



Standards and Trade
Development Facility



International
Trade
Centre



PROJECT: STDF/PG/486

**IMPROVING FOOD SAFETY AND COMPLIANCE WITH SPS
MEASURES TO INCREASE EXPORT REVENUES IN THE
OILSEEDS VALUE CHAIN IN MYANMAR**

FINAL REPORT

31 MARCH 2019

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PROJECT INFORMATION

Beneficiary

Republic of Union of Myanmar

Project number and title

WTO/STDF/486: Improving Food safety and compliance with SPS measures to increase export revenues in the oilseeds value chain in Myanmar

Budget

Total project value: 977,658 US\$

Approved STDF contribution: 825,071 US\$

Disbursed STDF contribution (i.e. during the project lifetime): 825,071 US\$

Period of implementation

August 2015-March 2019

Implementing Agency

International Trade Centre (ITC)

Partners

Myanmar Trade Promotion Organization, Ministry of Commerce

Food and Drug Administration, Ministry of Health and support

Department of Agriculture, Ministry of Agriculture, Livestock and Irrigation

Department of Research and Innovation, Ministry of Education

Myanmar Pulses, Bean and Sesame Seeds Merchant Association

LIST OF ABBREVIATIONS

CAC: Codex Alimentarius Commission
CEC: Commodity Exchange Centre
CIIE: China International Import-Export
DOA: Department of Agriculture
DRI: Department of Research and Innovation
FAO: Food and Agriculture Organization of the United Nations
FDA: Food and Drug Administration
GAP: Good Agricultural Practices
GHP: Good Hygiene Practices
GMP: Good Manufacturing Practices
GWP: Good Warehousing Practices
HACCP: Hazard Analysis and Critical Control Point
IPPC: International Plant Protection Convention
ITC: International Trade Centre
MOALI: Ministry of Agriculture, Livestock and Irrigation
MSTRD: Myanmar Scientific and Technological Research Department
MPBSSMA: Myanmar Pulses, Beans and Sesame Seeds Merchant Association
PSC: Project Steering Committee
SPS: Sanitary and Phytosanitary (Measures)
STDF: Standards and Trade Development Facility
TcCs: Trainer-cum-Counsellors
ToTs: Training of Trainers
UNIDO: United Nations Industrial Development Organization
UMFCCI: Union of Myanmar Federation of Chambers of Commerce and Industry
WEDF: World Export Development Forum
WHO: World Health Organization
WTO: World Trade Organization

1 EXECUTIVE SUMMARY

Myanmar is one of the world's largest producers of oilseeds, which account for the most significant portion of agricultural activity after cereals and pulses. For its potential to contribute to the Myanmar economic and social development, the oilseeds sector has been included within the priority sectors under the National Export Strategy (NES) framework; however, like in other developing countries, the non-compliance with food safety international standards and inadequate quality control mechanisms have been identified by the public and private sector as a major issue affecting human health, export capacity and competitiveness in the sector. The issue of non-compliance with food safety standards is due to Sanitary and Phytosanitary factors which impacts the entire value chain, from agricultural production to processing, hindering access to foreign markets.

In this context, the International Trade Centre (ITC) contributed to the design and implemented the 3-year (August 2015-August 2018) and 6-month extension (September – February 2019) project entitled "Improving food safety and compliance with SPS measures to increase export revenues in the oilseeds value chain" funded by the Standards and Trade Development Facility (STDF), in partnership with the Myanmar Ministry of Commerce (MoC). Other project partners included the Ministry of Agriculture, Livestock and Irrigation (MoALI), the Food and Drug Administration (FDA), Department of Research and Innovation (DRI) -National Standard Body- and the private sector association (MPBSSMA). The project was officially approved by the STDF Working Group in March 2015, and the starting date as per the Letter of Agreement with ITC was 17 August 2015 but it officially started on the ground in October 2015 with the project launch in Myanmar.

The project targeted the sesame, groundnuts and sunflower crops' production and processing in the central dry zone of the country, building and sustaining the competence of public and private stakeholders along these value chains to comply with the international quality and food safety requirements through the following outputs:

- Output 1: Strengthened capacity to improve compliance with GAP and SPS measures (including pest control, harvest and post-harvest practices and pesticide use) by farmers,
- Output 2: Increased capacity for quality segregation of seeds and GHP at storage facilities,
- Output 3: Enhanced capacity to apply food safety control systems based on GHP, GMP, HACCP in oilseed processing,
- Output 4: Increased linkages along the sector value chain and to export markets.

The project office was located in Mandalay to be closer to the project beneficiaries in the different regions and the full time National Project Coordinator was based there. The project team composed of different national and international experts could conduct regular missions to the field so the implementation has been more effectively monitored. The project office had limited human resources due to budget limitation to establish branches in each region and the difficulty to hire competent staff based in the target areas. The National Consultant on Good Agricultural Practices (GAP) and the Training of Trainers (ToTs), as well as the project focal points from the Department of Agriculture (DoA), were the key resources for the organization of the trainings for farmers in the villages and close follow up. The Trainers-cum-Counsellors (TcC) were the key resources for the follow up with enterprises on implementation of hygiene and Hazard Analysis and Critical Control Points (HACCP).

The project intervened through an in-depth food safety capacity building programme for all the selected beneficiaries along the oilseeds value chain. The project was one of the first of its kind in Myanmar to apply a value chain approach from farmers to market, covering four regions (Mandalay, Sagaing and Magway and Yangon). It increased capacity across the chains through a pool of experts and within institutions and resulted in raising strong awareness on food safety in the country and the need to address it at national level. A total of around 900 stakeholders were sensitized on the need for and implication of good hygiene practices and food safety control systems at the local community level and for the international trade.

The overall outcome was that more than 400 trained farmers from oilseed sector in Myanmar in three regions Mandalay, Sagaing and Magway improved good agricultural practices and usage of pesticides and are operating through linkages with collectors, processors and exporters and in farmers' groups. Sample groundnuts farmers reported increased average gross revenues per acre by 27% from 2015 to 2018 linked to increased market price. Some of the local buyers who benefitted from the STDF-ITC project provided about 2 to 4 % higher premium price as incentive for the linked

farmers who have changed to GAP with the support of the ITC training programme. Some sesame and peanuts farmers had an increase in their income due to good practice as well as the increased trend of local prices.

Approximately seven processors improved their overall business performance and products through third-party HACCP certification, changed procedures and implementation of good hygiene practices throughout the whole production process. An increase was reported in annual export sales by processors/exporters in the oilseeds sector applying pre-requisites programmes such as Good Hygiene Practices, Good Storage Practices and HACCP; but the long-term impact on revenue is likely to be generated after 2019.

The improved collaboration among oilseed stakeholders contributed to achieve some of the five-year priority objectives of Myanmar's national export strategy (NES) through export-driven growth. The sector requires further support at national level and in particular with regard to aflatoxin control to enable sustained access to international markets. ITC supported the inclusion of the oilseed sector as a priority for the new EU-funded Arise Plus project in Myanmar implemented by ITC (2019-2023).

The main results for each output are reported below.

Output 1: Almost 500 farmers and 20 agricultural extension officers benefitted from the training and coaching program on SPS and GAP, structured in a series of theoretical and practical trainings to strengthen on farm implementation, including pest control, harvest and post-harvest practices and usage of quality inputs. The GAP manual for oilseeds, Record Book, Posters and the Quality Inputs Booklet have been developed and distributed to the beneficiaries, along with individual pesticide spraying protective kits. Since the programme built synergies with the national GAP protocol, in 2018 150 farmers applied and obtained the national GAP certification for sesame.

Eleven (11) extension officers out of the 20 who were initially trained under the Training of Trainers (ToTs) managed to fully assist and monitor the farmers' groups on a regular basis during the whole duration of the project. This was a good result considering the challenges faced by the Department of Agriculture with its high staff turnover.

Output 2: Five (5) beneficiary collectors increased their understanding and implementation of good storage, manufacturing and hygiene practices to be followed in their daily business operations to retain the quality and safety of the product at the collection and traded level. Since few collectors participated directly as beneficiaries of the training programme, the project built synergies with the four regional Commodity Exchange Centres (CEC), reaching out to more than 200 collectors and other intermediaries to raise awareness on good hygiene practices GHP and good warehousing practices (GWP). The project also developed the Quality and Food Safety Manual for oilseeds storage with the contribution of a pool of local experts from interested institutions and government department. Forty-eight (48) pieces of different quality control equipment have been further donated to selected storage facilities to improve their sorting and food safety control practices.

Output 3: Five (5) processors/exporters and six (6) oil millers (total 11 beneficiary companies) increased their understanding and implementation of the good storage, manufacturing and hygiene practices and food safety systems according to Codex HACCP to be followed in their daily business operations to retain the quality and safety of traded and processed products. Out of the 11, seven (7) project beneficiaries (3 processors/exporters and 4 oil millers) successfully obtained HACCP certification from an internationally accredited certification body within the project timeframe. Out of the 11 professionals who were trained as Trainers cum Counsellors (TcCs), nine (9) are now able to advise the companies on GHP and HACCP. The profiles and skills of TcCs have been made available in the form of a booklet for other interested companies and institutions to hire their advisory services and connected to different projects.

Output 4: The project also aimed at improving regional and national opportunities of the oilseeds value chain and increase linkages to the export markets. At the beginning of the project, a few key import markets were identified, and potential buyers were contacted. To further expand the network of buyers and enhance the visibility of Myanmar oilseeds products in the international markets some beneficiary companies and sector associations were selected and coached to participate in the World Export Development Forum (WEDF) and B2B meetings in Hungary, as part of a broader trip to explore export opportunities and learn from oilseed production practices and technologies in Europe.

In 2018, ITC covered some costs of participation of beneficiary oilseed companies for the China International Import Exhibition (CIIE) and one beneficiary processor signed a trading deal for sesame seeds supply of 80,000 USD. Before the end of the project, four (4) beneficiary companies were selected to participate in the CIIE Exhibition to be held in Shanghai on October 2019.

Through the Study Tour to Thailand, 15 farmers' leaders, collectors, processors, sector associations and government institutions' representatives benefitted from an international learning experience of best production, processing and trading practices not only for oilseeds but also for other agricultural sectors, and shared those inputs to each respective community upon their return.

At the local level, all value chain actors, sector associations and private and public stakeholders were encouraged to participate in the project-related events and strengthen the collaboration among each other. More than 250 farmers were supported to create new contacts with local collectors and buyers and 8 linkages between farmer groups, local buyers and respective township ToTs were established for two consecutive growing seasons. Four (4) out of these eight (8) value chains are expected to be sustainable beyond the project and DoA township level will keep in touch and follow up with the farmers' groups and local collectors to facilitate the trading agreements between those actors.

To evaluate the impact of the project implementation at all levels of the oilseed sector regarding improved compliance of SPS measures, 21 random samples of rainy season peanuts, sesame, and sunflower products (grain, cake, oil) from beneficiaries have been tested in Eurofins Laboratory in Germany. All of samples were 100% compliant with EU pesticides Maximum Residues Limits (MRL), while 50% complied with ASEAN Mycotoxin limits (20 ppb) and 30% complied with the EU Mycotoxin limits (4ppb). In a second round of analysis, 38 samples of only winter season peanuts (grain, oil, cake) from beneficiaries and non-beneficiaries were tested both in four (4) local labs and Eurofins. Farmers' peanuts' samples resulted generally within limit whereas those from collectors and millers were higher.

The laboratory analysis gave encouraging data related to the usage of pesticides. The distinct improvement among the project beneficiaries can be found in pesticides MRLs and Acid Value values of farmers' products which were proven to be below the limits of Japan and Taiwan regulations and buyers' requirements after the training on GAP.

The concern related to the aflatoxin level was shared with government and private sector. Aflatoxins can be controlled if the processors/exporters would buy directly from farmers whose test results in season are lower than the EU limits. However, the processors and exporters are still not very keen to invest in contract farming as many factors like unexpected weather, yield decreases, farmers' impossibility to maintain the agreement, raw materials' price fluctuations, etc., have repeatedly led to losses on their investment.

A list of recommendations was established for both the public and private sector during the final workshop and the high-level stakeholders meeting, both held in February 2019. The recommendations included: 1. to separate the new plan of action (2020-2024) under the National Export Strategy (NES) for the oilseeds sector, till now (2015-2019) merged with the pulses and beans sectors; 2. to support the food laboratories capacity building and accreditation on the scope of Aflatoxins, pesticide MRLs and Heavy Metals; 3. to enforce the implementation of GHP and GMP in the oilseeds businesses and apply more systematic control within FDA role and responsibilities. The use of a coordination mechanism has been proposed to monitor and address specific SPS related issue (i.e. the establishment of a task force on Aflatoxins). The stakeholders and partners committed to continue to use and further disseminate the project outputs such as training materials, and benefit from the local technical competencies built (ToTs, TcCs).

The project made available all materials developed and information about the activities conducted on the Facebook page (www.facebook.com/itcoilseedsmyanmar) that reached more than 1,500 followers and regularly updated the communication on the project partner (www.Trade.gov.mm) and donor (<http://www.standardsfacility.org/PG-486>) websites. A final project Web story and video were produced and available respectively: <http://www.intracen.org/news/Boosting-Myanmars-oilseed-exports-through-better-food-safety-practice/> and <https://youtu.be/J1v4E9PjXy0>.

2 BACKGROUND

As the Union of Myanmar Government has set short and medium-term policy priorities in its Framework for Economic and Social Reforms 2012-2015 (FESR), including SME development and value addition in the agriculture sector, oilseeds products have been identified as one of the 7 priority sectors for the country's trade and export expansion, covered under the 5-year NES.

Myanmar is in fact one of the world's largest producers of oilseeds, which account for the most significant portion of agricultural activity after cereals and pulses. The country's most important oilseeds crops are sesame, groundnut, mustard and sunflower seeds, and they are mostly grown in the regions of Mandalay, Sagaing and Magway.

Myanmar oilseeds exports rely on a few key markets including Japan, China and Chinese Taipei. Over 91% of total oilseeds exports are destined for these three markets, of which sesame seeds account for roughly 94%. With rising concerns over consumer health, implementation of food safety throughout the food chain becomes critical, and for export markets, the compliance of international SPS requirements is mandatory. The development of the NES in the country was the basis for an in-depth needs assessment of the oilseeds sector. Non-compliance with food safety standards and inadequate quality control mechanisms have been identified by the public and private sector as a major issue affecting human health, export capacity and competitiveness in the sector.

In Myanmar, the major food safety concerns related to oilseeds include aflatoxins, rancidity of oil and pesticide residues, all of which can be developed anywhere along the value chain and can be controlled by implementing hygienic practices at all steps. Therefore, a number of SPS and conformity assessment issues have been identified at every level of the value chain, in particular:

As far as farmers and producers are concerned:

- Lack of availability of quality seeds
- Improper pesticide/fertilizer use
- Lack of implementation of good agricultural practices, pest controls, and poor harvest/post-harvest practices

As far as processors and millers are concerned:

- Lack of systematically implemented food safety and quality control systems
- Product contamination in oil milling

As far as exporters are concerned:

- Mycotoxin and other product contamination across the sector value chain
- Lack of stakeholders' awareness and knowledge of international SPS measures

As far as institutions are concerned:

- Insufficient qualified local expertise, extension officers and inspectors that limit SPS-related knowledge transfer to stakeholders along the value chain, and the implementation of a consistent approach and system to apply and comply with GAP, GHP, GMP, HACCP across the value chain;
- There are overlaps, limited coordination and resource sharing among the SPS-related organizations involved in controls, certification and laboratory analysis along the food value chains, including the oilseeds value chain.

In this context, the Myanmar Ministry of Commerce (MoC) formally requested the Standards and Trade Development Facility (STDF) to fund a technical assistance project implemented by ITC to improve the development of the national oilseeds sector towards meeting international food safety standards to access to new domestic and export market opportunities and therefore increasing revenues and wellbeing of the actors involved along the oilseeds production value chain.

Being the requesting institution, MoC was also the main partner of the STDF-ITC project, flanked by other partners such as Myanmar Scientific and Technological Research Department (MSTRD), Food and Drug Administration (FDA), Ministry of Agriculture and Irrigation and Myanmar Pulses, Bean and Sesame Seeds Merchant Association (MPBSSMA).

The Ministry of Commerce (MOC)

The MOC comprised of an office of the Minister and 3 departments i.e. the Directorate of Trade, Department of Trade Promotion, Department of Commerce and Consumer Affairs at the date of project approval. The Department of Trade Promotion was recently restructured and launched as

the Myanmar Trade Promotion Organization (MyanTrade), including Trade Centres in the regions, which play a key role for enhancing the international competitiveness of small and medium size companies in Myanmar including the agricultural sector. The MOC's policy objectives are mainly systematic formulation and implementation of trade policies, Promotion and Expansion of Export, Trade expansion through international and regional cooperation, Improvement of trade environment. Myanmar is one of the founding members of WTO and also participates in ASEAN Trade Protocol. MoC and MyanTrade was a key partner for the coordination, delivery and trade aspect of the project activities.

The Ministry of Agriculture and Irrigation (MOAI) (Restructured as Ministry of Agriculture, Livestock and Irrigation-MOALI in 2016)

The MOAI is composed of 11 institutions at the date of project approval: Minister's office, Water Resource Utilization Department, Department of Agriculture, Irrigation Department, Agricultural Mechanization Department, Settlement and Land Record Department, Department of Agricultural Planning, Myanmar Agricultural Development Bank, Department of Agriculture Research, Yezin Agricultural University, Department of Industrial Crops Development. In cognizance of the land as the basic recourse for crop production, the Ministry of Agriculture and Irrigation pays continual attention to reclamation of fallow and waste land and utilization of those for the improvement in crop production undertaking the activities by not only State sector but cooperation and private sectors also under the long-term and short-term plan. DoA initiated the National GAP system for 15 crops in 2018 growing season based on ASEAN GAP guidelines. MOALI is the WTO SPS enquiry point. MOALI largely supported the project and was a key partner and beneficiary of STDF project as the focus of the project was agriculture and improvement of safety and quality from primary production.

The Department of Food and Drug Administration (FDA) of the Ministry of Health (and Sport)

The Department of Food and Drug Administration of the Ministry of Health (and Sport) has the responsibility for overall food safety in the country. The DFDA has five main divisions, the Food Division, the Drug Division, the Cosmetics & Medical Device Division, the Laboratory Division and the Administration Division, in which apart from the Administration Division, the rest are technical divisions mainly responsible for regulatory affairs, inspection, training, post-market surveys and advisory services. The Food Division principally comprises of inspection, issuance of GMP certificates, import & export recommendations and health certificates. All food manufacturing industries are enforced to practice GMP guidelines and also encouraged to implement the HACCP concepts including risk analysis approach in food processing. FDA is the contact point for Codex Alimentarius Commission and utilizes CAC as working materials before developing national standards, practices and guidelines. FDA actively supported and participated in the STDF project in particular as beneficiary for improving knowledge and expertise of the inspectors on GHP and HACCP.

The Myanmar Scientific and Technological Research Department (MSTRD) (Renamed as Department of Research and Innovation- DRI in 2016)

The Department of Standards under the MSTRD (DRI under Ministry of Education) has three main divisions responsible for Standards Development, Accreditation and Metrology. It is appointed as the focal point of National Standards Body, National Accreditation Body and National Metrology Institute. These three bodies will make up the National Quality Infrastructure. MSTRD has been a correspondent member of ISO since 1 July 2005. It is an affiliate member of IEC and a WTO TBT enquiry point. DRI was involved in a series of quality and market requirements related training of the project and for responding to the sector's stakeholders needs for oilseed national standards.

The Myanmar Pulses Beans and Sesame Seeds Merchant Association (MPBSSMA)

The association is a member of the Union of Myanmar Federation of Chambers of Commerce and Industry (UMFCCI), the largest national level non-governmental organisation with a nationwide constituency. It was founded in 1992. Central executive committee members and executive committee members, assigned by Ministry of Commerce, are the owners of production companies, which conduct and can conduct beans and pulses export. MPBSSMA played an important role in the project and its members and advisers attended project activities as beneficiaries and took its opportunity to lobby for the improvement of the sector.

The project was approved by STDF Working Group in March 2015, the Agreement between ITC and WTO set the timeframe for implementation from 18 August 2015 to 17 August 2018. The project was officially launched in October 2015.

A six-month project extension was granted by STDF from August 2018 to March 2019 with no budget increase. The reasons of the extension of the project were:

- The need to provide continuous support to the farmers throughout their first GAP application process. In fact, 2018 was the first year of GAP certification scheme for sesame and peanuts as DOA launched the Myanmar GAP protocol in November 2017.
- The finalization of the collector manual, which required some more months for fine-tuning.
- Some of the stakeholders requested the project extension to the next season to strengthen the linkages created and continue to promote cooperation and trust building along the value chain actors.

