



# Grant from Isle of Man CABINET OFFICE POLITICAL GROUP International Development

This report refers to the 12 month period from 1<sup>st</sup> August 2017 to 31<sup>st</sup> July 2018

The funding in this report refers to **£87,000**, the second transfer of the **£261,000** awarded by the Isle of Man International Development Committee for the three years of 2016-2019, £87,000 per annum.



*A family in the impoverished District of Bobonaro, benefiting from the support of the People of the Isle of Man, via HIAM Health.*



***Hamutuk Ita Ajuda Malu.***

*Together, we help each other.*

*The community, with help from the HIAM staff, constructing the new beds, raised to assist water retention and mulching with compost.*



The proactive measurement of children for malnutrition continues within their communities.





Some of the further 90 AEWs trained in 2017-18, attending a residential course at HIAM Health in NSA (Nutrition Sensitive Agriculture.)



Household Representatives (HRs) and Community Mobilisers attending a residential course at HIAM, studying the cultivation of the moringa plant: here learning to identify healthy seeds.



Local community leaders taking part in discussions before the implementation of a new programme.



It was marvellous being with communities, planning their future with HIAM and proposing the communal sharing of land because they wanted to be 'more involved' with the work that HIAM is doing. They wanted the whole community to share and benefit. HIAM has already supplied irrigation and water storage to the communities, as well as instruction and seed to individuals.



A local area governor (left), one of many who strongly supports HIAM's work, and two (centre and right) AEWs trained by HART and absolutely bubbling over with all they are able to share with the more than a hundred communities they cover between them. They share ideas of nutrition, horticulture, hygiene (including simple hand washing), community sharing, and report strong take-up of the new ideas.



Displaying a variety of seriously delicious recipes using the nutritious moringa plant. HIAM have now been able to print the Moringa Recipe Book, following the exploratory project for it paid from Isle of Man funding.

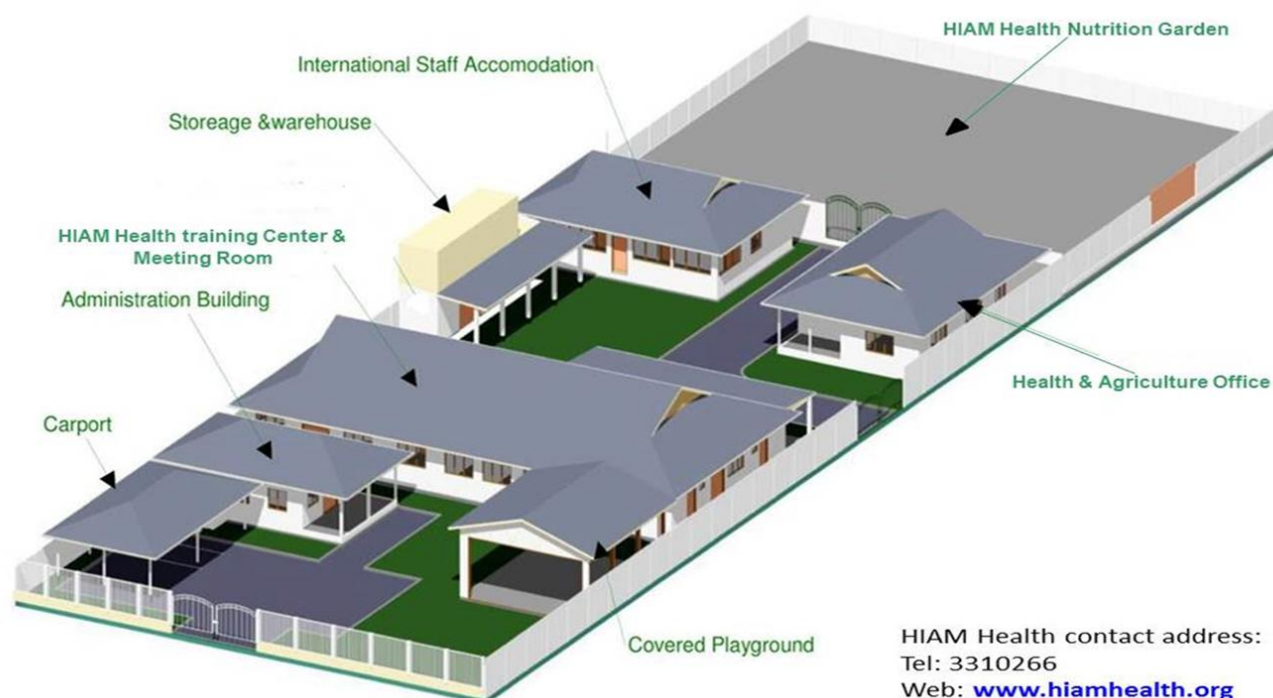


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## Isle of Man COPG Project: MYG020.15

### OVERVIEW OF FUNDING

The grant of £87,000 was received from the Isle of Man COPG in October 2017.

This Report covers the period financially of August 2017 – July 2018.

£79,000 was transferred to our partner, HIAM Health in Timor Leste, and £8,000 retained by HART for monitoring and evaluation, as agreed with the Isle of Man in August 2016.

The £79,000 was converted by our partner into \$108,755.52 U.S., the \$U.S. being the national currency of Timor Leste.

By the close of July 2018, \$86,916.65 had been spent.

\$21,838.87 being carried forward for the remaining two months.

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## USE OF ACRONYMS

Acronyms	
<b>AEW</b>	Agricultural Extension Workers
<b>AOP</b>	(Aid Programme of Australian Government) formerly AFTAP
<b>CMB</b>	Community Mobilisers
<b>COPG</b>	Cabinet Office Political Group of Isle of Man Government
<b>DFAT</b>	Australian Department of Foreign Affairs and Trade
<b>HART</b>	Humanitarian Aid Relief Trust
<b>HIAM</b>	HIAM-Health, which derives from the acronym of the tagline in the Tetun language, “Hamutuk Ita Ajuda Malu”. in English, it means “Together we help each other”.
<b>IOM</b>	Isle of Man
<b>IDC</b>	Isle of Man International Development Committee
<b>INGO</b>	International Non-Governmental Organization
<b>MREC</b>	Malnutrition, Rehabilitation & Education Centre
<b>NSA</b>	Nutritional Sensitive Agriculture
<b>T.L.</b>	Timor Leste OR Timor Leste Government ... Timor Leste = East Timor.
<b>TOMAK</b>	The most prominent Australian Government funded programme in Timor Leste for agricultural livelihood.

## PARTNER INFORMATION

### HIAM Health

HIAM Health (HIAM) is an indigenous Non-Governmental Organisation (NGO) based in Dili, Timor-Leste, working to reduce childhood malnutrition. Established in November 2003 it was originally based in the Dili National Hospital. HIAM's Malnutrition, Rehabilitation and Education Centre (MREC) opened on 15 March 2010. The Centre was planned to house and treat up to 30 children, with residential quarters for caregivers (usually family members) to live at MREC during the patient's stay. This treatment of children programme was forced to cease in December 2014 for financial reasons, as HART explained to the Isle of Man. Over the past three years, as reported, the accommodation and teaching areas have been continually used for the training of over 400 Agricultural Extension Workers (AEWs) and Community Mobilisers (CMBs). It also has a 700 square metre garden, used for education in the growth of nutritional foods, production of organic fertilizers and pesticides and preparation of enjoyable food using the high nutrition value produce.

Nobel Peace Prize Laureate Dr. José Ramos-Horta, the former President of Timor-Leste, continues as Patron. A board of directors was established in early 2013. The organization's management structure consists of a Director, Deputy Director, Finance Manager, a Nutrition Programme Manager and an Agriculture Programme Manager. Currently it has a staff of 27 people.

HART has been working with HIAM Health since 2005 to support their programmes to combat child malnutrition and accompanying physical and mental underdevelopment. Education in prevention and treatment of malnutrition and in hygiene are essential components of this strategy.

In 2015 the Timor Leste Government invited HIAM Health to undertake training for their Agricultural Extension Workers (AEWs) to enable them to reach a very significantly larger number of villages in remote locations, with education for communities, to enable them to adopt transformational changes in diet to reduce childhood



malnutrition. Updating and support of these AEWs continues to this day, while the government provides them with basic agricultural training to share with the farmers in their areas,

More recently, 2016-18, the programmes include the use of the moringa plant which is now being increasingly recognized internationally as a very effective agent in alleviating problems of malnutrition. This has involved the selection and training of Community Mobilisers, to establish the most efficient cultivation and the maximum nutritional use of the leaves of this plant.

## HIAM HEALTH MALNUTRITION REDUCTION PROJECT

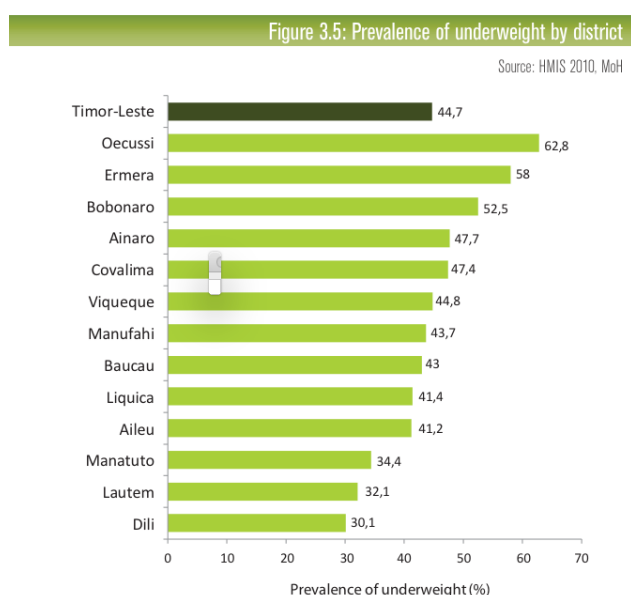
Details from HART's original proposal in February 2015.

