Interim Report

Support for Preparation of a National Coffee Sector Development Plan for Timor-Leste

Prepared by Coffee Quality Institute
Final Version: May 21, 2018

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<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ASYCUDA</td>
<td>Automated System for Customs Data</td>
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<td>ADB</td>
<td>Asian Development Bank</td>
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<td>ATT</td>
<td>Alter Trade Timor</td>
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<td>AusAid</td>
<td>Australian Agency for International Development</td>
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<td>CBB</td>
<td>Coffee Berry Borer</td>
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<td>CCT</td>
<td>Cooperativa Café Timor</td>
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<td>CQI</td>
<td>Coffee Quality Institute</td>
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<td>DNCPI</td>
<td>Direcção Nacional de Café e Plantas Industriais</td>
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<td>ETCI</td>
<td>East Timor Coffee Institute</td>
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<td>GAPs</td>
<td>Good Agricultural Practices</td>
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<td>HDT</td>
<td>Hibrido de Timor</td>
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<td>Kg</td>
<td>Kilogram</td>
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<td>MAF</td>
<td>Ministry of Agriculture and Fisheries</td>
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<td>MCIA</td>
<td>Ministry of Commerce, Industry, and Environment</td>
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<td>NCBA</td>
<td>National Cooperative Business Association</td>
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<td>NCSDP</td>
<td>National Coffee Sector Development Plan</td>
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<td>NGO</td>
<td>Non-Governmental Organization</td>
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<td>RDP</td>
<td>Rural Development Program</td>
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<td>SAPT</td>
<td>Sociedade Agrícola Pátria e Trabalho</td>
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<tr>
<td>SMART</td>
<td>Specific, Measurable, Achievable, Realistic, Timed</td>
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<td>SOL</td>
<td>Seeds of Life</td>
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<td>SWOT</td>
<td>Strengths, Weaknesses, Opportunities, Threats</td>
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<td>TA</td>
<td>Technical Assistance</td>
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<td>UNTAET</td>
<td>United Nations Transitional Administration for East Timor</td>
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<td>UNTL</td>
<td>National University of Timor-Leste</td>
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<td>WCR</td>
<td>World Coffee Research</td>
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1. Introduction

This document presents the Interim Report for the ADB-funded TA-9264: Support for Preparation of a National Coffee Sector Development Plan. The Interim Report draws upon the consultations and analytical work conducted by the Technical Assistance (TA) team of Coffee Quality Institute (CQI) consultants in collaboration with senior officers from the Ministry of Agriculture and Fisheries (MAF), Asian Development Bank (ADB) staff, private sector companies, producers, educators, donor partners, and non-governmental organization (NGO) collaborators.

The report includes a short summary outline of the soon-to-be completed draft National Coffee Sector Development Plan (NCSDP). It also provides a preview of short-term activities that were developed in consultation with coffee stakeholders in a series of workshops held in January and February 2018. The Interim Report provides an opportunity to present the findings of assessments carried out by the team regarding systems of data collection for production and trade data, systems of agricultural research, and a review of agricultural extension services. In the report, CQI makes a number of recommendations on improving these systems and provides guidance on short-term and long-term strategies for moving forward with these recommendations. These assessments are presented as separate annexes to the report.
2. Summary Outline of the Draft National Coffee Sector Development Plan

The CQI team, in consultation with the MAF and the Timor-Leste coffee stakeholders, is in the process of completing the draft National Coffee Sector Development Plan. The plan is based on a strategic planning model that relies on input from the key stakeholders who determine the direction of the industry and the priorities that will be covered under the plan. The plan will provide both short- and medium-long-term objectives and goals.

The following summary outline provides a short description of the upcoming draft plan. The plan presents an overview of the different sections of the plan and provides the reader with a brief description each section.

**Summary Outline: Draft National Coffee Sector Development Plan**

**Executive Summary**
The Executive Summary provides an overview of the National Coffee Sector Development Plan highlighting the main recommendations and conclusions of the plan. It gives some context for the development of the plan and the expected outcomes to be achieved.

**Introduction**
A brief introduction is provided highlighting the process of developing the plan, the methodologies used, and the main contributors to the plan.

1. **The overall context of the Timor-Leste coffee sector**
   1.1. **Opportunities for the Timor-Leste coffee industry in the world market**
   This section provides a review of the Timor-Leste coffee sector beginning with an analysis of global markets and makes recommendations as to where Timor-Leste has the best opportunities to successfully compete with other coffee-producing countries. The section provides an overview of the regional and global markets for both Arabica and Robusta coffees. Also included is a five-year forecast of global coffee markets provided by one of the leading coffee analysts in the coffee industry today. Several global buyers provide their recommendations as well.