After acknowledging the needs of continuous support from the project activities especially for the National GAP implementation in the farmer fields in rainy season and the creation of concrete market linkages between local buyers and GAP farmers, DG of MyanTrade sent the official request letter for about six months extension of the project. Extension of project duration with signature of amended Letter of Agreement between ITC and WTO was agreed and signed.

3 PROJECT GOAL

Driven by the long term goal to increase export revenues of farmers, processors and exporters along the oilseeds value chain, the project intended to form an integral part of the Myanmar Union Government's priorities to develop the agricultural sector and achieve the country 5-years export development plan, reducing poverty and enabling access to safer food for the local population.

The major goal of the project was to enable the oilseeds (sesame, groundnuts and sunflower) producers from Myanmar to comply with SPS measures and international standards for increased market access and revenues, through in-depth food safety training and technical activities tailored to address specific issues along the value chain and sustain the engagement of both private and public sector stakeholders.

Almost 50% of the population in Myanmar is employed in the agricultural sector according to World Bank indicators in 2017, relying on farming as their main source of income. The country has also a strategic position and role for food security in Asia due to its large arable land and high potential for agricultural production and exports.

The oilseeds sector in Myanmar is a major agricultural sub-sector which offers high untapped production and trade opportunities which, if exploited, can have direct impact on sustainable export-led economic growth and poverty reduction. Oilseeds also play a significant role in domestic dietary habits. The oil is used for a variety of purposes, including frying and mixing with foods such as rice, curries, fermented tea and fried pulses among others. FAO has estimated that, after rice, oil crops represent the second largest expenditure on food in the average household in Myanmar.

The STDF-ITC project intervened through technical assistance in the oilseeds sector, disseminating good practices in food safety related areas and in doing so, aimed to have a broader impact and spill over effects not only for improved market access due to international standards compliance of the oilseeds' crops, but also on the country social and economic situation.

Encouraging the implementation of GAP is helping farmers to improve pest control and increase the crops' yields while reducing the use of unnecessary chemicals, therefore enhancing a sustainable agricultural production to preserve the soil and the environment, as well as contributing to human and animal health, since oilseeds are also used for oilcake for livestock feed, including the fishery sector.

The project achievements in improving food safety along the oilseeds value chain will also end up benefitting the local tourism sector, increasing both producers and consumers' awareness on food safety and reducing the occurrence of food borne diseases due to food contamination from production to processing.

The capacity building programme contributed to integrate and strengthen the local stakeholders' knowledge and developed locally available skills for GAP, GHP and HACCP implementation to be

sustainable and applied cross sectors, opening up new employability opportunities for the trained resources.

Overall, improving the quality and safety of oilseeds products, through the sustainable improvement of production and processing practices along the entire value chain, should lead to increased benefits for all, from increased international markets' access and export revenues to farmers' cooperation towards a stronger bargaining power. According to data collected, groundnuts farmers reported an average gross revenue increase per acre of 27% from 2015 to 2018 linked to increased market price. The long-term impact shall be monitored over the next years.

4 PROJECT IMPLEMENTATION AND MANAGEMENT

The project was implemented by the International Trade Centre (ITC) in close coordination with MyanTrade (MoC) and with the support of a full time National Project Manager based in Mandalay.

A Project Steering Committee (PSC) comprising the project partners (relevant institutions and sector associations) was set up to oversee and monitor the implementation of the project and facilitate the coordination, collaboration and communication among all stakeholders. The PSC was composed of two-level committees, High Level Committee and Supporting Committee, and under the PSC, three Regional Committees have been designated to discuss and take forward the project implementation at the regional level.

Five PSC meetings were conducted (7 June 2016, 17 November 2016, 12 July 2017, 26 February 2018, 12 December 2018) and PSC meeting reports were prepared. Two Supporting committee meetings (8 September 2017, 9 September 2017) and six Regional Committee meetings (5 December 2017, 29 December 2017, 4 February 2018, 11 June 2018, 13 June 2018, 15 June 2018 in Mandalay, Magway and Sagaing regions) were conducted and the results of these meetings were discussed at PSC high level meetings.

At every PSC meeting, ITC project team submitted the report on progress and challenges to PSC members. The official list of PSC members and ToR were issued on 19 February 2016 and amended on 16 September 2016. ITC Adviser and Project Manager from Geneva attended several PSC meetings.

The role and responsibility of PSC within the project implementation was: review, ratify approve the work plan, support to tackle challenges and risks, raise solutions and suggestions; assess the project performance, facilitate the information exchange and networking, steer and undertake the project work region-wide by regional committees. It was also a forum to stipulate policy level matters referring to agricultural sub-sectors.

Project partners from MoC, DoA, FDA, DRI, laboratories and inspection bodies, private sector associations:

- served as members of the project steering committee;
- assisted in project baseline data collection and identification of direct project beneficiaries;
- participated in project workshops and events and encouraged participation of sector stakeholders in the capacity building activities;
- disseminated information and promoted the project;
- provided inputs and contributed to the development of training programme, materials, manuals and leaflets by giving comments, suggestions and participating in meetings;
- identified the pool of experts to become TcCs (MoC);
- supported the development of linkages and cooperation with other projects and programmes related to SPS and food safety issues;
- facilitated logistics, organization of events and liaison with local authorities in Mandalay, Sagaing, and Magway regions.

Partners, in particular MoC and DoA, also provided in-kind contributions in the form of workshop and training facilities and interpretation services.

The role played by each organisation in the project is listed in the table below.

Organization	Role in the project
Ministry of Commerce (Myantrade Dep.)	-Member of PSC -Main partner and focal point for project activities implementation -Responsible to issue official invitation letters to attend the workshops/trainings and other events -Provide workshops/trainings/events venues and other in-kind contributions -Disseminate project information and materials through the official web site and other communication means -Facilitate the organization of market linkages meetings -Allocate internal staff to participate and support project activities
Ministry of Agriculture, Livestock and Irrigation (DOA)	-Member of PSC -Focal Point for Output 1 activities -Provide training venues for training such as on GAP -Facilitate access to oilseeds production data and share training material developed for replication and dissemination -Allocate and release from duties a key staff as national consultant for GAP -Allocate regional staff to participate and support project activities (pool of 20 ToT)
Food and Drug Administration Dep. (FDA)	-Member of PSC -Focal for quality control inspections -Allocate internal staff to participate to the project activities
Dep. Of Research and Innovation (DRI)	-Member of PSC -Focal for the National Standards development -Allocate internal staff to participate to the project activities
MPBSSMA	-Member of PSC -Focal Point for the private sector

Nine ITC missions of the ITC Adviser on Export Quality Management and STDF Project Manager were conducted for monitoring, technical guidance, participation in PSC meetings (12-21 October 2015, February 2016 - not funded by STDF, June 2016, November 2016, January 2017, July 2017, December 2017 within the framework of the mission for the design of the EU ARISE + project, December 2018, February 2019). Since October 2015 up to February 2019, 41-brief monthly progress reports have been produced, translated in Myanmar language and circulated to stakeholders.

A pool of National and International Consultants were hired for a series of assignments.

At National level:

- Ms. Thit Thit Lwin, full time National Project Manager;
- Ms. Shwe Sin, part-time project assistant (6-months);
- Ms. Aye Aye Khaing, National Consultant for baseline collection (*Activity 1.1*);
- Ms. Wah Wah Hlaing, Staff Officer from DoA and National Consultant for GAP training to farmers and ToTs coaching (Extension Officers & Farmer Leaders) (*Activity 1.4 & 1.5*) for part-time consultation (8-days per month);
- Ms. Marta Drago, Individual Contractor for project communication and food safety based in Mandalay (8-months).

At International Level:

- Mr. Heiner Lehr, for Market Survey (*Activity 4.2*);
- Ms. Namrata Wakhloo, for HACCP training and coaching for collectors and processors (outputs 2 and 3; *Activities 2.1, 3.1., 3.2, 3.3*);
- Mr Wayne Hancock for conducting ToTs, inception workshops and GAP training for farmers (output 1; *Activities 1.2, 1.3*);
- Mr. Bernardo Contri, for developing the Cost-Benefit tool (*Activity 1.1*);
- Mr. Frederic Couty, ITC Senior Adviser on Packaging, for awareness workshop and advisory services related to packaging linked to food safety (*Output 3: Activity 3.2*);
- Mr. Krister Ahlberg, ITC consultant for marketing and sales coaching session during the WEDF (*Output 4: Activity 4.3*);

- Mr. Marco Aletti, ITC Associate Expert on Access to Finance to initiate a mapping of the financial mechanisms available for operators in the oilseed sector to comply with SPS measures (A2F mission funded by ITC as In-kind contribution);
- Ms Neshe Yusuf, ITC consultant on food safety based in Geneva;
- Ms Ludovica Ghizzoni, ITC Adviser on Export Quality Management and Project Manager.

5 PROJECT OBJECTIVE, OUTPUTS AND ACTIVITIES

5.1 Project objective

The project objectives fall within Myanmar's short and medium term priorities, which include the private sector and SME development and value addition in the agricultural sector. Oilseeds are part of the seven (7) priority sectors for the country's trade and export expansion, covered under the five-year NES. The project aimed at contributing to the development of the sector and increasing revenues for its stakeholders, especially farmers, addressing food safety and SPS related issues to improve compliance with international standards and enable access to new export markets.

The project prioritized interventions to address the lack of capacity along the oilseeds sector value chain through the following outputs:

- Output 1: Strengthened capacity to improve compliance with GAP and SPS measures (including pest control, harvest and post-harvest practices and pesticide use) by farmers,
- Output 2: Increased capacity for quality segregation of seeds and GHP at storage facilities,
- Output 3: Enhanced capacity to apply food safety control systems based on GHP, GMP, HACCP in oilseed processing,
- Output 4: Increased linkages along the sector value chain and to export markets.

In order to use the locally available knowledge and strengthen local capacity, a pool of local advisers, namely Trainers-cum-Counsellors (TcCs), Training of Trainers (ToTs) were selected and trained through classroom and on-the-job training while assisting the project beneficiaries' operators in implementing food safety systems and monitor the progress made.

The in-depth Food Safety training program supported nearly 500 beneficiary farmers to implement GAP and built the capacity of 11 trainers from the Department of Agriculture to assist in the process. As a result of the strengthened capacity to improve compliance with GAP and SPS measures, 150 farmers (31%) obtained the national GAP certification for their sesame crops and, as proven through the final crops' sample testing, the quality and safety of farmers' oilseeds have overall improved.

The positive impact of the trainings was also visible at the beneficiaries' farms, where the facilities and equipment are now maintained more hygienically and better-quality production inputs are used, as farmers' attitudes have changed towards an enhanced sensibility and attention to grow safer crops.

Throughout the programme, the farmers showed great involvement, collaboration and commitment for continuous improvement and the changes witnessed could not have been achieved without the close support in the fields of the trained extension officers, ToTs and National Consultant on GAP.

It was acknowledged that there were several factors challenging the progressive and smooth implementation of GAP at the farm level. These could depend in part on the external dynamics, lack of incentives and difficult access to quality inputs. The farmers repeatedly expressed worries for the uncertainty of returns on their investments (in terms of inputs, time and commitment) due to the experienced difficulties to establish direct contract agreements with buyers who could reward the higher quality crops. Therefore, the project aimed at strengthening the linkages between those actors of the value chain, assisting more than 250 farmers in establishing new contacts with local buyers, who have been often invited to join the training at the villages and encourage production improvement exchanging inputs on quality and quantity requirements and opportunities to gain incentives on price. A total of 4-value chains were successfully established during the 2017 and 2018 growing seasons and details are given in Output 4 section.

It is also worth considering the farmers' natural aversion to change, influenced as well by the mainstream thinking within the community. The most relevant example was found in the attentive selection of tools and gears to be distributed as protective kit for pesticides spraying, taking into account farmers' reluctance to wear those protection because of the heat but also because of the judgment of the other community members.

The farmers benefitted from the exposure to the training inputs provided by the International Expert, who led the training programme, and had consequently the possibility to elaborate and consolidate the knowledge and skills acquired while being assisted in practice by the ToTs. The materials provided to the beneficiaries such as the GAP manual for oilseeds, record book and posters, proved to be very useful to support the learning process in the way they were developed (attention was paid in using =simple language and to complement the text with pictorials) and constitute a solid reference and reminder for the daily practices. In some of the villages, the farmers demonstrated as well a proactive intention to involve other members of their communities to be sensitized on GAP and food safety.

For the collectors' level, out of the 13 identified during the baseline study, 5 collectors participated as beneficiaries till the project's end, and, being assisted through further coaching on site and monitored over time, they all increased their understanding and application of the basic hygiene and food safety principles to be followed in their daily business operations to retain the quality and safety of the traded products. According to the different commitment of the owners, collectors, improved both the layout and physical construction of the warehouse as well as the practices related to receiving, handling, storage and dispatch of products. Some implemented these improvements more than others.

To reach out and further incentivize the engagement of collectors to be part of the oilseeds' quality value chains, the project collaborated with the four regional commodity exchange centres and experts from interested institutions and government departments, to develop and disseminate the quality and food safety manual for oilseeds storage, along with posters of good practices' pictorials. 2200 copies of the manual were printed and distributed while 48 pieces of quality control equipment, agreed in an ad-hoc meeting with local experts, were purchased by the project and distributed to the selected collectors gathered at the manual launching event.

The project also produced a solid foundation of knowledge and skills on food safety for 5 oilseeds' processors and exporters and 6 oil millers who successfully completed the training program started at the end of 2016 and are now implementing the Hazard Analysis and Critical Control Point (HACCP) Codex based food safety system. The 11 beneficiary companies have been closely assisted throughout the HACCP implementation process by the assigned Trainers cum Counsellors (TcCs). As they have built capacity to advise and assist for food safety control system, their profiles and individual skills were included in a booklet to be distributed to other interested businesses.

As a result of the great improvement of their practices and suitability of the processing facilities according to Codex hygiene requirements, 3 processors/exporters and 4 oil millers obtained HACCP certification from internationally accredited certification bodies.

An SMEs profile booklet including oilseeds processors marketing informational materials were developed and distributed to several organization and trade fairs.

A market guide for oilseeds processors was developed and handed over to MoC to follow up the distribution to other oilseeds businesses.

Overview list of project beneficiaries

Farmers and associated Trainers of Trainers (ToT) (output 1)

Region	Township	Village	Group	Farmers	Crop	Acres	ToTs
Magway	Magway	Alebo	3	30 (2F)	Sesame	409,72	Daw Htwe
		Thityar Kauk	4	39 (13F)		282,41	Yin
		Asarsan	1	5 (1F)		41,8	Daw Zin Mi Lwin
	Aunglan	Yaypaw	3	30		290,66	U Tun Hla
		Phoekpolone	1	4		40,87	Aung

		Sankalay	1	9 (1F)		63,66	Daw Aye
		Alaeywar	4	43 (2F)		253,79	Aye
		Ywamahtone	5	48 (2F)		289,53	Theint
		Sinkyaw	5	53 (3F)		139,65	
Mandalay	Naung Oo	Letwe	1	12 (1F)	Groundnuts	266,2	Daw Nyunt Nyunt Mar
	Nahtogyi	Letwe Layywarsonne Minni	9	46 (11F)	Sesame	84,17	U Tun Aung Kyaw
		Htan Zin Taung	1	4	Sesame	10,39	
	Taungthar	Tamiketha	1	1	Groundnuts	9,7	U Ye Myint Zaw
		Kyarpot	1	2		13,68	
		Kantaw	1	4		10,34	
		Kyawsa	1	1		5	
	Kyaukse	Kyarkar	2	13 (3F)	Sesame	55,5	Daw Sabai Myint
		Kula	3	15 (2F)		71,5	
Sagaing	Butalin	Chatkalay	1	13 (1F)	Sunflower	34	Daw Aye Kyin
		Aungsanmyint	1	3		7	
		Naungkan Ywarthar Oataing	1	14 (4F)		37	
		Dangtaing	1	15 (1F)		51,65	
	Myinmu	Kantaw	3	26 (2F)	Groundnuts	64,96	U Nyein Chan
	Myaung	Mayoekone	1	33 (10F)	Groundnuts	171	U Myint Thu

Collectors and linked farmers through value chains (output 2)

Name	Facility	Location	Linked Companies	Linked Farmers
U Myint Aung	Myint Myat Taw Win	Magway	NGG/PPA/STZ	Thityarkauak, Alebo
U Aung Bo Hein	La Pyae Wun	Aunglan	MOS	
U Nyan Lwin	Lwin Phyoo	Aunglan	PPA/STZ/AKT	Yaypaw, Sankalay, Ywamahtone, Aleywa, Sinkyaw
U Than Hlaing	La Thar	Aunglan	-	
U Aung Kyaw Kyaw	Triple 9	Myinkyian	Triple 9	Nahtogyi, Taungthar

Companies and associated Trainers-cum-Counsellors (TcC) (output 3)

Name	Location	Products	TcCs
New Golden Gate (NGG)	Yangon	Sesame seeds	Ko Than Tun Win
Mau Oak Shaung (MOS)	Yangon	Sesame seeds	Daw Han Thi Hun (lead) Ko Sist Naung
Shwe Tha Zin (STZ)	Yangon	Sesame seeds	Ko Sist Naung
Aung Kyun Thar (AKT)	Yangon	Sesame seeds Sesame roasted powder	Daw Mon Mon Oo (lead) Daw Han Thi Htun
Pyei Phyoo Aung	Yangon	Sesame seeds Sesame roasted powder	Ko Than Tun Win
Duwun Oil Mill	Mandalay	Sesame oil Peanuts oil Oilcake	Daw Thet Thet Naing (lead) Daw Shwe Sin
Asia Thar	Mandalay	Peanuts oil Oilcake	Daw Ei Ei Htwe (lead) Daw Khaing Thandar Kyaw
Golden Taste	Mandalay	Sesame oil Peanuts oil Oilcake	Daw Khaing Thandar Kyaw (lead) Daw Shwe Sin

Amay Htwar	Magway	Sesame oil Peanuts oil Oilcake	Daw Hla Moe Khaing (lead) Daw Ei Ei Htwe
Triple 9	Mynkyian	Peanuts oil Oilcake	Daw San Mya Win (lead) Daw Thet Thet Naing
Soe Moe Tun	Sagaing	Peanuts oil Oilcake	Daw Shwe Sin (lead) Daw San Mya Win

The success of the project in reaching its objectives and the products' compliance with SPS measures was assessed along the different stages of the value chain. This involved looking at the development of the sector as a whole, starting from the findings of the baseline study conducted at the beginning of the project to the final assessment of the project beneficiaries after the implementation of pre-requisites programmes such as Good Agricultural, Hygiene, Storage Practices, HACCP and the use of different varieties of quality seeds and equipment.

A final survey was conducted by the National Consultant, who interviewed 52 beneficiary farmers, and TcCs, who collected data from the 11 beneficiary companies and 5 collectors, to assess each individuals' evaluation of the project impact in terms of effectiveness of the training programme, market linkages support and overall changes occurred from their previous conditions and practices.

To verify compliance with SPS measures, the oilseeds samples were collected along the chain by a third-party inspection body using the Codex sampling method for aflatoxins, were tested in accredited laboratories for MRLs, mycotoxins, moisture content and also by using rapid test kits provided by the project (i.e. Acid Value, moisture kits). Codex and national standards were used as the guiding references and the results were also analysed against potential buyers' requirements.

100% of samples sent to Eurofins laboratory in Germany were found compliant with EU pesticide MRL limits, while 30% in compliance with EU limit (4ppb) of Mycotoxins for food and 50% in compliance with ASEAN standards (20 ppb). In a second round of analysis in January 2019, 38 samples of winter season peanuts (grain, oil, cake) from beneficiary and non-beneficiary farmers, collectors, processors were sent to be tested in four (4) local laboratories as well as in Eurofins laboratory. Farmers peanuts' samples were generally within limits whereas those from collectors and millers were higher. The project noted that the variation of testing methods in the various laboratories resulted in a variation of the test results between the local and international labs.

Since it was the first time that Myanmar stakeholders were invited to participate in a project based on an innovative value chain approach for food safety, they were initially reluctant to participate. At the beginning of the project, the stakeholders were actively involved in baseline collection interviews and they were keen to explain the issues at their respective level. But when the project called the Expression of Interest, the number of applications from collectors did not reach the target number of beneficiaries. Further, because of TcCs and ToTs expected duties to attend the classroom training and to conduct monitoring and coaching activities to farmers and enterprises for about 2-years in 4-regions without remuneration, there were limited number of applicants from local technical persons.

