skills development or job openings;
3. Access to assets, services and needed supports to advance economically;
4. Decision-making authority in different spheres including household finances; and
5. Manageable workload.

This gender analysis is drawn from work that undertaken for MDF in 2014. It is therefore not specific to the Livelihood Zones in which TOMAK will work nor TOMAK's Theory of Change. However, it provides a sound base for planning and should be supplemented by a specific gender analysis in the Livelihood Zones in which TOMAK will work that reflects TOMAK's Theory of Change. Jones' work has also been expanded to consider gender issues associated with nutrition and domestic violence.

Economic Advancement – Increased Income

Reports commonly indicate that the majority of work in Timor-Leste – productive and reproductive – is performed by women. In particular, Timorese women are very active in the agricultural sector with approximately 88 per cent of women contributing to the sector, as compared to 82 per cent of men (IFC, 2010). UNDP (2002) found that women often take the primary responsibility for many horticulture-related activities. Women farmers have control over the process of food production, seed management, deciding over the plantation plot selection, managing the cycle of harvesting and marketing. Thus, while women play a key role in a family's income generation and food security (GoTL, 2014), the points in the value chain at points which men and women participate often receive different economic returns. Consequently, women's contribution is often seen as less. In addition, the Government estimates that 70 per cent of women who are engaged in agriculture do not receive cash income for their services (IFC, 2010). Therefore, activities focused on improving the value of products throughout the value chain should consider how to ensure that both men and women, and other socially disadvantaged groups, participate equally in high economic value points.

While women dominate the agricultural sector, they are also significant among the small traders. However, they own only 16 per cent of formalised businesses (IFC, 2010, p.2), most of which are in agribusiness and food

production, retail trade, restaurants and services (mirroring their role in the care economy). Women's businesses in these sectors are generally smaller in terms of size, turnover, and number of employees, and the majority of women entrepreneurs operate their businesses alone, although family business prevails in the agriculture sector (Ospina, 2006). Jones (2014) identified that the low level of women in formal business ownership was a consequence of dysfunctional business formalisation procedure¹⁶¹ impacting disproportionately on women because women are more likely to be seen as 'soft targets' and therefore harassed by officials, and with lower education levels, women are less able to navigate the system. She noted this was compounded by the male dominated culture, double time burden and disabling legal framework.

Despite segregation in the formal economy, for smallholder farmers, the economic unit is the household and therefore all interventions, as they increase household income, will benefit both women and men. Where there is increased income from agricultural activities, the whole household benefits. Contributions to such gains are made by both men and women; women work in the fields alongside men – often weeding, watering and harvesting – and men support women's activities through such tasks as preparing land for vegetable production and taking livestock to market for sales. In cash crops such as rice and coffee, women contribute but men are typically responsible overall including sales of the crop. In all cases, money earned from crops is pooled and decisions about expenditures are made jointly for the most part (more in decision making section below). This women's economic advancement is therefore tied to the advancement of the household economy, as is men's.

However, in activities where women take the lead, the actual total financial gain to the household is less, so the perception may be that men contribute or control more. For example, the two largest contributors to household incomes from animal husbandry (cattle and horses) are considered to be men's responsibility, while the two lowest contributors to household incomes from animal husbandry (chicken and dogs) are considered women's responsibility (refer Annex 3). Similarly, vegetables grown in the fields as cash crops are considered to be the men's responsibility with women helping out. Conversely, vegetables grown in a smaller plot for consumption, with some sales, are women's responsibility with men providing support. From Jones' (2014) work, the perception of whether the lead is the responsibility of men or women may be an example of cultural norm versus actual behaviour. However, it may also be a consequence of women's large reproductive role requiring them to remain closer to home to take care of children and seniors; and cook, clean and feed family members. The reasons should be identified and the subtleties of women's lower involvement in a range of economic activities must be considered and innovative solutions to income generation which work around these traditional roles identified.

Men and women may also participate in the value chain at points where they draw different economic returns. Activities focused on improving the value of products throughout the value chain should also consider how to ensure that both men and women, and other socially disadvantaged groups, participate equally in high economic value points.

In the international context, a range of researchers have found that nutritional outcomes are related to the household income and women's ability to make decisions in relation to its expenditure, rather than specifically women's income (for example, Smith et al. 2003; Frost, Forste, and Haas 2005; Guha-Khasnobis and Hazarika 2006; Ackerson and Subramanian 2008 quoted in Bhagowalia et al, 2012 and Bell and Otta, 2013). Thus for TOMAK, the focus of economic advancement contributing to both Outcome 1 and 2 should be on household income rather than specifically women's income. This should be complemented by support to increase women's decision-making power in relation to expenditure of household income where necessary (refer later section).

Access to Opportunities and Life Chances

Within the family unit, men are generally considered the protector – responsible for the safety of family members – while women's role is that of carer (Shatfan, 2010). This has been identified as causing widespread discrimination against women, and their continued exclusion from political, economic and social life (UN, 2010). In particular, young rural Timorese women – due to age, location and gender – are considered the least empowered members of society (Jones, 2014). As a result of patriarchy and tradition:

"Timorese women face pervasive structural discrimination and negative gender stereotypes, which dramatically impede their ability to participate in and benefit from education, employment, health services and political representation. A life of poverty and discrimination is the reality for many women in Timor-Leste, particularly women living in mountainous and highland areas, female heads of household, widows and older women." (Carmona, 2012)

¹⁶¹ Timor-Leste currently is ranked as having one of the most challenging investment climates in the world, ranking 164 out of 183 economies. It ranks as one of the three most difficult countries in terms of obtaining credit and registering property (IFC, 2010, p.3).

Secondary research shows that time is a limiting factor for women (due to reproductive work) and they do not tend to operate businesses fulltime or all day. Therefore, work tends to be home-based, low tech, conservative in growth/small-scale and part-time, and limits women's opportunities to be integrated into dynamic market systems where greater income is possible (GoTL, 2013). This was supported by the interviews and focus group discussions for MDF. In fact, women emphasized that they preferred to stay at home to be with the children, and would rather not have to go to market or take on other responsibilities beyond the homestead.

Secondary sources also report that because of gender discrimination, early marriage and large numbers of children per household, many Timorese girls and women, especially in rural areas, do not have access to secondary and tertiary education. However, Jones (2014) showed that there is a move to much more education for girls and young women, with many being sent not only to secondary school but also to university.

Married women's mobility is restricted due to time constraints and household responsibilities. At the same time, they have limited access to information, innovation and new technology since very few government or even civil society programs reach them. Jones (2014) found that women and men, especially in rural areas, lack access to information on government actions and programs, market opportunities, suppliers, competitors, technologies, financing sources and on how to start and run a business.

At the same time, women have a much lower rate of paid employment than men. Those who are employed are mostly found in low paying jobs and have not benefited equally from more recently created employment opportunities (with the Government, NGOs and the UN, for example) (Ospina, 2006, p.7).

There are gender differences in networking behaviours as women's networks tend to be smaller, more homogeneous and with less outreach. Women rely mostly on family and friends for support networks, proven to be less effective for business success than are business and professional networks. Constrained access to networks limits women's economic development on many levels – access to services, finance, training and so on.

Access to Assets

According to Timor-Leste law, an owner of property can write a will and leave his or her property to whomever he or she wishes. If there is no will, then assets must go first to spouse and dependents (if they exist) and are shared equally (USAID et al. n.d). However, customarily land ownership and assets belong to men with resources passed from father to son or other male family members with women having little right over land (USAID, n.d) – the exception being in matrilineal communities. Land ownership is further complicated by issues around titling of land and the upheavals over the past several decades (GoTL, 2013).

Thus, land rights have the potential to be a major concern for women and have been reported as such in several reports (for example, ADB, 2005 and IFC, 2010). However, this does not reflect the experience of many in the sector. For example, Jones reported that women did not identify property rights as an issue (2014, p6) and Cooperativa Café Timor reported similar findings. However, in cases of divorce or a woman becoming widowed, lack of access to land would have a negative impact on a woman's ability to care for herself and her children.