### PROJECT BACKGROUND

Timor Leste ranks third in the world for figures of childhood stunting and malnutrition, as stated in the original proposal. The two countries with worse figures are Yemen and Afghanistan.

The original strategy was to provide a month of residential care to children referred to the Centre by various agencies, suffering from severe malnutrition, in order to: 1) provide 'success stories' of the effects of good nutrition based upon a diversity in horticulture ("what you eat is what you grow"); 2) train the care givers/ families in improved horticulture and nutrition. It was hoped that this use of local family members and their children as the exemplars and disseminators of new ways in nutrition and horticulture would break barriers of ignorance and cultural taboos, introducing such new ways of growing and enjoying locally available nutritional foods.

This programme had to be modified, due to the failure of funding from an important donor, as reported to the IOM in the report. for 2015-16. (That was the report for the 3<sup>rd</sup> and final year of the previous 3-year grant from the IOM, covering 2013-2016.)



### OBJECTIVES (as per proposal of February 2015):

The Project Delivery Plan for 2016-2019 stated five components:

- 1) In-Patient Care of malnourished children enabling them to return to their villages both as healthy youngsters and also as a source of encouragement to villagers to adopt HIAM Health's nutrition programme.
- 2) The refining, upgrading and increasing of HIAM-Health's educational materials and staff skills.
- 3) The screening of children for malnutrition.
- 4) Developing nutritional diversity.
- 5) Training of those supplying outreach into the communities, such as the AEWs and the CMBs.

In addition, it was hoped to see the expansion of this programme to other regions in Timor Leste – ultimately it is intended to eliminate 'the root of the problem. Much malnutrition had been caused by

ignorance and cultural taboos. Therefore, education, example and demonstration of effectiveness of this approach can be transformational for the country.

### **BENEFICIARIES (as per proposal for Year 3):**

The proposal emphasised the importance of:

- focusing “on behavior change as the foundation for sustainability”;
- “visiting the homes and communities”;
- “spreading improved nutrition”;
- scaling “up to a national level in order to help in achieving the government’s National Development Plan’s target of eliminating malnutrition”;
- Ensuring that “this application supplies the necessary staff, logistical and administrative infrastructure without which the gardens programme could not be implemented”.



Source: Wikipedia

### **BENEFICIARIES 2017-18:**

Through the AEWs, HIAM influences agricultural and nutritional practices throughout Timor Leste.

In its ‘garden’ and moringa projects, with accompanying irrigation, it targets the Districts in the West of Bobonaro, Oecussi and Ermera. These are more difficult of access amongst the Districts; also identified by Government statistics as the poorest three Districts within Timor Leste; Bobonaro receives less government support.

180,000+ potentially reached in Districts covered by the AEWs trained and updated in NSA (Nutrition Sensitive Agriculture); this figure is not the total population of these Districts.

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16,000 population in communities where 'gardens' established by HIAM, receive teaching and enablement of community in irrigation, diversified agriculture, healthy seeds, and nutrition.

520 family members involved specifically in 'gardens'.

110 AEWs attended updating courses.

90 additional AEWs trained in NSA (Nutrition Sensitive Agriculture) and other skills relating to health and hygiene.

## STRATEGY OF EMPHASIS UPON NUTRITIONAL SENSITIVE AGRICULTURE (NSA)

Hiam Health continues to place the emphasis not simply upon food security but upon **"Nutritional Security"**. It is not sufficient to give people a sense that something is filling their stomach and stopping their pangs of hunger. In a country where malnutrition and stunting (mental and physical) are so prevalent it is essential to ensure that good nutrition is provided.

The work of HIAM Health takes place more and more in collaboration with the Timor Leste Government. This has been seen over the past three years, including this year of 2017-18, in:

- the training during 2015-17 of the 400+ AEWs (salaried and provided with basic agricultural training by the Government, but receiving no training in nutrition, nor in teaching of farmers the importance of growing plants of good nutritional value, and of preserving and cooking in a manner to retain high nutritional value);
- the updating in 2017-18 of 111 of the same AEWs, and training of a further 90;
- the establishment in 2018 of a Government National Curriculum for Nutritional Sensitive Agriculture, drawn up by HIAM Health during 2017-18 (see Appendix 05);
- the development of good water management, in a country suffering from chronic water shortage, despite 5-6 months annually of heavy rainfall, and a largely mountainous interior suitable for water retention;
- the continuing establishment of 'gardens' or small holdings' to demonstrate and propagate the new practices and water management in the remote areas with malnourished population;
- the monitoring of the same 'gardens', probably the most time- and staff- intensive work of HIAM Health, for which further funds are always needed, as this often involves the re-establishment of 'gardens' failing to reach their potential or even, in some cases, totally failing through community inertia;
- the mobilizing of communities to establish improved agricultural and nutritional practice, and hygiene, including crop diversification, crop rotation, composting, mulching and water management through storage and irrigation;
- the mobilization of communities always entails a constant campaign against a 'fatalism' in the population, and constant support of those individuals in communities identified as possessing openness to change, as well as leadership and influence;
- the propagation of the moringa plant and the teaching of its potentially significant contribution to the diet of the country;

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HIAM continues extending its original policy to a more and more nation-wide programme, not only in the geographical area covered but in its teaching curriculums (See Appendices 07 and 08 for examples). The IOM funded the production of both the NSA curriculum, now designated by the Timor Leste Government “the national curriculum” for that subject. Also the recipe book, printing now completed (the cost of the final printing paid by TOMAK. The conceptualization and pilot project for it has been funded by the IOM in 2016-17 and 2017-18).

The essence of the strategy was well expressed by Dr. Jeremy Beckett, Director of “Maluk Timor”, an Australian Health NGO in Timor Leste:

“We doctors, nurses and health staff see many patients. But we are the third line of care and intervention. Once we have cured them of their immediate health problem they go back. Until we can change what they go back to, they will continue being patients.”

"As doctors in Timor-Leste, we find our work is so distal (*'downstream' if you prefer*): we are seeing the end result of upstream problems that we can't control, and often by the time they get to us it is too late. We need programmes such as HIAM Health and the Women's Health & Social Care programme on Atauro Island, to get to the core problems that drive the medical conditions we see as doctors."

The strategy of HIAM, since its foundation in 2003, and through the five years 2013-2018 in which the Isle of Man has supported it, has been to concentrate precisely on this background, to change what the children and families “go back to”. The agriculture, hygiene, water management and spacing of childbirth all need improving. HIAM is involved in all these four.

HIAM assists in providing improved agriculture through:

- training courses at the Centre;
- selecting, encouraging, equipping (with necessary physical equipment) and monitoring, 126 Community Mobilisers and Household Representatives, as well as the nearly 500 AEWs;
- establishing Community Gardens and Smallholding (109 by August 2018, plus a further 27 through assistance provided by HIAM staff to other organizations), most of which can be seen to be having a positive effect upon their neighbours and communities.

Through these means HIAM establishes good supportive relations with many communities. By returning to these communities, planning for future developments, and providing physical equipment where funds allow, such as water storage tanks and irrigation piping, HIAM creates confidence amongst the members of the communities. This leads to other teaching and advice, from a HIAM now trusted by the community members, such as method and importance of:

- better cooking of foodstuffs to preserve optimum nutritional value (the Timorese, like many in the UK, ‘boil nutritious vegetables to death’;
- family planning and understanding of the better spacing of births;
- better understanding of neo-natal nourishment.

#### **Better cooking and nutrition:**

HIAM instructs communities and individuals in the importance and meaning of a ‘balanced’ diet, built on the only possible basis of a diversified cultivation; also the best ways to preserve and cook foodstuffs to preserve optimum nutritional value. The Recipe Book for Moringa, brought together and discussed with communities over



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the past two years through IOM funding, has now gone to print and distribution in July 2018. HART obtained copies on its visit.

### **Family Planning and neo-natal nourishment:**

HIAM is a good teacher of family planning and the spacing of births, for the better health of mothers and children, precisely because it is NOT formally functioning as a practitioner of family planning. Contraception is frowned upon in Timor Leste. It is not prescribed, except for married women and with the husband's approval. Women are able to obtain advice from HIAM, and receive the actual means, because, publicly, they are not going for birth control, rather for nutritional and horticultural advice, and the care of their malnourished children. Therefore, the advice and supply of means for family planning are confidential and discreet. HIAM publicizes no birth-control campaign, but in its many community and women's group meetings, it is able to advocate the same.

While HIAM teaches in communities that nutrition and the better spacing of childbirth is not a single-sex affair, and that men should also be aware of such knowledge, there are ample opportunities to deal with exclusively women's audiences.

HIAM also takes every opportunity to teach the importance of proper feeding of children in their first month of life. In Timor Leste, as in many countries, the breast milk of the first 7-10 days is considered 'unclean' because of the discolouration caused by the colostrum. Therefore, mothers wait until their milk is a more pure white, feeding the child until then on sugar-water. However, it is precisely this early milk/colostrum which is essential to the early nourishment of the child, much richer nutritionally than any milk later on, and carrying the essential food for the young child's immune system. Also, neo-natal authorities, such as Birthlink, teach that failure to suckle the child in the first few days probably permanently slows down the mother's production of milk, stimulated by the suckling of the first few days, leading to possible further reduction in nourishment for the child.

All these, plus the importance of plentiful water for the mother if she is to produce sufficient milk, are taught by the HIAM nutritional staff as they visit to discuss nutrition as well as agriculture and water management.

HIAM has successfully developed over the past five years an all-encompassing holistic teaching for communities and families to combat malnutrition. It receives growing cooperation from the government in so doing.

It has selected and developed the staff capable of understanding this philosophy and communicating it to their own people.