   1.2. **Timor-Leste coffee situation today**
   This section provides an analysis of the coffee situation in Timor-Leste as it stands today. This review is based on both primary and secondary data collection that involved numerous meetings, workshops, and desktop studies. A SWOT analysis is provided as part of the review that highlights the strengths and weaknesses, as well as the opportunities and threats, facing the industry.

   1.3. **Key challenges facing the Timor-Leste coffee industry**
   This section highlights the main challenges facing the Timor-Leste coffee industry and makes recommendations on improving production, productivity, and quality, identifying opportunities for value addition, and increasing market access. An analysis of the applied research and extension systems are also provided with recommendations for improving these systems in coffee over the next five years.
2. The coffee sector development strategy: vision, mission, guiding principles, key focus areas and goals, and strategic objectives and targets

Section 2 is the main body of the plan. It lays out the overall vision for the industry, the mission of the plan, and the guiding principles. It includes a concise description of the strategic objectives and defines the measure of success or targets for each objective.

2.1.1. Vision of the strategy
The vision section describes the future state of the Timor-Leste coffee industry. This vision is based on the desire that any benefits gained from improvements in the industry will be shared across all links in the coffee value chain with an emphasis on improving the livelihoods of smallholder producers.

2.1.2. Mission of the strategy
The mission describes the main goal of the plan, which is to improve the productivity and production of Timor-Leste, the quality of coffees produced and processed, and the access to regional and global markets, thus ensuring a profitable and sustainable local coffee industry.

2.1.3. Guiding principles
The guiding principles section describes the core values guiding the plan. These are based on a desire for the plan to be sustainable, realistic, and addressing the needs of smallholder coffee producers. The NCSDP also recognizes the importance of and contribution of women to Timor-Leste’s coffee sector. The strategy for improving gender equity is to mainstream gender into extension service delivery and project development, implementation, monitoring and evaluation, and reporting.

2.1.4. Key focus areas and goals
The key focus areas are the main strategic thrusts that make up the plan and a way to organize the work. These include:

- Research and Development
- Production and Productivity
- Quality and Value Addition
- Market Access and Promotion
- Domestic Consumption and Coffee Tourism
- Coffee Sector Management and Coordination

2.1.5. Strategic objectives and targets
This section describes the main objectives to be achieved under each strategic focus area above. Each objective is a precise, measurable, and time-phased result that supports the achievement of the goal of the key focus area.

3. Implementation plan for the strategy

3.1.1. Key implementation activities
The main work to be carried out during the plan’s duration is presented in this section. Included is a description of each activity, the responsible party for carrying out the activity, the timeframe of the activity, the expected results to be achieved, and ways for measuring success or achievement of the objective.
3.1.2. **Proposed implementation framework**
This section describes the roles, responsibilities, and functions of all the main partners, including public sector, private sector, NGOs, and donor organizations.

3.1.3. **Prioritization of interventions and preliminary cost estimates**
This section provides guidance on prioritizing activities. It gives both short-term and medium-long-term recommendations. The plan tries to be realistic and based on the current capacities of the sector and can be scaled as the sector improves. Cost estimates for carrying out each main activity are also provided.

3.1.4. **Risk-management assessment**
There are certain risks involved in carrying out the plan that are discussed in this section. Risks can include economic factors such as changing market preferences and dynamics, and/or threats such as impact of climate change and other environmental factors that could negatively affect the industry. An assessment is provided for the main threats identified in the plan.
3. Short-Term Action Plan

The following short-term action plan is a result of a series of meetings and consultations with industry stakeholders aimed at producing a list of actionable short-term activities that could be started in 2018. The activities are organized under each of the main focus areas. For each focus area, a number of strategic objectives are presented along with initiatives and main activities.

Short-Term Action Plan (2018)

**Focus Area 1. Research and Development**

**Illustrative Goal:** To strengthen the coffee research and extension systems so that they are responsive to industry requirements and demands

**Strategic Objective 1.1. To establish a national coffee research and crop improvement program**

**Initiative: Understanding the Timor-Leste coffee landscape**

**Short-Term Activities**

Activity 1.1.1. Review existing data to confirm the total areas of coffee production by variety and district.