Lack of collateral, lack of literacy, poor business and management skills, and the favouring of larger businesses in the financial system combine to reduce women's access to finance. Women clients of microfinance institutions usually access small loans (usually from 50 up to 1000 USD) to support their activities such as agricultural production and marketing. In MDF FGD, women did reference Moris Rasik, and many appeared to have loans. However, these loans were limited to enterprise activities (e.g., kiosks, buying and selling coffee cherries) since repayment had to start immediately and continue on a weekly basis. There appear to be few loan products that are suitable for vegetable growing or livestock rearing that are better suited to balloon payments at the end of a set term.

From MDF's FGDs, they learned that women lack assets that would contribute to reduced workload. Two key technologies that would go a long way to reduce work while increasing income are:

1. Micro-irrigation technologies for vegetable production; Some women report up to seven hours a day to go to their vegetable plots and water their plants for meagre returns. This is partly due to the distance to the plots as well as the need to haul water from the river or taps. With appropriate micro-irrigation, women would be able to visit their plots once a day, and decrease watering time while there. When discussed with women, they indicated that with such a reduced workload, they would be able to plant and sell more vegetables, while others would be able to increase the number of harvests during the dry season. Water sources and types of micro-irrigation that could be available in Timor-Leste require further investigation but could be a significant game changer for many rural women and their main contribution to household incomes and well-being.

2. Post-harvest handling technologies that could reduce workload, improve quality and increase incomes: For example, in coffee processing, many households sell green cherries to immediately access income, whereas selling dried coffee beans is more profitable. However, peeling and drying is labour intensive, and often only part of the harvest is processed at home. Some households have access to a 'machine' that can peel and dry the cherries and they are able to keep more of their harvest for processing or take to Dili (rather than selling at the farm gate) to realize even greater returns. Mechanizing coffee processing would reduce women's workload and allow the household to earn more money at the same time. Costing and pricing for such machines – and other post-harvest technologies – could be explored and promoted by TOMAK.

In order to take advantage of such assets, access to finance issues must be understood and overcome. A discussion of access to finance is included later in this section.

Control over Income and Decision-Making

While the legislative framework has been established to improve women's power, women still have limited power and influence in decision making at a national level and household level. For example, while female representation on Suku Councils is relatively high (due to a quota which requires that two out of five council representatives must be women), only 2 per cent of Suku Council Chiefs are women and few women are in leadership positions in the public service (GoTL, 2011, p.187).

Similarly some reports indicate that increased income generation by women, for their families, does not appear to result in greater economic empowerment for women. The National Action Plan indicates that although in many cases women do the work, they lack control over the income generated and do not have decision-making power about the use of resulting income. It has also been suggested that in addition to economic activities, organisations must address gender relations in the community for women's empowerment to be achieved (Trembath et al, in Wigglesworth, 2012, p. 47).

However, the Demographic and Health Survey (GoTL, 2010) provides interesting statistics to the contrary with tables that indicate:

- 36 per cent of married women who receive cash earnings state that they decide themselves on how their earnings are used (tripling from 12 per cent in 2003);
- 58 per cent report that they decide jointly with their husband (decreased from 79 per cent);
- per cent of those polled, down from 8 per cent in 2003, report that their husband alone decides how their earnings will be used;
- 22 per cent of men and 26 per cent of women say that the wife mainly decides how the husband's earnings are used; and
- 75 per cent of men and 68 per cent of women say they jointly decide about how to spend the husband's income.

MDF's primary research supported this latter set of findings. Men and women reported that women manage the money and that men turn income they receive over to their wives. Decisions about spending tend to be made jointly, although women can decide on household expenditures without consulting their husbands. For example, if a woman goes to market and sells vegetables, she can make household purchases while there without discussion with her husband. On the other hand, a few households indicated that the male head of household might make some larger financial decisions such as buying a car or building a house; however, this was usually a joint decision.

The Demographic and Health Survey also reported that women's roles in decision-making changed based on decision being made. The Survey identified four main decision types: more women decide about daily household purchases; while joint decisions are more likely around health care, major household purchases, and visiting family or relatives. Within agriculture production, men and women have different knowledge in terms of agricultural production, processing, marketing and the ecosystems in which these activities are undertaken. Research has also shown that men and women will use different criteria to make decisions on crop (and variety) choice, production, harvesting, processing and marketing (Howard, 2003). This is because traditionally, men and women undertake different activities along the value chain, and therefore have different knowledge. Consequently, when information on value chains is collected and analysed, the traditional roles and responsibilities of men and women and the different criteria they may use for decision-making must be recognized. This ensures all the available information is obtained and informs decision-making.

In some cases, the gender division of labour may mean that those involved at one stage have no understanding of what is required to maximize value in subsequent stages. In this case, improving understanding of the

requirements to maintain or add value may result in significant improvements in returns to participants in the value chain.

In addition to contributing to women's empowerment, women's ability to influence decision-making has been found to be a major determinant in nutritional outcomes. This is through influencing expenditure on food and health care of children and themselves – mother's health being a significant factor in nutrition and health of their children (UNICEF, 2011).

Recent work in Timor-Leste found that both fathers and paternal grandmothers play a key role in decision making in regard children's health. In some cases, the influence of the grandmother or senior women was more significant than that of either parent (Amin et al, 2013). Specifically IYCN (2011) identified the same influence across many south-east Asian countries *"to bring about sustained enhancements in household-level nutrition practices, there is a need to adopt a wider approach that involves other influential household actors, including senior women or grandmothers and men"* (p.v). The research found that grandmothers played a significant role in decisions relating to maternal nutrition, breastfeeding, complimentary feeding, and feeding of children.

Implication 3: The gender analysis must specifically consider the role of senior women. This information must be used to inform the specific activities supported in a community and the way in which they are designed and implemented.

Women's Workload

Women suffer from the classic burden of 'reproductive', 'productive' and 'community' work, reportedly logging many more hours than men when these are combined (IFC, 2010, p. 5). In the reproductive and community domains, women are responsible for a range of work: they bear and raise children, manage the household, collect firewood, help other women in childbirth, take care of the sick and elderly, and perform ceremonial and ritual roles.¹⁶² This significantly impacts even very young women as there are high rates of teenage marriage, and these young women are expected to leave school to fulfil household tasks (Wigglesworth, 2012, p. 36).

It is frequently reported that women also contribute to 'productive work' by taking on the majority of unpaid agricultural work for the household, and by earning income from informal employment in paid agricultural labour, petty trading, and home-based production in traditional crafts and weaving as well as kitchen gardens, poultry, fishing and pig rearing (GoTL, 2012, p. 32; IFC, 2010, p.vii; and Kyeema Foundation, 2006, p.8 – 9). While MDF's findings agreed that women have a range of activities and responsibilities, and work long hours, it disagreed with this characterization of unpaid labour (Jones, 2014). Both men and women farmers are unpaid, until they sell their product, and then that income is pooled for household expenditures. There was little evidence that women did not benefit and that men controlled this income as discussed above.

Also, it was noted in the interviews conducted by MDF, that although women do work hard and long hours, men will contribute to "women's work". As a result, both men and women may undertake specific tasks when there is a need for this to occur. For example, Jones (2014) found men at home taking care of the children while the women were away at the market or visiting family. Men also help women in the kitchen gardens (mainly preparing the land), and took livestock to market if requested. So, although it is undoubtedly accurate that women have more and varied responsibilities – it is not one-sided. In fact, when one group of women was asked if they help in the fields they responded with a shrug, "if we have time." Thus, the gender division of labour is often not as clear as external parties may perceive.

There are two time-consuming tasks that women must perform that seem unnecessarily burdensome (which are described in greater detail above under access to assets):

- Watering small plots of vegetables for up to seven hours a day: (that is up to an hour's walk each way twice a day (four hours total), so two hours carrying water from the river in the morning, and one hour in the afternoon with the help of children after school).
- Manually peeling coffee cherries so that they can be dried and sold at a higher price as dried beans.

A third area where women work longer hours than they would prefer is selling their produce in markets – for some women this can take from 0.5 to 2 hours per day, while for others it means a weekly trip and an overnight stay. Women explained that they go to the market because farm gate prices are much lower, traders don't exist to buy

¹⁶² Note also that "The very common practice of polygamy may undermine the position of women. Polygamy is an accepted practice although there is little data on its prevalence. Although it is not accepted by the formal law, it continues to be practiced and recognized by customary law. The practice of payment of bride price (barlaque) has also affected the status of women." (IFC, 2010, p. 5).

at the farm gate, or traders come irregularly leading to spoilage. If they had some type of regular buying arrangement, they would rather stay at home and invest more time in increasing production.