**And it has been able to carry this out, as both the Director the indigenous Rosaria Martins da Cruz, and the International Liaison director Jill Hillary from Australia, emphasise, because the 'guaranteed' funding from the Isle of Man (rather than just funding for one year or for one specific project) has enabled them to plan for the future.**

The consistent funding from the Isle of Man (for five years and, in this report, seeking the sixth year) has allowed HIAM to:

- run essential pilot projects;
- operate virtually as a research station (it would be hard to over-estimate this);
- above all, to forge long-term plans producing their impact over several years, rather than merely 'quick gains' which may fail to make a significant alteration to the core problems.

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## OUTCOMES: LONG-TERM AND SHORT-TERM

HIAM Health has been enabled by Isle of Man funding to seek long-term goals and to experiment with different approaches as described above, in order to produce an all-encompassing strategy. So many projects in aid are hampered by the need to produce immediate statistical beneficiaries, to the detriment of producing an explored strategy, of proven viability.

**HIAM Health wishes to express its thanks to the Isle of Man for its support of an organization seeking viable long-term goals to tackle the frightening level of malnutrition and stunting in this country.**

### Outcomes 2017 – 2018

1. **Increased gardens to a total of 109 (plus additional linked 27).**
2. As a result of HIAM's monitoring, six gardens of the 109 were re-planted at HIAM's cost, from Isle of Man funds, to make optimum use of water storage and irrigation, now better understood as the project has developed over the past five years. HART in August 2018 was able to visit one of these re-established 'gardens', as well as several other successful ones, to understand the "what has been done" and the "why".
3. Initiated and developed a special project of 13 linked smallholdings, for mutual support, and for building up the community, in an especially remote and isolated part of the country. During its monitoring visit in August 2018 the HART staff member, David Thomas, was able to visit this project as part of a three day journey.
4. HIAM staff made 43 journeys into the rural areas (varying between 2 and 4 days) for encouragement, support and development of gardens and communities.
5. The pilot project for Community Mobilisers of last year (2016-17), funded by Isle of Man, is now completed. These mobilisers are now developing gardens and horticultural improvements in their communities. HIAM continues its support for these, again using Isle of Man funds; essential to maintain their morale and to maintain momentum within their communities for better agriculture: nutritionally sensitive, using crop rotation (virtually unknown in Timor Leste) and locally manufactured compost, and based on efficient water management.
6. 2x training Courses for new AEWs and for updating of selected AEWs.
7. With TOMAK development of the Government recognized national curriculum for NSA, based upon HIAM's experience over the past five years with gardens and the teaching of AEWs.
8. In July 2018, published the Recipe/Cookery Book showing how Moringa leaves and powder can be included in already existing familiar Timorese recipes. This 18 month project, with much enthusiastic participation and laughter from mothers in various communities, was again funded by the Isle of Man. Its purpose is to answer those outsiders who make the criticism, "It's a wonderful idea to grow moringa. But will people eat it?"
9. HIAM Health was finally able to register officially as a Training Centre under Government regulations, in support of its role in the national curriculum for NSA, allowing wider joint training projects, in which HIAM can teach its philosophy of 'nutritional security'.
10. HIAM continued the moringa programme. Small plantations have been established in various villages. In all cases, water storage and management have been introduced, tanks and piping and pumps provided by HIAM from Isle of Man funds. Although moringa is drought resistant once established, the plant sending down a very deep tap-root, water management is essential in the first two years. This water supply, continuing through the dry season is, of course, also available for all cultivation. On HART's August visit it was greatly encouraging while visiting rural areas to see how much was being cultivated during the dry season with the aid of this irrigation, along with mulching to retain moisture (again not

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previously used in T.L.). Formerly, crops could only be grown in the wet season, a problem contributing to malnutrition.

## ISLE OF MAN: A SURVEY OF ADDED VALUE

As stated above, the crucial dimension which the Isle of Man funding has added is to enable HIAM Health to build for the future, to run pilot projects in order to test different approaches, and therefore to develop a strategy which is being adopted not only by the Timor Leste Government, but also by programmes funded by the more secure funding of Australian and U.S. Aid. As a result of all that HIAM has learnt and developed over these past five years of the funding by the COPG of the Isle of Man, in two grants of three years apiece, HIAM is involved both in implementing projects ultimately funded by Australia and the U.S., and also in setting the strategies for projects funded by these two countries.

## PARTNERS, NETWORKING AND OTHER FUNDING

Hiam Health has developed many relationships. especially with TOMAK and Woodside, as well significantly and increasingly with the Government. This greater cooperation with the Government has been developed by HIAM for many years. During the last three years 2015-18, upheld by Isle of Man funding, this cooperation is bearing fruit.

## LATEST UPDATE

**The Government of Timor Leste has failed to develop a budget approved by the parliament for two years.**

This has meant that there are limited funds for maintaining the basic administration and salaries within Government, let alone maintaining action in various programmes to improve the health and agriculture of the people, and to alleviate the poverty and malnutrition. Between 2013 and 2018 local surveys indicated that the malnutrition rate in the country had decreased from 58% to c.50%. (The last national survey was in 2013.) There is now a very real fear that the rate of malnutrition may once more be on the increase, with the failure of Government programmes through lack of funding, creating a greatly increased dependence upon NGOs and INGOs.

HIAM Health was very pleased to co-operate with the Government of Timor Leste in training Government-sponsored AEWs able to reach many more villages with their nutritional educational programmes than could be served by the families who had been trained at the HIAM Health Centre. This collaboration with the Timor Leste Government was evidence of the high reputation achieved by HIAM Health and enabled the extension of its original policy to a nation-wide programme.

Subsequently, HIAM Health's programme has developed and changed to incorporate an exciting focus on the use of the moringa plant to alleviate problems of malnutrition. The use of moringa in treating malnutrition represents a breakthrough which is becoming internationally recognized and applied.

HIAM Health has continued to work with the 414 AEW's who had received residential training at HIAM Health.

The Centre continues to be used for a variety of residential training courses. As stated in the report for 2015-2016, in the section 'The Future of HIAM Health', the district of Bobonaro has been a primary focus for development.

All HIAM Health's work demonstrates the commitment of HIAM Health to the development of understanding and support of local government and community leaders.

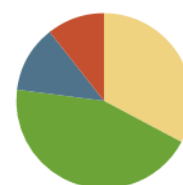
HIAM Health devoted resources from the Isle of Man during the previous two years to the development of seeds, equipment, technologies and training manuals before implementing local projects. This is innovative work as there are no precedents in Timor Leste.

Valuable international co-operation continues with universities, NGOs and other organisations.

## BUDGET SUMMARY: USE OF FUNDS FROM COPG.

August 2017 – July 2018

- **£87,000** received by HART from the Isle of Man International Development Committee.
- **£7,600** for monitoring by HART.
- **£79,400** transferred to HIAM-Health.



Funds exchanged to **\$108,755.52** - \$US is the national currency of Timor-Leste.

Of the expenditure:

- **32.7 %** was spent on staff costs, including staff development (this is high because the main activity of the centre is training);
- **12.3 %** administration, including maintenance of the Centre;
- **44.2%** Residential Training Courses

## THE FUTURE OF HIAM HEALTH

HIAM Health, as planned, continues to concentrate upon the District of Bobonaro, the 3<sup>rd</sup> poorest of the 11 Districts which comprise Timor-Leste. It is already working in the poorest two districts, Oecussi and Ermera, where

Budget lines	Spend 2015-16 (\$)	% of total
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HIAM Health chose this district because, although not the poorest, it is a seriously neglected area which has received no previous assistance from government or NGO.

This follows HIAM Health's second mission statement, "Giving the poorest of the poor a chance for help".



Staff salaries	53,484.85	32.7
Residential training	72,135.41	44.2
Gardens	17,419.85	10.6
Grant management, Evaluation and Monitoring	20,196.70	12.3
<b>TOTAL</b>	<b>163,236.81</b>	

## Future funding

In July 2015, the Isle of Man awarded a 2<sup>nd</sup> grant for three years of £87,000 p.a. to cover the years 2016-2019.

The secure funding from the Isle of Man has been crucial during the past three years and a half (January 2015 – July 2018). The secure funding of the Isle of Man enabled it to continue its work and to obtain additional funding for the coming years.

- During the past two years HIAM has secured support in assisting in the implementation of a five-year programme funded by Australian Aid, called TOMAK. HIAM is partnering with the main implementing agency, “Adam Smith International” chosen by Australian Aid, to continue further training of the AEWs. The Australian Government has stated that this programme may be rolled on for a further five years.
- Woodside, a donor who helped fund, with the Isle of Man, the establishment of the Community Gardens, has guaranteed its support for a further two-years.
- HIAM receives commercial support from Kmanek Trading Company, an important retail outlet in Timor Leste. They have agreed to purchase 40% of the produce of Community Gardens established by HIAM Health. (No more than 40% in order that the majority of the harvest will be used for home consumption in the local families.)

## HART has continued to assist in fundraising for HIAM Health

### There now exists the possibility of re-starting the residential care of Malnourished Children.

HIAM Health is now seeking the possibility of one further year of funding, to firmly establish the significant gains of the past six years. It has produced the forecast of how such funds would be used over a further year.

*This section is substantially from the previous report of 2016-17. HART decided to include it as a part of the background. There are two small amendments to update it.*

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HART continues to use its relationship with the Government of Timor Leste in the attempt to obtain significant funding, in order that the residential care may be restarted. So far this has been unsuccessful; the most recent meeting with the Government was during the HART visit of February 2016. Fortunately the funding from the Isle of Man has enabled the Centre to be maintained and stay open so that its residential facilities can be used for training and updating, both of the AEWs whose salaries are paid by the Ministry of Agriculture, and the Community Mobilisers.

During 2015-16 HIAM Health experienced the great disappointment of being prevented from receiving funds from the EU. The EU insisted that the funding must be given directly to HIAM Health, which the Timor-Leste Government would not allow, maintaining it must pass through the Ministry of Health. The impasse eventually meant HIAM Health's loss of the funding. This highlights the importance of funding coming via an NGO.

