

GROWTH STRATEGY DOCUMENT

PEANUT SUB-SECTOR
IN EAST NUSA TENGGARA PROVINCE (NTT)

JUNE, 2015

YMTM



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Abbreviations

AIP-PRISMA: Australia-Indonesia Partnership for Promoting Rural Income Through Support for Markets Agriculture

AUD	: Australian Dollars
BPOM	: Balai Pengawasan Obat dan Makanan
BPSB	: Badan Pengawasan dan Sertifikasi Benih
BRI	: Bank Rakyat Indonesia
°C	: Derajat Celsius (Degree Celcius)
Dinkes	: Dinas Kesehatan
Dkk	: Dengan kawan- kawan
Dpl	: Dari permukaan laut
GAP	: Good Agriculture Practices
Ha	: Hektar (Hectares)
ILAF	: Intervention Logic Analysis Framwork
IRT	: Industri Rumah Tangga
ISO	: International Standardization Organization
KK	: Kepala Keluarga
KPE	: Kredit Ketahanan Energi dan Pangan
KUR	: Kredit Usaha Rakyat
Ku	: Kuintal (Quintal)
L	: Laki-laki (Male)
LKM	: Lembaga Keuangan Mikro
M4P	: Making Market Work for the Poor
M	: Meter
Mm	: Milimeter (Millimeter)
MT	: Metric Ton
MT	: Musim Tanam (Planting Season)
NTB	: Nusa Tenggara Barat (West Nusa Tenggara)
NTT	: Nusa Tenggara Timur (East Nusa Tenggara)
P	: Perempuan (Female)
PMA	: Profil Mitra Abadi
PNPM	: Program Nasional Pemberdayaan Masyarakat
PPL	: Penyuluh Pertanian Lapangan
PRUKAB	: Produk Unggulan Kabupaten
PT	: Perseroan Terbatas
PUAP	: Pengembangan Usaha Agribisnis Pedesaan
RI	: Republik Indonesia (Republic of Indonesia)
RPJMD	: Rencana Pembangunan Jangka Menengah Daerah
RPJMDes	: Rencana Pembangunan Jangka Menengah Desa
RPJMN	: Rencana Pembangunan Jangka Menengah Nasional
TTS	: Timor Tengah Selatan
TTU	: Timor Tengah Utara
UD	: Usaha Dagang

1. Executive Summary

Global annual production of peanuts ranged between 31 and 37 million metric tons (MT) during 2007-2013. World export of peanuts, on an average, was around 4% of the total production during 2007-2012. **World consumption of peanuts has increased by 15.5% from 31.20 million MT in 2007 to 36 million MT in 2012.** China (the main producer with 46% share), India (14% share), USA, Nigeria, and Indonesia represent all together 72% of world production.

Indonesia is among the top six global producers of peanut. However, **productivity in Indonesia is relatively low with production and acreage also decreasing over the years. With the consistent increase in demand and the declining local production, Indonesia is the largest importer of peanut in the world.** Unmet domestic demand and the expected growth in demand in the future, coupled with generally rising price of local peanut, create strong growth potential of the sector.

Although East Nusa Tenggara (NTT) is the sixth largest peanut producing province in Indonesia, it lags far behind the top four Javanese Provinces. Five of the 10 largest peanut producer provinces of Indonesia are located in Java Island, collectively contributing 61% of the national production. **But against the national trend of decreased production and reduced area under cultivation, peanut production and acreage in NTT has been steadily increasing.** Peanut is produced in the Flores, Timor and Sumba Islands with the largest production in Timor Island, spread in 4 districts. NTT produced 20,000 tons peanut in 2013. 2000 tons out of that were exported to other islands. During lean period 8000 tons were imported. Despite significant expansion in peanut production in the recent times, productivity in NTT is lower than the national average.

Farmers in NTT has low productivity of peanut as they do not apply better farming practices (seed selection, land preparation, planting and maintenance) and better seeds. There is no commercial business of multiplying and distributing good quality seeds for the farmers in NTT. Farmers often do not have enough capital to use better inputs and tools. Farmers have limited financial literacy and cannot make use of the available financial services. **Lack of post-harvest technology, especially drying technology, restrict farmers from improving quality and storing for long period.** Farmers lack market information and access to competitive market. Limited presence of direct sourcing networks of large traders or processors and low number of inter-island traders in NTT make the market less competitive and less profitable. **Big traders and companies do not get better quality peanut from NTT because farmers sell peanut with high water content.** Because of low quality farmers get lower price.

Government extension service has limited resource and capacity. So they focus on other priority sectors and cannot meet peanut farmers' needs. **Private input companies do not see peanut farmers as major clients. They lack capacity and vision to expand their client base and business. Seed producers in other provinces lack network and knowledge about NTT to promote peanut seeds. The collectors and inter island traders lack capacity to provide information about post-harvest techniques and drying.** Large buyers are not willing yet to invest (in improving quality of peanuts at farm level in NTT. Government does not consider peanuts as a priority crop. There is little coordination within the government agencies and provinces to develop the sector.

Peanut still has good market potential in NTT. It is a growing sector in NTT unlike many other provinces. NTT has unmet demand fulfilled by imports every year. A lot of poor farmers are involved in peanut cultivation. Climatic condition in NTT make peanut a suitable and sustainable crop. There are immense scope of improving productivity and quality by introducing quality seeds, better production and post-harvest practices and more buyers. **Peanut in NTT that has potential to reduce poverty and substitute import and increase export to other provinces and countries.**

Nationally, NTT is the third poorest province and placed first as the poorest of 10 biggest peanut producer provinces (21.46%). Around 50,000 families are involved in peanut cultivation in NTT.

The vision of change for the peanut subsector in NTT is **to increase the income of peanut farmers through increased production, productivity and market access in NTT.** This will require availability of quality seeds and other inputs, functional provisioning of appropriate agricultural practices, and constant access of farmers to competitive market.

This document proposes the following interventions to realize the vision for the peanut sub-sector in NTT -

- Facilitate availability and usage of good quality seeds through regional seed producers in NTT
- Support national seed company/s to establish distribution and marketing channel for making quality peanuts seeds available in NTT
- Facilitating direct linkage between large traders and farmers for better market linkage and better flow of information on post harvesting process and quality requirement.
- Facilitate establishment and expansion of organic peanuts production clusters in NTT

2. Background

The Australia-Indonesia Partnership for Promoting Rural Income through Support for Markets in Agriculture (AIP-PRISMA) is a multi-year program that is a part of the Government of Indonesia's midterm development strategy to accelerate poverty reduction through inclusive economic growth. With the support from the Government of Australia, the program aims to achieve a 30% increase in the net incomes of 300,000 male and female smallholder farmers in eastern Indonesia by June 2017. AIP-PRISMA works in East Java, West Nusa Tenggara (NTB), East Nusa Tenggara (NTT), Papua, and West Papua.

This Sub-Sector Growth Strategy Document aims to provide a logic and rationale for market-based interventions which can support the peanut sub-sector to the benefit of smallholder farmers in NTT.

3. Sector Description

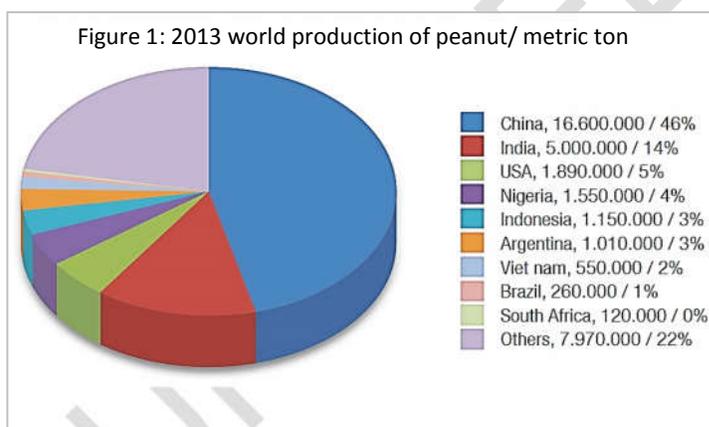
3.1 Sector Profile

The sector profile provides information on the current status and potential of the target sector. This has been derived mainly from secondary data and literature relevant to the sector.