Activity 1.1.2. Develop specific coffee-related questions that could be incorporated into an agricultural census survey.

Activity 1.1.3. Survey the current Arabica and Robusta crops to document levels of pests and diseases.

Activity 1.1.4. Survey the status of soil and coffee plant nutritional status of the coffee-growing areas by taking soil and plant leaf samples for analysis.

Activity 1.1.5. Start a library with resources (technical papers, GIS files, etc.) about Timor-Leste coffee.

**Initiative: Establishing a coffee variety improvement program**

**Short-Term Activities**

Activity 1.1.6. Conduct genetic testing of local nursery stock of MAF and Cooperativa Café Timor (CCT) nurseries, and, where feasible, other specific locations where specific “varieties” are used for procuring beans for seed.
Strategic Objective 1.2. To Increase the capacity of Timor-Leste research Institutions (MAF, UNTL, ETCI, etc.) to carry out applied coffee research and extension demonstration trials

Initiative: Understanding the existing human resource capacity and needs

Short-Term Activities

Activity 1.2.1. Conduct a needs assessment to determine required staffing and facilities/lab equipment required for a national coffee research program.

Activity 1.2.2. Initiate a training program for staff designated to work in the coffee sector.

Focus Area 2. Production and Productivity

Illustrative Goal: To expand production and productivity of Timor-Leste coffee as a way to ensure a prosperous and sustainable coffee sector

Strategic Objective 2.1. To increase productivity by increasing yields

Initiative: Improve/scale national renovation and rehabilitation program (PPP)

Short-Term Activities

Activity 2.1.1. Map current rejuvenation efforts (renovation and rehabilitation) undertaken by all stakeholders (public and private sector, NGOs, etc.).

Activity 2.1.2. Ensure that variety and seed selection at the nurseries are appropriate and adhere to established multiplication protocols. Secure that nurseries across the country meet and satisfy renovation goals.

Activity 2.1.3. Review and harmonize current extension training publications to ensure a consistent approach to rejuvenation efforts and demonstration plots.

Initiative: Improve coffee knowledge transfer and training

Short-Term Activities

Activity 2.1.4: Conduct a peer review of current existing coffee production training manuals and harmonize training content among all coffee stakeholders.
Activity 2.1.5. Conduct peer review of current existing demonstration plots treatments currently being used, with particular attention to planting, pruning and composting techniques.

Activity 2.1.6. Review and release national coffee best practices manual to be adopted through the current government extension system.

Activity 2.1.7. Develop methodologies and guides on conducting applied research and demonstration trials on government farms and on farm locations.

Activity 2.1.8. Map current extension service efforts among all private sector stakeholders and identify geographical areas of overlap and geographical areas lacking extension service resources.

Activity 2.1.9. Review extension service models (public, private, NGO) and training delivery systems.

**Strategic Objective 2.2. To Increase the total hectares of coffee production**

**Initiative: Identifying potential coffee production areas**

**Short-Term Activities**

Activity 2.2.1 Assess potential production areas for introducing appropriate coffee farming systems.

**Focus Area 3. Quality and Value Addition**

**Illustrative Goal: To achieve a sustainably produced and quality-driven coffee sector**

**Strategic Objective 3.1. To establish a quality-driven production system**

**Initiative: Achieving the quality potential of Timorese coffees**

**Short-Term Activities**

Activity 3.1.1. Conduct a pilot activity to determine the gap between the actual quality and the quality potential of Timor-Leste coffees in selected locations.

Activity 3.1.2. Convene an industry-led working committee to reach consensus on rolling out price incentive mechanisms based on cherry quality, green coffee evaluation, and/or cup quality.

Activity 3.1.3. Run processing courses to improve basic technical skills for home-processed, community-based, and “buying agent-processed” coffees.
Activity 3.1.4. Run basic cupping courses ("Know Your Cup") for producers to become aware of the link between their actions and cup quality.

**Strategic Objective 3.2. To create greater value-addition opportunities such as premium-driven pricing mechanisms and certification schemes**

**Initiative: Enhancing sustainable coffee production**

**Short-Term Activities**

Activity 3.2.1. Map current areas of certified coffees (e.g., fair trade, certified organic, etc.) and assess market potential under various certification programs that could be achieved.