However, during 2015-19 HIAM has received funding from the Australian Government's Aid programme (AOP) via the TOMAK project. Their appreciation of HIAM (see appendix 05) has been so high that there will probably be another 5 years funding for the same programme of establishing community and household gardens throughout the country.

In addition, by the end of 2018 HIAM is expecting to receive funds to re-start the residential care for malnourished children; the programme which was so successful during the first grant of IOM funding, 2013-16. It has been HIAM's hope during the past three years to re-start this programme. It has maintained with the IOM funding the residential building and facilities. It has kept unaltered the children's playground, even though the space would have been useful for alternative purposes. HIAM is now intending in a few months time to build another floor upon the roof of the single story car-port, to contain the Centre's offices. This will allow the present office space within the main building to be used for meetings and teaching seminars, displaced by the re-using of the children's residential facilities. (See appendix 03.)

## **HART GRANT MANAGEMENT, MONITORING AND EVALUATION**

### **Reports**

HART receives good quality narrative and detailed financial reports from HIAM Health on an annual basis, with considerable updates throughout the year. Those are being carefully reviewed and tracked with our local partner.

### **Visits**

HART endeavours to visit HIAM Health every year to assess the projects and meet beneficiaries. We monitor progress on the ground and discuss opportunities with our partners. We also assist with capacity building on the ground where and when appropriate.

The most recent visit has been in August 2018, by the CEO and staff from the UK plus Dr. Martin Panter from HART-Australasia.

HART has made four visits to Timor-Leste during 2016-18 via the HART CEO, Baroness Caroline Cox, and Dr. Martin Panter, based in Australia, and a member of HART since its foundation in 2004. He has been involved with HIAM Health since the beginning and is a medical expert in the relevant clinical issues.

One of the valuable aspects of the way we work is the range of countries and projects with which we are involved. There are many common denominators providing us with a good basis for comparison and cross-fertilisation.



## APPENDICES:

### Appendix 01

#### MAP



The island included in the government area of Dili is Atauro Island, where HIAM worked in the past.

HIAM Health, while helping in most of areas, especially through the AEW training and updating in NSA (Nutritional Sensitive Agriculture), concentrates its 'gardens', irrigation and moringa projects in the areas of Ermera, Oecussi and, above all, Bobonaro in the far west, especially difficult to access and poor areas, which receive very little support from government programmes, even when these programmes are running. (The Government failure for two years to have a budget accepted by parliament has effected all government programmes, as previously noted in this Report.)



Source: Wikipedia



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## **Appendix 02**

*The Accounts for 1<sup>st</sup> August 2017 – 31<sup>st</sup> July 2018 accompany this report as a separate attachment.*

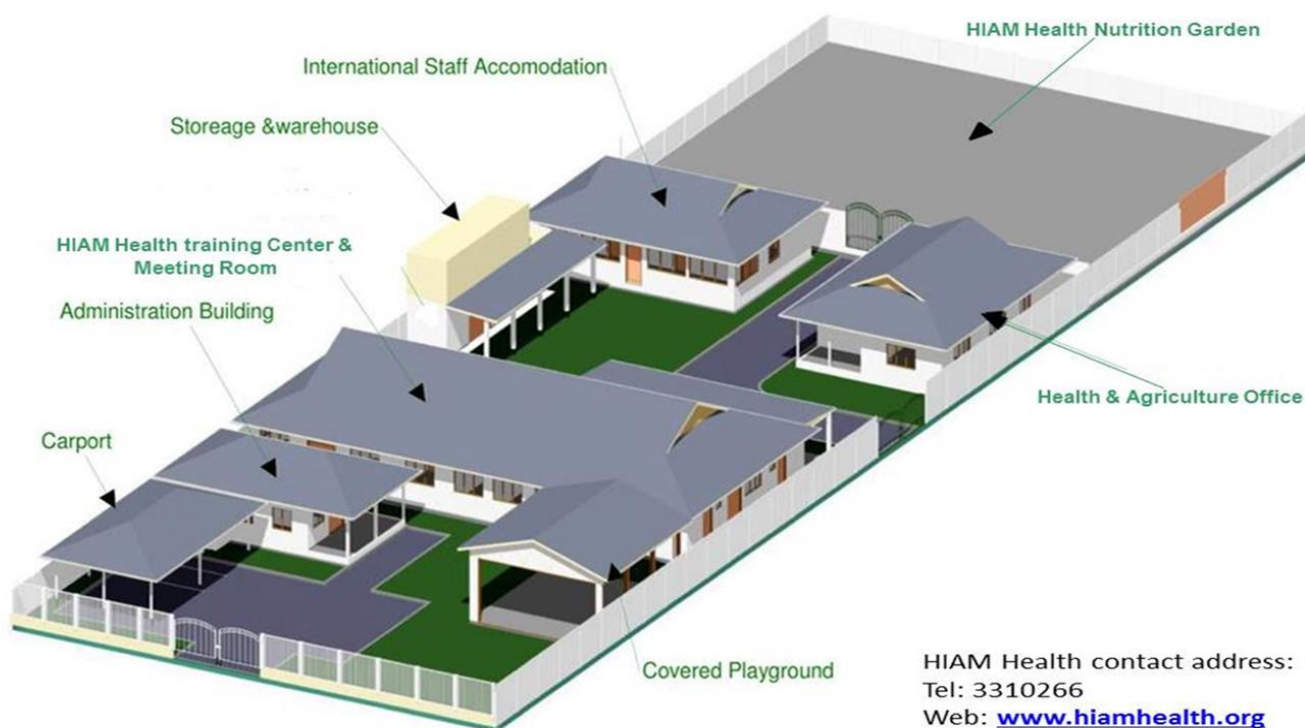
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## Appendix 03

### Diagram of MREC (Malnutrition, Rehabilitation and Education Centre)

showing the plans for alterations to the building, to enable re-starting the residential care of malnourished children.

The residential element has continued in use during the past 5 years for the various training courses for AEWs and others.



### **Restarting the residential care (usually for 1x month) of malnourished children, and education of their families.**

Building an upper Administration (finance and general admin.) floor over Carport.

The Training Centre and Meeting Room to return to residential accommodation for children and their families.

Present meeting and training facilities to move into old Administrative Building, with perhaps additional floor.

Storage and Warehouse to be developed as moringa processing plant.

International Staff accommodation & Health and Agriculture Office (management of programmes) to remain the same.

Nutrition Garden to remain the same.

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## Appendix 04

### Case Studies and Photos

*from HART visit with HIAM to the rural areas.*

1. **Domingas da Silva** is a one of small holder farmer that growing moringa for economic development. She works for her family as a housewife that every day prepares food for her family. She had eight children and her husband is work as a chief in their village (suku). She was joined with this project since HIAM Health implement in their village. She got more knowledge and skill about how to plant moringa through training that HIAM Health delivery in their village directly.

As a chief of their village, Domingas's husband also help her to maintain moringa garden always growing well and actually they already harvested and eating for their family. Planning for the future they will sell their moringa product to the HIAM Health and also can sell to the other families that want to consume moringa product.



2. **Martinha da Cruz Maia** as one of Community Mobiliser that involved in HIAM Health pilot project moringa for nutrition security. She is married with 4 children (2 male and 2 female) and living in rural area (Batugade) which borders the Indonesia state. In her daily activities, Martinha as a housewife that support her husband to plant vegetables in their house and when it is harvest Martinha bring to sell in Indonesia market because they are living close to the border (close to Indonesia area).

Martinha is a wife with high commitment to work with HIAM Health in pilot project “growing moringa for nutrition security” and showed good result from her moringa garden. She had participate in residential training that HIAM Health conducted during a week related to moringa plantation and how to utilize moringa product belong to nutrition security. In project implementation, Moringa products that she's produced some is eating fresh leaf, some drying and make a powder to keep for nutrition security. Through she's involvement in this project, Martinha also had opportunity to bring her member of households in study tour to see directly progress from other household moringa garden and share to each other about some challenges and achievements.

After pilot project “growing moringa for nutrition security” is ended, HIAM Health continue ask her commitment to work together in the next pilot project “growing moringa for commercial” and after consultation with her husband, Martinha is agree and sign MoU with HIAM Health to promote moringa as a commercial crop. Currently Martinha is work to guarantee the sustainability of this project because HIAM Health with funding supported by IOM and managed by HART provided some material and equipment to complete some of necessary related to moringa garden.





3. **Anita Gama** is a housewife with 2 children that living in rural area (mountain area) and growing moringa in her garden. She is as a one of the community mobiliser that HIAM Health chooses to work for pilot project “growing moringa for nutrition security”. As a community mobiliser, she is work hard to ensure her moringa garden is growing well. Therefore Anita also takes responsibility to work and help some of her household representative to guarantee moringa is growing well.

Before going to implement this project, Anita was participate and learning in HIAM Health through a week residential training that HIAM Health delivery to increase knowledge and skill about moringa. During this project running, Anita had opportunity see other moringa garden from other household through study tour and share their achievement and challenges to each other about moringa. She is very proud to share her moringa garden progress to another people because she said that it is to show that she is work is showed the good results.

Based to the commitment that Anita showed in the pilot project “growing moringa for nutrition security” HIAM Health continue built a new deal with her for project “growing moringa for commercial” that focus to promote moringa for marketing. From this project Anita was received some materials and equipment from HIAM Health with IOM funding that managed by HART, for instance water construction for her garden and respond to family necessary because they always difficult accessing for water even in wet season.

4. **Cecilia Casimira** is a single women that living alone in her house because no anymore family that living with her. In her daily activity, Cecilia more involve in church to teach young people about Cristian roles. She was involved to work with HIAM Health since first pilot project “growing moringa for nutrition security” that implemented in the middle of 2016 as a community mobiliser. She is a stronger woman that has influence her member of households to work for this project. From her history she said that work for community is very hard because some communities’ character is not easy to influence.