The gender division of labour often changes in response to economic opportunities and introduction of new technologies. Thus, planning should also consider how gender divisions of labour may change as a result of development within a specific value chain.

Internationally, women's workload has also been found to influence children's nutrition and stunting. For example, UNICEF (2011) reported studies that found breastfeeding was less where the mother was the head of the household and that children's weight decreased as the time spent on subsistence work increased. In each case, this was identified as a function of women in these situations having a greater workload and much of this work being away from the home. Thus, it is important that TOMAK ensure activities supported do not lead to an increase in mother's overall workload or the time spent away from the home.

Shatifan (2012) reported that where women have high workloads they often lack time to collect vegetables, cook nutritious food and ensure that their children eat balanced diet (Box 1). Consequently, workload and nutritional outcomes are closely related.

Box 1: Women's Workload

Women's Workload – East Indonesia (Shatifan, 2012)

In all villages visited, women reported serving boiled rice with salt when they lack time to cook, in some cases up to four times per week. This is seen as acceptable by family members because the priority is for quantity rather than quality of food in order to feel full. Both sexes report often feeding children with instant noodles because it is fast and cheap or giving into children's demands for unhealthy snacks either to stop them crying or because they refuse to eat healthy alternatives.

Gender-based violence

While not a specific element of the WEE framework, TOMAK must explicitly consider gender-based domestic violence as it is: recognised by GoTL as a significant issue; closely related to women's economic empowerment and equality; and demonstrated to be related to nutritional outcomes. Thus, it is intimately linked with all TOMAK is supporting.

Nearly 40 per cent of women in Timor-Leste over the age of 15 have experienced physical violence. Of women who have been married, 34 per cent have experienced physical violence from their husbands. Only 24 per cent of women who experience violence from their partner report this violence to anyone, and generally these reports were to family. Only 5 per cent of women reported domestic violence to police or social service organizations. Consequently, available figures in relation to gender-based violence are likely to be significantly understated. Of those who did report the violence, few considered they were able to obtain justice and redress (UNDP, 2011).

As a consequence of this, gender-based violence was entered into the penal code in 2010 (the Law Against Domestic Violence), making it a punishable crime. Despite this, many people in Timor-Leste remain unaware that gender-based violence is illegal and punishment is not proving a deterrent (ABC, 2013). Consequently, as in 2009 (GoTL, 2011, p. 47), gender-based violence remains a 'normal' occurrence for many Timorese women (UNDP, 2011; ABC, 2013).

Through international research, a range of researchers (for example, Bhagowalia et al, 2012; Bell and Otta, 2013) have reported that attitudes toward gender-based violence are correlated with child stunting. For example, working in Bangladesh, Bhagowalia et al (p.11) reported that children of women who suffer passively from gender-based violence were 1.07 times more likely to be stunted than children of women who do not justify gender-based violence. However, they found no correlation between attitudes to gender-based violence and dietary diversity. These researchers postulated that the relationship between gender-based violence and stunting may be a reflection of increased, continued exposure to gender-based violence that would reduce the level of care a mother was able to provide her children. In the long term, this was likely to promote the likelihood of stunting. They also emphasised that attitudes that justify or condone gender-based violence indicate an unequal balance of power within the household which may have broader implications for stunting (p. 18).

Food security

Food security is dependent upon the:

- availability of food. In TOMAK's context, this relates most particularly to the level of production and utilisation as food or non-food stocks.
- stability of food supplies and access. This reflects variability in production and markets.
- access to food. In TOMAK's context, this particularly relates to the purchasing power and access to markets.

The impact of each of these elements on household food security will differ between Livelihood Zones. In addition, these elements will impact upon male and female-headed households differently. For example, as previously discussed because of customary laws, in some rural areas households headed by a woman will have a lower likelihood of owning land than will those headed by a male. Consequently, availability and stability of food supplies are more likely to impact female-headed households than male-headed households. Thus, the Gender Analysis for the Livelihood Zone should include identification of which of these three factors impacts food security for each household type (e.g. female headed households, lone widows/widowers) within the subsistence household group. Once this is identified, specific strategies to address these factors for this household group can be determined.

While the focus of activities to support improved nutrition is on food security rather than health and sanitation, monitoring must identify whether lack of support to these other areas is preventing improvements in food security achieving the planned outcome. If this is found to be the case, discussions with DFAT and GoTL would need to be undertaken to determine how this could be addressed.

Table 13 summarises MDF's findings with regards to women's contribution and economic empowerment on a sectoral basis and has been broadened to include information on nutrition.

Principles

TOMAK's approach to addressing gender and WEE is underpinned by four principles:

1. Do no harm.
2. Empower disadvantaged groups including women.
3. Continuous improvement.
4. Mainstream and specific initiatives targeted at gender and WEE.

Informed decision-making

The socio-cultural context in Timor-Leste is diverse, dynamic and complex. Therefore, it cannot be assumed that either old, available data is still correct or that data from one Livelihood Zone can be applied to another. Approaches to improve nutrition and the range of economic options available to farmers must be based on current, localised information. This must consider men and women's roles and responsibilities within their household and community. Information must also reflect the roles and responsibilities of different groups of men and women (such as senior women) within the household and community.

Implication 4: A detailed gender analysis must be conducted for each Livelihood Zone TOMAK supports. This information must be used to inform the choice and design of specific activities supported in a community.

Do no harm

Target households and members of these households are generally highly susceptible to changes that adversely impact their situation, most lack the resilience to withstand such conditions. Consequently, it is essential that, whatever benefits may accrue, interventions do no harm to these households or disadvantaged members within these households.

The 'aspiring commercial farmers' households are susceptible to moving back to 'subsistence' households if conditions deteriorate. To avoid greater harm occurring as a consequence of program activities if this movement occurs, activities must not reduce availability of food, stability of food supplies and access to food supplies, and/or access to food. This must be considered for each household category within the 'aspiring commercial farmers'. In particular, specific consideration should be given to female-headed households.

Thus, during the planning stage this must be considered for each potential intervention. In particular, planning each activity will need to consider whether the activity may affect gender asymmetries in a household's:

1. Access to and control over social, physical, financial, natural and human assets; information; decision making and leadership.

2. Participation and power in markets and decision making; and
3. Risk & vulnerability to change.

Table 12. Sectoral Analysis Using the WEE Framework

Framework Area of Focus	Vegetables	Rice	Coffee	Livestock	Nutrition
Economic advancement – increased income	Women are mainly responsible for vegetable production and marketing.	Women contribute to rice production – particularly planting, harvesting and some weeding.	Women contribute to coffee production – particularly harvesting	Women are mainly responsible for small livestock rearing and farm gate sales	Men and women contribute to household income which goes to buying food. Women spend much of money generated at markets on food. Many men spend a large proportion of the household income on cigarettes.
Access to opportunities and life chances such as skills development or job openings	Women receive some support from NGOs but no support from extension services.	Extension services often target rice and the male members of the household	Extension services often target coffee and the male members of the household	Extension services often target large livestock and the male members of the household	Women have little access to information on agriculture or nutrition. Children often accompany women to work in fields due to lack of alternative child care.
Access to assets, services and needed supports to advance economically	Women grow vegetables on small plots for consumption; field crops are largely men's domain.	Field crops are men's domain and they control assets, supported by women	Coffee is men's domain and they control assets, supported by women	Veterinary services are sometimes available but inconsistently – there can be high incidence of poultry illness and death	When food is scarce, women are most likely to reduce their intake to make more available for children, thus increasing the likelihood of under-nutrition and anaemia which can flow to breastfeeding infants.
Decision-making authority in different spheres including household finances	Women utilise money earned from vegetables for household expenditures - HH money is pooled	Men sell rice and often give the money to women to manage with the HH pool	Men sell coffee and often give the money to women to manage with the HH pool	Women utilize money earned from livestock for household expenditures including education and social obligations	Women and grandmothers (particularly paternal) generally make decisions about purchase of food, pregnant women & children's health care without reference to husbands. Women (particularly poor women) often lack confidence to participate in public meetings so their priorities may not be addressed.
Manageable Workload	Production and marketing of vegetables contribute to women's workload but men often take over at home to help out when women are working on the farm or at market.	Women assist men in the fields, and particularly add to their workload at times of harvesting and transporting the harvest.	Women assist men in the fields, and particularly add to their workload at times of harvesting	Livestock does not take much time and as such is a preferred livelihood activity but it takes investment of capital that is not available	When women have insufficient time that prepare quick meals lacking in nutritional value. Women often have insufficient time to undertake activities to generate additional income.
Domestic Violence					Children's nutrition may be correlated to attitude to domestic violence.