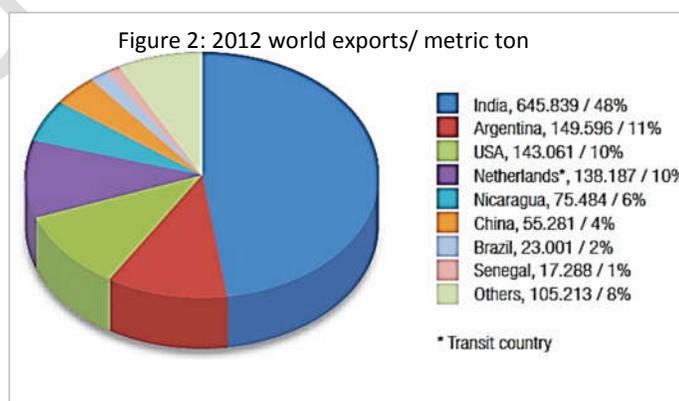
3.1.1 Overall Context

International Context¹

Global annual production of peanuts ranged between 31 and 37 million metric tons (MT) during 2007-2013. In 2012 world peanut production was about 37 million MT, decreasing slightly to 36 million MT in 2013. China (the main producer with 46% share), India (14% share), USA (5%), Nigeria (4%), and Indonesia (3%) represent all together 72% of world production.



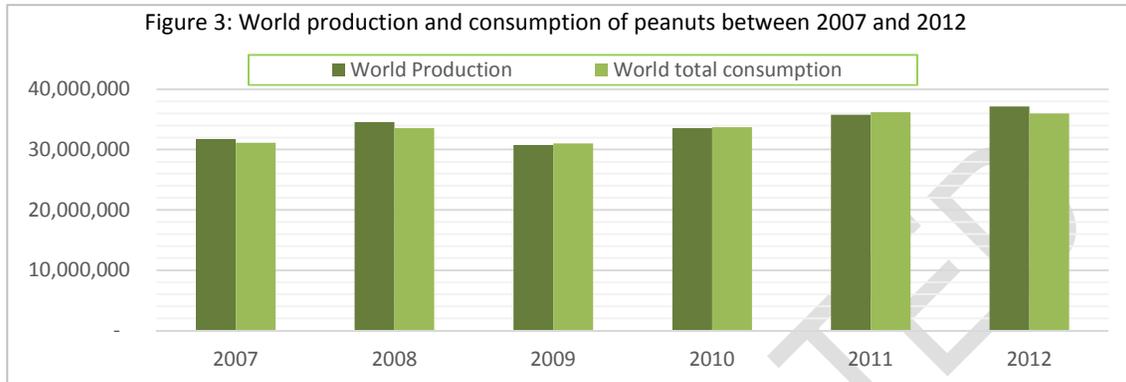
World export of peanuts, on an average, was around 4% of the total production during 2007-2012. In 2012 global export was 1.35 million MT. India tops the list of exporting countries with 48% share of the global peanut export in 2012. The top producer China, with a declining export share, caters mostly to the huge domestic demand. Indian peanut is demanded in the international



market for its quality, low moisture content, and long shelf life. Indonesia is the largest importer of peanut. The price of peanuts on the world-market had remained stable over the past decade, apart from the years of crop shortage in the USA.

¹ All information and data under this section is taken and calculated from http://www.nutfruit.org/global-statistical-review-2008-2013_85959.pdf and https://www.nutfruit.org/glob-stat-review-2011-2012_70816.pdf

World consumption of peanuts has increased by 15.5% from 31.20 million MT in 2007 to 36 million MT in 2012. Global peanut consumption has grown faster than the production. Increased industrial use as well as rising household consumption have resulted in the faster growth in demand of peanuts.



National Context

Indonesia is among the top six global producers of peanut. However, productivity in Indonesia is relatively low with production and acreage also decreasing over the years.

Indonesia produced approximately 1.15 million tonnes of in-shell peanut (3% of global production) in 2013², becoming the 5th largest producer of 2013. Between 2009 and 2013, productivity of Indonesia somewhat improved. The area under peanut production declined faster than the production of peanut (production declined by 10%, while the land coverage declined by 17 % in 2013 compared to 2009).

Table 1 Peanut production and harvested area in Indonesia: 2009 - 2013³

Year	Harvested Area			Production		
	(Ha)	Diff with 2009 (Ha)	Diff with 2009 (%)	(MT)	Diff with 2009 (MT)	Diff with 2009 (%)
2009	622,616	0		777,888	0	
2010	620,563	-2,053	-0.33%	779,228	1,340	0.17%
2011	539,459	-83,157	-13.36%	691,289	-86,599	-11.13%
2012	559,538	-63,078	-10.13%	712,857	-65,031	-8.36%
2013	519,056	-103,560	-16.63%	701,680	-76,208	-9.80%

With the consistent increase in demand and the declining local production, Indonesia is the largest importer of peanut in the world. Per capita peanut consumption in Indonesia is 4.2 kg. At this rate, the current demand for peanut kernel is a million MT, while the current production is around 785,000 MT (equivalent to the 1.15 million MT in-shell peanut). At the current population growth rate, the demand for peanut kernel by 2020 is estimated at 1.2 million MT.

² http://www.nutfruit.org/global-statistical-review-2008-2013_85959.pdf

³ Source: BPS Data: Harvested area, Productivity, and Crops Production. See http://www.bps.go.id/tnmn_pgn.php

Local small scale food processors consume around 80% of peanuts in Indonesia while the big industrial buyers and household consumption account for 10% each. Garuda food Group is the major institutional consumer of peanut in Indonesia with annual demand of 65,000 MT. The Kacang Garuda brand dominates the processed peanut markets in Indonesia. An estimate suggests that the demand for raw materials every year will rise by 65,000 MT per year⁴.

Indonesia's import share had been 10% of the total global import of peanuts each year between 2007 and 2009. It had increased to 17% in 2010 and 2011, settling down to 11.6% of the world import in 2012.

Figure 4: Peanut (in shell) production, import and consumption in Indonesia: 2007 - 2012

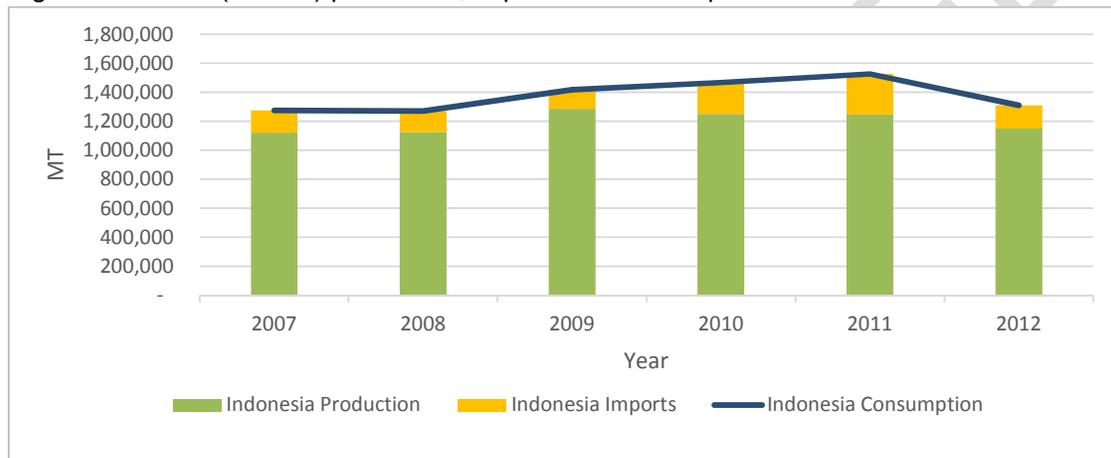
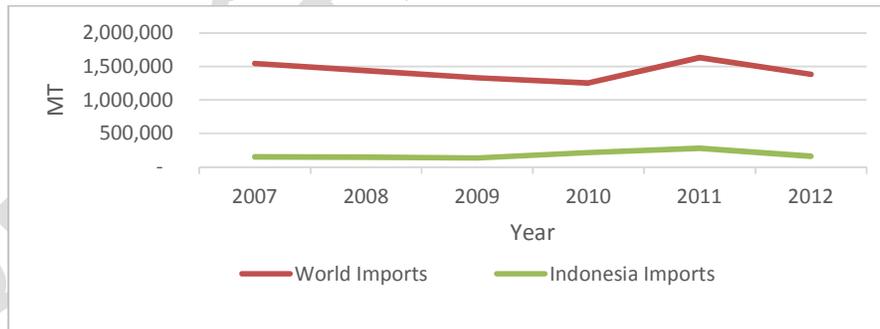