Therefore, to actively engage beneficiaries and conduct the capacity building programme, the project looked for alternative solutions to address the challenges and accommodate the sector stakeholders:

- To solve the need of technical persons to be trained and to sustain the capacity within institutions, the project requested MoC and DoA to allow their staff to participate part time as TcCs and ToTs with a small travel allowance and remuneration.
- ToTs training and the inception workshops were conducted back to back instead of in a separate timeframe to engage farmers and extension officers through increased learning and motivate the selection of local resources.
- Since farmers were not available to join 5-days of consecutive training, the programme was split in 2-days training on pre-harvest and 1-day on post-harvest for the first growing season, followed by 2-day combining pre and post-harvest training for the next growing season.
- The collector level was a weak point of the value chain in controlling the quality and food safety; since the collectors are not currently subject to any regulatory controls and were not encouraged by the buyers' purchase orders for quality products, they were neither keen to participate in the project nor to improve their practices, even for attending the full day

training. The project, therefore, conducted a series of short trainings involving the Collection Centers and made an effort to develop a manual for the collectors and posters. The latter can be used as a guideline to improve their own practices and quality of products without extensive participation to classroom and trainings.

- Because 3 participating oil millers in Mandalay were committed in obtaining international third-party certification on HACCP following the implementation of the system but the certification fee was unsustainable by such small enterprises, the project provided them partial support (60%) for the first-year certification fee.
- As Myanmar has no accredited laboratory and international laboratories testing fees were higher than the estimated budget, product testing to assess the improvement towards compliance with SPS requirements was done only at the end of the training programme in September 2018 and January 2019.

Countrywide, according to the following macroeconomic data sourced from MoC and DoA, it can be assumed that the STDF-ITC project activities produced significant spill over effects for the oilseeds sector development:

- The annual production of groundnuts increased by almost 4% from 2015-16 to 2017-2018¹.
- The annual export value increased by around 13 % for sesame and by around 18% for groundnuts within 2015-2018.
- The total number of issued Phyto Certificates for oilseeds products increased by 72 % from 2015 to 2018.
- Total area of GAP application (including GAP certified crops) and number of farmers for oilseeds crops in 2018 was 4978 acres and 1327 farmers (First year program of National GAP).
- The number of FDA certified edible oil millers increased yearly (2 in 2015; 7 in 2016; 28 in 2017; and 50 in 2018).
- The National Standard for vegetable oil was approved in February 2019; sesame seed and groundnuts draft standards were submitted for the approval process.

5.1.1 Output 1: Strengthened capacity to improve compliance with GAP and SPS measures by farmers

Starting from the baseline study's evidence of oilseeds farming practices and identified compliance issues related to food safety and SPS requirements, the project designed and conducted in depth capacity building training and awareness events on GAP and SPS measures for more than 500 oilseeds farmers in the target regions of Mandalay, Sagaing and Magway.

The agricultural expert Mr. Wayne Hancock, with a solid background on agricultural value chains in Myanmar and other countries, was contracted to lead the training programme, assisted by the National Consultant on GAP, Ms. Wah Wah Hlaing, trainer at the DoA Post-harvest technology training centre with more than six years of experience in GAP implementation.

A total of 23 farmer groups participated in the GAP training during the 2017 growing season. In the 2018 growing season, 8 farmer groups (1 was not in growing season at the time and 7 were not active) quit the programme and 7 new farmer groups (as they saw the first benefits of incentive price for GAP crops in the previous season) joined in the 2018 rainy season. At the end of the project a total of 481 farmers (22 farmer groups) had implemented GAP and improved their practices in their field.

Some of the value chain actors requested the project be extended also for the 2018 growing season to sustain trust building and strengthen the linkages established in the previous year. In addition, 2018 was the first year of the National GAP certification scheme implemented by DoA for sesame and peanuts, as well as the first experience for farmers to apply for the Myanmar GAP certificate. Therefore, a continuous support from the project was needed to enable farmers to reach their objectives for certification. The training approach included coaching activities for selected resources

¹ In October 2018, the government changed the financial year. Production and export sales data cover the period April 2015- March 2018. In addition, MoC provided separated export sales data also for the timeframe April -September 2018.

from DoA regional level extension officers and farmer leaders to build the technical and outreach capacities to assist the beneficiary farmer groups in GAP implementation, pest and diseases management, usage of quality production inputs, harvest and post-harvest practices and compliance with phytosanitary and food safety standards.

The training programme started with a five-days Training of Trainers (ToT) on GAP and compliance with SPS Measures, conducted through four days in a classroom from 16 to 19 January 2017 at Mandalay Chamber of Commerce and a one-day field trip to Kula Village in Kyaukse Township on 20 January 2017. 20 trainees and potential GAP advisers (60% Females) were trained on GAP, MRLs among other SPS measures, and Farmer Field School Concepts. The group of 20 trainees was composed of 16 DoA nominated extension staffs, 1 farmer and 3 participants from NGOs.

In particular, the training design recognised the limited resources and training of the government staff, who had a very formal approach to extension and to working with farmers within a hierarchical management system. Therefore, the ToTs was conducted under a different prospective, involving more group work and less lecture-based learning to build a skill set for a more informal approach with the farmers, to provide them support as a resource person and collaborator.

Back to back with the ToTs training, four one-day Inception Workshops (instead of three as planned in the project document) for farmers were held in the 3 regions (1 in Mandalay; 1 in Sagaing and 2 in Magway) on 21, 23, 25, 26 January 2017. Nearly 500 total participants attended these workshops and were familiarized with the concepts of food safety underlying GAP implementation and the benefits and opportunities coming from being in compliance with SPS requirements. Among participants, there were government department officials, private sector associations, collectors, processors, agriculture chemical companies, agriculture machinery companies, NGOs, farmers and Extension Officers. The workshops received appreciation from High Level Authorities at Regional Minister Level and high-level political officials such as members of parliament from the respective regions, as oilseed is the main production crops that generate income for these regions.

During the inception workshops the interested farmers were selected, grouped according to their villages' location and involved as beneficiaries of the training programme, structured in a series of theoretical and practical training to increase GAP awareness (including pest control, harvest and post-harvest practices and usage of quality inputs) and strengthened on farm implementation. Their inputs and challenges were collected to fine-tune the training model and monitoring programme that was delivered within the project framework.

During the second GAP mission (26 April-11 May 2017), the GAP project team (IC, NC, ToTs) delivered 8 sets of 2-days training on the pre-harvest module for GAP implementation to 23-farmer groups in 8-villages in Mandalay, Sagaing and Magway regions. All 510 participants (116 female - 22%) including 402 farmers and other stakeholders (facilitators, ToTs, DoA staffs, MoC staffs and collectors) began the process of a wider understanding of GAP within food safety compliance for Myanmar and the important role they could play to ensure food safety through good practices on the farm. The training revolved around the use of lesson plans for topics and the use of the related GAP manual based on Risk Factors (Critical Control Points). The draft GAP manual and Records Book for sesame groundnuts and sunflower crops were prepared, introduced to the farmers to collect their comments for further improvement, and aligned with DoA National GAP protocol. Additionally, in the effort to introduce the concept of simple mechanization, some farmers were invited to attend a trial of harvesting machines organized by BSC Italian Agri-Machinery company on 9 June 2017.

The third GAP mission (25 July-10 August 2017) delivered 14 sets of 1-day practical training on post-harvest module for GAP implementation for the 23-farmer groups in 14-villages of Mandalay, Sagaing, and Magway regions. The GAP project team visited the fields of 254 farmers (44 female-17%) and worked with the farmer groups to reinforce the farmers' understanding on the ground of the training inputs previously provided, improve current practices and get further feedback on issues encountered while moving towards implementation of the GAP process. More farmers than expected attended the training and gained interest to follow further trainings. At the end of the mission, the GAP team revised the GAP Manual and record book according to the new inputs received and drafted some poster ideas.

The fourth GAP mission (27 January-10 February 2018) conducted 4-sets of 2-day training and 5-sets of 1-day training for 22-farmer groups in 10-villages and 2-townships' DoA offices in Mandalay,

Sagaing and Magway regions. A total of 426 participants (92 females- 21%) joined the training, including 356 farmers, 9 MoC and 55 DoA staffs. The team was composed of the International Consultant and NC on GAP, the NPM and the ToTs selected as core trainers accompanied by the other ToTs extension officers (9 in total) and 3 farmers leaders, who joined the mission to get more in depth understanding of farmers' SPS and GAP related issues, including challenges faced in the relationship with existing suppliers and buyers.

The mission targeted 1) refresher training for GAP implementation for beneficiary farmer groups willing to apply National GAP certificate; 2) first training on GAP implementation for three new farmer groups that joined the project at the end of 2017. Moreover, new inputs for plant health, soil nutrition, pest & diseases and safe application of pesticides were shared with the farmers to further increase their theoretical and practical understanding of GAP. During the mission, the revised GAP Manual and Record Book were distributed, along with one visual food safety cartoon poster for each township.

The GAP Manual was finetuned for ToTs and farmers for joint use to improve understanding and practices. It contains specific lessons such as correct chemical use, good practices and critical control points (CCPs) for better production of sesame, groundnuts and sunflower seeds.

The Record Book for oilseeds, firstly developed with only 9 modules to simplify its use by farmers, was finally aligned with DoA recording system based on ASEAN GAP of 11 modules.

Farmers were asked to keep records for land preparation, irrigation, planting materials, chemical usage and harvesting and handling among others, as a tool to observe the changes of their practices and improvements of their production overtime.

The Poster included 9 simple cartoons to be used as a visual reminder of the good practices to follow for GAP implementation and compliance with SPS measures. These visual materials are easy to understand and eye-catching for farmers and helped consolidate their theoretical learning of GAP, SPS and food safety concepts.

As part of the training programme, the trained experts (TOTs) were assigned to different groups of farmers to regularly visit them for a period of two years starting from January 2017, to monitor the adoption of GAP practices, compliance with SPS measures and provide support for GAP certification process. For each field visit they were asked to submit a short report, highlighting the improvement achieved by the farmers as well as identifying the challenges faced, for the GAP team to be timely informed and plan consequent interventions.

The National Consultant regularly joined some of the field visits, to provide further support to the TOTs to strengthen their training skills, liaise with the DoA regional staff and follow up with the overall process of GAP implementation at the oilseeds' farms. Some of them visited farmer groups several times while others less frequently, some of them collaborated until the project end while others abandoned as being transferred by their department to other regions. To address this issue a letter was sent by the project to DoA to encourage ToTs to be released from their duties in the office and conduct field visits. Some townships replaced with new extension staff as the former ToTs were transferred or promoted. Among 20, four core trainers were selected to conduct the joint training with the International Consultant (IC) during the fourth mission by using the materials developed by the project. Eleven (11) ToTs (7- continuous participation and 4-new ToTs) with 45% female out of 20-trained ToTs managed to coach extensively the farmer groups. To sustain the capacity building of local resources, DoA has sent the commitment letter to STDF project to use the trained ToTs as trainers in their future extension work for GAP.

The follow up missions by National Project Manager and National Consultant are counted as: 125 visits to farmer groups from February 2017 to December 2018 and a total of 130 follow up visits and coaching were conducted by ToTs from February 2017 to December 2018.

Farmers face challenges in applying best practices due to several factors: a general labour shortage and its cost in critical times such as during harvesting and drying of crops; lack of available and affordable labour-saving mechanisation, especially for harvesting; limited understanding of technologies and methods for farming; affordable finance for inputs; limited supply/affordable quality seed; comply with GAP certificate requirements to test heavy metal in soil and MRLs in

products. More reliable markets with better prices and contracts are seen by many villages as necessary. Through regular coaching/following up, lobbying with DoA and other partners, the project tried to address some of these issues within its mandate and possibilities.

Some farmers actively participated in the training sessions and final discussions over challenges and improvements; however, it was noticed how most of the farmers' commitment to work in a group was driven over time by the benefits gained by a few pioneers. The project therefore continuously encouraged lead farmers and pioneers to share their experiences and incentivize other farmers to follow.

The more the beneficiary farmers increased their understanding of the wide range of benefits that derives from GAP production practices, the more they were willing to start a change in their farm for better yields, quality and safety of their crops. The driving force relies on the expected higher price the buyers will pay out of the improved quality of the raw material, as consequently he/she will be more likely to meet his/her own buyers' requirements and charge a better price for the product. Some of the local buyers who benefitted from STDF-ITC project provided about 2 to 4 % higher premium price as incentive for the linked farmers who changed to GAP with the support of ITC training programme. In addition, the price of high-quality sesame seeds reached the highest price in history due to significant quality improvements of sesame crop, but also due to the decrease in yields because of bad weather and inflation of local currency. The income of the sesame and peanuts farmers has increased due to good practice and also the increase trend of local price.

To measure the economic benefits and cost for farmers in implementing GAP and assess the key challenges limiting their ability to comply with SPS measures, a cost-benefit tool was developed, and a first series of quantitative data was collected from 32 beneficiary farmers. The tool was further tested in 2019 on a sample of 52 farmers and results were compared. The aim was to monitor the average trend of crops' yield, market price and production costs related to GAP implementation, however due to the fluctuations of oilseeds market price and instability of weather conditions which undermine the crops yields, it was difficult to estimate uniquely the increased quality effect of GAP on increased farmers revenues.

Building synergies with the Myanmar National protocol on GAP, the project further assisted the farmers group in applying for GAP certificate, following step-to-step application process, testing the soil nutrients with test kits and preparing samples to be sent to local laboratories. 349 farmers (72% of the total trained) applied for national GAP certification in 2018, and 150 (31%) successfully obtained the certification for their sesame crop before the project's end.

In June and July 2018, the project purchased and distributed to each beneficiary farmer the protective kits for pesticides' spraying: the kit includes a cap, safety goggles, carbon filter mask and set of disposable filters, long gloves and boots.

The project helped identify, in agreement with the relevant stakeholders among the public and private sector representatives, the modality to facilitate access to and supply the selected participating farmers with agricultural quality inputs, to support their effort in GAP implementation. A Quality Inputs Booklet was developed and distributed as a directory of information regarding the oilseeds) quality varieties (specifically sesame, groundnut and sunflower) and actual producing farms, list of banned, restricted and registered pesticides and fertilizers in Myanmar, as well as details of pests and diseases for the interested crops.

In September 2018, the project collected 21 samples of rainy season oilseeds, cake and oil (peanut, sesame, sunflower) and sent to test in Eurofins accredited laboratory in Germany. Test results confirmed sesame crops to be within Acid Value (AV) limits as found out using reliable test kits; MRLs for sesame shown an occurrence of Active Ingredients (Carbendazim, Carbendazim/Benomyl, Imidacloprid, Metalaxyl, Chlopirifos) all below the limits of buyer countries and EU; 11 groundnuts samples tested for Aflatoxin (30 % comply with EU (4ppb), and 50% comply with Thai standards (20 ppb).

The Project conducted a second round of analysis for winter season groundnut products from beneficiary and non-beneficiary farmers, collectors, processors (38 samples from 3-regions) in December 2018. Sampling was done by MITS based on Codex method for Aflatoxin sampling and sent to 4 local laboratories and Eurofins in Germany. The testing was conducted with methods TLC,

ISO16050 by HPLC, Competitive Immunoassay by Eliza, Internal method based on EN14123. The findings on farmers' peanuts samples were generally within limit while those from collectors and millers were higher. But the project noted that the variation of testing method in various laboratories resulted in a variation of the test results between the local and international labs.

Summary of activities conducted under Output 1

Activity project framework	Date	Activity	Tot. participants	Women	Participants breakdown
1.1 Collect baseline data on the farmers producing seeds, storage facilities and processors in Mandalay, Sagaing, and Magway regions who will benefit from the project	Jan-Jun 2016	Baseline preliminary meetings	104	14	25 Farmers 50 Government stakeholders (MoC, DoA, DAR, FDA) 28 Sector Associations
		Baseline farmers interviews	520	46	349 farmers
1.2 Conduct inception workshops for farmers in the target regions of Mandalay, Sagaing, and Magway, in partnership with local authorities and sector associations	21,23,25,26 Jan 2017 (1 st GAP mission)	1-Day Inception Workshop for farmers on GAP and SPS measures	491	99	330 Farmers 14 Exporters/processors 9 Collectors 76 Government stakeholders 18 Sector Associations
1.3 Conduct ToT and expert capacity building training programme to build the technical and outreach capacities of sector associations and/or advisors to provide advice to farmers in the area of GAP, compliance with SPS measures	16-20 Jan 2017 (1 st GAP mission)	5-Days ToTs Training	20	14	1 Farmers' leader 16 DoA extension staff 3 Sector Associations/NGOs
	24-25 Apr 2017 (2 nd GAP mission)	2-Days ToTs Training	25	10	6 Farmers 16 DoA extension staff 1 Processor 1 TcC
1.4 Organize practical training on GAP implementation and monitoring, compliance with SPS measures for farmers and sector associations in the target regions of Mandalay, Sagaing, and Magway	26 Apr-11 May 2017 (2 nd GAP mission)	2-Days Farmers Training (pre-harvest module)	510	116	402 Farmers 37 Gov. stakeholders (DoA, MoC) 15 Companies 2 Collectors 12 ToTs
	25 July - 8 Aug 2017 (3 rd GAP mission)	1-Day Practical Training (Post-harvest module)	268	44	254 Farmers 14 ToTs
	27 Jan - 10 Feb 2018 (4 th GAP mission)	Refresher trainings + GAP training for new farmers groups	426	92	353 Farmers 64 Government stakeholders (DoA-MoC) 9 ToTs

5.1.2 Output 2: Increased capacity for quality segregation of seeds and GHP at storage facilities

For the collectors' level, the project designed and implemented a theoretical and practical training module on Good Hygiene and Storage Practices to enhance the capacity of storage facilities to meet SPS measures related to oilseeds contamination and improve current practices. The assignment was assigned to the International Expert on Food Safety, Dr. Namrata Wakhloo.

Two 1-day Workshops on hygiene, sanitation and documentation for collectors were held respectively in Mandalay and Sagaing regions on 3 and 9 December 2016, bringing together 59 total participants (26 females, 44%) which included 29 collectors (storage facilities' owners, staff and brokers), 20 government departments' staff (MoC, DoA, FDA), 1 processor, 3 TcCs and other relevant stakeholders. Within the same mission, four 1-day practical hands-on training were conducted in 3 storage facilities in Mandalay, Sagaing and Magway regions on 4, 6, 10, 11 December 2016, to familiarize the participants with better control systems for hygiene, product segregation

and traceability, and incentivize the regular implementation of these practices. A total of 90 stakeholders (25 females - 27%) attended the training, including 66 collectors and staffs, farmers, processors and ministries' staff.

Out of 13 collectors recommended by 10 exporter and processor enterprises, 6 collectors from 4 commodity exchange centres in the Regions expressed interest to participate in the project. One collector abandoned after the second training inputs in May 2017. Throughout the project implementation, only 5 collectors actively participated in the training activities and collaborated with buyers/exporters to improve the value chain traceability system.

Three sets of training inputs on hygiene and food safety were provided to these beneficiary collectors since the beginning of the project through three missions of the IC on food safety (November-December 2016, May-June 2017, September-November 2017). The latter 2 missions focused on follow up on hygiene and traceability at the collectors' warehouses rather than classroom training.

During the second IC mission, two meetings with regional collectors were held at the Mandalay and Monywa Commodities Exchange Centres (CECs) on 4 and 7 June 2017, with the aim to keep expanding food safety and hygiene awareness within the storage facilities businesses. In these occasions, a total of 37 collectors were sensitized on hygiene, food safety and SPS compliance for international trade.

The collector level is in fact a weak point in the value chain for quality and food safety control. The project therefore made an effort to develop the Quality and Food Safety Manual for oilseeds storage to be used and distributed through the commodity exchange centres and encouraged buyers to incentivize the intermediary collectors to implement the good warehousing practices as per manual and by paying higher price for improved quality.

The collector manual was first structured according to the stakeholders' recommendations given during the two-days roundtable meeting on 12-13 June 2017, in MoC office in Nay Pyi Taw. From July 2017 to April 2018, the project brought together a pool of local technical experts and coordinated the partition and development of respective technical chapters over 3 meetings and follow up exchanges with the manual contributors. The first draft manual was shared with the oilseeds sector stakeholders invited at the workshop events held in 4 CECs to collect feedback and on the ground recommendation for further improvement before finalization: Yangon CEC on 27 April 2018 with 67 (15 females, 22%) stakeholders, Mandalay CEC on 30 April with 80 (18 females, 22%) stakeholders, Monywa CEC on 1 May with 42 (8 females, 19%) stakeholders and Magway CEC on 2 May with 40 (8 females, 20%) stakeholders. The first draft was consequently revised taking into account the comments received, translated to English and discussed with the International Consultant on a second roundtable meeting on 12 August 2018. The IC was then contracted to review the draft manual, rewrite some chapters and give recommendation to prepare cartoon posters. The collector manual and cartoon posters were finalized and 2,200 copies of the manual were printed and distributed to the selected collectors and CECs members gathered at the Manual Launching Event on 25 January 2019 at Mandalay Commodity Exchange Centre. 172 participants (40 females, 23%) including CEC members from Yangon, Mandalay, Sagaing, Magway, Myingyan, Meikhtila, Commodity Exchange Centres, Regional DoA Heads from 4-regions, Regional Municipal Officers, Regional FDA officers, Regional Consumer Affair officers, Regional Myan Trade Officers, Beneficiary Companies, Beneficiary Collectors, ToTs, TcCs, local contributors of collector manual have attended.