If so, the planning process must consider whether this increased asymmetry has the potential to adversely affect availability of food, access to food, or the stability of food supplies and access to this food, or the empowerment of women or other disadvantaged groups. If the activity is pursued, mitigating strategies to avoid these negative consequences must be implemented and monitored. Subsequent M&E will seek to identify whether these asymmetries or other harmful outcomes eventuated.

Research has also found that where food security and nutrition activities focus on women, there can be a number of adverse impacts. Several researchers report that this often increases women's workload (Pottier, 1994; Rao, 2002). Others have found that it may lead to men relinquishing responsibilities for household food security (Rao, 2006). In addition, Rao reported that a focus on women could also lead to increased physical and psychological pressure and domestic violence.

Implication 5: To prevent interventions doing harm to intended beneficiaries, activity planning should identify whether the activity may reduce or change gender asymmetries within the household. Where this may occur, potentially negative consequences must be identified and strategies identified to avoid these occurring.

Empower disadvantaged groups including women

While activities will focus on poverty alleviation this should also to empower disadvantaged groups. It is expected this will include female headed households and households with persons with a disability. To achieve this, TOMAK will first need to identify these groups; and consider interventions that empower these disadvantaged groups, encourage a shift in norms, legal frameworks and policies; and then determine appropriate approaches to work with them.

Selection of Livelihood Zone: The design has identified three broad criteria for selecting the Livelihood Zone with which to work. These criteria are political economy, need and opportunity. Each of these has gender considerations (Box 2) which should be taken into account in the selection.

Box 2: Livelihood Zone selection criteria.

- 1) Political economy. Consistency with:
 - a) DFAT country strategy, gender policy;
 - b) GoTL priorities for disadvantaged areas;
 - c) Municipal and sub-Municipal priorities.
 - d) Other programs working there with women from which TOMAK could leverage.
- 2) Needs:
 - a) Relative number of people living below poverty line in sub-Municipalities.
 - b) Relative number of women living below poverty line in sub- Municipalities.
 - c) Human Development Index (HDI) for sub-Municipalities and HDI (or similar) for women;
 - d) Absolute number of poor households and women in sub-Municipalities.
- 3) Opportunities.
 - a) Presence of value chains in which women could play a leading role.
 - b) Numbers of poor households and female headed households potentially influenced.
 - c) Problems which TOMAK can be reasonably expected to impact.

Selection of value chains: The choice of value chains must focus on building economic opportunity for the majority of the poor. In making this assessment, it must be recognised that the needs, perceived opportunities and preferences of female and male members of a household are likely to be different. This must be specifically considered in the process of selecting strategies to support households. A range of criteria have been identified that should be considered when assessing value chains (Box 3).

Box 3: Value chain selection criteria.

Select value chains:

- 1) Aligned with Municipal and sub-Municipal priorities;
- 2) in which women could play a leading role;
- 3) that provide a potential for growth;
- 4) which maximise the numbers of poor and female-headed households potentially influenced;
- 5) contributing to improved nutritional outcomes while minimising possible negative outcomes, particularly for women and other disadvantaged groups;
- 6) supported by poor farming households, including female-headed households.

In analysing how TOMAK will select and support each of these value chains, the WEE Framework should be applied. This will identify the current situation and constraints for women's economic empowerment through this chain. Strategies can then be identified to address these constraints within the local context. In line with the principle of informed decision making, this will require current information on the local context rather than using data from elsewhere.

Implication 6: Selection of Livelihood Zones and value chains must include gender criteria.

Continuous improvement

Making social systems work better for poor farming households requires more than the standard development tool kit. Thus a degree of trial and error is needed, even welcomed, to learn more on new ways to influence these systems. In addition, learning is essential to the timely modification of activities that adversely impact a gender or disadvantaged group. Similarly, those strategies that present opportunity to a gender or disadvantaged group can be replicated elsewhere. Thus, learning must be from both success and failures. A real time monitoring and evaluation system, which measures individual interventions, is essential for this. In addition, the sharing of learning from similar programs (for example those operating in Cambodia, Fiji and Indonesia) should be maximised.

Implication 7: The M&E system must provide real time data to drive learning and improvement

Implication 8: A formal mechanism should be established to share learning between similar DFAT funded programs.

Mainstreaming and Specific Initiatives

Support to improve gender equality and WEE can be through mainstreamed approaches or activities specifically targeting women. TOMAK should use a combination of mainstreaming and specific activities. These targeted activities may be delivered to groups other than women for the ultimate benefit of the disadvantaged and marginalised, including women.

Mainstreaming will be achieved through application of the WEE approach. As previously noted, the WEE Framework must be one of the lenses through which each value chain must be analysed. In addition, contribution to changing attitudes towards domestic violence should also be considered. Similarly, when analysing activities to improve dietary diversity, the WEE should be applied. However, it is important that the economic advancement is considered at a household level rather than for the individual members (including women).

Specific initiatives targeting women may also be identified. However, for each of these activities, analysis must take into account the possible negative outcomes from the activity and how these can be addressed. For example, as noted earlier, in some cases supporting improved food security through targeting women adversely impacted food security as it led to men abrogating any responsibility for food security for their family.

Strategic Approaches

Drawing on "Challenging Chains to Change" (KIT, 2012), a number of strategies have been identified for integrating gender into agricultural programs. DFAT's draft Operational Guidance Note on Gender Equality and WEE in agriculture identifies these as:

1. Mitigating resistance by building on tradition. This strategy builds on what women already do and the crops or other products they already produce. This means taking traditional gender roles as a starting point.
2. Creating space for women. This strategy looks at supporting women to break into male-dominated chains and to become successful female entrepreneurs.
3. Organising for change. This strategy looks at making value chains more woman-friendly through capacity development, collective action, sensitisation of men and financial support services.

4. Standards, certification and labels. Through standards, certification and labels, it is possible to set standards on who participates in chains and how.
5. Gender-responsive business. This strategy focuses on the companies further along the value chain that integrate gender into their corporate strategy.

However, given TOMAK's second outcome focuses on improved nutritional outcomes through agriculture, a broader perspective to each of these strategies must be adopted. Based on a broader focus, a number of examples of possible points of entry TOMAK may use to adopt each of these approaches have been identified. These include:

1. Mitigating resistance by building on tradition. For example:
 - a) Improving productivity of crops and livestock for which women currently have responsibility (e.g. vegetables and poultry). This may be through improved access to knowledge, seed and other genetic material.
 - b) Supporting women to sell produce at markets as a group, thus saving time and cost.
 - c) Building on men's roles as protectors of the family to include elements associated with nutrition.
 - d) Raising senior women's awareness of nutritional requirements of pre and ante-natal women, babies and children.
 - e) Raising awareness among female and male farmers and senior women about pesticides and animal-borne disease.
 - f) Raising mother's awareness of nutritional requirements of pre and ante-natal women, babies and children.
 - g) Introducing labour saving devices which will enable women to have more time.
 - h) Using appropriate information channels so that women receive direct access to information (e.g. technology and market information).
 - i) Improving the understanding of all parties in a value chain of what maintains and maximises the value of the final product, particularly where there is a strong gender division of labour.