Figure 5: Import of peanut: world and Indonesia



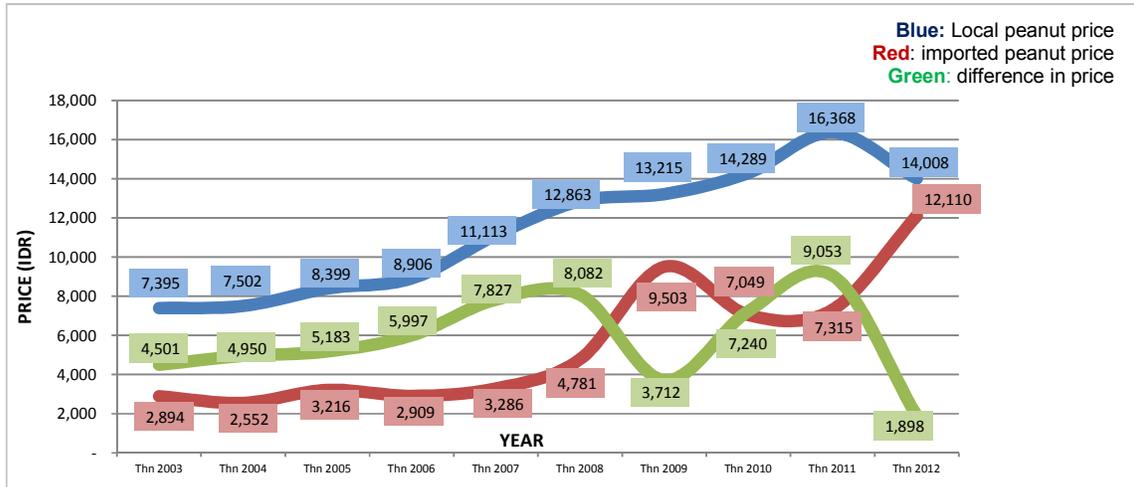
Unmet domestic demand and the expected growth in demand in the future, coupled with generally rising price of local peanut, create strong growth potential of the sector. General price-level of peanut, globally and in Indonesia, has increased from year to year. Imported peanut has been cheaper than the local peanuts in Indonesia over the years. Understandably, local peanut is of better quality and more popular. Very recently, local price

⁴ See: <http://industri.kontan.co.id/news/petani-kacang-ntb-menjadi-pemasok-garuda-food-1>; Peanut demands by Hartono Admadja, *Managing Director* PT Garuda Food, Year 2011

⁵ http://www.nutfruit.org/global-statistical-review-2008-2013_85959.pdf

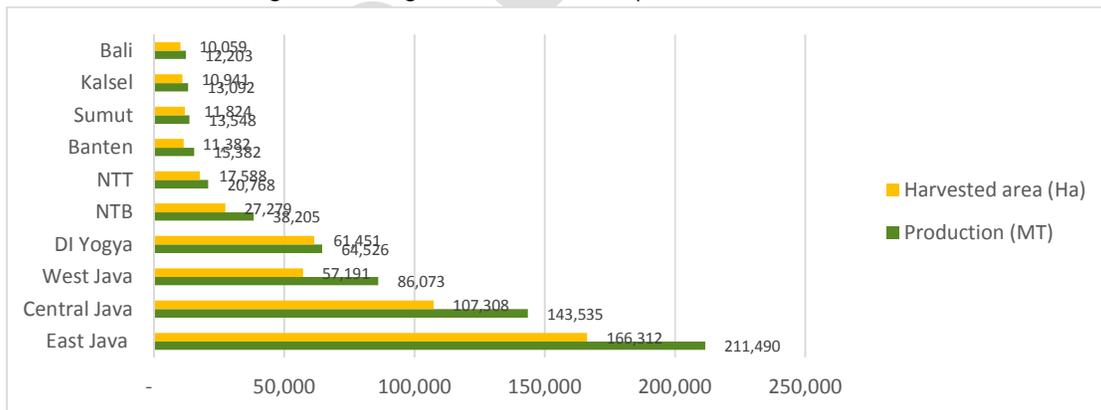
of peanut has dropped a little, with marginal increase in national production. However, price and profitability is still high enough to encourage farmers to grow peanut in Indonesia

Figure 6: Price of local peanut, imported peanut and differences in Indonesia: 2003 - 2012



East Java is the single largest peanut producing province in Indonesia. Five of the 10 largest peanut producer provinces of Indonesia are located in Java Island, collectively contributing 61% of the national production. (i.e. East Java, Central Java, West Java, DI Jogjakarta, and Banten Province; see figure 7⁶). East Java alone accounted for 30% of national production on 29% of the total area cultivated nationwide in 2013. The highest peanut productivity is in West Java (1.5 MT/Ha).

Figure 7: Average harvested area and production: 2009-2013



3.1.2 Local Context

Although NTT is the sixth largest peanut producing province in Indonesia, it lags far behind the top four Javanese Provinces. In last 5 years annual average peanut production in NTT was 20,768 tons, which is only around 3% of the national production.

⁶ See: http://www.bps.go.id/tmn_pgn.php

But against the national trend of decreased production and reduced area under cultivation, peanut production and acreage in NTT has been steadily increasing. In the last decade, Peanut production in NTT has increased by 58%, while the area under peanut cultivation increased by 51%.

Despite significant expansion in peanut production in the recent times, productivity in NTT is lower than the national average (1.18 MT/Ha compared to 1.35 MT/Ha). Compared to the most productive provinces (e. g. West Java; 1.5 MT/Ha), productivity In NTT is extremely poor.

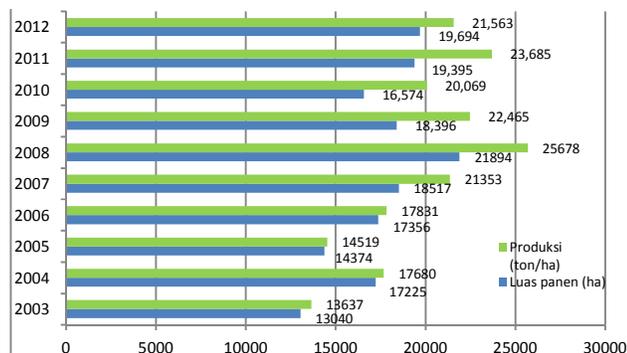
Nationally, NTT is the third poorest province and placed first as the poorest of 10 biggest peanut producer provinces (21.46%).⁷ Around 50,000 families are involved in peanut cultivation in NTT. (see table 2).