As the project intended to provide equipment and necessary materials for quality control following the collectors' needs identified during the baseline survey, a list of equipment was established for the storage facilities based on the recommendations given during the Ad-hoc supporting committee meeting on 8 September 2017. Initially, the project intended to purchase those tools through ITC procurement procedure from the Geneva office, but in the end it was opted to purchase them directly in the country to facilitate the process. 48 pieces of quality control equipment have been distributed to the selected collectors gathered at the manual launching event. The suppliers of the tools conducted user trainings to the beneficiaries, meanwhile local experts conducted the training on fumigation and sampling for the collectors.

The list of tools provided is as follow:

Sr	Equipment	Specification	Qty	Distribution
1	Moisture Meter	PM 450 KETT	9	5 - beneficiary collectors 4 - CexCs
2	Micro Balance	Shinpo 600	5	5 - beneficiary collectors
3	AV Check test kit	Adventec	10	5 - beneficiary collectors 4- CExCs 1-NC for GAP
4	Probes (sampling tool)	9 inches long	5	5 - beneficiary collectors
5	Sieves	Size- 6,6.25,6.5,6.75(sesame) Size-12,13,14 (Peanut)	5	5 - beneficiary collectors
6	Winnowing machine		4	4 - beneficiary collectors in Magway
7	Thermo -hygrometer		5	5 - beneficiary collectors
8	Hand lens		5	5 - beneficiary collectors

5.1.3 Output 3: Enhanced capacity to apply food safety control systems based on GHP, GMP, HACCP in oilseed processing

Five oilseeds processors and exporters and 6 oil millers (11 companies) successfully completed the training programme on food safety and HACCP requirements, conducted by the International Consultant through a series of classroom workshops (2-days implementing hygiene and food safety, 1-day documentation requirements, 3-days implementing Codex HACCP and 3-days Internal verification audit) and on-site hands-on training. Eleven trainers-cum-counsellors (TcCs) were trained and coached in parallel, and went back to the beneficiary companies to assist them through regular visits for on-site HACCP implementation.

To set the floor for the implementation of the food safety capacity building programme, two one-day Awareness Workshops were conducted respectively in Yangon and in Mandalay on 21 and 29 November 2016, sensitizing 104 (52 females, 50%) stakeholders among inspectors, processors, traders, exporters, buyers, sector associations and government department on SPS measures and food safety in oilseeds value chain for the international trade.

During the first mission (18 November – 13 December 2016), the International Consultant on Food Safety initiated the in-depth training and coaching programme for the initial 10 beneficiary exporters/processors (5 SMEs in Yangon and 5 in Mandalay, Sagaing and Magway) and 11 Trainers-cum-counsellors (TcC) (80% female). The same training was replicated in two sets, one in Yangon and one for the regions, according to the following schedule:

- 2-days Workshop on implementing hygiene and food safety (Yangon, 22-23 Nov 2016/ Mandalay, 30 Nov. 2016-1 Dec. 2017), for a total of 68 participants (37 female -54%), among which 8 FDA inspectors;
- One-day Workshop on documentation for Hygiene and Food Safety (Yangon, 26 Nov / Mandalay, 2 Dec 2016), for a total of 39 participants (17 female -43%);
- One-day Workshop on training skills and methodology for TcCs (Yangon, 13 December).

Back to back with the classroom training, the IC accompanied by the respective TcCs visited each beneficiary company to assess gaps for food safety control system and define a customized roadmap for HACCP implementation.

At the beginning of 2017, before the start of the second mission, one additional oil company in Mandalay requested to join the training programme. Therefore, the National Project Manager together with Mandalay TcCs conducted a summary training session to introduce the new oil miller with the inputs shared during the first mission training activities.

During the second mission of the IC (18 May-14 June 2017), two 3-day workshops on Implementation of HACCP as per Codex were conducted on 25-27 May 2017 for 40 participants (25 females, 62%) in Yangon and replicated in Mandalay on 31 May-2 June 2017 for 39 participants (21 females, 54%). Participants included company representatives, TcCs, association representatives, and FDA representatives. The training was followed by a one-day visit to the companies to follow up

on the gaps' closure, SOPs & prerequisite programs (PRPs) documentation. To further strengthen TcCs' knowledge, two one-day TcCs meetings were conducted for reviewing the assigned tasks and milestones on 17 May in Yangon and 28 May in Mandalay, and one TcCs wrap-up final meeting was held in Yangon on 14 June.

One TcC had to abandon the project after the 2nd training inputs in May 2017 after receiving a scholarship to study abroad, therefore only 10 TcCs completed the training programme and built capacity to advise the 11-enterprises.

A third set of training and coaching inputs on HACCP was conducted by the IC from 27 September to 13 October 2017 for the beneficiary companies and TcCs in Yangon, and from 7 to 24 November 2017 for those in the Regions (Mandalay, Sagaing and Magway). The main objective of the training was to understand the methodology to conduct internal food safety verification audits in the beneficiary facilities that are implementing food safety according to Codex HACCP. Three-day training workshop on "Conducting Internal Verification Audit of food safety system implemented according to Codex HACCP" and two-day Documentation Clinique were replicated as two sets: in Yangon (28-30 September 2017 and 2-3 October) for 33 participants (14 females, 42%) and 16 participants (8 females, 50%), and in Mandalay (8-10 November 2017 and 11-12 November 2017) for 27 participants (18 females, 66%) and 24 participants (15 females, 62%) among selected processors companies, TcCs, FDA, testing laboratory officers, inspection body and oil miller association and pulses and bean association.

In between the missions of the International Consultant, the TcCs supported the assigned enterprises by conducting Hygiene Training and regular coaching to the staffs, developing HACCP set of documents, conducting mock Internal Verification audits and any other kind of assistance the beneficiary companies needed for HACCP implementation.

As a fourth mission of the IC, a sensitization workshop on food safety namely "Safer Food, Healthier Lives, a Prosperous Myanmar" was conducted at the Mandalay Technological University on 9 August 2018 as part of the capacity building program for TcCs to sensitize other young students and professionals from sector associations and government departments on food safety and SPS issues in Myanmar and present the progresses made so far within the oilseeds sector. 140 participants (99 females, 71%) from MoC, DoA, FDA, Department of Fisheries, Department of Livestock, Chamber of Commerce, Food Processors Association, Oil Miller Association, Pulses, Bean and Sesame Merchant Association, Food Science and Technology Association, Consumer Association, Professors and Post-Graduate students from Chemical and Bio-technological Engineering Departments of MTU attended. The International Consultant presented an introductory session on Food Hygiene and SPS measures. The TcCs (Thet Thet Naing and Ei Ei Htwe) and a few participating enterprises (Du Wun, Asia Thar, Golden Taste) presented their experience on implementation of a HACCP system and the benefits gained from the participation in the project.

Further activities included the exchange program in Kayah State on 4 August 2018 for six TcCs, who had the chance to meet with the ITC NTF IV Tourism Project team and TcCs and exchange their experiences and challenges in building capacity for food safety and providing advisory services in the tourism and food manufacturing sectors. This initiative was supported to strengthen the linkages between the trainers and incentivize a cross-cutting dialogue on possible future food safety initiatives. As the visit was conducted within the IC mission, 1-TcC (Ei Ei Htwe) attended also the recap training on Hygiene with Kayah TcCs on 5-6 August 2018 to discuss the follow up plan of activities between Kayah and Mandalay TcCs.

The final examination for all TcCs for the assessment of their learning along the project was conducted on 11 August 2018 and supervised by the IC. The examination was held from 10:00 am to 1:00 pm at MoC, Mandalay meeting room. 10-TcCs sat the exam and after the IC reviewed their answer paper, the training completion certificates were distributed to 9-TcCs. One TcCs appointed from MoC in Magway region, due to less involvement in the project, was deemed that she needed to further strengthen her skills and knowledge. However, the IC gave her a chance to re sit the examination but the TcC decided not to do so.

Initially, some of the TcCs from MoC conducted less visits compared to other TcCs from laboratory, inspection bodies and the engineering association. MoC was requested to encourage their participation, resulting in a more proactive behaviour of these counsellors after the second HACCP mission.

Overview of activities under Output 3

Activity project framework	Date	Location	Activity	Tot participants	Women	Breakdown of participants
3.1 Organise three workshops on SPS and food safety in international trade for inspectors, processors, traders, exporters, buyers, sector associations	21 Nov 2016	Yangon	1-Day Awareness Workshop "SPS measures on Hygiene & Food Safety"	53	26	1 buyer 19 exporters/processors 9 collectors 34 Gov. stakeholders (MoC, DoA, DAR, FDA) 7 sector associations 5 laboratories 3 inspection bodies 10 TcCs
	29 Nov 2016	Mandalay		51	26	
3.2: Coach selected processors to implement food safety systems based on HACCP Codex	22-23 Nov 2016	Yangon	2-Days Workshop "Implementing Hygiene & Food Safety"	34	17	19 exporters/processors 4 collectors 17 Gov. stakeholders (MoC-FDA) 3 sector associations 4 laboratories 2 inspection bodies 11 TcCs
	30 Nov-1 Dec 2016	Mandalay		34	20	
	26 Nov 2016	Yangon	1-Day Workshop "Documentation for Hygiene and Food Safety"	19	8	15 exporters/processors 4 collectors 3 MoC Staff 1 sector association 11 TcCs
	2 Dec 2016	Mandalay		20	9	
	25-27 May 2017	Yangon	3-Days workshop on Implementing HACCP as per Codex	40	25	28 exporters/processors 3 collectors 21 Gov. stakeholders (MoC-DoA-FDA) 8 sector association 2 laboratories 11 TcCs
	31 May-2 Jun 2017	Mandalay		39	21	
	28-30 Sept 2017	Yangon	3-Days Workshop on Internal Verification Audit	33	14	26 exporters/processors 3 collectors 12 Gov. stakeholders (MoC-FDA) 1 sector association 1 laboratory 11 TcCs
	8-10 Nov 2017	Mandalay		31	22	
	2-3 Oct 2017	Yangon	2-Days Documentation Clinique	16	8	*Companies staff/MD + TcCs
	11-12 Nov 2017	Mandalay		24	15	
	HACCP 1 st Mission	Yangon	Site visit - gap analysis PPA	7	3	*Companies Staff/MD + TcCs
			Site visit - gap analysis STZ	11	5	
			Site visit - gap analysis AKT	10	6	
			Site visit - gap analysis MOS	11	7	
			Site visit - gap analysis NGG	7	2	
Mandalay		Site visit - gap analysis DW	9	6		
Sagaing		Site visit - gap analysis T9	12	8		
		Site visit - gap analysis SMT	6	3		
Magway		Site visit - gap analysis MLT	6	3		
		Site visit - gap analysis AT	7	4		
HACCP 2 nd Mission	Yangon	Site visit - gap closure/HACCP documentation PPA	5	2		
		Site visit - gap closure/HACCP documentation STZ	7	2		
		Site visit - gap closure/HACCP documentation MOS	6	4		

			Site visit – gap closure/HACCP documentation NGG	8	3	
			Site visit – gap closure/HACCP documentation AKT Co	7	2	
		Mandalay	Site visit – gap closure/HACCP documentation DW	7	2	
			Site visit – gap closure/HACCP documentation AT	8	3	
			Site visit – gap closure/HACCP documentation GT	8	2	
		Sagaing	Site visit – gap closure/HACCP documentation T9	7	2	
			Site visit – gap closure/HACCP documentation SMT	7	2	
		Magway	Site visit – gap closure/HACCP documentation AT	7	3	
	HACCP 3 rd Mission	Yangon	Site visit – Internal Verification Audit NGG	8	5	
			Site visit – Internal Verification Audit PPA	8	4	
			Site visit – Internal Verification Audit AKT	10	7	
			Site visit – Internal Verification Audit MOS	10	5	
			Site visit – Internal Verification Audit STZ	6	2	
		Mandalay	Site visit – Internal Verification Audit GT	10	9	
			Site visit – Internal Verification Audit DW	9	6	
			Site visit – Internal Verification Audit AT	8	7	
		Sagaing	Site visit – Internal Verification Audit STM	8	6	
			Site visit – Internal Verification Audit T9 O	9	6	
		Magway	Site visit – Internal Verification Audit AT	12	9	
3.3. Provide selected professionals from sector associations and local institutions responsible for SPS with in-depth training to become Trainers-cum-Counsellors (TcCs) on food safety along the value chain	13 Dec 2016	Yangon	1-Day Workshop "Training Skills and Training Methodology"	10	8	*TcCs
	14 Jun 2017	Yangon	1-Day wrap-up meeting / training for all TcCs	11	9	
	11-12 Oct 2017	Yangon	2-Days TcCs Wrap up meeting	10	8	
	27 May 2018	Mandalay	TCCs Meeting for sustainability plan discussion	10	8	
	4 Aug 2018 (4 th mission)	Loikaw	TcCs exchange program with Kayah TcCs	6	6	
	9 Aug 2018 (4 th mission)	Mandalay	Sensitization Workshop MTU	140	99	
	11 Aug 2018 (4 th mission)	Mandalay	TcCs final examination	10	8	*TcCs

All enterprises progressed well in the implementation of HACCP system and its official recognition through third party certification. The certification fee was one of the challenges for small enterprises implementing the HACCP system in Mandalay region even though they participated proactively and

invested in improving the layout and equipment of their facilities. Therefore, after these companies requested MoC support through an official request letter, the project discussed with STDF to cover part of the first-year certification fee and finally contributed to 60% of the first year cost. On their side, the companies committed to pay 40% of first year certification fee and the next two years' surveillance fee by themselves. They also committed to maintain the HACCP certification status and/or improve the status of Food Safety Management System certificates later on.

Control Union certification body conducted the external audit stage I and stage II in the three oil mills in September 2018 and December 2018. TCs also participated as HACCP team members of the enterprises and were exposed to their first external auditing process.

Among 11 enterprises participating, 7 beneficiary companies successfully obtained HACCP-based certification by several third-party certification bodies and the other 4 enterprises finalized the HACCP document system and conducted a first internal audit. 3 out of these 4 remaining companies expressed their intention to target HACCP certification in the next future, meanwhile the oil miller in Sagaing region indicated that it would not be able to sustain the certification process due to the reduced activity of its facility.

The final status of beneficiary enterprises on HACCP implementation is as follow:

No	Enterprises	Status	Certification body
1	Pyei Phyo Aung Co., Ltd (grain and sesame powder processor/exporter)	HACCP certified(Feb. 2018); FDA certified	Bureau Veritas
2	Shwe Thazin Co., Ltd. (grain processor/exporter)	HACCP implemented	
3	New Golden Gate Co., Ltd. (grain and sesame powder processor/exporter)	HACCP certified (Nov. 2017)	Guardian Independent Certification
4	Aung Kyun Thar Co., Ltd. (grain and sesame powder processor/exporter)	HACCP certified (Dec. 2018)	Guardian Independent Certification
5	Maou Oak Shaung Co., Ltd. (grain processor/exporter)	HACCP implemented	
6	Amay Htwar Oil Mill	HACCP certified (Oct. 2018); FDA certified	Global Group Certification
7	Du Wun Oil Mill	HACCP certified (Feb 2019); FDA certified	Control Union
8	Asia Thar Oil Mill	HACCP certified (Feb 2019); FDA certified	Control Union
9	Golden Taste Oil Mill	HACCP certified (Feb. 2019);	Control Union
10	Soe Moe Tun Oil Mill	HACCP implemented; FDA certified	
11	Triple Nine Co., Ltd. (Oil Miller)	HACCP implemented	

5.1.4 Output 4: Increased linkages along the sector value chain and to export markets

The project improved public and private cooperation, networking and market linkages among stakeholders along the oilseeds value chain as well as with national, regional and international trading partners.

At the beginning of the project, a market study was conducted in parallel with the baseline survey. The study provided a comprehensive overview of the international requirements for oilseeds to be considered in the design of the capacity building interventions and an initial identification of suitable export, domestic and tourism market segments and buyers' opportunities.

The findings were presented during the Validation Workshop held on 6-7 June 2016, where the 86 participants (17 females, 20%) assisted the project team in the identification of value chains and possible beneficiaries of the capacity building programme. Ten (10) selected companies participated to individual match making interviews to assess their interest and capability to supply the identified buyers.

During the initial implementation phase of the project, a business matching event was held between an Italian importer and 3 beneficiary companies, after which a request for quotation for a sesame oil supply was submitted.

In October 2017, the project sponsored a delegation of 9 beneficiaries among processors and members of sector association to travel to the Netherlands to learn about European processing technologies and create new linkages for export opportunities, and Hungary to attend the World Export Development Forum (WEDF) and related B2B events,.

The participants attended a half day special sales' coaching session with ITC sales consultant in preparation of the B2B meetings and received further support throughout the event.

The program of WEDF B2B meetings was as follow:

Date	Time & Place	Activities
19.10.17	Amsterdam, Netherlands	Arrival
20.10.17	Breukelen Hotel, Netherlands (10:00 am)	Mr. Thijs Pasmans, Meeting with MVO
	YEM Kuiper, Oilseeds company (13:00 pm)	Company Visit
22.10.17	Budapest, Hungary	Arrival
23.10.17	Budapest Congress Centre 10:00-14:00	Coaching Session for B2B Meeting
24.10.17	Budapest Congress Centre 9:00-17:00	B2B Meeting
25.10.17	Budapest Congress Centre 9:00-17:00	World Export Development Forum+ B2B Meeting
26.10.17	Budapest Congress Centre 9:00-17:00	World Export Development Forum
27.10.17	V+V Scoop Factory (Factory using Seed-Imex machinery), Hungary	Factory Visit

The ITC National Project Manager joined with the Myanmar delegation to facilitate the logistics and meeting arrangements during the mission. The participating companies and association personnel were as follows:

Name	Title, Company/Association
Mr Than Lwin Oo	Myanmar Corn Farmer Association
Mr Tun Aung	Myanmar Corn Farmer Association, EU office (own expense)
Mr Tun Tun Oo	MD, Soe Moe Tun Oil Mill
Mr Aung Kyaw Kyaw	MD, Triple Nine Oil Mill
Mr Zabu Ko	General Manager, Shwe Thazin Company
Mr Heing Lin	Director, Aung Kyun Thar Company
Ms May Thet Khaing	Director, Maou Oak Shaung Company
Ms May Pyae Sone Kywe	Director, Maou Oak Shaung Company (own expense)
Mr Si Thu Kyaw	Maou Oak Shaung Company (own expense)

Not only at the international level, but also linkages between the selected farmers, collectors, processors/exporters to meet the buyers' demand have been encouraged since the beginning of the project and regularly facilitated during the delivery of the training and capacity building activities.

The local buyers invited to attend the 1st and 2nd training inputs for farmers made encouraging statements such as willingness to increase the final price provided to farmers who follow GAP. These incentives were crucial for farmers as they were often in a chronic debt situation and unless incentives were given, they may not have been in the position to improve their practices (access to quality inputs, pesticides, agricultural machines, skilled labour force, etc).

The connection and establishment of 8-value chains was facilitated during the 2017 and 2018 growing seasons. Four out of these were successful and are expected to be sustainable beyond the project.

Shwe Thazin Company, project beneficiary processor and exporter, initiated a direct value chain with one beneficiary farmers' group including 11 farmers implementing GAP in Kula village, Kyaukse Township (Mandalay region), to improve the traceability system as per their Japanese buyers' requirements. These farmers started to grow a new variety of black sesame produced by DoA and

in July 2017 the company contracted a trial supply to ship to Japan of around 1,600 baskets (enough to fill two containers) with a favourable price 3.7% higher than market price.

A more interconnected value chain was also established in September 2017 between one farmers' group including 35 farmers among which 20 project beneficiaries in Yepaw village, (Aunglan Township, Magway region), who sold around 2,000 baskets (more than 2 containers) to Lwin Phyto Warehouse, project beneficiary collector in Aunglan, to be exported to Japan through Aung Kyun Thar company, part of the HACCP beneficiary companies, with a 4% higher remuneration than the local market.

The linkages between the farmers and Lwin Phyto collector warehouse (output 2) were sustained and expanded in September 2018 to another 6 villages implementing GAP (Yepaw, Pho Koe Lone, Ywa Ma Htone, Alae Ywar, Sin Kyan, San Kalay, Alaebo) in Aunglan and Magway regions (output 1) in collaboration with township DoA. 80-Metric Tons from 6 farmer groups including 150 farmers were collected in this value chain to be exported to Japan through Aung Kyun Thar company (output 3) for a 2% higher price than the local one. This value chain is expected to be sustained and expanded for the coming growing seasons as the linkage between farmers, collectors and exporters in this township is stronger and DoA support is closer to the value chain players. The sesame crops samples of this value chain were sent to Eurofins laboratory and the MRLs results are in accordance with EU regulation of current publication.