Care must be taken with this approach to ensure that the activities do not reinforce existing societal norms. The initiative should also be an opportunity to transform gender relations in a way that improves gender equality and WEE. Thus, it is not sufficient to simply mitigate resistance by building on tradition; other approaches must also be used.
2. Creating space for women. For example:
 - a) Supporting women to move up the chain to higher value points to process their product. For example, preserving fruit and vegetables (this has impacts for WEE and food security).
 - b) Developing women's business skills and financial literacy.
 - c) Supporting women's groups to establish small, home-based seed/seedling enterprises.
3. Organising for change. For example:
 - a) Promoting partners (especially extension service) understanding of the need and capacity to work with both female and male farmers.
 - b) Supporting establishment of micro-credit facilities for women. This may involve working with microfinance institutions to develop effective approaches to support women in agriculture.
 - c) Facilitating establishment of women's groups to support learning and united marketing.
 - d) Building women's (particularly poor women) capacity to participate in community groups and decision-making forum initially through establishment of women-only groups.
 - e) Activities to sensitise men in relation to aspects of agriculture where gender equity is poor and change is desired.
 - f) Supporting introduction of labour saving technology such as micro-irrigation, post-harvest coffee processing or maize seeders.
 - g) Raising awareness about domestic violence and that it is illegal.
 - h) Establishing TOMAK specific policy that support desired outcomes. For example non-smoking during working hours, specifying food that may be served at TOMAK funded events (in terms of nutrition) and source (local women's groups/small businesses).
4. Standards, certification and labels. For example:
 - a) Supporting women's access to 'Fair Trade' buyers would enable women to receive a premium and a more stable price.
 - b) Supporting processors to participate in the Fairtrade, CAFE Practices or similar market would improve equity for women working for the business.
5. Gender-responsive business. For example:
 - a) Encourage organisations buying agricultural produce (such as CCT) to employ female buyers which would model women's participation in male dominated value chains.

- b) Encourage business partners in the value chain to:
 - i) Adopt practices that facilitate entry and retention of women workers.
 - ii) Adopt Fairtrade, CAFE Practice or similar standards.
 - iii) Invest in up-skilling women.
- 6. A number of possible approaches do not 'fit' into any of these strategies. These include:
 - a) Introducing new crops and livestock that neither men nor women currently raise.
 - b) Supporting anti-smoking campaigns – particularly those aimed at men.

It is also important to remember that successful outcomes will require a series of complimentary interventions which may adopt a range of approaches. For example, improved vegetable production may involve training of women in more effective practices, provision of different genetic material, establishment of women's groups to operate seed enterprises, financial literacy training and establishment of women's groups to share marketing of vegetables. This involves application of three of the strategies discussed above.

Group formation

Groups have been found to be an effective approach to support participants to address barriers to adoption of change where they address specific barriers. TOMAK has adopted use of groups as a key mechanism through which to work. Gender and socio-cultural relations influence women's participation in groups as members, in decision-making and in leadership. As a consequence, member's gender and socio-cultural position will influence the benefits that they obtain from membership in groups.

Poor women, particularly those from the subsistence households, often develop self-esteem, solidarity, and a shared identity from participation in groups. The empowerment impact of active participation in groups is often more important for poor women than is the economic benefits of group membership. This empowerment can be a strong mechanism contributing to social change. However, very poor women are also unlikely to join and actively participate in groups unless there is a strong external catalyst to initiate and support group formation supported by long-term training and facilitation. Thus, where groups are used as a mechanism for improving the lives of the 'subsistence households', these should build on appropriate external catalysts, address barriers for participation by poor women (for example time, child care, inability to offer reciprocal relationships), provide suitable incentives to resource (including time) poor members, and long-term training and facilitation. In addition, M&E must recognise that the group may be highly successful where there is limited direct economic benefit but members are empowered.

Where women from different socioeconomic groups participate in the same group, many of the benefits will accrue to women who are already better off. For example, subsistence households are less likely to fill positions of leadership than women from rural entrepreneurial households. In many cases, the priorities and interests of members (including women) of subsistence, aspiring commercial and entrepreneurial households will differ. Thus, if members (and women) from subsistence households are not in leadership or decision making positions, their needs are unlikely to be addressed. Thus women from entrepreneurial households are likely to benefit more than women from either aspiring commercial, or subsistence households. When groups are established, the purpose of the group must be clearly considered, appropriate membership identified, and processes established and facilitation provided to overcome these challenges for poorer women. M&E should identify whether women from each household group have benefited from participation.

In addition, research has shown that for poor women to benefit from strategies for the collective organization in agriculture, these strategies must explicitly include measures to alleviate unfavourable work and power relations in their home as well as the broader social context. This may require developing women's skills to enable them to negotiate changes in decision making within their home and local community.

The gender and social analysis must identify possible external catalysts and barriers to members of disadvantaged socio-economic groups participating in groups (particularly those from subsistence households).

TOMAK should establish and fund implementation of policies to alleviate gender and other social constraints to participation in TOMAK supported self-help/community/producer groups. These will be dependent on the local community but may include provision of child care and transport. In addition, it may be necessary to establish small groups which are relatively homogenous in terms of gender, class, and ethnicity to benefit the most disadvantaged groups, in particularly women. These groups should be facilitated and the capacity of participants developed for at least one to two years. As leadership skills improve among the most disadvantaged and social awareness skills among all participants, it may be possible to merge these smaller groups.

Implication 9: Groups should only be used where they address barriers to change and where specific strategies are implemented to overcome gender based constraints to participation. Appropriate support (such as facilitation and capacity development) must be provided.

Requirements of the Livelihood Zone Gender Analysis

The social context defines the work undertaken by men and women, the groups they join, and distribution of resources and benefits. Research has shown that an intervention's recognition of this context and the response the intervention adopts can have significant impacts in outcomes – particularly differential outcomes between men and women (Quisumbing, 2014). Therefore it is essential that this context, and the gendered nature of this context, be well understood and addressed in the planning for all activities. This should initially occur through a detailed gender analysis in the Livelihood Zones with which TOMAK works. It will be important to make sure the gender analysis is timely and able to influence decisions to avoid a tokenistic retrofit approach.

The gender analysis must consider the context and the gendered nature of this context. For example, cultural norms often define men and women's roles and responsibilities. This influences all activities household members undertake and may lead to differential impact upon genders as a result of environmental change. Cultural norms may also influence men and women's abilities to access public transport, traditional law influences women's ownership of land. Security issues may influence men and women's ability to work in fields. Consequently, the context will influence all activities associated with TOMAK both directly and indirectly.

Research identified that the gendered access to, control over, and ownership of different types of assets was particularly significant in influencing an initiative's outcomes (Quisumbing, 2014). This influences all decision making. For example, it will initially affect men's and women's ability to participate in interventions supporting value chains. In addition, the research found that while the agricultural interventions often facilitated a beneficiary's ability to accumulate assets and could transform gender relations both within and outside the household, in many cases the intervention impeded women's ability to accumulate assets. The research found that detailed analysis of the social, economic and cultural contexts is essential to maximize participation, accumulation of value, and to minimise negative effects on participant's ability to accumulate assets. In addition, because of these gendered differences in resources it should not be assumed that female and male members of a household will make the same decision, or be involved in the same activity. An understanding of how resources are traditionally applied is critical.

As a minimum, the gender analysis will identify for men and women within the household:

- roles and responsibilities;
- regular activities undertaken and when these occur (particularly where seasonal);
- access to and control over resources including land, finance, information and other resources;
- roles of men and women in the house in decision making;
- perceived needs, opportunities and preferences of female and male members of the household;
- knowledge, attitude and practices in relation to infant and child nutrition;
- roles in relation to child nutrition;
- decisions men and women make that affect family nutrition;
- who influences and makes decisions around breastfeeding;
- differences in decisions in relation to breast feeding and feeding for male and female babies and children, and mothers and fathers;
- differences in diet for female and male members of the household (babies, children, adults and elderly);
- gender data at a community level should also be collected, that should identify:
- roles of men and women in the community decision making;
- existing single-sex and general groups within the community in which men and women participate;
- appropriate strategies to adopt to integrate gender;
- female and male leaders within the community (official and defacto); and
- NGOs and CBOs working with female and/or males in the community.

This data should be analysed on a disaggregated basis for each household group (subsistence, aspiring commercial, and rural entrepreneurs) and also for each category of men and women within the household group. As a minimum this will include: single-female and single-male headed households; mothers and fathers in dual parented households; and grandmothers).