To ensure this project is doing well, Cecilia was increased her knowledge and skill through a week residential training that HIAM Health delivery in HIAM Health training center before project implementation. In the training Cecilia also learns something about how to be a good leader so it’s helped her to still calm and approach her household’s member to work



CECILIA IS IN THE RED CIRCLE WHEN TAKE PICTURE TOGETHER WITH HER MEMBER OF HOUSEHOLDS IN GROUP GARDEN



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together. Finally, they had opportunity to show their activity progress to other household through study tour and as a community mobiliser, Cecilia feel very proud because it's important to build a good relationship between them.

The sustainability of moringa for nutrition security project, HIAM Health still cooperated with Cecilia to implement another pilot project that intends to promote moringa product to the market. She received some materials and equipment from HIAM Health with IOM funding that managed by HART and currently she is looking strengthen to continue work for this project.



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## Appendix 05

### **MEDIA RELEASE from Australian Aid dated 26/7/2018**

*about the NSA national curriculum that HIAM Health (with TOMAK) has drawn up and now accepted by Timor Leste Government as its National Curriculum.*

**From:** [east-timor-request@lists.riseup.net](mailto:east-timor-request@lists.riseup.net) [<mailto:east-timor-request@lists.riseup.net>] **On Behalf Of** Joao Martires  
(by way of John M Miller - ETAN <[etan@igc.org](mailto:etan@igc.org)>)

**Sent:** Friday, 27 July 2018 6:27 AM

**To:** [east-timor@lists.riseup.net](mailto:east-timor@lists.riseup.net)

**Subject:** NEWS: New training package targets the role of agriculture in reducing malnutrition in Timor-Leste-  
Please post on ETAN



### **New training package targets the role of agriculture in reducing malnutrition in Timor-Leste**

#### **MEDIA RELEASE**

Dili, 26 July 2018

Timor-Leste's Ministry of Agriculture and Fisheries (MAF) today launched its newly developed nutrition-sensitive agriculture (NSA) training curriculum for MAF extension workers. The curriculum, which was developed in partnership with the Ministry of Health, the Australian Government's TOMAK Program, and NGO HIAM Health is the first of its kind in Timor-Leste, and focuses on an often neglected connection between agriculture and nutrition.

MAF extension workers are based in every *suku* (village) in Timor-Leste, with a mandate to help farmer groups increase their production and improve their agricultural practices. Until now, they have not typically discussed the nutritional value of the crops and livestock with farmers, but this may be about to change. The new 3-day training package developed through MAF introduces extension workers to important information about nutrition, and shows how agricultural practice can respond to known nutrition deficiencies. Extension workers also learn how to facilitate farmers to think about family nutrition, and build confidence to discuss key topics with farmers, including how to balance the sale of agricultural produce with the need to maintain a diverse and healthy diet.

Almost 100 people were present for today's launch of the training curriculum, which took place during a retreat held by the National Council for Food Security, Sovereignty and Nutrition in Timor-Leste (KONSSANTIL).

"Nutrition-sensitive agriculture is not a complicated idea," explained MAF Secretary General Cesar José da Cruz during the launch in Dili. "We are simply trying to strengthen the contribution of agriculture to improve nutrition. We cannot focus only on increasing agricultural production – we must encourage farmers to grow a variety of nutritious crops and to find a balance between what they sell and what they eat."

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Representing the Australian Government in Timor-Leste, Ambassador Peter Roberts praised the multi-sectoral collaboration underpinning the NSA curriculum. “I would like to offer my congratulations to the Ministry of Agriculture and Fisheries who have led this collaboration with the Ministry of Health, TOMAK and **HIAM Health** to develop an NSA training package that promotes simple practices. By using the material in this package, we have the potential to greatly influence agricultural practices in order to improve nutrition in Timor-Leste.”

The training package, which includes facilitator and participant manuals, worksheets and job aides, has already been trialed with 90 extension workers from Baucau, Bobonaro and Viqueque municipalities, prior to today’s adoption of the training as a national curriculum.

“The NSA training package being launched today is a good example of coordination between two sectors in order to combat malnutrition,” said Director General Dr. Odete Viegas on behalf of the Ministry of Health. “Health personnel and agricultural extension workers both live and work at the community level. They should know each other well in order to better serve the people.”

To access the NSA training materials, please visit the TOMAK website: [www.tomak.org/resources](http://www.tomak.org/resources)

### **About TOMAK**

TOMAK (To’os ba Moris Di’ak, or Farming for Prosperity) is a 5-10 year agricultural livelihoods program supported by the Australian Government in Timor-Leste. TOMAK works with and through local and national partners in order to improve food security and household nutrition for farming families, and support the development of commercial agriculture in Timor-Leste.

In its first 5 year phase, TOMAK is working in 66 suku located in 3 municipalities – Bobonaro, Baucau and Viqueque.

### **João Mártires | Operations and Finance Manager**

#### **To’os ba Moris Di’ak | Farming for Prosperity**

**Dili, Timor-Leste**

**+670 - 78538495**

**+670 - 77244080**

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## Appendix 06

*Our partners themselves in HIAM Health wished for the following paper to be included in the report, as being the most powerful expression of the problem and prospects.*

# FOOD AND NUTRITION SECURITY IN TIMOR-LESTE: CHALLENGES AND PROSPECTS

14 AUGUST 2018 Caleb Gorton, Research Assistant, Global Food and Water Crises Research Programme

[Download PDF](#)

## Key Points

- Timor-Leste has one of the highest rates of malnutrition in the world, with 46 per cent of children under five suffering from chronic malnutrition.
- Many subsistence households experience annual food shortages, largely due to poor agricultural productivity and insufficient output to last the year. Climate variability worsens shortages and severely impacts household food security.
- Timor-Leste relies on food imports to offset domestic production deficits, leaving the population vulnerable to the impact of global price changes. Poorer households, which spend a high proportion of disposable income on food, are the most vulnerable.
- Food and nutrition insecurity will continue to retard Timor-Leste's development, particularly given the long-term impacts of climate change and population growth.

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## Summary

Timor-Leste's food and nutrition insecurity is a multifaceted legacy of its history of occupation, conflict and underdevelopment. As most of the population relies on subsistence farming for their livelihoods, household food insecurity largely stems from poor agricultural productivity and the resultant low levels of disposable income to spend on purchasing food. As a result, many households experience annual food shortages. Malnutrition is also a particular problem in Timor-Leste. Stunting, where a child is too short for their age, affects almost half of children under the age of five. Malnutrition directly impacts a child's health and hinders their physical and cognitive development, which results in barriers to reaching their best performance in school and work. Consequently, Timor-Leste's high rate of malnutrition impedes the population's ability to break the cycle of poverty and, at the national level, is a burden on national development. As a Least Developed Country, with a high poverty rate, achieving food and nutrition security is crucial for Timor-Leste's development.

## Analysis

The Democratic Republic of Timor-Leste, commonly referred to as East Timor, is a small country in the Malay Archipelago, around 550 kilometres north of Australia. Timor-Leste's territory consists of the eastern side of the island of Timor; Atauro and Jaco islands; and the exclave, Oecusse, situated in Indonesian West Timor. The country is mountainous and tropical, with distinct wet and dry seasons. Around 70 per cent of Timor-Leste's 1.2 million people rely on subsistence agriculture for their livelihoods and similar numbers live in rural areas.

Timor-Leste's history of occupation and conflict is crucial to an understanding of its widespread poverty and food insecurity. Following Portuguese colonial rule from the 16<sup>th</sup> century, the Revolutionary Front for an Independent East Timor (*Frente Revolucionária de Timor-Leste Independente*, or FRETILIN) declared independence for Timor-Leste on 28 November 1975. On 7 December 1975, Indonesia invaded Timor-Leste, resulting in a brutal occupation and guerrilla-style armed resistance for 24 years. A [report](#) by The Commission for Reception, Truth and Reconciliation, found that during the occupation, 18,600 East Timorese were directly killed or disappeared and 84,200 died from hunger and illness.

In

August 1999, 98.5% of Timor-Leste's voting population



Source: Wikipedia

on voted for independence in a national referendum administered by the United Nations Mission in East Timor. The result immediately sparked mass violence by pro-Indonesian and anti-independence militias, causing the displacement of up to three-quarters of the population. The fighting resulted in the destruction of the vast majority of Timor-Leste's physical infrastructure and a complete institutional collapse. In September 1999, a UN-mandated peacekeeping force, mainly consisting of Australian troops, entered Timor-Leste. Timor-Leste became the first newly-independent state of the 21<sup>st</sup> century on 20 May 2002.

Despite post-conflict development in its political, state and economic institutions, Timor-Leste remains a [Least Developed Country](#), with poor economic foundations. The [percentage of the population](#) living in poverty fell from 50.4% in 2007, to 41.8% in 2014. Over the same period, the proportion living in extreme poverty fell from 47.2% to 30.3%. Just [27.3%](#) of the working age population is employed, however, and 40.5% of total employment is in the agricultural sector.

## Food Security and Agriculture

Timor-Leste is food insecure. The [2017 Global Hunger Index](#) categorises Timor-Leste as suffering from a "serious" level of hunger. This situation is a direct result of poor agricultural productivity, low incomes, underdeveloped infrastructure and the vulnerability of Timor-Leste's food supplies to the impact of global food prices and climate variations. Since 2001, the number of undernourished people in Timor-Leste has remained constant at around [300,000](#). According to the National Council for Food Security, Sovereignty and Nutrition in Timor-Leste (KONSSANTIL), [62 per cent](#) of households experienced food shortages for more than one month in 2013. Households are generally at their most vulnerable during the wet season, between October and March.

Timor-Leste's agricultural sector does not meet the population's food and dietary needs. Household food insecurity stems from poor agricultural productivity for subsistence farmers and a lack of disposable income to offset deficits with purchased food. While reliable data on crop production is limited, it is clear that agricultural output of Timor-Leste's staple foods is insufficient. Despite the high proportion of the population relying on



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subsistence farming, only [30 per cent](#) of arable land is utilised for growing food and grazing livestock.