In 2017, the STDF project further supported the Oil Millers Association contract farming initiatives in 2 villages in Aunglan township (Magway region) and Myaung in Sagaing region. The association provided support for farmers in terms of production inputs while the project team delivered the technical training on GAP system. The final products were collected by the association under the contract agreement to remunerate a 50% higher price only for quality seeds.

In 2017, the farmers group in Taung Thar township including 8 farmers implementing GAP was contracted to grow and supply groundnuts for the Triple Nine Oil Mill. The company supported the farmers group with seeds, new growing technology, loan for inputs with lower interest rate, and offered a better remuneration for their production. The farmers returned the company's loan in terms of higher quality crops and money but the extra seeds were kept to plant for the next rainy season.

Another farmers group in Nahtoogyi, including 8 farmers, also contracted with Triple Nine Oil Mill, however these farmers sold the extra seeds directly to the companies. The contracts system between these farmers groups and company continued also in 2018 growing season. This value chain is therefore expected to be sustainable also after the end of the project.

Further follow up of these contract agreements was done during project implementation to consolidate these lessons learnt from the different business' models applied by buyers and farmers.

On 23 July 2018, the project supported MoC to organize a market linkages' meeting between oilseeds exporters and farmers' leaders to explain the improvement of farmers' practices and encourage to buy directly from farmers with contract farming system. 25 participants (20 female) from 9 exporters and the leaders from 3 farmers groups attended the event. The processors/exporters expressed their concerns to implement the contract farming system; they were generally reluctant to invest in inputs for farmers as they risk not having any return on the sum invested. The companies and farmers exchanged information and contact details and the project promoted the areas of GAP implementation to increase exporters' trust in the quality.

The project facilitated the contract trading between GAP beneficiary farmers in Butalin township (Sagaing region) and the International Best Manufacturing Co., Ltd. (IBM) Yangon based exporter of sesame oil and sesame powder to Korea, USA and Australia. Their factory is located in Pyawbwe township in Mandalay region and joint invested by Korea and Myanmar entrepreneurs. The contract event was held at DoA office in Monywa on 3 December 2018, where 45 farmers from Chat Kalay, Nyaung Kan, Dan Tai, Ywa Thar and Aung San Myint villages sold a total of 1,000 GAP white sesame baskets (around 21 tons) to the company, who paid out a 2% higher price for this supply. The farmers' leader and ToTs in this group established a close collaboration and led on a voluntary basis the collection of sesame to be sold in bulk from the group members. This value chain is also expected to be sustained and expanded for years.

A study tour to Thailand was conducted from 7 to 13 October 2018. Modern Myanmar Synergy Company Limited was the agency designated for organising the Thailand Study tour. A total of 14

participants (4 female) joined the tour among the initially selected 22 from MoC, FDA, DoA, TcC, ToT, sector associations, exporters, collectors, processors and farmers who participated actively in the project and at the time have already awarded the certificates HACCP, GAP, etc. The selected 5 DoA participants could not attend last minute as the official passports were not issued in time. The program included the visits to Thailand Agriculture Departments, Farms, Cooperative farmers, Factories and B2B meeting.

The list of participants:

Name	Village/Designation	Township/Organization	Region
Ms Cho Cho Lwin	Nyaung Kan farmer leader	Butalin	Sagaing
Mr Win Soe	Kan Taw farmer leader	Myin Mu	Sagaing
Mr Daung Nyunt	Letwe farmer leader	Na Hto Gyi	Mandalay
Mr Nay win	Ta Mite Thar farmer leader	Taung Thar	Mandalay
Mr Aung Kyaw Nyunt	Letwe farmer leader	Nyaung U	Mandalay
Mr Myint Thein Tun	Alebo farmer leader	Magway	Magway
Mr Win Min Htike	Yepaw farmer leader	Aunglan	Magway
Ms Thet Thet Naing	Staff Officer, Myan Trade	MoC	Mandalay
Dr Htein Htein Lin	Food Control Officer	FDA	Mandalay
Mr Soe Win Maung	Adviser	MPBSSMA	Yangon
Ms Shwe Sin	TcC	ITC, STDF Oilseed Project	Mandalay
Ms Thit Thit Lwin	NPM	ITC, STDF Oilseed Project	Mandalay
Mr Myint Aung	MD	Myint Myat Taw Win	Magway
Mr Thein Lwin	MD	New Golden Gate	Yangon

A final one-day workshop on experience sharing and sustainability was held on 16 February 2019 and a half-day high level stakeholder meeting followed on 17 February 2019 at Novotel Hotel, Yangon. A total of 99 participants, out of which 43 women, attended the final workshop. Senior officials from MoC, MoALI and MoHS and high-level representatives from private sector associations attended and facilitated the workshop. Farmers, collectors, exporters, ToTs, TcCs and buyers shared their experience and feedback on the processes and practices for compliance with food safety and other requirements. This was also another opportunity for creating market linkages and networking among stakeholder and producers and buyers.

All training and other materials developed under the project were shared to the stakeholders during this occasion. The workshop concluded with a panel discussion for the sustainability of results achieved. The outputs of the panel discussion were submitted and re-discussed during the high level stakeholders meeting on the following day, where 23 participants, out of which 13 women, from MyanTrade, DoA, FDA, DOCA, DRI, MEOMA, MPBSSMA attended and developed the forward action plan for sustainability and challenges to be accounted and implemented at the national level.

At the 2018 CIIE Exhibition in China, ITC sponsored the participation of a few exporters from Myanmar and one beneficiary processor signed a trading deal for sesame seeds supply of 80,000 USD.

In 2019, a letter of intent for sesame seeds supply was submitted to the beneficiary exporters by a Togo importer. Four beneficiary processors/exporters were selected for the ITC cost-sharing program to participate to the CIIE Exhibition in China in November 2019.

At the local level, the project promoted the public-public and public-private cooperation with the organizations involved in managing SPS issues and other related fields of activities and sectors. The National Project Manager actively created synergies and opportunities for collaboration, attending coordination meetings and workshop as well introducing the participants of related events of public departments, private sector associations and development partners to the STDF project activities. Twenty-two (22) events (workshops/coordination meetings) to improve coordination and linkages along the oilseeds value chain were attended along the project term and listed as follows:

Event	Date	Organizer	Location
Oilseeds sector development workshop	9 December 2015	MoC	Myingyan CExC
2- Export Quality Management Workshops	4-8 February 2016 3-8 May 2018	PTB-ITC	Yangon-Mandalay
Workshop on Oilseeds Sector Development and Export Promotion and Trade Fair	26 February 2016	MoC	National Exhibition Hall, Mandalay
Laboratory Network Workshop	28 April 2016	PTB	DRI
Food Safety for Tofu Value Chain Workshop	30 March 2016	US-Aid	Inya Lake hotel, Yangon
Awareness Seminar on Oilseeds Production and Quality Control for oilseeds farmers	28 May 2016	local NGO, Network Activity Group	Magway
2-Climate Friendly Agri-business Workshops	12 July and 8 November 2016	ADB	Naypyitaw
3-meetings with Progetto Continenti (Italian NGO)	18 February, 26 May and 20 July 2016	Progetto Continenti	Yangon
Magway Trade Fair	23 February 2017	MoC	City Hall, Magway
Mandalay Trade Fair	17 March 2017	MoC	Mandalay Thiri Stadium
2-Healthy Edible Oils Consumers' Awareness Workshop	23 June 2017 31 March 2018	Myanmar Edible Oil Dealer Association (MEODA)	Mingalar Hall, UMFCCI, Yangon Thanlyin, Yangon
Meetings with Farmers and Oil Miller Association	21 August 2017	Myanmar Edible Oil Miller Association (MEOMA)	City Hall, Magway
Oil Miller Association First Annual Conference	25 February 2018	MEOMA	Naypyitaw
National Conference on Edible Oil production and consumption in Myanmar	18 March 2018	Food Science and Technology Association (FOSTA)-USAid	Myanmar Engineering Society, Yangon
Agribusiness Bootcamp Showcase Workshop	6 April 2018	ICCO	Naypyitaw
Workshop-Discuss ways of improving GAP capacity and certification in Myanmar	22 May 2018	ADB	Naypyitaw
Edible Oil Policy Workshop	2-3 February 2019	MoC	Mandalay Convention Hall

6 CROSS-CUTTING ISSUES

6.1 Gender

The percentages of women who benefitted from the STDF-ITC project was particularly high, with more than 50% of total participants in technical trainings at the processors and government level (outputs 3, 4); 20-25% women participated in the collectors' level events (output 2); 10-15% women at farmers' level trainings (output 1). 50% of ToTs and 80% of TcCs were also women. At the project management, monitoring and technical level, about 6 out of 12 consultants (50%) were

also women (e.g. project manager, national project manager, national agricultural consultant, international food safety consultant, project assistance, and Individual Contractor). The average percentage of female participation in all project activities was around 23%.

6.2 Environmental aspects

The implementation of GAP programme in the oilseeds sector provided an initial opportunity for the national government to increase awareness and drive actions towards a sustainable agriculture development. The benefits of GAP implementation are in fact to enhance sustainability of the environment and to protect health, safety and welfare of the workers and their families. The recommendations to be followed in GAP include the attentive selection of inputs to be suitable to preserve the agricultural site properties such as soil type and nutrient levels, for instance, to minimize the chemical usage and nutrient runoff; to test water and soil to assess the level of contamination and quality; to minimize the risk of contamination of production sites and water resources; to use organic materials as much as possible; not to use untreated sewage water during production and post-harvest handling; and to use integrated pest management system. All of these have significant spill overs effects on environmental aspects.

The farmers, collectors and processors also increased awareness when handling chemicals for the production to have less negative impacts on their health through usage of protective kits, on the environment such as systematic disposal of the chemical containers and minimizing the leakages of chemicals into the air, water and soil.

7 SUSTAINABILITY

The project developed tools, methodologies, skills and anchored them with institutions to ensure sustainability.

Using the trained resources and cascading the knowledge:

- The final project workshop attended by 99 stakeholders served to share experiences and reach consensus between stakeholders for the sustainability of project results. All stakeholder organizations including private and public sector expressed and committed to sustain the results achieved; e.g. to further support the established value chain models; to use the technical capacity of ToTs and TcCs; to disseminate and use the project materials in the upcoming activities of their organizations.
- DoA DG confirmed in a letter his willingness to use the trained ToTs to conduct the training as the core trainers and the materials developed as reference materials for GAP implementation in the development plan of Mandalay regional government to expand the area of GAP implementation. The National GAP implementation area is in fact expected to increase in more regions beyond the project. Upon request by DoA, 2,000 copies of the GAP manual and record book and 400 copies of quality inputs booklet were provided to DoA to be used in their training as reference for upcoming growing season.
- MoC will monitor the overall distribution and the use of the project materials beyond the project such as the manuals and posters for the collectors.
- A total of 2,200 copies of Good Warehouse Practice Manual for Oilseeds Collectors and 100 sets of cartoon posters were made available to stakeholder organizations such as Oilseeds collectors of Yangon, Mandalay, Monywa, Magway Commodity Exchanges Centres; Municipal Departments of Yangon, Mandalay, Monywa, Magway; DoA and Myantrade. The Commodity Exchange Centres provided MoC with the list of collectors to whom they will provide the material.

- All training and other project materials (i.e. manual, booklets, poster) were made available for public use on the project facebook page, partner and donor websites.

Development and harmonization of national standards: On different occasions during the project, the oilseeds sector stakeholders raised the concern of the lack of national standards for oilseeds. STDF project and Myantrade advocated the Department of Research and Innovation (DRI) and encouraged the oilseeds associations and technical committee to develop National Standards for oilseeds products. As a result, Myanmar vegetable edible oil standard was approved in February 2019 and the Agro-based Product Technical Committee drafted standards for Myanmar Peanuts and Myanmar Sesame Seeds in 2018 which was submitted to the National Standards Council for public comments.

FDA certification and surveillance: As a result of raising awareness of food safety concerns in the sector, an increased number of oilseed processing companies applied for FDA certification: 2 oil mills in 2015, 7 oil mills in 2016, 28 oil mills in 2017, 50 oil mills in 2018 were certified. The awareness on aflatoxins' control in oilseeds was also increased; FDA conducted consecutive market surveys during 2016, 2017 and 2018 and conducted an awareness campaign.

Engagement of the private sector: The engagement of the private sector increased through their associations. The project collaborated with private sector associations such as the Oil Millers Association and Myanmar Oil Dealer Association to create strong linkages and provide support for their activities. The Oil Millers Association was newly established during the timeline of the project and the project supported it in conducting GAP training and coaching to two contract agreement farmers' groups in Magway and Sagaing. The Myanmar Oil Dealer Association extended their inputs' support to STDF farmers in Magway region in providing new variety of seeds brought from China. The association agreed to provide 11 baskets of a new variety of white sesame to be tested on 38 acres, owned by 80 farmers in Magway and Sagaing regions. Since 2017 the Oil Dealer association started conducting a yearly workshop on consumer awareness of the safety and quality of vegetable oils.

Establishment of interlinks across the value chains and with markets: The project created concrete linkages for two consecutive growing seasons between farmer groups, local buyers and ToTs who are DoA extension staffs of their respective townships. These value chains are expected to be sustainable beyond the project. Thus, DoA township level will keep in touch and follow up with the farmer groups and local collectors to become a facilitator and witness for further trading agreements between those actors after the project.

Extension of GAP implementation / certification: The project was also informed about the development plan of Mandalay regional government and Nyaung U District DoA, to expand the area of GAP implementation to more villages in their district (up to 100 acres). The ToTs of STDF project will be conducting the training as the core trainers and the materials developed by STDF project will be used as reference materials for GAP implementation in this project area. The National GAP implementation area is in fact expected to increase in more regions beyond the project.

The GAP project materials were harmonized with the national GAP protocol which is based on ASEAN GAP. The project team lobbied DoA to further use the GAP project materials during other extension officers regular farmer trainings. STDF project also promoted within the beneficiary farmers villages the National GAP scheme of DoA which was initiated in 2018 growing season as well as the use of Plant Protection Department (PPD) mobile application for the Pest Management.

Communication and visibility: Five project newsletters and web highlights were issued and circulated to project stakeholders. A project Facebook page was created (<https://www.facebook.com/itcoilseedsmyanmar/>) and updated frequently with news on project activities and photos (up to now the page accounts more than 1,500 followers). The MoC website (www.Trade.gov.mm) under the section "NES – pulses and oilseed" is used as a database of project documents and reports in both English and Myanmar language. Information and documents were shared with STDF Secretariat for uploading on their project dedicated webpage

(<http://www.standardsfacility.org/PG-486>). A final video was developed with a local media producer and posted on youtube.

Market linkages: ITC is sponsoring a number of SMEs from Asia to participate in the CIIE Exhibition to be held in Shanghai in October 2019. Four beneficiary companies were selected for the cost sharing program to participate as Exhibitors. Amay Htwar Company, Golden Taste Company, Shwe Thazin Group (Sein Than Agro Company) and New Golden Gate Company were selected. The ITC team will assist for preparation for the Exhibition by means of materials' development, custom clearance procedures for sample products, online trainings and inputs on how to prepare and conduct B2B meetings as well information about the Chinese market and buyers requirements. The ITC will cover the accommodation cost for one participant and one shared booth for two companies.

Further capacity building to oilseed sector and food safety: ITC will build on the results achieved by sustaining and supporting new development opportunities in the oilseed sector and consolidating a large pool of experts in food safety across the country in different regions. This is done through projects implemented by ITC that will be the framework for building on the good results of the STDF project as follows: 1. Oilseed is being promoted as a pre-selected priority sector for the newly approved EU-funded ARISE plus project; 2. ITC Trade and Investment Project (TIP) funded by the United Kingdom Department for International Development (DFID) contributes to the capacity building of food safety experts within institutions; 3. The Netherlands Trust Fund Project (NTF IV) further builds on pool of experts on food safety in the tourism sector.

8 FINANCIAL OVERVIEW

	STDF (USD)
Total project budget (US\$)	825,071
Total amount received (US\$)	825,071
Total expenditure (US\$)	824,404 ²
Unspent funds (US\$) from total budget	667 ³

MoC and DoA contributed approximately 10% of the total budget with in-kind contribution of professional staff time and admin staff time (e.g. support staff, director, DG, ToT), and for use of premises and meeting rooms. Further MoC contributed financially to cover a share of expenses of interpretation from English into Myanmar language during training courses.

Due to the impossibility to make international transfers to bank accounts in Myanmar to small service providers and national consultants, the project required extensive usage of the service of UNDP Myanmar for procurement and processing of payments.

9 LESSONS LEARNED

Project Office Location and Human Resources:

Having located the project office in Mandalay, a strategic position to easily reach the beneficiary farmers, collectors and processors in the target regions, enabled the project team to conduct regular follow up visits and frequently monitor the effectiveness of implementation, and increased the chances of coordination and discussion meetings with township DoA field officers.

It is recommended to have a regional project technical representation to follow up and support the overall delivery of activities. This is to be considered in the planning and costing of activities when there is a large coverage of regions considering the difficulty to hire the competent staff based in project target areas and most of competent technical people are based in Yangon and not very willing to be relocated without accommodation allowance.

² The Figures reported are still Interim ones. They are subject to final variation and adjustments pending settlement of latest payments

³ The Figures reported are still Interim ones. They are subject to final variation and adjustments pending settlement of latest payments

Capacity building of local resources:

The Training of Trainers (ToTs) for DoA extension officers and TcCs approach was very much appreciated by the partner institutions and private sector stakeholder as a very effective mean of support for implementation.

At the farmers level, some challenges were encountered to maintain and progressively build the capacity of the pool of ToTs DoA extension officers. Throughout the project implementation there was quite a turnover of resource persons due to their new office duties (i.e. relocation to other townships). All ToTs had several constraints to fully participate in the project although some of them were extremely engaged in the process. The National Consultant on GAP, a DoA staff member who was released from her duties for approx. 8 days per month, was a key resource in coordinating and assisting the group of trainers, refreshing the training inputs provided by the IC, training the new resources and liaising with the regional DoA departments.

The small allowance for local ToTs and TcCs provided to the ToT proved to be a good incentive for regularly conducting follow up coaching activities in between the missions of international consultants. This allowance should however be higher to cover travel expenses.

Overall, the ToTs managed to develop close relationships with the assigned farmers groups and operate as a bridge between these and the local authorities, so as farmers could discuss and be supported effectively to work on the challenges faced.

At the processors' level, the challenges experienced by the TcCs in supporting HACCP implementation emerged from the low participation of management figures, especially in the big companies, during their visits, and consequent workers' demotivation to cooperate. During the project implementation, it was found that TcCs needed more effective assistance in between IC missions to have feedback on the activities conducted and solve possible doubts. The language barrier was particularly high, especially for the TcCs in the regions, and this factor discouraged a direct communication with the IC. Therefore, the support of a junior international Individual Contractor, based in the field, was important to operate as a bridge between TcCs and IC and follow up on their activities. This enabled the TcCs to gain more confidence, improve their language skills for communication and speed up for the completion of HACCP documents.

Value Chain approach and contract farming:

Myanmar agricultural sector does not yet have a defined framework for contract farming; therefore, the local buyers were generally not very keen in investing in contract farming along the value chain. This was based also on past experiences of investment losses due to unexpected weather, decrease of yield, failure to keep the commitment by the farmers, the high local price variation before the contract and the time of harvesting, etc. However, thanks to the project intervention at all level of the value chain and facilitation of linkages among beneficiary actors, some processors and collectors initiated to build and sustain some contract agreements based on the recognition of the improved quality of the products (i.e. as demonstrated by MRLs test compliance) and farmers' reliability.

Other food safety issues like aflatoxins in peanuts, could be better controlled if the processors/exporters would buy directly from farmers, as demonstrated by the test results that shown farmers samples in compliance with EU limits compared to higher value of collectors and processors' samples. The processors are mostly keen to buy from Commodity Exchanger or Brokers due to the fact that the demanded quantity, small or large, can be easily collected from middlemen as per the company's decision based on the daily price which varies. Therefore, the project provided capacity building and small equipment for quality control to the Commodity Exchange Center; but this support and change of practices need to be further sustained along with a regulatory framework in place to enforce controls and quality compliance.

10 RECOMMENDATIONS AND FOLLOW-UP ACTIONS

The recommendations identified and based on panel discussions during the final project workshop held on 16 February 2019 were discussed at the high-level stakeholders meeting on 17 February 2019 and the forward action plan was developed together with all stakeholders.