Table 2: Population, poor population and number of peanut farmer families in NTT province⁸

No	Regency	Population			Number of Poor				Peanut Farmer Families
		Families	W	(M+W)	Families	W	(M+W)	% of Poverty	
1	Kupang	71,645	157,041	321,384	14,422	31,612	64,695	20.13	10,674
2	TTU	54,211	120,387	238,426	11,688	25,955	51,405	21.56	5,837
3	Sikka	73,294	162,989	309,074	9,404	20,911	39,654	12.83	5,105
4	Lembata	30,614	66,372	124,912	7,580	16,434	30,928	24.76	4,749
5	East Sumba	51,764	115,393	238,241	15,710	35,022	72,306	30.35	4,657
6	East Fores	56,242	125,776	241,053	5,141	11,496	22,032	9.14	3,912
7	TTS	111,842	229,436	453,386	30,790	63,164	124,817	27.53	2,951
8	Belu	82,145	187,910	370,770	11,944	27,322	53,910	14.54	2,498
9	Others	528,578	1,305,330	2,602,014	111,335	269,399	538,110	-	8,410
	NTT	1,060,335	2,470,634	4,899,260	218,014	501,315	997,857	21.46	48,793

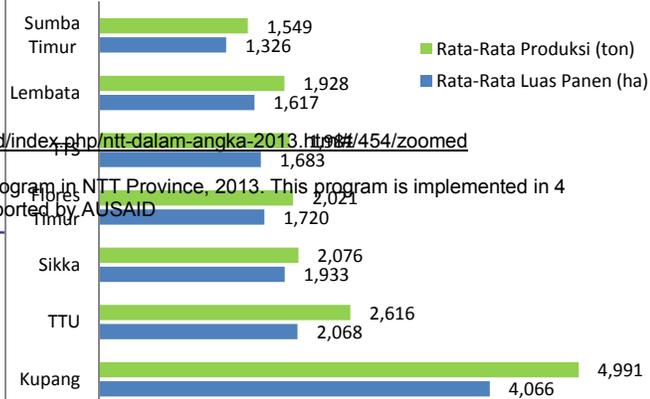
Per capita income of NTT farmers in 2013 was IDR 6,481,175⁹. Contribution from peanut was 5% (either consumed or sold). Major sources of income of farmers in NTT include cattle, corn, peanut, tamarind, candlenut, cashew and vegetables. 2003 onward, commercial production of peanut has been getting momentum in NTT. Figure 8 depicts growth of peanut production in NTT.

Figure 8 Growth of peanut in NTT based on harvest area (hectare) and production (ton)



Peanut is produced in the Flores, Timor and Sumba Islands with the largest production in Timor Island, spread in 4 districts. There are 8 major districts in NTT producing bulk of the total production. Figure 9

Figure 9: Production (ton) and area harvested in 8 major districts in NTT



⁷ Poverty in NTT based on Regency <http://ntt.bps.go.id/index.php/ntt-dalam-angka-2013.html#/454/zoomed>

⁸ Source: BPS NTT 2013

⁹ Source: Third Annual Report of Agrosilvopastoral program in NTT Province, 2013. This program is implemented in 4 Regencies in Flores and Timor Islands by YMTM supported by AUSAID

depicts average production (ton) and area harvested (ha) in those 8 districts. The highest producer district, Kupang, contributes 23% to NTT's total production. TTU, one of the AIP-PRISMA's target area, is placed second contributing 12% to NTT's total production. East Flores, which is also AIP-PRISMA's target area, is the 4th biggest producer in NTT. In 2013, population of TTU district was about 238,500 (54,000 families) with 49% women. Around 11,500 families or 21.56% are poor. Around 6000 families cultivated peanut as their main source of income.

Demand for peanut in NTT in 2013 reached about 26 thousand MT while it produced only 20 thousand MT. With around 2 thousand export to other provinces, **NTT imported around 8 thousand MT in 2013**. For detailed information, see table 3.

Table 3: Production, consumption and import of peanut in NTT in 2013 (extrapolated)

Average Production in NTT (last five years , ton)	Export to other islands was 14% in 2013 (ton)	Average local consumption only enough for 8 months (ton)	Average local consumption rate per month (ton)	Local demand per year (ton)	Import from Java for 4 months (ton)	Import from Java percentage
a	b=14%xa	c=a-b	d=c/8	e=d x 12 bln	f=d x 4 bulan	g=f/e
20,768	2,908	17,860	2,233	26,791	8,930.24	33%

Peanut is identified as one of extreme climate change resistant crops. Peanut needs warmer climate than soybean and corn. The best varieties like Singa and Jerapah can reach productivity up to 2 MT/ha.

So peanut is (a) growing in NTT, (b) still has unmet demand (c) suitable for the poor farmers in NTT (d) suitable for climatic condition in NTT and (e) yet to reach optimal productivity in NTT. All these reasons make peanut a suitable pro-poor sector for NTT that has potential to reduce poverty and substitute import and increase export to other provinces and countries.

3.2 Sector Dynamics

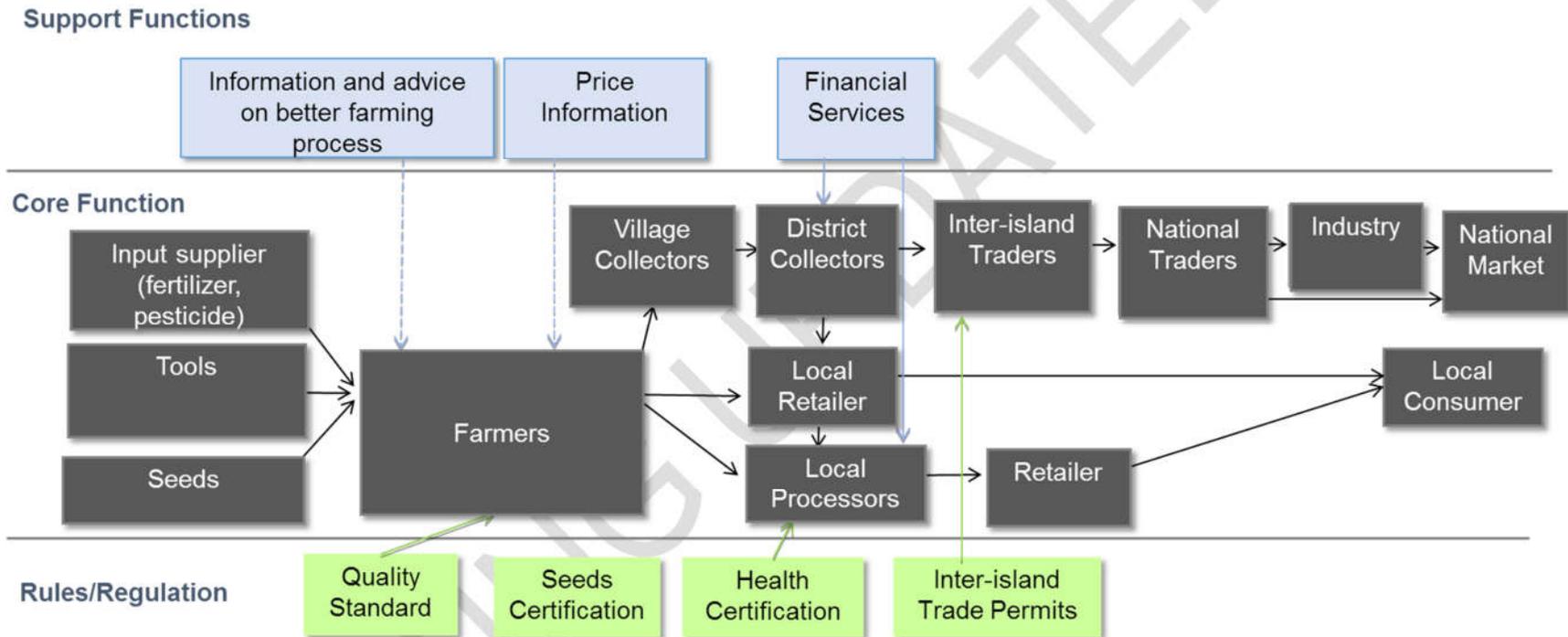
3.2.1 Market Overview

Peanut farming in NTT is a relatively new agribusiness, compared to, for example, livestock. It has become one of the major sources of income of NTT farmers in a short period of time. NTT produces peanut only once a year, unlike the advanced peanut production provinces. During the harvest season (April to June) price goes down. Price keeps on increasing after that. Demand for peanut in NTT is quite high, but during peak season peanut is also exported outside of NTT, especially to Java and Sulawesi. With only one season a year there is always a shortage of peanut in November – March. Price of peanut increases despite imports during that period.