Timor-Leste's staple foods include maize, rice and cassava. The yields of maize, Timor-Leste's primary crop, averaged [two tonnes per hectare](#) in 2009 and 2010, which is less than half of the average yield for the same crop in neighbouring countries, such as Indonesia, Cambodia, Laos, Thailand and Vietnam. A [2012 article](#) in the journal *Ambio*, attributed low yields in Timor-Leste to poor soil, low-yielding local crops, sloping terrain, volatile rainfall and a high weed burden. It noted that up to 30 per cent of grains are lost in the post-harvest stage.

Timor-Leste's reliance on underdeveloped and undiversified subsistence agriculture leaves its food supplies vulnerable to climate-related shocks. Extreme La Niña-induced wet weather caused maize output in the 2010-11 season to fall to 28 per cent of the long-term average.

The journal *Food Security* reported that 41.8% of households in four municipalities (Aileu, Baucau, Liquica and Manufahi) foraged for wild foods during this period, as a way of coping with food insecurity, compared with an average of 9.2% in a normal year. The global El Niño-induced drought, declared in May 2015, caused further damage to food and water security in Timor-Leste. A Humanitarian Partnership Agreement [assessment](#) of the impact of El Niño in February 2016, found that in the worst impacted areas, 70 per cent of respondents did not have water for crops and three-quarters reported the disruption of regular food sources. The drought led to the loss of [70,000](#) head of livestock. For agrarian-based societies, such as Timor-Leste, climate variability has a profound impact on the livelihoods of the people.

Food security in Timor-Leste faces three climate- and seasonal-related challenges. Firstly, it is subject to cyclical food insecurity. Households, particularly in upland areas, are affected by annual food shortages prior to the maize harvest. Secondly, large-scale climate shocks also severely impact household food security, due to crop failures and livestock losses. Timor-Leste's underdeveloped infrastructure, institutional weaknesses and its reliance on a small number of staple crops, leave the country with a limited capacity to mitigate the impacts of climate disasters. Thirdly, climate change will continue to place increasing pressure on Timor-Leste's food security. [Predictions](#) indicate that by 2050 temperatures will rise by 1.5 degrees and average annual rainfall will increase by ten per cent in Timor-Leste. Additionally, the population is expected to reach three million by 2050.

According to a [2011 report](#) by the Australian Bureau of Meteorology and the Commonwealth Scientific and Industrial Research Organisation, the frequency and intensity of high temperatures and high rainfall days will increase in Timor-Leste over the 21<sup>st</sup> century. As a result, food security will be severely threatened by both climate change and population growth if agricultural productivity does not improve. The development of the agricultural industry and the promotion of more diverse and climate-resilient crops are crucial requirements for achieving food security and mitigating the future impacts of climate change.

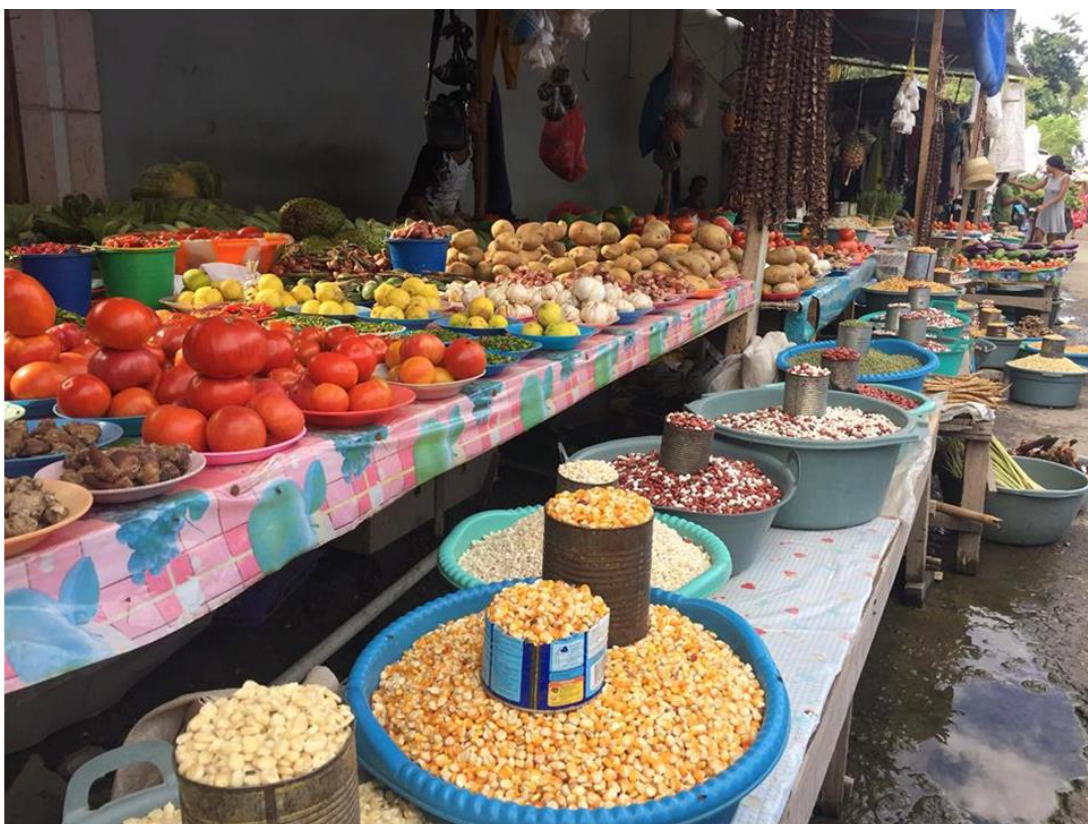
### **Household Access to Food Sources**

For the average individual and household in Timor-Leste, accessing food supplies for a nutritious diet can be a challenge, due to generally low levels of disposable income and physical constraints on market access. According to the government's [National Food and Nutrition Security Policy](#), around 40 per cent of household income is spent on food. Consequently, price increases have a strong impact on the average household's ability to purchase food to meet its dietary needs.

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Timor-Leste's food prices are vulnerable to global fluctuations. Around 40 per cent of cereal foods are imported, which leaves Timor-Leste's food prices largely determined by volatile global prices. [Inflation](#) in 2011 and 2012, during the global food price crisis, was 13.5% and 11.8% respectively, dropping to 3.3% in 2013 as global food prices eased. Timor-Leste's import dependency and low agricultural productivity mean that the country is unable to respond to high import prices by increasing domestic production. As a result, during times of high inflation, food security for poorer households is put under increased pressure as food becomes less affordable.

Access to food sources is also challenged by physical constraints on households trying to reach markets. Road infrastructure in many of the rural and mountainous municipalities is underdeveloped, with many villages connected by unsealed roads, which are easily damaged during the wet season. On average, 60 per cent of Timor-Leste's *aldeias*, or communities, are inaccessible by road during periods of the wet season. As noted in a [2017 report](#) by the East Timorese Centre of Studies for Peace and Development, there is a clear relationship between access to food and transportation. Sacks of rice cost an average of US\$2.50 (AU\$3.40) more in February than in August, as transportation costs are higher during the wet season.



Shelley Gorton  
Courtesy of Caleb Gorton

Compounding factors pressure household food security during this period. In the wet season food sources are physically and economically more difficult to access. Households consume fewer meals during this period prior to harvest.

## Malnutrition

Malnutrition is a serious and complex problem in Timor-Leste, with a wide range of consequences. According to

the [2016 Demographic and Health Survey](#), 46 per cent of children under five years old suffer from chronic malnutrition, also known as stunting meaning a child is too short for their age. The incidence of stunting in Timor-Leste is one of the highest in the world. Half of the stunted children are severely affected and, in addition, 40 per cent of the country's children are underweight. Anaemia, a blood condition that can be caused by iron deficiency, affects 40 per cent of children between the ages of six and 59 months.

While stunted growth is more common in poorer households, 36 per cent of children in Timor-Leste's highest wealth quintile are also stunted. Poverty, therefore, is a significant, but not a definitive determinant of malnutrition.

Malnutrition has a range of severe consequences in Timor-Leste. It is the [most prevalent cause of premature death and disability](#) and an underlying risk factor for over a quarter of children's deaths. Good nutrition is

crucial for children's health and their physical and cognitive development, especially in the first



Shelley Gorton  
Courtesy of Caleb Gorton

[1,000 days of life](#) from conception to the age of two. Malnutrition, on the other hand, hinders growth and stops children from reaching their full development potential. In the long term, this results in poor school performance and lower labour productivity later in life.

Malnutrition is also a complex and multi-dimensional burden on Timor-Leste's national development. In total, undernutrition causes a yearly burden of [US\\$41 million](#) (\$55.35 million) on the East Timorese economy, representing around one per cent of Gross Domestic Product. It: depreciates labour productivity; reduces the size of the future labour force, due to child mortality; and imposes the costs of treating undernutrition-related



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illness. For a post-conflict country like Timor-Leste, with an underdeveloped economy and a high rate of poverty, this economic burden has a serious impact on its development, ability to build strong institutions and overall stability.

Malnutrition, food insecurity and poverty are interlinked in Timor-Leste. Poorer households have less disposable income to purchase an adequately diverse diet. Children with poor nutritional intake do not perform as well in school, which reduces their ability to earn higher incomes in adulthood, resulting in a cycle of poverty. At the national level, this creates a barrier to attempts to reduce poverty and hinders economic development.

As indicated above, malnutrition in Timor-Leste is a socio-cultural issue, with complex immediate and underlying causes. At its core, malnutrition is caused by nutrient deficiencies, which are largely the result of an inadequately diverse diet. The average East Timorese person is meeting their [dietary energy supply](#) of calories, but this largely consists of staple foods with low levels of protein and micronutrients. Animal products are available, particularly in rural areas, with [87.2%](#) of Timor-Leste's households raising livestock in 2015. Households, however, often prioritise the sale of these animals over home consumption.