For the policy and regulatory level, the high-level committee and project team recommended:

- To identify specific interventions for the oilseeds sector including the update of Quality Management across sectors, separated from pulses and beans, in the new Plan of Action of National Export Strategy;
- To adopt a master plan for development of oilseeds industry (market access) policy for the promotion of local production, import substitution, and improvement of food safety;
- To advance the existing policy development activities for the new National food law (adoption and enforcement by FDA), the National food safety policy (adoption and enforcement) – demarcation defined by FDA, and the Laboratory law (development, adoption, enforcement) – supervising committee (non-clinical lab) by FDA;
- To advance the existing policy development activities for adoption and implementation of the National Quality Policy (NQP) by the Department of Research and Innovation (DRI); Standards development for peanuts (especially for Commodity Exchange Centre trading) and vegetable edible oil by DRI; Review law of standardization by DRI; To set up voluntary product certification scheme (for oilseeds);
- To implement National Residue Monitoring Plan (i.e. aflatoxin and pesticide residues, heavy metals) in oilseeds sector; To develop regulations under food law for contaminants – and enforcement (Develop MRLs setting experience, Harmonization with ASEAN MRLs);
- To expand the oil labelling requirements in the labelling law adopted by Department of Consumer Affairs (DoCA); Declaration for ingredients – labelling requirements enforcement;

For the institutional level, the project team and high-level committee recommended:

- To strengthen the local food laboratories' network, to demarcate the roles and responsibilities for the National Residue Monitoring Plan and to develop Sector labs network Accreditation scheme;
- For the food labs, to support for accreditation and extension of scope (Aflatoxins, pesticide residues and heavy metals);
- To use and expand STDF GAP training, to commit for the usage of ToTs and TcCs in future trainings;
- Regarding to FDA GMP license (mandatory only for water processing facilities), to support capacity building for inspectors (international) and to expand the enforcement of FDA GMP Certification;
- For the enforcement of control (food safety) at collector level (warehouses), to use and disseminate STDF collector manual and expand STDF HACCP training with the support of trained TcCs;
- To implement a coordination mechanism to monitor and address specific SPS issues (task force); Enforcement of control of hazards (e.g. Aflatoxin) and Phytosanitary certificate for export (mandatory for peanut for some importing country);

For the private sector stakeholders, the project team and high-level committee recommended:

- Sustainability of results achieved by STDF project beneficiaries;
- Reach out to other regions/ farmers and enterprises;
- Farmer Field + Business School approach;
- Usage and expansion of STDF HACCP training and ToTs-TcCs

The follow up activities after the final showcase workshop in February 2019 were:

- MyanTrade considered to include STDF beneficiary farmers as beneficiary of the loan from ADB project (2019-20) for provision of test kits;
- Members of the Sector Implementation Committee of Pulses, Beans and Oilseeds Sector of NES considered at their meeting on 12 March at the Union of Myanmar Federation of Chambers of Commerce and Industry to propose the separation of pulses, bean sector and sesame sector in NES for the next phase of NES.
- Deputy Director General of DoA sent a commitment letter to the project for the usage of trained ToTs and materials developed by the project in the future training of DoA.
- The project anchored the training materials developed in the course of the project with key institutions and requested them to distribute them to different stakeholders such as: the GAP manual, the sources of quality input, the ToTs profile through to the farmers, DoA; collector manuals and posters through Commodity Exchange Centres and Municipal departments to collectors; HACCP TCCs profiles to FDA, Professional associations, Processors associations; SME profiles to International buyers through MoC; Market Guides to Processors through Myan Trade. MoC was requested to monitor that deliverables will reach the targeted beneficiaries.

11 ANNEXES

- Logical framework: Goal/Output and Activities summary narrative (Annex 1)
- Financial report (Annex 2)
- Contact list (Annex 3)
- List of other documents (Annex 4)

Annex 1 - Logical framework: Goal/Output and Activities summary narrative

Goal/Outcome	Measurable indicators of achievement / Targets*	Impact Narrative	Sources/ Means of verification	Evidences/Challenges
<p>GOAL: Increased export revenues of farmers, processors and exporters along the oilseeds value chain in Myanmar</p>	<p>20% increase in real average annual income of farmers producing oilseed in compliance with SPS measures within 5 years</p> <p>20% increase in real average annual export sales by processors/exporters in the oilseeds sector applying pre-requisites programmes and HACCP within 5 years</p>	<p>According to the data collected over the 2 years (2017-2018) implementation of the GAP training program, samples beneficiary farmers have increased oilseeds crops revenues of respectively 8,5% for sesame and 33% for groundnuts. Groundnuts farmers profits have increased of 5%, meanwhile sesame farmers profits have decreased of 44% due to higher production, inputs and financial costs and yields decrease.</p> <p>Since the timeframe considered is 5 years, the GAP implementing farmers will need to be further monitored and data collected to assess their income's variation as a result of oilseeds crops compliance with SPS measures.</p> <p>According to the data provided by the project beneficiary oilseeds companies through the final project survey, the trend of beneficiary processors' export and domestic sales is heterogeneous over 2017-2018.</p> <p>In particular:</p> <ul style="list-style-type: none"> -1 processor/exporter HACCP certified by the end of 2017 has increased exports sales of 446% in 2018; -1 processor/exporter HACCP certified at the end of 2018 has increased export sales of 17% in 2018; -1 oil miller HACCP certified in January 2019 has increased domestic sales of peanuts oil of 168% in 2018, justified partly by the opening of a new processing facility in the same year partly from the oil miller effort to promote his quality products in the local market. <p>Since the timeframe considered is 5 years, the HACCP implementing processors will need to be further monitored and data collected to assess export and domestic sales variation as a result of oilseeds product compliance with SPS measures.</p>	<p>National researches, reports and statistics on the sector (MoC, DoA)</p> <p>Project baseline survey and final survey</p>	<p>Evidences:</p> <p>Political and social situation have been stable in target region along the project term</p> <p>Yields and production/inputs costs vary according to the growing seasons</p> <p>Unstable weather and market price fluctuations</p> <p>Challenges:</p> <p>Beneficiaries along the value chain lack sustainable support to reap the benefits from project capacity building and sustain progresses and market linkages identified</p> <p>Oilseeds production (yields) and market price of some project area affected from unfavorable climate events in 2018. (production decreased and price raised)</p> <p>*In October 2018, the government changed the financial year. Production and export sales data cover the period April 2015- March 2018. In addition, MoC provided export sales data also for the timeframe April -September 2018.</p>

		Countrywide, within 2015-2018*, groundnuts production increased of 4% and export sales of 18% and sesame production decreased of 12% however export sales have increased of 13%.							
OUTCOME: Improved compliance with SPS measures, food safety international requirements for market access in the oilseeds sector	<p>Proportion of trained farmers who increase in GAP application and comply with SPS measures (70%); and are ready for GAP certification (50%)</p> <p>Number of phytosanitary certificates issued for export purposes (target number to be estimated according to baseline data)</p> <p>20 storage facilities/collectors apply GHP requirements</p> <p>10 processors/exporters are ready for HACCP certification</p> <p>5-10 experts (Trainers-cum-Counsellors/Extension Officers) able to advise on GAP, GHP, HACCP</p> <p>At least 50% of tested samples in compliance with MRL, mycotoxin and contamination measures (ASEAN standards)</p>	<p>At least 481 farmers, 5 traders/collectors and 11 processors, among which 5 exporters, improved the compliance of sesame, groundnuts and sunflowers products with SPS measures and food safety international requirements for improved market access in the oilseeds sector following ITC in-depth food safety training program from November 2016 to December 2018.</p> <p>9 TcCs and 11 extension officers from DoA improved their knowledge and skills and are able to advise respectively processors and farmers on GHP/HACCP and GAP, following the in-depth food safety theoretical and practical hands on training and ToTs program activities.</p> <p>96% of the trained farmers are ready for GAP certification and among those, 31% have already obtained national GAP certification for sesame crops being supported by the project team throughout the process in 2018.</p> <p>5 collectors are applying GHP requirements to retain the quality of oilseeds products during storage having participated as beneficiaries of the hygiene training program.</p> <p>11 processors (5 exporters) strengthened their capacity to implement hygiene and food safety control systems having completed the HACCP training program.</p> <p>7 processors (3 exporters and 4 oilmillers) have obtained HACCP certification between December 2017 and February 2019, and the remaining 4 businesses are ready for HACCP certification.</p> <p>Countrywide, the number of FDA certified oil millers have increased from 2(in 2015) to 22(in 2018).</p> <p>The beneficiary exporters PS certificate applications have never been rejected within 2016-2018.</p> <p>The number of PS certificates issued by the Plant Protection Dep. for countrywide peanuts and sesame export are as follow:</p> <table border="1" data-bbox="630 1312 1182 1349"> <tr> <td></td> <td>2015</td> <td>2016</td> <td>2017</td> <td>2018</td> </tr> </table>		2015	2016	2017	2018	<p>National researches, reports and statistics on the sector (MoC, DoA)</p> <p>Project baseline survey and final survey</p> <p>National Consultant Reporting on GAP</p> <p>Trainers final assessment</p>	<p>Evidences:</p> <p>The current Myanmar oilseeds importers like Japan and China are more interested to provide more price on quality for Myanmar oilseeds product and provide an incentive for all sector actors to keep implementing the good practices and aim at voluntary certification.</p> <p>Myanmar sesame export sales (quantity and value) have increased linearly from 2016 to 2018*, meanwhile groundnuts exports increased to almost double from 2015 to 2017 (+85%), but declined of 36% up to March 2018.</p> <p>Exporters and their linked collectors demonstrated to be able to meet the demand of buyers (quantity, quality and price) and are responsive on buyers' solicitations</p> <p>Challenges:</p> <p>Limited willingness and capacity of project beneficiaries to actively participate in the project activities and sustain the knowledge acquired and implementation of GAP, GHP and HACCP</p> <p>Limited access to finance of farmers and other operators along the sector value chain to access voluntary certification</p> <p>Business complementarities identified are not sustained with concrete actions by the companies and remain only declarations of intents</p> <p>Unwillingness to initiate the contract farming by exporters/processors as they are reluctant to loss their investment from the farmers due to unfavorable weather and unstable market price</p> <p>New markets like EU, could not be stimulated very much with Myanmar oilseeds product</p>
	2015	2016	2017	2018					

		<table border="1" data-bbox="632 248 1182 347"> <tr> <td>Peanuts</td> <td>4</td> <td>24</td> <td>171</td> <td>29</td> </tr> <tr> <td>Sesame</td> <td>470</td> <td>615</td> <td>615</td> <td>787</td> </tr> <tr> <td>Total</td> <td>474</td> <td>639</td> <td>786</td> <td>816</td> </tr> </table> <p data-bbox="632 399 1205 516">100% of tested samples from project beneficiaries are in compliance with EU and other importing countries MRLs standards due to improved GAP for oilseeds. 50% samples' peanuts resulted in compliance with mycotoxin (ASEAN standards).</p>	Peanuts	4	24	171	29	Sesame	470	615	615	787	Total	474	639	786	816		<p data-bbox="1425 248 1969 443">The mycotoxin residue in Myanmar oilseeds products raises mostly during post-harvest stage through Commodity Exchange Centers and the warehouse facilities of their members are subject to lower control systems. This kind of risk can be reduced by direct contract farming from farmer to processors. The National Taskforce on Aflatoxin is another mean to address this challenge.</p>
Peanuts	4	24	171	29															
Sesame	470	615	615	787															
Total	474	639	786	816															
<p data-bbox="191 800 359 846">Expected result/ Output 1</p> <p data-bbox="191 873 359 1114">Strengthened capacity to improve compliance with good agricultural practices (GAP) and SPS measures¹ by farmers</p>	<p data-bbox="380 548 606 688">At least 200 farmers trained and coached on GAP practices to comply with SPS measures and monitoring</p> <p data-bbox="380 716 606 956">At least 300 farmers improved their awareness and understanding on the importance of implementing GAP to comply with SPS measures to increase their yields and revenue</p> <p data-bbox="380 984 606 1149">3 to 5 professionals from sector associations and local institutions, agricultural extension officers able to train farmers on GAP</p> <p data-bbox="380 1177 606 1247">5 inspectors improved their knowledge on GAP</p> <p data-bbox="380 1274 606 1364">Training materials, code of practice on their usage developed and made available</p>	<p data-bbox="632 605 1226 748">More than 500 farmers in the three target regions improved their awareness and understanding on the importance of implementing GAP and practices to comply with SPS measures following the ITC GAP training program and being regularly assisted and monitored by the project team from January 2017 to December 2018.</p> <p data-bbox="632 800 1226 943">11 extension officers from DoA improved their knowledge and skills and are able to advise farmers on GAP to meet SPS requirements, including harvest and post-harvest practices, pest management and chemicals usage, following ToTs training program activities from January 2017 to December 2018.</p> <p data-bbox="632 971 1226 1016">More than 10 inspectors improved their knowledge on GAP following ITC-supported training activities.</p> <p data-bbox="632 1044 1226 1308">GAP manual for oilseeds, farmer record book and cartoon posters developed as reference training materials and code of practices, in accordance with DoA guidelines and GAP protocol. Protective kits for pesticides' spraying, soil test kits and AV test kits provided. The quality inputs booklet developed as reference informational database on quality seeds, registered inputs suppliers and chemicals. Training materials and booklet made available on the project FB page, MoC website and STDF website.</p>		<p data-bbox="1425 548 1549 568">Evidences:</p> <p data-bbox="1425 596 1818 615">Competent national experts identified;</p> <p data-bbox="1425 643 1955 737">Trained experts deployed systematically to provide advisory services, have easy access to visit and the necessary tools and knowledge to reach-out the farmers;</p> <p data-bbox="1425 764 1940 810">Interpretation services provided and/or workshops delivered in Myanmar language;</p> <p data-bbox="1425 837 1961 883">Workshops conducted in locations which allowed the maximum number of farmers to participate.</p> <p data-bbox="1425 911 1940 980">Training program adjusted as far as possible to accommodate farmers need and enable the maximum attendance during the growing seasons.</p> <p data-bbox="1425 1008 1560 1027">Challenges:</p> <p data-bbox="1425 1055 1940 1101">Farmers in the sector were not used to be formally organized in groups;</p> <p data-bbox="1425 1128 1955 1174">ToTs DoA staffs drop out of the project due to other office duties or relocation to other regions.</p>															

<p>Output 2: Increased capacity for quality segregation of seeds and good hygiene practices (GHP) at storage facilities</p>	<p>10 to 20 quality control inspectors at storage facilities trained and coached on grading and segregating, and implementing GHP</p> <p>Training material and code of practices developed and made available</p>	<p>5 collectors have increased the capacity to apply GHP requirements to retain the quality of oilseeds products at storage facilities, having participated as beneficiaries of the hygiene training program and further ITC-supported activities from 2016 to 2019.</p> <p>95 among storage facilities owners, staffs and brokers trained and coached on grading, segregating, and implementing GHP following the hygiene training program activities conducted in December 2016.</p> <p>Quality and Food Safety Manual for oilseeds storage developed as reference training material and shared with individual collectors, Regional Commodity Exchange Centers and the other institutional actors responsible for control at the collectors' level. Manual available on project related web pages 48 pieces of 8 different quality control equipment distributed to the collectors and CECs.</p>	<p>Baseline and final survey</p> <p>Beneficiary collectors' testimonials</p>	<p>Challenges:</p> <p>Lack of systematic quality control procedures and coordination of the responsible institutional actors at storage level;</p> <p>Lack of collectors' incentives to participate in the training program and implement GHP.</p> <p>Lack of systematic training and follow up on GHP at the beneficiary collectors' warehouses due to unavailability of local trained resources to be assigned as focal point for collectors (like TcCs).</p>
<p>Output 3: Enhanced capacity to apply food safety control systems based on GHP, GMP, HACCP in oilseed processing</p>	<p>At least 150 representatives from inspectors, collectors, processors, traders, exporters, buyers, sector associations sensitized on SPS and food safety requirements for international trade</p> <p>10 processors improved their skills on the application of pre-requisites and HACCP principles in their daily work</p> <p>3 to 5 professionals from sector associations and local institutions recognized as food safety TcCs</p>	<p>More than 550 stakeholders (inspectors, collectors, processors, traders, exporters, buyers, sector associations, farmers, professionals) sensitized on SPS and food safety requirements.</p> <p>11 processors improved their skills and capacity on the application of pre-requisites and HACCP principles in their daily work. 7 processors obtained HACCP-based certification by several third-party certification bodies.</p> <p>11 professionals from sector associations and local institutions built their skills and knowledge as TcCs on HACCP</p> <p>8 inspectors of FDA sensitized and built their knowledge on HACCP and international food safety control system requirements</p>	<p>Workshops and trainings participants list</p> <p>Baseline and final survey</p> <p>TcCs visits reports</p> <p>3rd party certifications</p> <p>Processors and TcCs testimonials</p>	<p>Evidences:</p> <p>Strong commitment for practices improvement and promotion of food safety in the local market among the 3 oil millers in Mandalay;</p> <p>Spillover effects of HACCP certification pioneers in the regions as incentive for other companies in the sector to follow and hire the advisory services of TcCs.</p> <p>Challenges:</p> <p>Companies' workers lack of interest and unwillingness to change current practices.</p> <p>High turnover of temporary workers which needed to be repeatedly trained from the start to follow hygiene and HACCP principles.</p> <p>Lack of involvement and follow up with TcCs on HACCP implementation by few of the companies Managing Directors/Owners</p>

<p>Output 4: Increased linkages along the sector value chain and to export markets</p>	<p>At least 80% of trained and coached oilseeds exporters met new buyers/business partners</p> <p>At least 60% of Myanmar exporters of oilseeds trained and/or coached by the project received orders/letters of intent from buyers/business partners</p> <p>At least 50% of farmers established new contacts with processors/exporters</p>	<p>6 out of 11 trained and coached oilseed processors met new potential buyers and business partners through ITC supported networking activities in Myanmar and at the international level (World Export Development Forum 2017 in Hungary, business meetings in Netherlands during the mission to Europe, B2B meeting during Study Tour to Thailand in October 2018 and CIIE exhibition in October 2018 in China). 4 processors have been selected to participate in 2019 CIIE in China.</p> <p>3 exporters have received a letter of intent from an Italian oilseeds' importer for a quotation of sesame seeds supply in December 2016 and another letter of intent for sesame seeds supply has also been submitted by a Togo importer to all beneficiary exporters (5) in 2019.</p> <p>1 beneficiary processor has signed a contract for sesame seeds supply valued 80,000 \$ during the CIIE 2018 in China.</p> <p>More than 250 farmers have established new contacts with local buyers and exporters through various ITC supported meetings and training initiatives.</p> <p>4 successful interlinked value chains have been established between project beneficiary farmers, collectors and processors between 2017 and 2018 and are expected to be sustained beyond the project.</p> <p>As a result of the linkages established, 11 farmers (beneficiary group in Kula village, Kyaukse township, Mandalay region) have transacted with one project beneficiary exporter around 1600 baskets (two export containers) of a new variety of black sesame seeds (provided by DoA) and destined to Japan for a 3.7% higher price in 2017;</p> <p>35 farmers (20 project beneficiaries) in Magway region have contracted with one beneficiary collector linked to another beneficiary exporter for a supply of 2000 baskets of improved quality black sesame seeds (more than two export containers) paid 4% higher than local market price in 2017; this value chain was sustained and expanded to other 6 villages in 2018, where about 150 farmers sold 80 MT of sesame for a favorable 2% higher price to be exported</p>	<p>Final survey</p> <p>B2B meetings and joint activities reports</p>	<p>Challenges:</p> <p>Reluctancy of exporters to share information on B2B meetings and further communication (letters of intent, orders) from potential buyers met</p> <p>Eu and other international identified buyers had more stringent requirements to meet compared to the current exporters' destination markets like China and Japan.</p> <p>Trace the details (price, quantity, duration, number of farmers involved) of supply agreements transaction facilitated by ITC but finalized internally and ex-post between the involved beneficiaries.</p>
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		<p>to Japan through the beneficiary collector and linked exporter .</p> <p>2 farmer groups in Mandalay (16 project beneficiaries) initiated a contract farming agreement for seed production with a beneficiary processor in the region in 2017. The company contributed all inputs to the farmers, who provided their land and labor; the company collected back the production paying quality seeds higher price. This linkage was maintained for the following growing season in 2018 and is expected to be sustained also after the project.</p> <p>1 farmers group (45 farmers) in Sagaing region signed a contract agreement with a Korea sesame oil production and exporting company, selling 21 MT of white sesame seeds for 2% higher price in December 2018.</p>		
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Output / Activity	Indicator / Target:		Results
OUTPUT 1			
Activity 1.1: Collect baseline data on the farmers producing seeds, storage facilities and processors in Mandalay, Sagaing, and Magway regions who will benefit from the project	<p>At least 200 farmers who will directly benefit from project activities identified from the three regions</p> <p>20 storage facilities/collectors which will directly benefit from project activities identified</p> <p>10 processors which will directly benefit from the project identified</p> <p>Baseline data report describing the current production, storage and processing processes and controls systems and sources of hazards and contamination.</p> <p>Samples tests results from rapid tests on the ground and in</p>	100%	<ul style="list-style-type: none"> - Baseline data on Myanmar oilseeds sector have been collected over the period January-June 2016 through focus group meetings and individuals' interviews. 18 storage facilities/collectors; 18 processors and millers; 9 exporters; 26 processors; 349 farmers from 17 townships from 11 districts of 3 regions interviewed/contacted. - The baseline report has been shared with stakeholders at the validation workshop in June 2016 and the project beneficiaries have been identified based on confirmation of willingness to change practices: more than 300 farmers divided in 19 groups and 11 oilseed companies have been initially involved in the project activities. Out of the 13 collectors identified and recommended by the processors, only 6 have been willing to participate as project beneficiaries, along with three regional commodity exchange centres. - Tests done on soil samples for heavy metals and nutrients content at the DOA laboratory. - A preliminary assessment of cost-benefits of implementing GAP, GHP, HACCP was conducted in 2017 based on interviews with 32- farmers, 4-collectors and 4-processors in Yangon, Mandalay and Magway regions. The tool has been further used to collect a new round of financial data from a sample of 52 beneficiary farmers, 5 collectors and 11 processors at the beginning of 2019. Since some of the companies, especially among exporters, have been reluctant to share some financial information, the tool has been revised and shared with the manual of instruction to be used as an internal management tool for the discretion of each company.