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3.2.2 Sectoral Map

Figure 10: Peanut sector map



3.2.3 Core value chain

Input

In Timor and Flores Islands there are 14 agriculture input providers and none of them sell certified peanut seeds. Input providers are scattered in 6 districts mostly in the capital cities of the districts. In TTU, input providers also collect farmers' crop such as corn and beans for selling in retail. There are 23 tractors, mostly provided by the government, in TTU and Belu to cultivate upland soil. Quality seed, tractor etc are rarely available for peanut. Farmers use retained seeds or buy seed from neighbours and local markets. **Fertilizer pesticides herbicides are available in the input shops but farmers use minimum inputs for peanut cultivation.**

Production and post-harvest

Productivity of peanuts is low in NTT because farmers do not use quality inputs and do apply proper cultivation techniques including tillage, and balanced fertilization. There are some farmers who have experience in doing proper tillage by using tractors and getting 1.5 ton/hectare. Most of the farmers are using slash and burn system or spraying herbicides, resulting in low productivity (less than 1 ton/hectare). Not all of the farmers can easily access tractor service because the availability of big tractors for dry land is still limited although many farmers are financially capable of renting tractors (manual tillage costs more). Other reasons like irregular planting,

Inadequate drying and physical damage during the harvest season, humidity during storage, make peanut susceptible to aflatoxin contamination. One survey of aflatoxin contamination for peanut in Kupang district shows that 15 % of over 60 samples from farmers are contaminated by aflatoxin above the allowed threshold level. Farmers also do not do grading and sorting of peanuts before selling it to traders.

There are a small number of farmers producing organic peanuts in TTU. Supported by a buyer (exporter), PMA (Profil Mitra Abadi), farmers received seed of a specific striped variety and grew peanuts. The buyer bought the produced peanut for a price that had been agreed in a collaboration contract. Through this support, in 2014, 230 farmers expanded their area for striped peanut cultivation to 35 hectare by 231 farmers.

Trade

There are usually one village collector in every village. **Village collectors often take advance from the district traders to pay farmers at the time of buying peanut.** District traders, usually at least 2 in a district, also buy peanut directly from the farmers. They conduct drying, paring, and sorting before selling. Inter-island traders (about 6 in NTT) also buy directly from farmers besides their main suppliers – the district trader and collectors. They also do drying, sorting, paring etc before selling peanut to the national traders in Java or Sulawesi islands.

The investigation team found 3 national traders in Pabean Market of Surabaya who receive peanut from NTT. They also sell imported peanut from India.

As most of the peanut produced in NTT is also consumed within NTT (including seed) most of the trade happens in the local markets. There are local collectors who buy peanut, and

store it to sell in October and November when price is above IDR 17,000/kg due to low supply and high demand (also used as seed).

Processing

Local processors (more than 10) use up to 6 ton of peanuts to produce roasted peanut, morning peanut, sugar-coated peanut, and egg-coated peanut for the local market. In East Sumba, there is a local processor who is rapidly developing the processing business. Its products are already popular in NTT. The local processors are mostly women. Processed peanuts produced by local processors are available in the super-marts, hyper-marts, and gift shops in Kupang City as well as in smaller retail shops.

There are national processor who cater to the domestic markets (e.g. PT. Kacang Harum, based in Bogor, West Java). Exporters also process peanut (e.g. PT. Profil Mitra Abadi , PMA). Big processors like Garudafood Group do not have direct and strong presence yet in NTT

3.2.4 Supporting Functions/Services

Information about better practices cultivation peanut cultivation is not transferred to farmers optimally by the government through Field Agriculture Instructor (Penyuluh Pertanian Lapangan/ PPL). Private sector actors also do not give such information to farmers. Farmers get the information about agronomic and post-harvest practices from other farmers, and learn by doing. They tend to use traditional agriculture practice and have limited knowledge about the correct amount in applying chemicals, fertilization method, and even superior quality seed.

Price Information deployment is limited, and it makes the farmers in certain area sell their peanut with low price (only Rp. 9000/Kg). In some other districts, Trade and Industry Department is effectively announcing the peanut's selling price through local radio. However, farmers who produce peanut do not access that information, often complaining that it is difficult for them to get the radio frequency. The role of farmers' association to search/collect price changes of peanut and disseminate it to the farmers periodically is limited in some certain villages only.

Access to finance in peanut agribusiness is still very limited, both for farmers and the traders. Farmers only take loan from government programs (PNPM, PUAP) for trading or consumption. Although BRI Bank and NTT bank offer a loan with low interest rates, such as KUR (*Kredit Usaha Rakyat*) and KKPE (*Kredit Ketahanan Energi dan Pangan*) from the government, yet the farmers do not use those schemes effectively. KUR scheme offer credit limit that reaches up to IDR 6 million/hectare with an annual interest rate of 13%. Micro Finance Institution (LKM) in NTT are also growing in NTT such as *Koperasi Obor Mas* in Flores, Tanaoba Lais Manekat, CU Kasih Sejahtera.

The transportation cost of sending peanut from NTT is high and the arrival in the processing companies' locations is always late. Distance and transportation difficulties are major barriers to the export of peanut to other provinces. Peanut delivery from Kupang to Jakarta takes more than a month. However, market opportunity is still widely open. **Storage**

services are inadequate and ineffective for farmers and traders. Aflatoxin contamination risks increases because of all those factors above.

3.2.5 Rule and Regulations

Agriculture Development Policy in national level and in NTT province does not accommodate peanut as a priority commodity, while peanut is considered a priority product in TTU district. Indonesia's Ministry of Agriculture in their National Medium Term Development Plan (*Rencana Pembangunan Jangka Menengah Nasional (RPJMN)*) for the period of 2010 - 2014, give priority to rice, corn, soybean, sugar, and beef production. Peanut is included as one of the seven types of food crop that is developed by government through cluster approach.

Peanut import policy could affect the stability of peanut price in Indonesia and NTT. Ministry of Agriculture has authority to determine the quota and determine importer companies. If peanut is imported at the wrong time, such as during the harvest season, price goes down sharply. This reduces farmers' motivation in cultivating peanut.

Peanut quality standard by the companies are mostly difficult to be accomplished. This makes the price received by the farmers too low as they do not meet the standards. It usually happens because relationship and information sharing between traders and farmers are not going well. Farmers try to deceive the entrepreneur by mixing better quality with bad quality peanuts and the traders try to deceive farmers in weight (scale) and price. Peanut price information from government is also inadequate and rarely received by the farmers.

Obtaining peanut distribution license between islands is easier compared to the forest products. District government does not give complicated regulations for peanut delivery between islands compared to the forest products. Important document that is provided during the delivery between islands are plant quarantine certificate. Sometimes, levy illegally imposed by some individuals make processes complicated and costly.

4. Analysis

The intervention logic analysis framework (ILAF) table (Annex 1) summarises the problems, underlying causes, and the weaknesses in the support functions and the rules/ regulations. This section analyses that more elaborately.

4.1 Problems in the Core Function and underlying causes

4.1.1 Problems and their underlying causes faced by farmers

The overarching problems (or rather the "symptoms") faced by the peanut farmers in NTT are the low productivity, suboptimal quality and lower price of peanut. This leads to reduced income from peanut. The specific problems faced by farmers and their underlying causes

are summarised below.

- Farmers do not apply better farming practices (seed selection, land preparation, planting and maintenance) and better seeds. In general, farmers lack access to information on better farming practises.
- There is no commercial business of multiplying and distributing good quality seeds for the farmers in NTT.
- Farmers often do not have enough capital to use better inputs and tools. Farmers have limited financial literacy and cannot make use of the available financial services.
- Farmers get low price of peanut because they need cash during the harvest period and sell their product immediately when price is normally low.
- Lack post-harvest technology, especially drying technology, restrict farmers from improving quality and storing for long period. Inferior quality further pull down the price.
- Farmers lack market information and access to competitive market. Limited presence of direct sourcing networks of large traders or processors and low number of inter-island traders in NTT make the market less competitive and less profitable.

Low productivity of peanut is due to the fact that farmers do not apply better farming practices (seed selection, land preparation, planting and maintenance) and better seeds. In general, farmers lack access to information on better farming practises. Fertilizers and pesticides are not found in the villages and are only available in the district centres. **Farmers often do not have enough capital to use those inputs.** Farmers have limited financial literacy and cannot make use of the available financial services. Even if they get loans from finance institution, the loan is mostly used for consumption rather than for improving and expanding their business.