Child feeding practices remain inadequate and hinder efforts to reduce malnutrition rates. The *2016 Demographic and Health Survey* showed that only 13 per cent of children aged six to 23 months were meeting minimum standards for an acceptable diet, which indicates that a very low proportion of children are receiving adequate levels of meal frequency and dietary diversity.

Undernutrition and disease reinforce each other in a vicious cycle. Undernutrition hinders the body's ability to fight disease, while illnesses, such as diarrhoea, reduce the body's ability to absorb nutrients. In Timor-Leste, the lack of ready access to health and sanitation services is a significant factor in the incidence of malnutrition

## **Prospects and Challenges**

Timor-Leste has shown impressive post-conflict development, following decades of occupation and crises. Achieving food and nutrition security, however, is crucial to its development as a stable middle-income country with strong economic, political and social institutions. The Government of Timor-Leste [recognises](#) the importance of reducing malnutrition and hunger to enable the country to reach its development goals.

East Timorese food and nutrition insecurity has far-reaching consequences, ranging from the effects on the health of individuals, to the prosperity of the state. With close to [three-quarters](#) of the population below the age of 35, Timor-Leste now has an opportunity to develop a productive work force to drive future economic growth. Malnutrition and food insecurity, however, will hold back this development. Population growth and climate change will only increase these pressures.

The lack of effective transport links in Timor-Leste will also continue to be a challenge. The country's underdeveloped and unsealed roads limit transport options during the wet season, particularly in remote mountainous areas. As a result, physical access to markets and health services is difficult for several months of the year. Significantly, yearly food shortages and higher food prices coincide with that part of the wet season when the roads are at their most inaccessible.

Agricultural productivity must be improved. With investment, improved yields and higher crop diversity, the subsistence farmers that make up most of the population would be less vulnerable to food insecurity during annual shortages and climate-related shocks. Surplus crops could be sold at markets, providing a crucial source of income, particularly in rural areas. At the national level, a more self-sufficient agricultural sector would

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lighten Timor-Leste's reliance on food imports and its vulnerability to volatile global prices.

Crop diversity is an important step in improving the availability of diverse and nutritious foods. Malnutrition, however, is as much a socio-cultural issue as it is an availability issue. The promotion of behavioural change at the grassroots and community levels is required to make clear the importance of good nutrition and a diverse diet. Efforts to that end are already underway, with the Timor-Leste [Ministry of Health](#), for example, providing communities with nutritional knowledge as a strategy to fight malnutrition. Additionally, enhanced access to health services and sanitation would also contribute to reducing the country's very high rate of malnutrition.

Timor-Leste is at a crucial point in its post-conflict development and has the potential to progress to a position of long-term peace, stability and economic growth. The country, however, faces serious challenges. Predictions indicate that Timor-Leste's petroleum resources, which provide revenue for [90 per cent](#) of public expenditure, are diminishing. The government may be constrained in its ability to provide the services vital to food and nutrition security in the future. Timor-Leste, however, is one of the [more democratic countries](#) in South-East Asia, with a young population capable of driving growth. To achieve its vision of development, food and nutrition security must be prioritised.

#### ABOUT THE AUTHOR

Caleb Gorton is a recent Curtin University graduate, who completed a Master of International Relations and National Security in July 2018. His Master's project analysed the impact of food security on post-conflict peacebuilding and development, focusing on Timor-Leste and Nepal as case studies.

Prior to his final semester of university, Caleb spent five months in Timor-Leste as a Public Information Intern for the United Nations World Food Programme. From March to July 2017, Caleb volunteered as a Research Assistant for Future Directions International's Global Food and Water Crises Programme. His research interests include food security, development and politics in the Indo-Pacific region.

Any opinions or views expressed in this paper are those of the individual author, unless stated to be those of Future Directions International.

Published by Future Directions International Pty Ltd.  
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## **HIAM Health Small Holder Farmer (SHF) implementation plan**

*A list of all key activities documented in the implementation of the SHF project .*

<b>Activity</b>	<b>Date (from / to)</b>	<b>Step for implementation</b>
Develop and finalise (Ideas and topics)	June 2017 to August 2017	<ul style="list-style-type: none"> <li>• Collect all information from various sources</li> <li>• Work to gather with HH trainer</li> <li>• Write</li> <li>• Evaluate</li> <li>• Finalise</li> </ul>
President Authority of Bobonaro Municipality	November 2017	<ul style="list-style-type: none"> <li>• Meeting to discuss with president about HH want to implement Small holder farmer</li> <li>• The President gave HIAM a chance on SHF</li> </ul>
Atabae Sub-District	November 2017 to December 2017	<ul style="list-style-type: none"> <li>• Send formal letter to Post Administrator</li> <li>• Meeting with Administrator about objective of project and process</li> <li>• Discuss mutually agreed dates for socialization</li> </ul>
Socialization	October 2017	<ul style="list-style-type: none"> <li>• Socialization took place at the Atabae district office</li> <li>• Invited guests are present in socialization</li> <li>• Administrator of the sub-district as the opening of socialization</li> <li>• HIAM Director present the objective of socialization</li> <li>• Report</li> </ul>
Survey	October 2017	<ul style="list-style-type: none"> <li>• HIAM staff prepare template and question</li> <li>• Contact to local leader</li> <li>• Local leader recommend household for survey</li> <li>• Entry data</li> <li>• Analyse</li> <li>• HIAM decided</li> <li>• Finding suitable households</li> <li>• Report to local leader</li> </ul>

Atabae Vila village	October 2017 to November 2017	<ul style="list-style-type: none"> <li>• Contact to local leader and household</li> <li>• Develop agreement template</li> <li>• HIAM staff meeting with local leader and SHF to inform about result of survey</li> <li>• HIAM staff explain clearly to SHF and local leader about objective, benefit and process of project</li> <li>• SHF sign agreement with HIAM and local leader as a witness</li> <li>• Distribute equipment for support activity to SHF.</li> <li>• Report</li> </ul>
Training	November 2017 to March 2018	<ul style="list-style-type: none"> <li>• Develop and prepare all resources regarding to training</li> <li>• Organize with local leader and SHF</li> <li>• Training 1</li> <li>• Training 2</li> <li>• Training 3</li> <li>• Report</li> </ul>
Observation	December 2017 to June 2018	<ul style="list-style-type: none"> <li>• Contact to local leader and SHF</li> <li>• Develop template</li> <li>• HIAM staff observe directly SHF moringa garden.</li> <li>• Input</li> <li>• Report</li> </ul>
Monitoring	April 2018 to August 2018	<ul style="list-style-type: none"> <li>• Make schedule based on garden implementation dates</li> <li>• Develop monitoring template</li> <li>• Contact to local leader and SHF for organize.</li> <li>• Conduct monitoring for every SHF moringa garden.</li> <li>• Assessment</li> <li>• Analyse assessment</li> <li>• Record in Data base</li> <li>• Report</li> </ul>
Report	February 2018 and September 2018	<ul style="list-style-type: none"> <li>• Progress and final report</li> </ul>



## Appendix 08

### Attachment C Small Holder Farmer initial training

#### 1. Training session 1

Time	Day 1 Monday 20/11/17	Day 2 Tuesday 21/11/17	Day 3 Wednesday 22/11/17	Day 4 Thursday 23/11/17	Day 5 Friday 24/11/17	Day 6 Saturday 25/11/17
08:00 - 09:00 am	Opening, Introductions, Course Outline	Practice cutting garden beds and fill soil SHF 1	Practice cutting garden beds and fill soil SHF 3	Practice making compost place and produce dry and liquid compost at SHF 2	Maintenance moringa, theory	Practice cutting garden beds and fill soil inside at SHF 5
09:00 - 10:00 am	Pre-test	Practice cutting garden beds and fill soil SHF 2	Practice cutting garden beds and fill soil SHF 4			
10:00 - 10:15 am	Morning tea	Morning tea	Morning tea	Morning tea	Morning tea	Morning tea
10:15 - 10:45 am	Land management , theory	Practice making garden beds at SHF 3	Practice making compost place and produce dry and liquid compost at SHF 4	Practice making compost place and produce dry and liquid compost at SHF 2	Practice making garden beds at SHF 5	Post-test and closing training
10:45-12:30 am	Practice making garden beds SHF 1					
12:30 - 13:30 pm	Lunch and rest	Lunch and rest	Lunch and rest	Lunch and rest	Lunch and rest	
13:30 - 14:15 pm	Continue practice Garden beds at SHF1	Practice making garden beds at SHF 4	Continue practice produce dry and liquid compost at SHF 4	Practice making compost place and produce dry	Continue practice making compost place and produce	

14 : 15 - 15 : 30 pm	Practice build garden beds at SHF 2		Practice making compost place and produce dry and liquid compost at SHF 3	and liquid compost at SHF 1	dry and liquid compost at SHF 5	
15 : 30 - 15.45 pm	Afternoon tea	Afternoon tea	Afternoon tea	Afternoon tea	Afternoon tea	
15:45 - 17 : 00 pm	Continue practice build garden beds at SHF 2	Theory dry and Liquid compost.	Continue practices produce dry and liquid compost at SHF3	Continue practices produce dry and liquid compost at SHF 1	Continue practice make compost place and produce dry and liquid compost at SHF 5	

## 2. Training session 2

Time	Day 1 Monday 22/01/18	Day 2 Tuesday 23/01/18	Day 3 Wednesday 24/01/18	Day 4 Thursday 25/01/18	Day 5 Friday 26/01/18
8 : 30 - 9 am	Training opening , General introduction about training process	Raise garden preparation, clean weeds, loose soil and put compost SHF1	Raise garden preparation, clean weeds, loose soil and put compost SHF3	Collect / prepare resource to produce dry and liquid compost SHF1	Collect / prepare resource to produce dry and liquid compost SHF4
9 - 10 am	Pretest				
10 - 10:15 am	Morning tea	Morning tea	Morning tea	Morning tea	Morning tea