	accredited laboratories, and needs to be addressed for SPS compliance		
Activity 1.2: Conduct inception workshops for farmers in the target regions of Mandalay, Sagaing, and Magway, in partnership with local authorities and sector associations	<p>One inception workshop on GAP, SPS compliance in oilseed sector conducted in each of the target regions</p> <p>At least 300 farmers from the three regions participated in the workshops</p> <p>At least 10 extension officers and inspectors participated in the workshops</p>	100%	<ul style="list-style-type: none"> - 4 (instead of 3) one-day inception workshops conducted in Mandalay (1), Sagaing (2), Magway (2) on GAP, SPS compliance in oilseed sector in January 2017; - Nearly 500 stakeholders including 330 farmers from the regions, 9 collectors, 14 processors/exporters, government departments, NGOs (99 women) participated in the workshops. - The 20 extension officers from DoA, NGOs and lead farmers previously trained in 5-days ToT training participated in the inception workshops in their respective region. <p>Additional activities funded by other projects where STDF project was presented and farmers sensitised on SPS:</p> <ul style="list-style-type: none"> • 86 participants (24 women), attended the workshop on Sharing of Agricultural Experiences and Capacity Development for Farmers, Network Activities Group, 27 May '16 • 107 (55 women), attended Awareness Seminar on Oilseeds Production and Quality Control in Aung Myay Gone Village, Magway Region, 28 May 2016 (MoC)
Activity 1.3: Conduct ToT and expert capacity building training programme to build the technical and outreach capacities of sector associations and/or advisors to provide advice to farmers in the area of GAP, compliance with SPS measures	<p>10 experts, advisors or representatives from sector associations, extension officers identified and trained</p>	100%	<ul style="list-style-type: none"> - 20 extension officers (11 women – 55%) from 3 regions from DoA, NGOs and lead farmers identified by DoA trained on GAP, other SPS measures and adult learning technique through 5-day training (4-day classroom and 1-day field visit) in January 2017; - 29 extension officers (13 women -45 %) trained through a 2-day ToT on GAP, compliance with SPS and TOT facilitation skills with farmers on 24-25 April 2017; - 4 extension officers selected as core trainers accompanied the IC, NPM, NC during the fourth agriculture training inputs and jointly conducted 4-sets of 2-days training and 5-sets of 1-day training in 10-villages and 2-township DoA offices (27 Jan-10 Feb 2018). - Regular coaching of ToTs conducted off site and through field farmer visits by the NC on GAP for 8 working days/month. - By the end of the project, after several trained extension officers dropped out due to raised incompatibilities to perform simultaneously their ToTs tasks and office duties, a pool of 11 experienced ToTs able to advice on GAP has been established for sustainability.
Activity 1.4 : Organize practical training on GAP implementation and monitoring, compliance with SPS measures for farmers and sector associations in the target regions of Mandalay, Sagaing, and Magway	<p>At least two training programmes of five days organized in each of the three target regions</p> <p>At least 200 farmers from the three regions participated in the training</p> <p>At least 10 extension officers and inspectors participate in the training</p>	100%	<ul style="list-style-type: none"> - 510 participants (116 women - 22%) including 402 of farmers and others (facilitators, ToTs, DoA staffs, MoC staffs and collectors) trained at 8 places in Mandalay, Sagain and Magway regions (through 8 sets of 2-days training for pre-harvest GAP implementation for 22-farmer groups, from 26 April to 11 May 2017) - 200 farmers (including 60 project farmers from 3 villages) attended the demonstration trial of BCS machines (sesame reaper binder) in Pwintphyu Township; - 268 participants (44 women – 22%) including 254 participating farmers were trained on post-harvest practices and how to use the chemical properly, in nutrition and pest control (25 July-8 August 2017); - 426 participants (92 women - 22%) including 356 farmers and others (facilitators, ToTs, DoA staffs) were trained at 9 places in Mandalay, Sagaing and Magway regions (revision of GAP practices and application procedure for Myanmar GAP) (27 Jan-10Feb 2018).

Activity 1.5: Trained experts coach farmers to monitor the adoption of GAP practices, compliance with SPS measures and support GAP certification	At least 80% of the farmers benefiting from the project received advisory services from the trained experts	100%	<ul style="list-style-type: none"> - Plan of coaching activities by trained extension officers agreed with the farmers' groups, started in February 2017 and conducted regularly (focus on usage of pesticides) under the supervision and assistance of NC; - 125 follow up visits from 2017 to 2018 December conducted by National Consultant and National Project Manager to the farmers groups; - 130 follow up visits to the farmers conducted by ToTs from 2017 February to 2018 December.
Activity 1.6: Identify sources of certified quality seeds, pesticides and fertilizers	<p>Database of regional oilseeds research institutes and suppliers made available to DoA-Seed Division, farmers and processors</p> <p>At least 20% of farmers accessing certified quality seeds, pesticides and fertilizers</p>	100%	<ul style="list-style-type: none"> - Preliminary list compiled with information collected from different stakeholders and sources; draft shared with stakeholders at the validation workshop in June 2016. Sharing of content with DoA for various departments to provide inputs and validate content included. PPD shared the information on pest and chemicals and committed to share also the information regarding seeds and fertilizers. DoA Seeds, Land Use, Plant Protection departments shared other data for the quality input booklet. After meeting with several DoA Divisions and the International Consultant on 2018 January, the project collected the final related information on quality seeds and finalized the booklet for distribution. - 20% of the beneficiary's farmers could access and buy the quality seeds from DoA, after the project intervened to mobilize DoA to provide certified seeds for the beneficiary farmers; - The project facilitated MEODA donation of a new variety white sesame seeds to 80 beneficiary farmers in 2018 rainy season.
OUTPUT 2			
Activity 2.1 Conduct customized coaching and training sessions combining both theoretical and practical knowledge at storage facilities, on good storage practices and good hygiene practices	<p>Coaching and training sessions conducted at 10 to 20 storage facilities</p> <p>10 to 20 quality control inspectors at storage facilities benefited from training and coaching sessions</p>	100%	<ul style="list-style-type: none"> - 2 one-day theoretical workshops for storage facilities, warehouses owners/representatives and collectors on Codex based hygiene principles conducted in Mandalay and Magway in December 2016 (59 participants of which 29 collectors and 26 women -44%); - Half-day collective hands on training on hygiene and simple incoming material tests were conducted at 3 storage facilities for 90 participants (66 collectors) – 25 women 27% in December 2016; the current status of warehouses and dos and don'ts discussed; - Coaching at storage facilities conducted to follow up on hygiene, record keeping, traceability, and sampling and testing, quality control for product requirements: 8 June 2017 at Myint Myat Taw Win Warehouse (5 participants); 10 June 2017 at La Pyae Wun; at La Thar; at Lwin Phyco collector warehouses (6 participants); - 37 collectors sensitised on food safety in international trade, why compliance is required, and challenges, problems, solutions for collectors (4 June 2017 at Mandalay Commodity Exchange Centre for 20 brokers) (7 June 2017 at Monywa Commodity Exchange Centre for 17 brokers and 7 MoC staffs) - 35 executive people from relevant departments, associations, collector associations, beneficiary collectors (15 women – 43%) sensitised and gave inputs for the development of collector Manual (1.5-day Round Table meeting at Nay Pyi Taw on 12-13 June 2017). - 16 technical people (7 women – 43%) from relevant departments have met at 1st expert group meeting for development of collector manual on 24 November 2017. The meeting assigned the local experts to draft the chapters of collector manual to be in-line with the structure developed by IC based on the 1st Round Table results. - 8-local experts have contributed to the chapters relevant to their expertise. - The first draft Myanmar version of the manual was disseminated at 4- stakeholders workshops for collecting comments at Commodity Exchange Centres at Yangon on 27 April with 67(15

			<p>females) participants collectors; Mandalay on 30 April with 80(18 females) ; Monywa on 1 May with 42(8 females); Magway on 2 May with 40 (8-female).</p> <ul style="list-style-type: none"> - After the 2nd Round Table and expert group meeting held on August 2018, the draft was reviewed and rewrote by the International Consultant on Food Safety and the cartoon posters were also developed. - The Manual on Good Warehouse Practices for Oilseeds Collectors was launched on 25 January 2019 at Mandalay Commodity Exchange Centre. 172(40-female) participants including the representatives from Yangon, Mandalay, Sagaing, Magway Commodity Exchange Cetres, Municipal department, MoC, FDA, DoA. - 2200 copies of collector manual and 100 sets of cartoon posters were distributed to stakeholder organizations. -
Activity 2.2 Provide equipment, necessary tools and materials (i.e. moisture meter, probes/samplers, drums) and train quality control inspectors on the use of the tools	<p>Training material and guidelines on GHP available</p> <p>Equipment properly used at storage facilities</p>	100%	<ul style="list-style-type: none"> - One local inspector trained as National Consultant for baseline regarding GHP facilitated the collection of inspection guidelines for storage facilities in compliance with EU guidelines. - In the collector manual, the inspection guidelines for sampling, testing and fumigation have been compiled as reference quality control procedures. - Procurement of equipment was based on compiled list and quotations from suppliers: preliminary list collected during the half-day training at three collectors, and reviewed at the RT workshop on collector manual in June 2017. Ad-hoc group established to finalise purchasing of the equipment and material. Ad-hoc group (11-participants with 7-womne) met in Yangon on 7-September 2017 and discussed the list of equipment to be provided to collectors and type of sample testing to be done on stakeholders' products. - Distributed 8- sets (total 48 items) of equipment to 5 collectors' warehouse facilities and 4-commodity exchange centres during the collectors' manual launching event on 25 January 2019. The user training program was also conducted during the distribution event. -
OUTPUT 3			
3.1 Organise 3 workshops on SPS and food safety in international trade for inspectors, processors, traders, exporters, buyers, sector associations	At least 150 representatives from inspectors, processors, traders, exporters, buyers, sector associations participated in the workshops	100%	<ul style="list-style-type: none"> - 2 one-day Awareness Workshops on SPS measures, Hygiene Practices and Food Safety conducted: Yangon, 21 Nov for 53 participants (26 women -49%); Mandalay, 29 Nov for 51 participants (26 women – 50%) from the 3 regions (Mandalay, Sagaing, Magway) from MoC, DoA, FDA, DRI, Pulses, Beans and Sesame Seeds Merchant association, oil miller association, food processor association, Sector Ambassadors, Exporting companies, representative from buyer companies, processors, collectors, testing laboratories, inspection bodies, retail chain, etc. - Additional project-related activities conducted by partners where STDF project participation helped to sensitise about the project and food safety requirements: - 84 Traders, brokers, millers and farmers (6 women), workshop on Development of Edible oil and Oilseeds, 9 December 2015 (MoC, Mandalay) - 61 stakeholders (farmers, processors, millers and Government Departments) (9 women), workshop at Trade-Fair on Rural Product Promotion on 25-27 February 2016, Mandalay (MoC, Mandalay) - 80 participants (37 women), workshop "Enhancing productivity and market shares" (Winrock International - USAID), 30 March 2016

<p>3.2 Coach selected processors to implement food safety systems based on HACCP Codex</p>	<p>10 processors coached on how to apply HACCP principles</p>	<p>100%</p>	<ul style="list-style-type: none"> - Coached selected 11 processors and conducted gap assessment visits to each - 5 training workshops conducted⁴ - same set of training programme conducted in Yangon for the companies and TcCs in Yangon and in Mandalay for Mandalay, Sagaing and Magway regions as follow: - 2 Two-day Training Workshop on "Hygiene Practices and Food Safety System according to Codex HACCP in Oilseed Value Chain", 22-23 November 2016 in Yangon, for 34 participants (17 women); in Mandalay on 30 November and 1 December 2016, for 34 participants (20 women) - 2 one-day workshop on Documentation on Hygiene, Yangon 26 November 2016, for 20 (9 women) beneficiary processors and TcCs and Mandalay for 21 beneficiary processors and TcCs (12 women) - 2 3-days workshops on Implementation of HACCP as per Codex in Yangon on 25-27 May 2017 for 40 participants (25 women) and in Mandalay on 31 May-2 June 2017 for 39 participants (21 women). Participants included company representatives, TcCs, FDA, MoC and other stakeholders. - 11 one-day visits conducted for the companies to follow up on the Gap closure, SOPs & PRPs documentation in June 2017. - - 2 three-days internal audit trainings and 2 two days document Clinique trainings conducted from 28-30 September 2017 at MoC, Yangon for 33 participants (14 women- 42%) and 1-2 October 2017 for 16 participants (8 women - 50%); on 8-10 November 2017 at MoC, Mandalay for 27 participants (18 women - 66%) and 11-12 November 2017 for 24 participants (15 women - 62%) - 11 one-day visits conducted for the companies to demonstrate internal verification audit in October and November 2017. - The TcCs conducted approx. 1-2 visits per month to support HACCP implementation at the processors' facilities from January 2017 to January 2018. - 7 beneficiary companies obtained HACCP-based certification by several third-party certification bodies (1 by Bureau Veritas, 3 by Control Union, 1 by Global Group Certification, 2 by Guardian Independent Certification); and the other 4 have finalized the HACCP document system and first internal audit. The project provided partial support of certification fees for 1st year to the 3- oilmillers in Mandalay. -
<p>3.3 Provide selected professionals from sector associations and local institutions responsible for SPS with in-depth training to become Trainers-cum-Counsellors (TcCs) on food safety along the value chain</p>	<p>10 professionals from sector associations and local institutions responsible for SPS benefited from theoretical and hands-on training on food safety</p> <p>3 to 5 professionals from sector associations and local institutions responsible for SPS assisted</p>	<p>100%</p>	<ul style="list-style-type: none"> - 11 professionals (TcCs) from sector associations, MOC, and individual consultants improved their knowledge on Hygiene and Food safety and started professional coaching on HACCP (gap assessment), documentation, training skills. TcCs attended all activities under 3.2 plus one-day Workshop on training skills conducted for 10 TcCs (Yangon, 13 December 2016); - 2 one-day TcCs meetings conducted for reviewing the assigned tasks and milestones on 17 May 2017 in Yangon and 28 May 2017 in Mandalay; - 1 TcC Wrap-up workshop in Yangon on 14 June 2017; - About 10 meetings with the Individual Contractor and a series of follow up call with the IC on Food Safety and ITC organised to monitor progress and complete HACCP documentation.

⁴ Same companies and TcCs attended also the one-day awareness workshop (Activity 3.1)

	companies to implement food safety systems under ITC guidance		<ul style="list-style-type: none"> - Participation in the internal audit training, document Clinique and mock audit together with assigned companies, plus 2 TcCs Wrap-up meetings on 11-12 October 2017 and on 23 November 2017 for coaching to the companies. 6-TcCs participated in internal audits in assigned factories. - 4 TcCs conducted pre-audit visits and consultation to 3 beneficiary oilmillers in Mandalay during the certification process and participated in external audits as HACCP team members. - 6 TcCs have participated to the capacity building and exchange program with TcCs from ITC tourism project in Kayah on 4-6 August 2018; - 1-day Food Safety Sensitisation Workshop and experience sharing was organized as part of the TcCs capacity building activities in Mandalay Technological University on 9-August. 140 (99 women- 70%) participants from MoC, DoA, FDA, Fisheries, Associations and Academicians have attended. - 10 TcCs took the final examination and HACCP skills assessment on 11 August 2018 at MoC in Mandalay.
OUTPUT 4			
4.1 Organise kick off project workshop	<p>Roles and responsibilities of partners confirmed; synergies with other programs established.</p> <p>Platform/website for sharing information/material generated by the project identified. Roles and modality for populating it agreed</p>	100%	<ul style="list-style-type: none"> - A project launching ceremony was held in Nay Pyi Taw on 19 October 2015 by MoC and ITC with the participation of 83 stakeholders (31 women -37%). - Kick off Workshop conducted on 19-20 October 2015 with 58 participants, including 27 women (47.5%). Positive feedback from the stakeholders. - Project FB page created and MoC agreement received to dedicate a page on the official website to upload project documents throughout the implementation timeframe. -
4.2 Identify buyers in 2-3 key selected import markets (to be identified through ITC partners and projects in the Asian region and beyond incl. ITC inclusive tourism project in Myanmar)	List of 10 to 20 potential buyers with a description of their priority food safety and SPS requirements	100%	<ul style="list-style-type: none"> - Market survey conducted within January and June 2016 and identified potential markets and buyers with their requirements. List of 18 possible interested buyers available. - Others potential buyers identified through B2B at WEDF Hungary and in the Netherlands, the Thailand Study Tour and CIIE 2018 in China.
4.3 Reinforce linkages along the sector value chain, between farmers and processors/exporters and tourism sector stakeholders (hotels, airlines)	At least 50% of farmers established new contacts with processors/exporters	100%	<ul style="list-style-type: none"> - 12 pilot value chains from exporters to farmers identified and 15 farmers introduced to new processors / exporters at the validation workshop; - The establishment of 8 value chains during the project implementation stage in 2017 and 2018 season has been facilitated. 4 value chains have been successful and are expected to be sustainable beyond the project; - More than 250 farmers established new contacts with processors/exporters in occasion of formal meetings and GAP training events: several farmers groups, lead farmers and individual farmers introduced to 3 collectors and 2 processors/exporters during GAP training between January and May 2017. The latter explained their demanded quantity, required quality and opportunity for incentive prices to encourage farmers to improve practices. - 3 farmers groups met with 9 exporters in occasion of the MoC-supported market linkages meeting in July 2018

<p>Activity 4.4: Organize study tours to Asian countries (e.g. India, ASEAN countries) for medium/larger scale farmers, processors/exporters to create awareness, learning from good practices and better understanding of markets and buyers' requirements in terms of food safety standards by stakeholders along the value chain – benefiting from synergies with other ITC projects in the region</p>	<p>Up to 80 farmers and processors/exporters participated in the study tours</p>	<p>29%</p>	<ul style="list-style-type: none"> - 9 stakeholders representing 5 beneficiary processors and 2 sector associations have participated to a broader trip to Europe (Netherlands and Hungary) in occasion of WEDF 2017 to study the international trade and processing market for oilseeds and meet with potential business partners and international buyer; - 14 stakeholders participated to the Thai Study Tour in October 2018. Because of the growing season in Thailand coincide with Myanmar, it has been difficult to organize a bigger group of farmers to travel within that period to observe the implementation of good practices.
<p>4.5: Organize a business networking event between trained and coached Myanmar processors/exporters of oilseeds and prospective buyers in target markets</p>	<p>At least one business networking event held</p> <p>At least 50 exporters participated in the business networking event</p>	<p>100%</p>	<ul style="list-style-type: none"> - One roundtable meeting organised for MoC and processors / exporters (14 participants) with one potential buyer from Italy in Yangon on 22 November and B2B meeting organised for 3 exporters on 25 November; samples collected by the company for lab analysis; - 5- Trained and coached exporters, processors and 2 sector associations have attended WEDF 2017 B2B meetings and business networking event in the Netherlands; - 1-trained and coached exporters and processors have attended Thailand Study Tour and related B2B meetings in 2018 October; - 1-trained and coached exporter have attended CIIE 2018 trade fair in China; - 4-trained and coached exporters will attend CIIE 2019 in China in October 2019; - 6-trained and coached exporters and processors have participated with a product showcase at final workshop on February 2019; - Booklet on beneficiary oilseeds companies' business profiles developed, reproduced (200 copies) and disseminated by MyanTrade in occasion of trade mission and events. SME booklet revised and distributed (approx. 100 copies) also at WEDF B2B meetings.
<p>4.6: Organise a dissemination workshop to showcase the changes ongoing to improve food safety and standards in the oilseeds sector in Myanmar, for Government officials, the Myanmar Trade Development Committee, the private sector, development</p>	<p>Improved perception of buyers on Myanmar food safety processes and practices in the oilseeds sector</p> <p>Government officials, the private sector, and development partners jointly identify possible follow-up actions to provide sustainable support to beneficiaries and effective control system along the oilseeds value chain</p>	<p>100%</p>	<ul style="list-style-type: none"> - Conducted 1-day showcase workshop and half day high level meeting in 16-17 February 2019 in Yangon. Senior officials from MoC, MoHS, MoALI and high-level representatives from private sector associations facilitated the workshop. Farmers, collectors, exporters, processors, buyers, ToTs, TcCs shared experiences to the 99 (43 women- 43%) participants from sector stakeholders and development partners. <p>The panel discussion facilitated by ITC and its outputs were submitted for further discussion to the high-level meeting. The recommendations for policy level, institutional level and private sector level were concluded.</p>

partners and potential buyers	Recommendations and follow-up actions supported by the Myanmar Trade Development Committee		
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Annex 2 - Financial Statement (attached separately)