Indonesia has 29 superior peanut varieties with fairly high yields (2 ton/ha or more). But there is no commercial business of multiplying and distributing good quality seeds for the farmers in NTT. Some of those seed varieties are distributed by the government but with a very limited outreach. Local seeds in NTT has some specific features but are usually not high yielding.

Farmers get low price of peanut because they need cash during the harvest period and sell their product immediately when price is normally low because of the increased supply. More importantly, due to lack of post-harvest technology, especially drying technology, restrict farmers from improving quality and storing for long period. **Inferior quality further pull down the price.** Because of limited inter-island trading and low presence of inter-island traders, farmers lack market information and access to competitive market. Limited presence of direct sourcing networks of large traders or processors in NTT make the market less competitive and less profitable.

4.1.2 Problems and underlying causes faced by other actors and their impact on farmers

There are problems and underlying causes faced by the other market actors as well, that

eventually also affect the cashew farmers. Key issues affecting the farmers due to the problems faced by the market actors are summarised below –

- Big traders and companies do not get better quality peanut from NTT because farmers sell peanut with high water content. Because of low quality farmers get lower price. In absence of high number of big buyers in NTT farmers do not get a competitive forward market.

Big traders and companies find it difficult to get better quality peanut from NTT because farmers sell peanut with high water content, without drying properly. So it is easily infected by aflatoxin fungus. Low availability of shortage facilities deteriorates the quality at different stages. Poor packaging (in nylon sacks), limited access to post-harvest techniques, especially drying technology also result in low quality peanuts. Because of low quality farmers get lower price. In absence of high number of big buyers in NTT farmers do not get a competitive forward market.

4.2 Weaknesses in services and rules / regulations

Key weaknesses in services and rules/ regulations (also mentioned in the ILAF table - annex 1) are elaborated in this section and are also summarised in the box below.

- Government extension service has limited resource and capacity. So they focus on other priority sectors and cannot meet peanut farmers' needs.
- Private input companies do not see peanut farmers as major clients. They lack capacity and vision to expand their client base and business.
- Seed producers in other provinces lack network and knowledge about NTT to promote peanut seeds.
- The collectors and inter island traders lack capacity to provide information about post-harvest techniques and drying. Large buyers are not willing yet to invest (in improving quality of peanuts at farm level in NTT).
- Government does not consider peanuts as a priority crop. There is little coordination within the government agencies and provinces to develop the sector.

Field agriculture instructors (PPL) from government doesn't effectively fulfil the peanut agronomic information needs because they do not focus on this sector. There is weak capacity and limited number of government extension workers. Private input companies do not provide information services to the peanut farmers as they do not see them as major clients. They often do not have the capacity and vision to give services to peanut farmers and expand their client base and business. Agriculture products traders also do not give adequate information about certain input application. These agents are not trained and do not have special expertise about peanut.

There are no private actors providing good quality seed. Seed companies do not focus on peanut. **Seed producers in other provinces lack network and knowledge about NTT to promote peanut seeds.**

The collectors and inter island traders doesn't have capacity to provide information about post harvest techniques, especially drying. Large buyers are not aware of the potential of NTT for supplying peanuts. Large buyers are not willing to invest (time and financial resource) in improving quality of peanuts at farm level.

Government does not consider peanuts as a priority crop. However Peanut is included as one of the seven types of food crop that is developed by government through cluster approach. There is little coordination within the government agencies and provinces to develop the sector.

For organic peanut, buyers/traders have limited capacity to organize production clusters. Certification and compliance issues also take a lot of effort and expertise.

4.3 Cross cutting issues (gender and environment)

Ratio of men and women involved in peanut production is almost the same. Women are mostly involved seeds preparation, planting, harvesting, sorting, drying, and paring. Men usually do the ploughing.¹⁰

Peanut is identified as one of extreme climate change resistant crops. Peanut needs warmer climate than soybean and corn.

5. Strategy of Changes

5.1 Market Potential

So peanut has good market potential in NTT. It is a growing sector in NTT unlike many other provinces. NTT has unmet demand fulfilled by imports every year. A lot of poor farmers are involved in peanut cultivation. Climatic condition in NTT make peanut a suitable and sustainable crop. There are immense scope of improving productivity and quality by introducing quality seeds, better production and post-harvest practices and more buyers. Peanut in NTT that has potential to reduce poverty and substitute import and increase export to other provinces and countries. Following table calculates market potential of peanut in NTT.

Table 4 : Peanut business potency in targeted areas

Description/Years	Total Business in the target area (s)		
	Total	Up to 2016	Up to 2018
Average Selling Price Shallots per kg (IDR)	10,000	11,000	13,000
Current Value of Production (million IDR)	128,834,145	117,000	665,000

¹⁰ More insights into gender in peanut will be included in the next iteration

Total value of potential production (million IDR)	154,602,756	122,918	764,911
Total value of potential production (AUD)	15,460,275,600	12,291,825	76,491,100
Total potential value of increased production (million IDR)	25,768,611	5,918	99,911
Total potential value of increased production (AUD)	2,576,861,100	591,825	9,991,100
Market share due to program		0.005%	0.08%

5.2 Vision of Change

Increasing the income of peanut farmers through increased production, productivity and market access in NTT.

Service Market Vision

- Ensure availability of quality seeds and other inputs.
- Ensure functional provisioning of appropriate agricultural practices.
- Ensure constant access to competitive market.

5.3 Interventions

To unlock the potential of the peanut sub-sector in NTT for benefiting the poor farmers, by improving the service markets in the support functions, following interventions are proposed

- Intervention 1A: Facilitate availability and usage of good quality seeds through regional seed producers in NTT.
- Intervention 1B: Support national seed companie/s to establish distribution and marketing channel for making quality peanuts seeds available in NTT.
- Intervention 2: Facilitating direct linkage between large traders and farmers for better market linkage and better flow of information on post harvesting process and quality requirement.
- Intervention 3: Facilitate establishment and expansion of organic peanuts production clusters in NTT.

Intervention 1A: Facilitate availability and usage of good quality seeds through regional seed producers in NTT. In NTT Province, there is only one seed breeder in Sumba who produces seed of local varieties with limited production capacity. Otherwise in Timor and Flores another island there is no seed breeder producing quality seeds yet. This intervention will work with seed breeders to start producing and promoting peanut seeds, bringing in better varieties. Furthermore, seed breeders will cooperates with and support farmers by giving better production techniques of peanut. For distribution to farmer, seed breeders will cooperate with input dealer in the market and agents in villages. Input dealers will stimulate farmers' demand by providing knowledge about benefit of using quality seeds and improved cultivation technology. The intervention will be scaled up primarily by expanding the production and distribution of seed of the initial partners and then by replicating it with other seed breeders. At a later stage national seed companies will be facilitated to set up provincial production and distribution channels. (See 1B)

Intervention 1B: Support national seed companie/s to establish distribution and marketing channel for making quality peanuts seeds available in NTT. This intervention will be one of the scale up activities of intervention 1A. Under this intervention the project will work with national seed companies and facilitate setting up a production and distribution system of peanut seeds. Those companies may include the provincial seed breeders in intervention 1A as their contract grower/supplier of seed. Seed companies will also work with the dealers to promote the seed and give embedded information to farmers. Further scale up of this intervention will be done by expanding the distribution of the initial partner(s) and then by facilitating crowding-in by other seed companies.

Intervention 2: Facilitating direct linkage between large traders and farmers for better market linkage and better flow of information on post harvesting process and quality requirement. This intervention will convince big traders/ buyers to make some direct investment in NTT (opening a branch, having representatives in NTT). Those buyers will give support to farmers to have better post-harvest practices. They will cooperate with the district wholesalers/ traders and create incentive for them to provide services to the farmers. This intervention will be scaled up by increasing the collector/ wholesalers under the same big buyer and then by bringing in more buyers.

Intervention 3: Facilitate establishment and expansion of organic peanuts production clusters in NTT. This intervention is developed based on the available opportunities: to build up and expand organic peanut production clusters in NTT as a response to the increasing international demand.