In addition, the value chain analysis should explicitly consider gender division of labour. It should identify points at which either women or men are primary actors and points at which both men and women participate. This will enable identification of niches in which women and other disadvantaged groups are strong and others in which

they could compete. Knowledge of gender division of labour is also critical to effectively communicate information on improved practices or technology to those who will use this information. In addition, the specific barriers to entry, needs, power relationships of men and women (and other disadvantaged groups) along the value chain should be identified rather than assumed to be the same. Consideration of those whose position in the value chain is currently being reduced should be identified, along with those who may be impacted adversely by proposed activities to strengthen the value chain. Strategies targeting these groups should be developed.

Gender and WEE considerations for M&E:

Consideration of gender and WEE influences M&E at several levels. At a strategic level, the M&E must support identification of strategies that are effective in promoting gender equality and WEE. At an implementation level, implementation of the gender principles must be monitored. In addition, M&E should ensure equality for all groups in access to and benefits from TOMAK, and contribution to WEE. To achieve this, specific questions must be answered and a series of indicators will be required. This section discusses each of these aspects of M&E, identifies the key M&E questions and possible indicators.

Monitoring strategies for integrating gender into agricultural programs

TOMAK may adopt a number of different strategies for integrating gender into agricultural programs. TOMAK should monitor the implementation of these strategies to enable improvement of subsequent activities.

This monitoring would look at all activities implemented using each of the five strategies. For each strategy, the monitoring would determine whether the strategy achieved the intended outcome and what facilitated or constrained achievement of this outcome. Thus the key monitoring question is *"Did the strategy achieve the intended outcome? What facilitated or constrained achievement of this outcome?"* The analysis may need to be disaggregated by household group, household type (for example female-headed households), and cultural group (particularly whether the community is matriarchal or patriarchal).

The information from this would be fed back into planning to better implement activities using a specific strategy. In addition, the findings would identify which strategies were most/least effective in specific contexts. This could be used to support adoption of strategies that proved more effective in contributing to gender equality and WEE.

Monitoring the approach

The approach to implementation of TOMAK must be monitored to ensure that the principles are being effectively implemented and to improve future program activity. To achieve this, the monitoring must answer specific key monitoring questions for each principle. These include:

1. Informed decision-making: Are all planning decisions informed by current, local relevant gender disaggregated data which reflects the different knowledge and priorities for different genders (e.g. adult and elderly men and women)? What facilitates or constrains this?
2. Do no harm: What unexpected outcomes have resulted from program activities for any segment within a stakeholder group? How can negative unexpected outcomes be avoided and positive unexpected outcomes built upon?
3. Empower disadvantaged groups including women: What disadvantaged groups are there within the communities TOMAK works? How have these groups been empowered?
4. Continuous improvement: What lessons in relation to gender equality and WEE have been learnt from TOMAK or the broader sector? What facilitates or constrains the application of lessons to TOMAK?
5. Mainstream and specific initiatives targeted at gender and WEE: How have activities mainstreamed gender and WEE? How can this be improved? What specific gender and WEE initiatives have been implemented? How can this be improved?

Monitoring equality and contribution to WEE

In broad terms, M&E at an activity, output and outcome level must focus on equity in participation, and access to and control of benefit; and negative impacts. M&E questions to support this could include:

1. Activity level: Have men and women participated equally in TOMAK? What facilitated or constrained equal participation?
2. Output level: Did men and women have equal access to and control over TOMAK's outputs? What facilitated or constrained equal access and control?

3. Immediate outcome level: How have activities men and women undertake changed since TOMAK commenced? What facilitated or constrained these changes? Where the changes considered as positive or negative changes by men and women?
4. Intermediate outcome level:
 - a) What changes have occurred in men and women's access to and control of resources since TOMAK commenced? What facilitated or constrained these changes?
 - b) How have relationships between men and women's activities changed since TOMAK commenced? What facilitated or constrained these changes?
 - c) Have men and women benefited equally from TOMAK? What facilitated or constrained equity in benefit?

Activity and outcome specific indicators are required to support the M&E. Examples of possible indicators are set out in Table 13. Analysis of data for indicators at this level must be disaggregated by household group and type, gender and other relevant units.

For each indicator, there must be a clear understanding developed and documented as to whether an increase or decrease in the indicator over time is seen as positive or negative in terms of gender equality and WEE. For the same indicator, this may differ between activities.

Table 13: Possible indicators for different levels of Outcome 1 and 2.

	Outcome 1 Value Chains	Outcome 2 Nutrition
Activity	Number of men and women participating in the activity (e.g. integrated pest management/safe handling of handling agricultural chemicals).	
Immediate outcome	Number of farms that have introduced new technology and/or farm practices. Changes in workload for men and women as a result of new technology.	
Intermediate outcome	Refer Table 14	Increase in income of female-headed households. Change in (nutrition measures) disaggregated by female/male head of household Change in engagement of men in nutrition. Change in household resource allocation (time & money) related to food.

Table 14: Possible indicators for each WEE outcome

WEE Element	Possible indicator
Economic advancement – increased income	Participation of females and males at each stage in the value chain. Increase in income of female headed households. Participation of females and males in specific value added activities (such as Fair Trade and organic certifications, Fairtrade, Rainforest, Alliance or CAFE Practices).
Access to opportunities and life chances such as skills development or job openings	Participation of females and males in each post-production stage of the value chain.
Access to assets, services and needed supports to advance economically	Satisfaction of female and male with access to relevant inputs and markets.
Decision-making authority in different spheres including household finances	Numbers and proportion of female and male's in leadership positions in groups (by household group).
Manageable workload	Changes in workload for men and women as a result of new technology

Entry Points for TOMAK

There are numerous potential points of entry for TOMAK. These points of entry will target one or more of the five elements of the WEE Framework, the three factors influencing food security, and domestic violence. The appropriate potential points of entry will be a function of the local context (refer Box 3). Consequently, it is not possible to identify specific points at this stage. However examples of points of entry are set out in Table 15.

Improvements in gender equality and WEE can only be achieved through a change in behaviour - increased knowledge is insufficient. The changes in behaviour must be demonstrated by the TOMAK team. It is therefore important that all policy, procedures, practices and materials reflect the behaviour in relation to gender equality and WEE that TOMAK seeks across beneficiaries. To achieve this, all team members must be fully gender aware,

have an attitude that supports gender equality and WEE, and reflect this in their behaviour. It cannot be assumed that this will be possessed by all team members. Therefore, specific training and coaching should be provided to all team members to develop gender awareness, and demonstrated attitude and supportive behaviour included in selection criteria for all managers.

Similarly, the capacity of partners to successfully integrate gender into all activities must be assessed. Where this capacity is insufficient, TOMAK must also build this capacity within partners. Lessons elsewhere (for example, Australia-Nusa Tenggara Assistance for Regional Autonomy in Indonesia) indicate that this is critical if gender inequality is to be effectively addressed.

Key Things to Remember

In all elements of TOMAK, design and implementation must recognise that men and women have different:

- access to, and control over resources;
- roles and responsibilities that are dependent on socio-cultural backgrounds;
- knowledge as a consequence of different roles in agricultural value chains;
- criteria on which they base decisions;
- access to information and sources of information;
- needs and consequently priorities to improve their situation;
- understanding these differences is critical to effectively address gender issues, improve equity, identify the best strategies to achieve TOMAK's outcome and avoid strategies that will produce negative unintended consequences. In addition, the differences in power relations between the three different household groups is likely to significantly impact strategies to address equality.