**Focus Area 4. Market Access and Promotion**

**Illustrative Goal:** To enhance the competitiveness of Timorese coffees by improving market access and awareness of Timorese coffees on regional and global markets

**Strategic Objective 4.1. To increase the efficiency of the coffee supply chain by removing barriers to the movement of coffee (cherry and parchment) and access to supporting markets and services**

**Initiative: Improving the road network from farm gate to the port**

**Short-Term Activities**

Activity 4.1.1. Identify critical road access points to ensure efficient flow of cherries and parchment from producing areas to processing stations. (This has been identified as a huge barrier to effective value chain efficiency.)

Activity 4.1.2. Develop strategies to align private- and public-sector priorities in order to better advocate for improved road and transport infrastructure.

**Initiative: Enhancing access to financial services along the supply chain**

**Short-Term Activities**

Activity 4.1.3. Review current status of financial services available to smallholder producers and determine best strategy to increase access and ensure better cash flows for these farmers.
Strategic Objective 4.2 To promote exports of Timor-Leste coffees to regional and global markets

Initiative: Improving marketing and branding of Timorese coffees

Short-Term Activities

Activity 4.2.1. Develop a marketing and communications strategy for promoting Timor-Leste coffees to take advantage of Timor-Leste strengths such as being the origin of the Hibrido de Timor (HDT) variety and having 100 percent organic forest coffee production.

Activity 4.2.2. Organize and promote the third annual Festival Kafé Timor.

Focus Area 5. Domestic Consumption and Coffee Tourism

Illustrative goal: To promote the local coffee industry & supporting markets and services

Strategic Objective 5.1. To develop a vibrant and profitable local retail coffee industry

Initiative: Professionalizing the local retail coffee industry

Short-Term Activities

Activity 5.1.1. Provide training to the hospitality industry on proper coffee brewing methods and drink preparation.

Activity 5.1.2. Conduct professional barista training for the local retail coffee industry.
Activity 5.1.3. Support and hold local and national barista competitions in conjunction with the annual Festival Kafé Timor.

Activity 5.1.4. Conduct professional roasting training at beginner, intermediate, and professional levels.

Activity 5.1.5. Promote coffee tasting at the local community level to familiarize farmers with the taste of their own coffee.

**Initiative: Promoting the local coffee tourism sector**

**Short-Term Activities**

Activity 5.1.6. Conduct a short study to evaluate tourism market potential for the coffee sector.

Activity 5.1.7. Work with the tourism industry and coffee stakeholders to select key locations for tourists to visit coffee farms and historical coffee sites.

**Focus Area 6. Coffee Sector Management and Coordination**

**Illustrative Goal:** To achieve a more efficiently managed and coordinated coffee sector

**Strategic Objective 6.1. To develop a National Coffee Sector Development Plan**

**Initiative: Enhancing stakeholder participation in coffee sector planning**

**Short-Term Activities**

Activity 6.1.1. Convene stakeholder-led focus area group meetings to determine priorities for the National Coffee Sector Development Plan.

Activity 6.1.2. Develop a draft National Coffee Sector Development Plan for stakeholder review and comments.

Activity 6.1.3. Public and private sector work together to develop a time-bound and “costed” Implementation plan in order to achieve the goals and objectives of the National Coffee Sector Development Plan.
Strategic Objective 6.2. To develop and implement coffee data collection systems

Initiative: Enhancing coffee information and statistics

Short-Term Activities

Activity 6.2.1. Form a public private sector working committee to agree on estimates of 2017 production and export/sales statistics (need both Arabica and Robusta data) and establish methodology for presenting data including harmonizing units of measure.

Activity 6.2.2. Explore options for employing an on-farm information management system and conduct a pilot testing of the product.

Activity 6.2.3. Establish a platform for regular sharing of knowledge and information related to productivity and quality improvement.

4. Options for Pilot Activities

Coffee Quality Institute (CQI) has been contracted by the Asian Development Bank (ADB) to execute activities supporting the preparation of a National Coffee Sector Development Plan for Timor-Leste. These activities include the “design and implementation of one or more activities to address key constraints relating to research, training, or extension with a total value of at least $10,000” – that is, the implementation of selected immediate priorities for strengthening of applied research capacity and the design and initial implementation of pilot activities to develop and refine models for training and extension services. After several months of work, including a SWOT analysis of the Timor-Leste coffee sector, and based on CQI’s strengths in coffee quality assessment and coffee processing, the following two options for pilot activities are proposed to the Timor Coffee Association (ACT) as the potential on-site implementer. The goal is for ACT to select one of the options; CQI will then work jointly with ACT for implementation.