This intervention will cooperate with organic peanut exporters. Exporters will build Field Management Unit in NTT in order to support development of organic peanut. Supports given by the exporter will include seeds, organic agriculture technology information, certification requirements information, and buying the organic peanut.

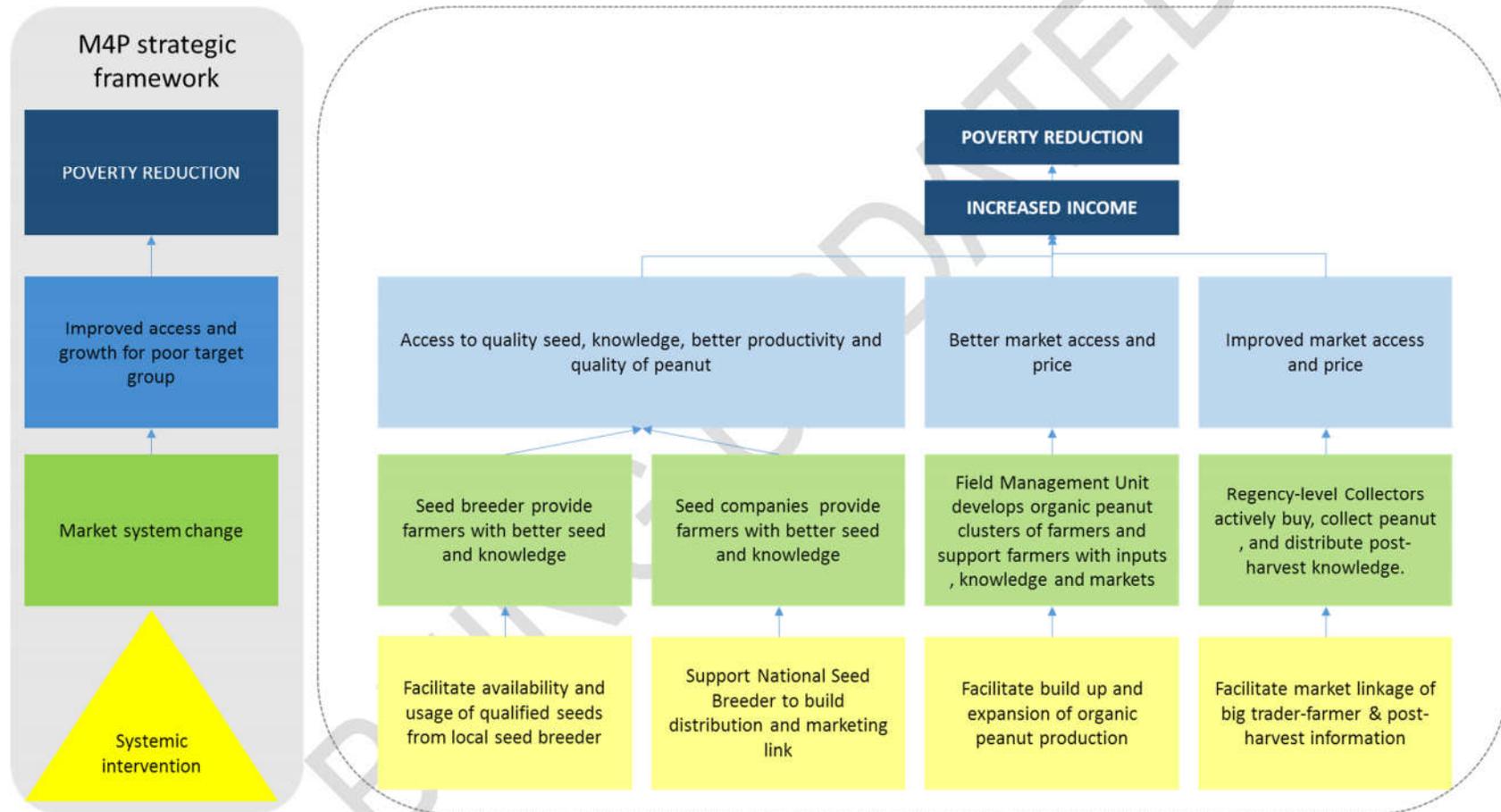
5.4 Sequencing and prioritisation of intervention

Figure 11 depicts the sequence and prioritization of interventions. Intervention with the regional seed producers (Int. 1A) will be the first priority intervention. While the intervention with seed companies (Int. 1B) will take some time to be shaped up, second intervention to start will be the one with organic peanut (Int. 3). Intervention with the traders (Int. 2) will be at a later phase after the other interventions are in place and working.

Figure 11: Sequencing and prioritisation of intervention



5.5 Sector Vision of Change Logic



Annex 1: Intervention Logic Analysis Framework (ILAF)

(1) Problems /Symptoms	(2) Underlying causes	(3) (4) Services/ enabling environment	(5) Services weaknesses	(6) Interventions	(7) Service Provider/ Partner
<p>Low production and low productivity of peanuts by NTT farmers</p> <p>Why1: Farmers don't apply better farming practises (seed selection, land preparation, planting and maintenance)</p> <p>Why2: Farmers don't use good quality seeds</p>	<p>Lack of availability and access to information on better farming practises</p> <p>Lack of availability of quality seeds and information on good cultivation practices</p>	<p>Information and Knowledge</p> <p>Input, Information and knowledge</p>	<p>Weak capacity and limited number of government extension workers</p> <p>Government does not prioritise peanuts.</p> <p>Private actors do not perceive peanut as a key sectors now in NTT</p> <p>There are no private actors providing good quality seed</p>	<p>INT 1A: To facilitate availability and usage of good quality seeds through regional seeds producers in NTT</p> <p>INT 1B: Support national seed companie/s to establish distribution and marketing channel for making quality peanuts seeds available in NTT</p>	<ul style="list-style-type: none"> • Seed certification agency (BPSB) • saprotan traders (retailer) • Seeds providers • Farmers expert • Extension workers • National seed companies
<p>Farmers get low price of peanut</p> <p>Why1A:because farmers need cash during the harvest period and sell their product immediately</p> <p>Why1B:due to lack of post harvest technology especially drying technology for improving quality and storage for long period</p> <p>Why2: because of limited inter-island trading and limited presence of inter-island traders farmers lack market information and access to competitive market.</p>	<p>Lack of access to information about post-harvest techniques especially drying technology</p> <p>Limited presence of direct sourcing network of large traders or processors in NTT</p>	<p>Information and knowledge about post-harvesting techniques especially drying</p> <p>Market linkage</p>	<p>The collectors and inter island traders doesn't have capacity to provide information about post harvest technique esp. drying</p> <p>Large buyers not aware of the potential of NTT for supplying peanuts.</p> <p>Large buyers are not willing to invest (time and financial resource) in improving quality of peanuts at farmers level now</p>	<p>INT 2: Facilitating direct linkage between large traders and farmers for better market linkage and better flow of information on post harvesting process and quality requirement.</p>	<p>Collectors</p> <p>Big buyer /national buyer</p>

Annex 2: Intervention Logic Analysis Framework (Organic Peanut)

(1) Opportunity	(2) Support function	(3) Issues faced by service providers	(4) Interventions	(5) Service Provider/Partner
Establish and expand organic peanuts production cluster in NTT to respond to growing international demand	Information and knowledge Inputs Certification Market linkage	<ul style="list-style-type: none"> Buyers/traders limited capacity to organize production cluster Certification and compliance 	INT 3: Facilitate establishment and expansion of organic peanuts production clusters in NTT	Buyers /Exporters of organic peanuts

Annex 3: List of Identified Market Participants

No	Participants	Contact Number	Potency of Cooperation in the Future	Information
1	Haji Mushir	081339397299	Has a potency to cooperate because he/she is a trader in TTU who is serious to buy farmer's product, and as an inter-island trader.	Inter-island peanut trader
2	Haji Hasbullah (UD Cakra)	082145653528	Has a potency to cooperate because he/she is a trader in TTU who is serious to buy farmer's product, and as an inter-island trader.	Inter-island peanut trader
3	Kusnadi	085253526229	Has a potency to cooperate in term of selling qualified seeds.	Input provider in Regency level.
4	Elisabeth Bona	081339369634	Has a potency to cooperate because he/she is a producer farmer in village level.	Peanut producer in Fafinesu A Village
5	Hendrikus Sau	081337490925	Has a potency to cooperate because he/she is a producer farmer and could drive another farmer in peanut development.	Peanut producer in Tuntun Village
6	Yoseph Kefi	081339200149	Has a potency to cooperate because he/she is a producer farmer and could drive another farmer in peanut development.	Peanut producer in Vemnasi Village