Table 15: Opportunity Analysis Using the Women's Economic Empowerment Framework

Framework Area of Focus	Vegetables	Rice	Coffee	Livestock	Nutrition
Economic advancement – increased income	Women could increase income through better yields, expanding land cultivation (by saving time elsewhere), improved vegetable quality and varieties knowledge about high-value and multi-cropping.	Improvements to women's skills in the post-harvest handling of rice would particularly contribute to greater income.	Increased yields and mechanization (of the drying process and post-harvest handling) would greatly contribute to income. Supporting women's access to 'Fair Trade' buyers would enable women to receive a premium and a more stable price. Supporting processors to participate in the 'Fair Trade' market would improve equity for women working for the business.	Access to livestock loans and veterinarian services would help to increase incomes.	Increasing agriculture productivity would increase household incomes and money available for buying nutritious food. Improving understanding of nutrition would support better allocation of household budget for buying nutritious food.
Access to opportunities and life chances such as skills development or job openings	Women would benefit from increased access to training on vegetables as well as access to information. Work with partners (particularly extension services) to raise their awareness about the need to work with women.	Women would benefit from increased access to training on rice management and post-harvest handling. Work with partners (particularly extension services) to raise their awareness about the need to work with women.	Women would benefit from increased access to training on coffee management and post-harvest handling. Work with partners (particularly extension services) to raise their awareness about the need to work with women.	Women would benefit from increased access to training on livestock management. Work with partners (particularly extension services) to raise their awareness about the need to work with women.	Provision of information on agriculture to women would contribute to increased productivity & household income. Work with partners (particularly extension services) to raise their awareness about the need to work with women. Provision of information on nutrition, stunting, breastfeeding, weaning & child feeding practices would contribute to improved nutritional outcomes. Provision of information on proper use of pesticides may contribute to reduced exposure of children to hazards from pesticides.
Access to assets, services and needed	Access to seeds, fertilizers, chemicals, land, and labour saving devices (particularly for irrigation) would help to	Little opportunity for increased women's engagement other than for women headed households.	Access to labour saving devices for the mechanization of the coffee process would particularly benefit women and their workload.	Access to veterinary services would reduce the incidence of illness and death – particularly for	Improving men's, grandmother's & mother's understanding of value of pre & post-natal health care & good nutrition stunting, breastfeeding,

Framework Area of Focus	Vegetables	Rice	Coffee	Livestock	Nutrition
supports to advance economically	increase women's outputs while decreasing their workload.			poultry - with resulting increases in income	weaning & child feeding would contribute to improved nutritional outcomes for mothers and babies. Improve household's ability to finance purchase of food during periods of low production.
Decision-making authority in different spheres including household finances	Women would continue to utilize the money earned from vegetables for household expenditures, with other household money being pooled	Men would continue to sell most of the rice and give the money to the women to manage as part of the household pool; women will continue to sell smaller amounts of rice when they go to market.	Men would continue to sell coffee and give the money to women to manage as part of the household pool	Women would continue to utilize the money earned from livestock for household expenditures, including education and social obligations	Improving men & grandmother understanding of nutritional requirements of pre & anti natal women, babies and children would improve decisions that impact nutritional outcomes. Establish women only groups (for different household groups) to ensure women's (particularly poor women's) voice is heard. Improving women's capacity to participate in decision making in the community through supporting women in leadership roles in project groups.
Manageable Workload	Women could save time through more efficient market linkages and labour saving devices (particularly micro irrigation), made available through the private or public sector.	There is no mechanization that is likely to reduce the harvesting workload of women - the milling of rice, for instance, is already done by millers.	Mechanization of the coffee drying process would be especially time-saving for women; women could access such technologies through the public or private sector.	Increasing the number of animals increases income without adding much to the workload of women; appropriate microfinance loans would be a benefit here	Reducing women's workload through labour saving devices would increase time for economic activity (and generation of household income) and preparation of nutritious meals.
Improve availability of food	Increase quantity and/or diversity of food production. Enhance protection of crops to reduce loss of crop. Introduce/improve preservation of subsistence crops.				
Improve access to	Improve food production to enable sale of excess and increased income to enable purchase of food. Improve men, grandmother and mother's understanding of nutritional requirements. Introduce/improve preservation of subsistence crops.				

Framework Area of Focus	Vegetables	Rice	Coffee	Livestock	Nutrition
food					
Improve access and stability of food supplies	Increase the diversity of food produced to minimise risk and improve stability of supply. Improve men, grandmother and mother's understanding of nutritional requirements. Enhance protection of crops to reduce loss of crop, Introduce/improve preservation of subsistence crops. Improve household's ability to finance purchase of food during periods of low production.				
Domestic violence	Raise awareness of domestic violence and it being illegal in training for all team and a module integrated into other training delivered.				

Annex 10 References

- ADB. (2014). *Timor Leste Country Gender Assessment*. Dili: ADB.
- Chambers, R. (2014). *Into the unknown: Explorations in development practice*. London: Practical Action Publishing.
- Chars Livelihood Programme. (2015, June 30). *CLP - Reducing extreme poverty on the riverine islands of north west Bangladesh*. Retrieved from CLP: <http://clp-bangladesh.org/>
- COI. (2009). *Communications and behaviour change*. London: COI Publications.
- Curran, S. (2013). *Nutrition-Sensitive Agriculture Programs in Timor-Leste - A mapping and gap analysis*. Dili: Seeds of Life MAF.
- Curtin University. (2012). *Migration Patterns and the Impact of Internal Remittances on Poverty and Human Capital in Timor-Leste*. Perth: Curtin University.
- DFAT. (2013). *Timor-Leste Agriculture Sector Analysis: Synthesis and Mapping for AusAID*. Dili: Prepared by P Young, Oct 2013.
- DFAT. (2014). *Timor Leste Public Expenditure Analysis*. Canberra: Development Economics Branch.
- DFAT. (2015). *Strategic framework for Australia's aid investments in the agriculture, fisheries and water sectors*. Canberra: DFAT.
- FAO. (2011). *The state of food and agriculture 2010-2011: Women in agriculture - closing the gender gap for development*. Retrieved from FAO Corporate Document Repository: <http://www.fao.org/docrep/013/i2050e/i2050e00.htm>
- FAO. (2014). Second International Conference on Nutrition - Frame work for Action. *Conference Outcome Document*. Rome: FAO.
- GoTL. (2010). *Timor-Leste Demographics and Health Survey*. Dili: GoTL.
- GoTL. (2013). *Timor-Leste food and nutrition survey 2013*. Dili.
- GoTL. (2014). *Timor-Leste - The Millenium Development Goals Report 2014*. Dili: Ministry of Finance GoTL.
- GoTL. (2015). *Prime Minister's key-note address at the 2015 Timor-Leste Development Partners Meeting*. Dili: Office of the Prime Minister.
- GoTL. (2015). *Timor-Leste Labour Force Survey 2013*. Dili: SEFOPE, MoF and DGE.
- Hoddinott, e. a. (2011, March). Consequences of early childhood growth failure over the life course. *IFPRI Discussion Paper 01073*.
- IFAD. (2015, June 30). *An IFAD Sustainable Livelihoods Framework*. Retrieved from IFAD: <http://ifad.org/sla/framework/index.htm>
- IFC. (2010). *Timor-Leste gender and investment climate reform assessment*. Dili: International Finance Corporation and AusAID.
- IFC. (2010). *Timor-Leste Gender and Investment Climate Reform Assessment*. Dili: IFC.
- KONSSANTIL. (2014). *Zero Hunger Challenge - National Action Plan for a Hunger and Malnutrition Free Timor Leste*. Dili: RDTL.
- Kurz, K. (2014). Nutrition-Sensitive Interventions and Agriculture Value Chains: Preliminary Lessons from Feed the Future Implementation in Four Countries. *FAO-WHO Second International Nutrition Conference (ICN-2)*. Rome: FAO.
- Market Development Facility. (2014). *Timor-Leste Poverty and Gender Study*. Dili: DFAT.
- Ministry of Finance. (2008). *Timor-Leste Living Standards Survey*. Dili: GoTL.