Annex 3 Contact List

	Name FAMILY NAME	Ttitle	Position	Institution	e-mail address	Phone No
1	Ludovica GHIZZONI	Ms	Adviser on Export Quality	ITC	ghizzoni@intracen.org	0041 227300638; 092 64161412
2	Khemraj RAMFUL	Mr	Senior Adviser on Export Quality	ITC	ramful@intracen.org	
3	Thit Thit LWIN	Ms	National Project Manager	ITC/STDF project	ttlwin1@gmail.com	+959 506 0902; +95 5 79 168 7685
4	Thidar HTAY	Ms	Deputy Director,	Myan Trade, Ministry of Commerce	thidarwinhtay@gmail.com	0095 67408495; 009595091821
5	Aung SOE	Mr	DG of MoC (PSC Chairman)	Ministry of Commerce	aungsoe2005@gmail.com	0095 67430428; 0095 9420705778
6	Namrata P. WAKHALOO	Ms	Food Safety Consultant	International Consultant	Namrata.wakhaloo@gmail.com	
7	Wayne M. HANCOCK	Mr	Agriculture Consultant	International Consultant	krdwayne@bigpond.com	
8	Heiner LEHR	Mr	Market Analysis Consultant	International Consultant	heiner@syntesa.eu	
9	Krister AHLBERG	Mr	Presentation & Coaching for WEDF	International Consultant	jkahlberg@outlook.com	
10	Frederic COUTY	Mr	Senior Expert on Packaging	ITC	fcouty@intracen.org	
11	Bernardo CONTRI	Mr	Cost and Benefit Tool Consultant	International Consultant	Bernardo.contri@gmail.com	
12	Marco ALETTI	Mr	Associate Expert on Access to Finance	ITC	aletti@intracen.org	
13	Marta DRAGO	Ms	Individual Contractor	ITC	martadragoo@gmail.com	
14	Wah Wah HLAING	Ms	National Consultant on Agriculture	National Consultant	Wwhlaing93@gmail.com	09-258555716
15	Minke VORSTENBOSCH	Ms	Project liaison consultant	Consultant based in Myanmar	minkevorstenbosch@gmail.com	0095 9974965263
16	Alicja PAWLACZUK	Ms	Owner- Synergia	Consultancy company based in Myanmar	apawlaczuk@synergia-consulting.com	0095 9250576749
17	Aye Aye KHAING	Ms	Consultant on value chains	Consultant based in Myanmar	khaingoomyint08@gmail.com	0095 9448540783
18	Tun LWIN	Mr	Chairman, PSC Member	Myanmar Pulses, Beans& Sesame Seeds Merchants Association	tunlwin@shweme.net	01 214 828, 214 836, 09 500 1220, 09 862 2360
19	U Myint KYU	Mr	Vice Chairman, PSC Member	Myanmar Edible Oil Dealers Association	meoda.2011@gmail.com	01 683 593, 01 528 584, Mobile phone: 09 500 4011
20	Htein LIN	Mr/D r	Director (PSC Member)	International Trade Promotion Division	koeniglynn2009@gmail.com hteinlynn@accamil.com	067 408 427, Mobile phone: 09 430 38381
21	Myint Lwin	Mr	Director General (PSC Member)	Department of Consumer Affair		09-43034875

22	Hla Myint Aung	Mr	Deputy Director General (PSC Member)	Department of Agriculture		067-410492/098303854/067-410411(U Aye Ko)
23	Khin Chit	Dr/ Ms	Deputy Director General (On behalf of PSC)	Department of Food and Drug Administration		067-403167
24	War War Moe	Dr/ Ms	Deputy Director (PSC Member)	National Standards and Quality Division		09-5030609
25	Kyaw Tin Myint	Mr	Vice Chairman (PSC Member)	Myanmar Fertilizer, Seeds and Pesticide Entrepreneurs Association		09-73022646
26	Soe Win Maung	Mr	Advisor (PSC Member)	Myanmar Pulses, Beans and Sesame Merchant Association		09-43015578
27	Kyaw Soe	Mr	General Manager (PSC Member)	Myanmar Inspection and Testing Service		09-5179979
28	Kyaw Moe Lin	Mr	Farmer, PSC Member	Nga Hto Gyi, Mandalay		09-79294260/09-450981900
29	Than Maung	Mr	Miller, PSC Member	Pale , Sagaing		
30	Tin Ko Ko	Mr	Collector, PSC Member	Monywa, Sagaing		09-2131096
31	Kyauk Ke	Mr	Farmer, PSC Member	Monywa, Sagaing		09-400516070
32	Khin Mg Lwin	Mr	Miller, PSC Member	Ngwe Min Oil Mill, Magway		
33	Soe Lwin	Mr	Collector, PSC Member	Magway		
34	Myo Chit	Mr	Farmer, PSC Member	Kyat Sone Kyae Village, Magway		
35	Myint Cho	Mr	Deputy Director General, PSC Member	Department of Consumer Affair	mr.myintcho@gmail.com	09-5119092
36	Thein Lwin	Mr	MD	New Golden Gate	newgoldengate1991@gmail.com	00951 2314373; 00951 2302138
37	Sai Ba Nyan	Mr	MD	Mau Oak Shaung	maouoakshaung@gmail.com ; usaibanvan@gmail.com	00951 245554; 00951 397312
38	Sein Than	Mr	MD	Shwe Tha Zin Co., Ltd	stzseinthan@gmail.com	0095 224581; 0095 226259
39	Min Zaw	Mr	Director	Pyei Phyo Aung	ppaoffice@gmail.com	009595 1223097; 009595 228584
40	Soe Kyin	Mr	MD	Aung Kyun Thar	skyin@akttrading.com ; hlin@akttrading.com	0951 383396; 0951 383397
41	Zaw Lin Kyi	Mr	Director	Duwun Oil Mill	duwunmdy@gmail.com	0095 25153096; 0095 92004193
42	Aung Kyaw Kyaw	Mr	MD	Triple Nine Great Integrity (Zin Yaw Oil Mill)	triplenineoilmill@gmail.com	0095 9792029969; 0095 92029969
43	Than Lwin	Mr	MD	Asia Thar	sparrowthanlwin@gmail.com	0095 92009332
44	Thet Tun	Mr	MD	Golden Taste(Shwe Ayathar)	goldentaste8@gmail.com	0095 979204323
45	Tun Tun Oo	Mr	MD	Soe Moe Tun Edible Oil Production	tuntunoosoemoetun@gmail.com	0095 7121445

46	Htay Aung	Mr	MD	Amay Htwar	amhhtayaung63@gmail.com	09-785341292
47	Han Thi Tun	Ms	TcC (MITS)	STDF Project	venusangel361@gmail.com	+95 9 795 697131
48	Than Tun Win	Mr	TcC (MITS)	STDF Project	thantunwin0941@gmail.com	+95 9 792 189661
49	Sist Naung	Mr	APIA	STDF Project	sistnaung@gmail.com	+95 9 788 345938
50	Khin Moe Myint	Ms	Kaung Myat Kywe	STDF Project	khinmm.tti@gmail.com	+95 9 513 1950
51	Thet Thet Naing	Ms	TcC (MoC)	STDF Project	ttnaing864@gmail.com	+95 9 40255 0854
52	Ei Ei Htwe	Ms	MITS laboratory	STDF Project	eiiehtwe1112@gmail.com	+95 9 797 555733
53	Shwe Sin	Ms	TcC	STDF Project	shwesinmandalar@gmail.com	+95 9 797 242955
54	Hla Moe Khaing	Ms	TcC (MoC)	STDF Project	hlamoekhaing555@gmail.com	09-256232549
55	Khine Thandar Kyaw	Ms	TcC	STDF Project	khaingthandarkyaw25@gmail.com	09-43146652
56	San Mya Mya Win	Ms	TcC (MoC)	STDF Project	sanmyamyawin30@gmail.com	09-402505450
57	Htay Htay Soe	Ms	Deputy Director	MoC, NES	htaysoe305@gmail.com	09-797687298
58	Khet Khet New Phue	Ms	Staff Officer	MoC, NES	kknwephoo@gmail.com	09-250106944
59	Thin Thin Nwe	Ms	Staff Officer	MoC, NES	thin.nwe123@gmail.com	09-799621502
60	Nyan Lwin	Mr	Collector	Lwin Phyo Warehouse, Aung Lan, Magway		095115369
61	Myint Aung	Mr	Collector	Myint Myat Taw Win Warehouse, Magway	violetlavender147@gmail.com	0095 63 23606, 0095 9 450029531, 00959 5011495
62	Zaw Lin	Mr	Collector	Aung Theidi Warehouse, Magway		0095 9 5340382, 09 799799980
63	Aung Bo Hein	Mr	Collector	La Pyae Wun Warehouse, Aunglan	maouoakshuang@gmail.com	09-5330566, 069-200181
64	Aung Kyaw Kyaw	Mr	Collector, PSC Member	Myingyan, Mandalay	triplenineoilmill@gmail.com	09-2029969
65	Tun Aung Kyaw	Mr	ToT	Nahtogyi		09-401560765
66	Nyunt Nyunt Mar	Ms	ToT	Naung Oo		09794861946
67	Ye Myint Zaw	Mr	ToT	Taungthar		09-9768441947
68	Htwe Yin	Ms	ToT	Magway		09-78088348
69	Zin Mi Mi Lwin	Ms	ToT	Magway		09-25961409
70	Aye Kyin	Ms	ToT	Butalin		09-25611652
71	Nyein Chan	Mr	ToT	Myinmu		09-79478047
72	Aye Aye Theint	Ms	ToT	Aunglan		09-97156308
73	Myint Thu	Mr	ToT	Myaung		09-79778206
74	Tun Hla Aung	Mr	ToT	Aunglan		09-97440976
75	Steve PARKER	Mr	Chief of Party-USAID-funded Private Sector Development Activity	USAID	sparker@nathaninc.com	95 (0) 92-6216-9600 : + 95(1)-654-960, 654-9621, 654-9622 – all must use Ext: 108
76	Simon HEISIG	Mr	Project Coordinator, Technical Cooperation in Asia	PTB, Germany	simon.heisig@ptb.de	+49 (0)531- 592 8223

77	Tin WIN	Mr / Dr	Project Coordinator, Technical Cooperation in Asia	PTB, Germany	drtinwin07@gmail.com	
78	Zaw WIN	Mr	Deputy Director	MoC		
79	Lat Lat AYE		Team Leader Of Environmental Pillar	UNDP	lat.lat.aye@undp.org	
80	Sein Thaug OO	Mr		MFPEA	seinthaugoo@gmail.com	
81	Alain PEYRE'	Mr	Chief Technical Adviser	UNIDO TCB Myanmar	A.PEYRE@unido.org	092 5796 7140
82	Stephen ROBERTS	Mr	Senior SPS Expert, Myanmar TDP	GIZ	stevenroberts54@gmail.com	09 261 923 305
83	Frits HENDRIKS	Mr	Team Leader , TDP	GIZ	frits.hendriks@giz.de	09 260 615 209
84	Shwe Phue SAN	Ms	Expert, Myanmar TDP	GIZ	shwe.san@giz.de	09 9722 74104
85	Geert WESTENBRINK	Mr	Agriculture Consultant	Netherlands Economic Mission	geert.westenbrink@netherlandsmissionyangon.nl	01 230 6046~9(Ext 307); 09 250 344 972(MM); +31 6 528 08030(NL)
86	Jarico VOS	Mr	Policy Adviser	Netherlands Economic Mission	jarico.vos@netherlandsmissionyangon.nl	01 230 6046~9(Ext 308) Mobile phone: 09 250 344 973(MM)
87	Toe Aung MYINT	Mr	Permanent Secretary	Ministry of Commerce, The Republic of Union of Myanmar	tamyint06@gmail.com	Office phone: 067 408 018
88	Hla Maw OO	Mr	Director General	Department of Trade Promotion and Consumer Affairs	hlamawoo21@gmail.com ; dtpcadg@moc.gov.mm	Office phone: 067 408 009, 430 122; Mobile phone: 09 5011 945
89	Win Min PHYO	Ms	Deputy Director	International Trade Promotion Division		
90	Kyi SEIN	Mr	Director	Department of Trade Promotion, Mandalay	kyiseinygn@gmail.com	02 36342; 09 501 6891; 09 2000 227
91	Win Khaing MOE	Mr	Director General	Department of Research and Innovation, Ministry of Science and Technology	winkmoe@gmail.com	01 664930; 09 500 5941
92	Zar Ni AUNG	Mr/ Dr	Director	Department of Research and Innovation, Ministry of Science and Technology	director@mayanmarstandards.org.mm	01 664817, Mobile Phone: 09 402 511 627
93	War War MOE	Ms/ Dr	Deputy Director	Department of Research and Innovation, Ministry of Science and Technology	head-nsb@myanmarstandards.org.mm	09 5030609

94	Khin Saw HLA	Ms/ Dr	Director	Department of Food and Drug Administration(Man dalay Branched Office)	khinsawhlanpt15@gmail.com	09 6800 285, 094500 59 415
95	U Myint OO	Mr	Director	Department of Agriculture(Mandal ay Regional Office)		02 60829, Mobile Phone: 09 2000 220
96	U Kyi MAUNG	Mr	Deputy Director	Department of Agriculture(Mandal ay Regional Office)		02 78656, Mobile phone: 09 203 8047
97	Naing Kyi WIN	Mr	Deputy Director General	Department of Agriculture	deputydgdoa@gmail.com	067 410 239, Mobile phone: 09 4934 8000
98	San San YI	Ms/ Dr	Deputy Director	Pulses Section, Department of Agriculture	yisan64@hotmail.com, dr.yi1964@gmail.com	067 410237, Mobile phone: 09 50 29575
99	Pyone Pyone KYI	Ms/ Dr	Director	Plant Protection, Department of Agriculture		09 501 3661
100	U Ohn SAING	Mr	Vice Chairman	Yangon Division Chambers of Commerce and Industry	newgoldengate1991@gmail.com	01 382 320, 382 308
101	U Khin HAN	Mr	Chairman	Yangon Division Chambers of Commerce and Industry	ydcibyn@gmail.com	01 680 910, Mobile phone: 09 511 4700
102	Min ZAW	Mr/D r	Vice Chairman(3)	Yangon Division Chambers of Commerce and Industry	ydcibyn@gmail.com	2 680 910, Mobile phone: 09 730 48748
103	Min ZAW	Mr	Director	Pyei Phyo Aung Co., Ltd.	ppaoffice@gmail.com	01 223 097, 01 228 584, 01 211 124, 01 216 119, 01 216 260
104	Phyo Min HAN	Mr	Director	Ake Si Tan General Trading Co., Ltd	jaixin@gmail.com	01 680 063, 01 682 268, Mobile phone: 09 51 286 46, 099 285 26
105	U Thet TIN	Mr	Chairman	Traders, Millers, Brokers Association		02 30650, Mobile phone: 09 20 22 622, 09 79 77 99 077,
106	U Aung Swe HEIN	Mr	Secretary	Traders, Millers, Brokers Association	aungwehein.mdv@gmail.com	02 66 207, 02 74 135, Mobile Phone: 09 20 11 308, 09 20 33 909
107	U Ko Ko GYI	Mr	Chairman	Mandalay Region, Myanmar Edible Oil Dealer Association		02 32030 Mobile Phone: 09 2033 913,
108	U Thein TUN	Mr	Secretary	Mandalay Region, Myanmar Edible Oil Dealer Association		02 77 902, Mobile Phone: 09 203 0101
109	U Zaw Min KYI	Mr	Member	Mandalay Region, Myanmar Edible Oil Dealer Association	ko.ko.duwon@gmail.com	02 35035; 09 2002 629; 09 79200 2629
110	U Kyaw MYINT	Mr	Member	Mandalay Region, Myanmar Edible Oil Dealer Association		02 31272, Mobile Phone: 09 200 3903

111	Nay Lin MAUNG	Mr	Chairman	Magway Region, Myanmar Pusles, Beans and Sesame Seeds Merchant Association		09 534 0807, 09 97 643 4949
112	U Aung SWE	Mr	Deputy Representative	FAO		01 641 672 Ext (17)
113	Bui Thi LAN	Ms	Representative	FAO	buihi.lan@fao.org	
114	Khin Moe KYAW	Ms/ Dr	Laboratory Head	FAO		01 663 586, Mobile Phone: 09 537 2156
115	Soe WIN	Mr	Director	MOAI, Land Use Department		067-410384, mobile: 098303507
116	Khin Win MAR	Ms	Laboratory Head	MOAI, Land Use Department		office phone: 01 9688854; Mobile: 09 514 3294
117	Tin Aung WIN	Mr	Director	MOAI, Plant Protection		office phone: 01-644 214
118	Tin WIN	Mr	Deputy Director	MOAI, Plant Protection		mobile: 09 44827476
119	Khin Aye Moe KHAING	Ms	Assistant Director	MOAI, Plant Protection		mobile: 09 49240 705
120	Tin Naing WIN	Mr	Advisor and Consultant	MFPEA	utinnaingwin2014@gmail.com	01 214846, 01 2300 376, mobile: 09 519 0307
121	Khin Aye Tue	Ms	Principal Scientist	DRI	khinayetue@gmail.com	01 663254; mobile: 09 4250 21094
122	Moe MYINTZU	Ms	Director	National Analytical Lab	moemyitzu@gmail.com	09731 40164
123	Pablo JENKINS	Mr			pablo.jenkins@wto.org	
124	Myint Zaw Oo	Mr	Head of Region (Regional Committee)	Department of Consumer Affair, Mandalay		02-36338
125	Aung Kyaw Oo	Mr	Director, Supporting Committee	Plant Protection Division		067-410490; 01-644241
126	Thura Soe	Mr	Director, Supporting Committee	Agriculture Extension Division		09-5300591
127	Soe Win	MR	Director, Supporting Committee Member	Land Use Division	soewinlud@gmail.com	09-6303507
128	Thet Zin Maung	Mr	Director, Supporting Committee Member	Seed Division		
129	Tin Tin Myint	Ms	Director, Supporting Committee Member	Department of Planning		067-407091

130	Nyein Zin Soe	Ms	Director, Supporting Committee Member	Foreign Economic Relation Department		
131	Khin saw Hla	Dr/ Ms	Director, Supporting Committee Member	Department of Food and Drug Administration		09-450059415
132	Tun Shwe	Dr/M r	Director, Supporting Committee Member	Department of Agricultural Research	dtshwe@gmail.com	09-43129426
133	Khin Mar Mar New`	Ms	Deputy Director, Supporting Committee Member	Department of Agriculture	kmmnwe1959@gmail.com	09-49209318
134	Kyaw Win	Dr/ Mr	Joint-Secretary	Bayint Naung Whole Sales		
135	Win Win Myint	Ms	Deputy Director	Seed Division		09-2012453
136	Thin Thin Kyi	Ms	Assistant Director	Land Use Division		
137	Mi Mi Cho	Ms	Assistant Director	Ministry of Agriculture, Livestock and Irrigation		
138	Khin Mar Tint	Ms	Staff Officer	Ministry of Agriculture, Livestock and Irrigation		
139	Tin Aung Kyaw	Mr	Staff Officer, Regional Committee Member	Department of Consumer Affair		09-797548810
140	Than Than Tin	Ms	Deputy Officer, Regional Committee Member	Department of Consumer Affair		
141	Zar Chi Oo	Ms	Deputy Officer, Regional Committee Member	Department of Agriculture		09-960644797

Annex 4 – Attached separately

**STDF 486_Reporting on documents produced by the project_final
report (Excel database)**