7	Nesar Medah	081353758907	Has a potency to cooperate because he/she is a wholesaler who buys peanut from farmers and sell it to another island.	Trader in TTS Regency.
8	Mintura (pemilik toko Gajah Mada Atambua	0838921320	Has a potency to cooperate because he/she has a big business in Belu Regency that buys all products, includes peanut and sell it to Surabaya.	Inter-island trader
9	Thomas Sulaiman (Toko Paris Atambua)	-	Has a potency to cooperate because he/she is an inter-island trader.	Inter-island trader
10	Rosalinda Soi	082144367011	Has a potency to cooperate because he/she is buying peanut and re-selling it in traditional market	Retailer in Belu Regency
11	Haja Sahari	085253010597	Not quite has a potency to cooperate because he/she is buying peanut gradually.	Peanut processor in Belu Regency
12	Gustaf Wila	081246337235	Has a potency to cooperate.	Wholesaler in North Molo Sub-District, TTS Regency.
13	Ridwan	085238182112	Has a potency to cooperate because he/she is a wholesaler in a Regency level and an inter-island trader	Pedagang pengumpul kabupaten TTS
14	Pengusaha Sutra Mas	082236076888 0382 242 6686	Has a potency to cooperate because he/she is an inter-island trader that buys peanut from farmers in a large-scale.	Inter-island trader
15	Toko Sumber Makmur	-	Has a potency to cooperate because he/she could provide a good quality of seed.	Saprotan Market in Sikka Regency.
16	A Hong	081357728866	Has a potency to cooperate because he/she is a national trader who brings in peanut from many areas.	National Trader in Surabaya
17	Gonardi Wempy	085232722888 031-70651077	Not quite has a potency to cooperate because he/she is not interested in peanut, he/she is more interested in another product.	National Trader in Surabaya
18	Randy/Manajer	082331234244	Has a potency to cooperate because he/she is a national trader who buys peanut from NTB in a large-scale.	UD Sari Madu National Trader in Surabaya
20	Tedy Leong (Toko Sinar Makmur Kupang)	081338450058	Not quite has a potency to cooperate because he/she prefers tamarind rather than peanut commodity.	Inter-island trader in Kupang
21	Roby/Maranu Motor Kupang	081338038222	Has a potency to cooperate because he/she sends peanut to Surabaya about ± 500 MT per year.	Inter-island trader

22	Jamaludin	081246110877	Not quite has a potency to cooperate because he/she is only buying peanut as needed and gradually.	Local Processor in Kupang
23	David Kenenbudi, SE	081353669669	Has no potency to cooperate because his/her SME process various kinds of products, not only peanut.	NTT gift shop that sells processed peanut
24	Yus Bollu	081339108607	Not quite has a potency to cooperate because he/she is buying another commodity besides peanut.	Retailer in Oeba Market, Kupang
25	Lely	082147632666	Not quite has a potency to cooperate because he/she is buying peanut as required for processing and gradually.	Local Processor in Kupang
26	Lewi Cuaca	0811800199	Has a big potency to cooperate because he/she is buying organic peanut in a large-scale. Furthermore, he/she manages certificates for farmers who cultivate organic peanut in TTU Regency.	National Trader in Surabaya
27	Cahyo	085711080016	Has a potency to cooperate because he/she has transportation vehicle for inter-island distributions.	Expedition owner in Jakarta
28	Halim	08146899750	Has a potency to cooperate because he/she is a national trader who buys peanut from another area.	National Trader in Bogor

Annex 4: List of Respondents

No	Respondents	Address
1	Haji Muhsir	TTU-Kefamenanu
2	Haji Hasbullah	TTU-Kefamenanu
3	Kusnadi	TTU-Kefamenanu
4	Jumartan	TTU-Oelolok
5	Elisabeth Bona	TTU-Fafinesu A Village
6	Hendrikus Sau	TTU-Tuntun
7	Yosep Kefi	TTU-Femnasi
8	Otniel Neoname	Department of Agriculture and Plantation, TTS Regency
9	Samuel Nubatonis	PPL of Lili'ana dan Nunbena Villages, TTS Regency
10	Nesar Medah	TTS-Soe
11	Remigius Asa	Department of Agriculture and Plantation, Belu Regency
12	Mintura (Gajah Mada Shop's Owner)	Belu-Atambua
13	Thomas Sulaiman	Belu-Atambua
14	David Asa Bau	Belu-Kenebibi Village
15	Rosalinda Soi	Belu-Atambua
16	Haja Sahari	Belu-Atambua
17	Theresia Saik	Belu-Atambua
18	Agnes Dau	Belu-Atambua
19	Gustaf Wila	TTS-North Molo-Kapan
20	Omi	TTS-Soe
21	Ridwan	TTU-Soe
22	Head of Oel uban Village	TTS-West Molo Sub-District
23	Haminah Wasa and Theresia	Ende Market
24	Theresia	Ende Market
25	Margaretha Bhara	Ende Market
26	Bangkalan Restaurant's owner	Ende
27	Fatimah	Sikka
28	Head of the Food Security and Agricultural Extension	Sikka-Maumere
29	Head of Department of Trade and Industry	Sikka-Maumere
30	Hendrikus B. Sali	Sikka
31	Fajar shop's owner, Geliting Market	Sikka
32	Sutra Mas Shop	Sikka
33	Sumber Makmur Shop	Sikka
34	Benyamin Dong Luis	East Flores-Kec Talibura
35	Regina Masin Pukan	Department of Agriculture and Plantation, East Flores

36	Ir. Hendrikus B.Sali	Head of Department of Agriculture and Animal Husbandry, East Flores
37	Siti Hamzah	East Flores Regency
38	Ani Haryani (Head of Pabean Market)	Pabean Market Surabaya
39	A Hong	Pabean Market Surabaya
40	Gonardi Wempy	Pabean Market Surabaya
41	Randy	Pabean Market Surabaya-Suramadu Market
42	Koliq Yakin	Head of Departments, East Java
43	Hendri F. Sahulata	Department of Trade and Industry, East Java
44	Tedy Leong	NTT- Kupang
45	Roby	NTT- Kupang
46	Jamaludin	NTT- Kupang
47	David Kenenbudi, SE	NTT-Kupang
48	Robert (Head of Crops Division, Department of Agriculture, NTT Province)	NTT-Kupang
49	Yus Bollu	NTT- Kupang
50	Yosesben Bani	NTT- Kupang-Oeltua Village
51	Lukas Kia Gega	BPTP NTT-Kupang
52	Lely	NTT-Kupang
53	Lewi Cuaca	Jakarta
54	Cahyo	Jakarta
55	Halim	Bogor

Annex 5 Investigation Team

No	Team Member Names	Research Areas	Organization	Function
1	Yosef Sumu	TTU, Kupang, Surabaya, Jakarta, Bogor	YMTM	Program Manager
2	Yohanes D. Nuwa	TTU, Nagekeo, Ende, Sikka, East Flores	YMTM	Program Coordinator
3	Frederikus Seran Bria	TTU, Belu	YMTM	Field Coordinator
4	Praksedis Yuliana Ola	TTU, Kupang, Surabaya	YMTM	M&E Staff
5	Agustinus Naisanit	TTU, Belu	YMTM	Staff
6	Agustinus Bria Molo	TTU, Kupang	YMTM	Staff
7	Petrus Naibobe	TTU, TTS	YMTM	Staff
8	Maria Asumpta Kefi	TTU, TTS	YMTM	Staff
9	Relius Meak	Belu	YMTM	Staff
10	Abeator Ton	TTS, Kupang	YMTM	Staff
11	Mikhael Ndoik	Nagekeo, Sikka, Ende, East Flores	YMTM	Staff