<b>10:15 am- 12.30 pm</b>	Training about moringa seeds, theory	Continue raise garden preparation, clean weeds, loose soil and put compost SHF1	Continue raise garden preparation, clean weeds, loose soil and put compost SHF3	Continue collect / prepare resource to produce dry and liquid compost SHF1	Collect / prepare resource to produce dry and liquid compost SHF5
<b>12: 30 - 13:30 pm</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>
<b>13:30 - 15:15 pm</b>	How to prepare moringa seeds, theory no practice	Raise garden preparation, clean weeds, loose soil and put compost SHF2	Raise garden preparation, clean weeds, loose soil and put compost SHF4	Collect / prepare resource to produce dry and liquid compost SHF2	Garden maintenance
14 : 15 - 15 : 30 pm	Training about process seeds soaking, theory				
<b>15 : 30 - 15.45 pm</b>	<b>Coffee / tea afternoon</b>	<b>Coffee / tea afternoon</b>	<b>Coffee / tea afternoon</b>	<b>Coffee / tea afternoon</b>	<b>Coffee / tea afternoon</b>
<b>15:45 - 17 : 00 pm</b>	Continue Training about process Seeds soaking (theory)	Continue raise garden preparation, clean weeds, loose soil and put compost SHF2	Raise garden preparation, clean weeds, loose soil and put compost SHF5 no Seeds soaking SHF 1,2,3,4,5	Collect / prepare resource to produce Dry and liquid can plant moringa seeds SHF 1,2,3,4,5	Review training topic , Post-test closing training

### 3. Training session 3

<b>Time</b>	<b>Day 1 Monday 20/11/17</b>	<b>Day 2 Tuesday 21/11/17</b>	<b>Day 3 Wednesday 22/11/17</b>	<b>Day 4 Thursday 23/11/17</b>	<b>Day 5 Friday 24/11/17</b>
<b>08:00 - 09:00</b>	Opening, Introductions,	<b>Review of Monday</b>	<b>Review of Tuesday</b>	Collect and prepare	<b>Review all topics</b>

<b>am</b>	Course Outline			resources for dry compost and fill resources into the compost bin at SHF 7	
<b>09:00 - 10:00 am</b>	Pre-test	Moringa hygiene	Collect and prepare resources for dry compost and fill resources into the compost bin at SHF 1	Collect and prepare resources for dry compost and fill resources into the compost bin at SHF 8	Mould in moringa
<b>10 - 10:15 am</b>	Morning tea	Morning tea	Morning tea	Morning tea	Morning tea
<b>10:15 - 10.45 am</b>	Local health Situation	Harvesting moringa leaf	Collect and prepare resources for dry compost and fill resources into the compost bin at SHF 2	Collect and prepare resources for dry compost and fill resources into the compost bin at SHF 9	Processing dry leaf to powder
<b>10:45-12:30 am</b>	Malnutrition	Washing and take out moringa leave from bark	Collect and prepare resources for dry compost and fill resources into the compost bin at SHF 3	Collect and prepare resources for dry compost and fill resources into the compost bin at SHF 10	Develop recipe regarding to SHF daily dietary
<b>12: 30 - 13:30 pm</b>	Lunch and rest	Lunch and rest	Lunch and rest	Lunch and rest	Lunch and rest
<b>13:30 - 14:15 pm</b>	Basic nutrition concepts	Drying moringa leaf	Collect and prepare resources for dry compost and fill resources into the	Collect and prepare resources for dry compost and fill resources into the compost bin at SHF 11	Cooking demo 1

			compost bin at SHF 4		
<b>14 : 15 - 15 : 30 pm</b>	Personal hygiene	Moringa juice	Collect and prepare resources for dry compost and fill resources into the compost bin at SHF 5	Collect and prepare resources for dry compost and fill resources into the compost bin at SHF 11	Cooking demo 2
<b>15 : 30 - 15.45 pm</b>	Afternoon tea	Afternoon tea	Afternoon tea	Afternoon tea	Afternoon tea
<b>15:45 - 17 : 00 pm</b>	Nutrition in moringa	Moringa garden maintenance, theory	Collect and prepare resources for dry compost and fill resources into the compost bin at SHF 6	Collect and prepare resources for dry compost and fill resources into the compost bin at SHF 13	Post-test and closing training

## Appendix 09

### Two Questionnaires for monitoring Small Holder Farmers and Moringa Gardens

#### Attachment A- CRITERIA FOR MORINGA STUDY TOUR

##### 1. Personal information

1.1. Name of Household:	
1.2. Household code:	
1.3. HIAM staff Name? Interviewer:	
1.4. Date and time to visit:	

##### 2. Garden information

2.1. E

2.2. Have they established raised garden beds?

2.2.1. How many constructed? (5 m x 1.2m beds)

2.2.2. How much good quality?

2.3. Moringa horticulture

2.3.1. Planting density (a. correct to HIAM teaching; b. too many; c. not enough)

##### 2.3.2. Harvesting

2.3.2.1. Harvest method a. cut HIAM method always; b. cut HIAM method some time; c. not follow to HIAM method

2.3.2.2. Harvest time a. cut 40 days always; b. cut 40 days some time; c. not follow to 40 days

2.3.2.3. Knowledge test; can HR answer why to cut 40 days a. answer all correctly; b. answer some correctly; c. not correctly; d. no answer

2.3.3. Infor. record (Date of planting and harvest) a. record correctly all of the time b. record correctly some of the time c. doesn't record correctly (*see evidence*)

##### 2.4. Compost

2.4.1. How many box build

2.4.2. How many boxes filled (full=1; half full=0.5; empty =0)

2.4.3. What quality a. good; b. too dry/light; c. too wet/heavy

2.5. Garden protected (Fenced)

2.5.1. Is the garden protected a. yes; b. no; c. some

2.5.2. What the material use to protected a. life fence b. bamboo/wood; c. stone; d. other

##### 3. Maintenance

##### 3.1. Mulch

3.1.1. How many garden beds using mulch

3.1.2. How many gardens beds have sufficient use of mulch

- 
- 3.1.3. Knowledge test; can HR answer why we use mulch? a. answer all correctly; b. answer some correctly; c. not correctly; d. no answer

### 3.2. Watering

- 3.2.1. Observed the hydration a. Hydration (enough water); b. Dehydration (not enough water); c. Too much water
- 3.2.2. How often watering garden a. watering one time in everyday; b. watering one time some days; c. not watering often
- 3.2.3. Any water saving practice (choose as many as needed) a. Recycle water from washing; b. watering uses the bamboo in to ground; c. use aqua bottle to the ground; d. uses the watering can or ladle.
- 3.3. Loose soil (A. yes; B. no; C. Some)
- 3.4. Clean grass (A. yes; B. no; C. Some)
- 3.5. Replant (A. yes; B. no; C. Some)
- 3.6. Pest control
- 3.6.1. Moringa juice made and sprayed on gardens - A. use often; B. use some time; C. not often
- 3.6.2. Natural pesticide A. use often; B. use some time; C. not often

### 4. Post-harvest

- ❖ Fresh leaf (Yes ☐ No ☐)
- ❖ Dry leaf (Yes ☐ No ☐)
- ❖ Powder (Yes ☐ No ☐)
- ❖ Make compost (Yes ☐ No ☐)
- ❖ Produce jus sprayer (Yes ☐ No ☐)
- ❖ Animal food (Yes ☐ No ☐)

### 5. HR Attitude

- 5.1. Does HR want to visit another garden (Yes or No)
- 5.2. Is HR happy for group to visit her garden (Yes or No)
- 5.3. What activity is the HR proud about (choose best 3) A. Build rise garden bed; B. Make layer garden; C. Make compost and use compost; D. Make and use mulch; E. Manage water; F. Maintenance; G. Harvest; H. Dry moringa. I. makes powder; J. cooks with moringa.

## Attachment B- Questionnaire for Small Holder Farmer Survey



H A M U T U K I T A A J U D A M A L U

**HIAM Health**



### SMALL HOLDER FARMER SURVEY QUESTIONNAIRE

District : ..... Suco : .....

Sub District : ..... Aldea : .....

Phone No : ..... Time interview : .....

Household : ..... Staff interview : .....

#### 1. Civil status

Single ☐ Married ☐ Divorce ☐

#### 2. Education level

Not school	School	Education			
		Elementary	Junior High school	Senior high school	University

#### 3. Previous experience in agriculture/horticulture

Already planting crops?		Food production		Horticulture	
Yes	No	Yes	No	Yes	No

#### 4. Moringa information

Before already growing moringa?	Type of planting	Consume moringa	Do you know nutrition in moringa



Yes	No	Intensive	Not intensive	Yes	No	Yes	No

## 5. Resources

### a) Land

Wide of land	Type of land		Quality of land		
	Flat	Mountain	Red soil	Sandy soil	Good soil

### b) Water issue

Distance	Wates status				Type of water				Water condition		
	Permanen t	Temporar y	Public	Private	Pump	Well	Bamboo	River	Clean	Dirty	Salt

### c) Garden protection

Fence		Condition		Type of fence	
Yes	No	Good	Broken	Living	Static

### d. Animal

Animal		Kinds of animal			
Yes	No	Buffalo	Pig	Goat	Chicken

### e. Resources for dry and

---

**liquid compost**Yes ☐No ☐

Coffee skin		Fresh leave		Dry leave		Cow Poo		Dash	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No

**f. Resources for natural pesticide**

Chili		Ginger		Neem		Gamal		Tabaco leave		Onion		Galangal	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No

**g. Access to the Transportation**Yes ☐No ☐**h. Road Condition**

Road		Quality		
Yes	No	Asphalt	Soil	stone

**i. Market Access**

Market		Type of market			
Yes	No	Main road	Traditional market	Supermarket	In place