- Monash. (2014). *Poverty and the agricultural household in Timor-Leste: Some patterns and puzzles*. Melbourne: Monash University.
- National Statistics Directorate. (2012). *Timor-Leste Household Income and Expenditure Survey 2011*. Dili: Ministry of Finance.
- PNDS. (2014). *PNDS Research and Evaluation Program - Mixed Methods Baseline Survey*. Dili: PNDS.
- Prado, E. L., & Dewey, K. G. (2014). Nutrition and brain development in early life. *Nutrition Reviews*, 72(4), 267-284.
- Pretty, J., Guijt, I., Thompson, J., & Scoones, I. (1995). *Participatory learning and action: a trainers guide*. London: IIED.
- RDTL. (2011). *Timor-Leste Strategic Development Plan 2011-2030*. Dili: Democratic Republic of Timor-Leste.
- RDTL. (2012). *Program of the 5th Constitutional Government - 2012-2017 Legislature*. Dili: Presidency of the Council of Ministers.
- RDTL. (2013). *Timor-Leste Food and Nutrition Survey*. Dili: GoTL.
- SAMARTH. (2015, June 30). *Nepal Market Development Program*. Retrieved from SAMARTH: <http://samarth-nepal.com/>
- SEAPRI. (2013). *National Strategy and Action Plan for Gender and Private Sector 2014-2017*. Dili: State Secretary for the Support and Promotion of the Private Sector.
- SEFOPE & DNE. (2010). *Timor-Leste Labour Force Survey 2010*. Dili: RDTL.
- UNDP. (2011). *Timor-Leste Human Development Report: Managing Natural Resources for Human Development - Developing the Non-Oil Economy to Achieve the MDGs*. Dili: UNDP.
- UNDP. (2013). *Human Development Report 2013: The Rise of the South: Human Progress in a Diverse World*. New York: UNDP.
- USAID. (2013). *Accelerating Inclusive Economic Growth in Timor-Leste*. Dili: USAID.
- USAID. (2014). *Solisitation Offer - AVANSA: Integrated food security, climate change adaptation, and private sector competitiveness*. Bangkok: USAID, Asia.
- WHO. (2010). *Nutrition landscape information system (NLIS) - Country profile indicators, Interpretation guide*. Washington: World Health Organisation.
- World Bank. (2010). *Boosting agriculture exports in Timor-Leste to reduce poverty*. Dili: World Bank.
- World Bank. (2015, July 6). *Nutrition at a glance - Timor-Leste*. Retrieved from World Bank Site Resources: <http://siteresources.worldbank.org/NUTRITION/Resources/281846-1271963823772/TimorLeste.pdf>
- ABC, 2013. <http://www.abc.net.au/news/2013-11-08/domestic-abuse-in-east-timor/5024198>
- Amin R, De Oliveira TJCR, Da Cunha M, Brown TW, Favin M, Cappelier K. *Factors limiting immunization coverage in urban Dili, Timor-Leste*. *Global Health, Science and Practice*. 2013;1(3):417-427. doi:10.9745/GHSP-D-13-00115 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4168582/>
- Bhagowalia, P., Menon, P., Quisumbing, A., and Soundararajan, V. 2012. "What Dimensions of Women's Empowerment Matter Most for Child Malnutrition? Evidence Using Nationally Representative Data from Bangladesh." IFPRI Discussion Paper 01192. June 2012.
- Carmona, M. 2012. Report of the Special Rapporteur on extreme poverty and human rights. United Nations General Assembly, May 24, 2012.
- GoTL, 2010. Timor-Leste Demographic and Health Survey 2009-2010. National Statistics Directorate, Ministry of Finance, ICF Macro (2010). Available online at <http://dne.mof.gov.tl/published/TLDHS%202009-10/Final%20Report%20TLDHS%202010.pdf>
- GoTL, 2011. Timor-Leste Strategic Development Plan 2011 – 2030. Palácio Do Governo, Edifício 1, R/C, Avenida Presidente Nicolau Lobato, Dili, Timor-Leste. <http://timor-leste.gov.tl/wp-content/uploads/2011/07/Timor-Leste-Strategic-Plan-2011-20301.pdf>

- GoTL 2012. Timor-Leste Household Income and Expenditure Survey 2011. National Statistics Directorate General Directorate for Analysis & Research Ministry of Finance Timor-Leste (2012)
- GoTL, 2013. National Strategy and Action Plan for Gender and Private Sector 2014-2017, Timor-Leste, State Secretary for the Support and Promotion of the Private Sector.
- International Finance Corporation. 2010. Timor-Leste Gender and Investment Climate Reform Assessment in Partnership with AusAID. International Finance Corporation.
- IASC, 2012. Nutrition. IASC Gender Marker Tip Sheet.
- Jones, L. 2012. Women's Economic Empowerment Framework M4P Hub paper for DFID, Sida and SDC.
- Jones, L. 2014. Women's Economic Empowerment. TOMAK Concept Paper.
- Justice System Programme. UNDP Timor-Leste.
http://www.tl.undp.org/content/dam/timorleste/docs/reports/DG/Domestic%20Violence%20Report%20_with%20cover%20F1NAL.pdf
- KIT, Agri-ProFocus and IIRR. 2012. Challenging chains to change: Gender equity in agricultural value chain development. KIT Publishers, Royal Tropical Institute, Amsterdam.
https://www.cordaid.org/media/publications/Challenging_chains_to_change.pdf
- Kovar, A. 2012. Approaches to Domestic Violence Against Women in Timor-Leste: A Review and Critique. In Human Rights Education in Asia-Pacific. Vol. 3 p207 - 252 <http://www.hurights.or.jp/archives/asia-pacific/section1/pdf/9%20-%20Approaches%20to%20Domestic%20Violence%20against%20Women%20in%20Timor-Leste.pdf>
- Kyeema Foundation (2006) Poultry Newsletter Edition Six .pp. 8-9.
http://www.kyeemafoundation.org/content/userFiles/file/news/eNewsletter8_Apr06.pdf
- Niner S. 2012. 'Between Earth and Heaven: The politics of gender', The Politics of Timor-Leste: Democratic Consolidation after Intervention, Editors M. Leach and D. Kingsbury, Ithaca, NY: Cornell Southeast Asia Program, pp. 239—258
<http://www.cornellpress.cornell.edu/book/?GCOI=80140100516420>
- Niner S. 2012. *Barlake: an exploration of marriage practices and issues of women's status in Timor-Leste*. Local-Global. p137 – 153.
<http://static1.squarespace.com/static/51d4bd75e4b07e302339573d/t/51da4f50e4b001cbc64ec67b/1373261648822/Local-Global%2C+Volume+11+%28Niner%29.pdf>
- OECD, Social Institutions and Gender Index. Timor-Leste. OECD Development Center.
<http://www.genderindex.org/sites/default/files/datasheets/TL.pdf>
- Ospina, S.(2006) Participation of Women in Politics and Decision Making in Timor-Leste: A Recent History UNIFEM
- Pottier, J., 1994. Poor Men and the Politics of Household Food Security. Centre of African Studies, Edinburgh. 2526 May.
- Quisumbing A.R., Rubin D., Manfre C., Waithanji E., van den Bold M., Olney D., Meinzen R., 2014. Closing the Gender Asset Gap Learning from Value Chain Development in Africa and Asia. Discussion Paper 01321 February 2014. IFPRI, Poverty, Health, and Nutrition Division
<http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/128013/filename/128224.pdf>
- Rao, N. 2002. Standing One's Ground: Gender, Land and Livelihoods in the Santal Parganas, Jharkhand, India, Ph.D. Thesis. University of East Anglia, Norwich.
- [Rao, N.](#) 2006. Land rights, gender equality and household food security: Exploring the conceptual links in the case of India..Food [Policy](#); Vol. 31 (2), 2006, 180–193.
- Shatifan N. 2012. Gender equality as a key dimension for improved maternal and child nutrition to reduce stunting. A gender assessment for MCC-Bappenas.
- Trembath, Grenfell and Noronha reported in Wigglesworth, A. (2012) Dreaming of a Different life: Steps towards Democracy and Equality in Timor-Leste. American Portuguese Studies Association.
- UN 2010. Timor – Leste. UN Women. United Nations entity for Gender Equality and Empowerment of Women.
- UN, 2014. Timor-Leste Fact Sheet. UN Women. United Nations Entity of Gender Equality and the Empowerment of Women. http://www.unwomen-eseasia.org/docs/factsheets/05%20TIMOR_LESTE%20factsheet.pdf

UNDP, 2013. Breaking the Cycle of Domestic Violence in Timor- Leste. Access to Justice Options, Barriers & Decision Making Processes in The Context of Legal Pluralism. October 2013

UNDP, 2014. Human Development Report 2014. Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience Explanatory note on the 2014 Human Development Report composite indices. Timor-Leste. HDI values and rank changes in the 2014 Human Development Report. http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/TLS.pdf

USAID (n.d.) Property Rights and Resource Governance: Timor-Leste. http://usaidlandtenure.net/sites/default/files/country-profiles/full-reports/USAID_Land_Tenure_Timor-Leste_Profile.pdf

USAID/The Asia Foundation/Stanford Law School (n.d.) Introduction to the Laws of Timor-Leste: the laws of succession.

Wigglesworth, A. (2012) Dreaming of a Different Life: Steps Towards Democracy and Equality in Timor-Leste. American Portuguese Studies Association. p.35-36