4.1. Option 1 – Quality Gap Pilot Assessment

Introduction
CQI defines the “quality gap” as the difference between potential quality and actual quality. The quality gap is a useful indicator of the amount and contents of quality-related research, training, and/or extension work required in any given community or region. The quality gap is calculated by first producing control samples, under specific processing protocols, to ensure that the quality is maximized and that potential quality can be assessed. Potential quality is then compared to the actual quality from the same village/region to diagnose the main quality issues in the region. As a pilot activity, this exercise would serve to provide a proof of concept of the quality gap methodology to Timor-Leste stakeholders, and to obtain firsthand information about the quality potential and main quality issues in the selected regions. This exercise can also be used as a first assessment of the quality potential of some local coffee landraces.
**Objective**
To assess the quality gap (potential quality minus actual quality) of two (2) coffee producers’ groups in Timor-Leste, using four (4) different processing methods (natural, honey, washed with underwater fermentation, and washed with dry fermentation) to determine the best possible method for each group.

**Proposed methodology**
1. Select two producers’ groups in Timor-Leste.
2. Select two coffee landraces (by phenotype) within each group’s trees that are able to supply 100 kg of cherries. Leaf tissue samples of these trees will be sent for genetic marker analysis. The plots will be geo-referenced and characterized agronomically.
3. At each group, 100 kg of cherries from the same landrace phenotype will be picked at optimum ripeness, brought to a processing facility and split into eight (8) equal parts. Four (4) treatments will be applied in duplicate (4 * 2) to the raw material: (ii) natural processing; (ii) honey processing; (iii) washed processing – underwater fermentation; and (iv) washed processing – dry fermentation. CQI will furnish the processing protocols and control variables. This will make a total of 2 groups * 2 landraces * 2 duplicates * 4 treatments for 32 samples.
4. Commercial samples from each group will be collected, preferably traceable to the same plot where the controlled samples were taken, as representative samples of actual quality produced. At least two (2) samples per group should be taken.
5. All samples will be shipped to the U.S. to be cupped by CQI.
6. CQI will analyze all data and produce a report. If enough geographical information is available, a GIS could be drafted.

**Inputs needed from ACT and other partners**
We shall need the help of ACT or their partners to do the following:
1. Select the groups.
2. Select the plots, landraces, and specific trees to be sampled within each group’s trees.
3. Organize the controlled selective picking of ripe cherries from the selected trees.
4. Send cherry samples to the processing facility.
5. Process the cherries according to CQI protocols.
6. Send the finished green beans to CQI.

**4.2. Option 2 – Validation of Drying Technologies**

**Introduction**
Drying has been identified as one of the most critical processing operations in Timor-Leste, due to several factors: erratic rain patterns during harvest, poor condition of roads to bring the cherries to the central processing facilities, and lack of capital within the producers’ groups to invest in drying infrastructure at the producing regions. However, some new drying technologies offer the possibility of low-investment, controllable coffee drying equipment, which could potentially be installed in the producing communities to produce consistent-quality, dry parchment at the community level. These new technologies include attractive features such as solar-powered fans and automatic controls, but should be validated under Timor-Leste conditions before they can be recommended as part of a processing technology package.
**Objective**
To install and validate three (3) coffee drying technologies (African beds, GrainPro® tunnel drier, “Mexican technology drier”) in Timor-Leste for cost of investment, cost of operation, ease of use, ease of maintenance, and final quality.

**Proposed methodology**
1. Select a location for the experiment and a “steward” company or organization to carry out the experiments.
2. Build African beds; import GrainPro® tunnel drier; import parts for “Mexican technology drier” and build. Monitor investment/installation costs.
3. Dry coffees (from the same raw material) in parallel in the three driers. Monitor performance variables following protocols supplied by CQI. Replicate this process several times during the harvest.
4. Assess and compare the quality of the parchment produced by all technologies.

**Inputs needed from ACT and other partners**
We shall need the help of ACT or their partners to do the following:
1. Select the implementing organization/company.
2. Import and/or install equipment.
3. Carry out drying trials.
Annexes 1-4

Annex 1 follows; Annexes 2-4 are in separate documents.
Annex 1

TIMOR-LESTE COFFEE SECTOR DEVELOPMENT PLAN
TECHNICAL GROUP
FOR
RESEARCH AND DEVELOPMENT

Summary of the first meeting
• Date: 11 December 2017
• Venue: ADB office, Farol

1. Introduction
• Group role. Following the inception workshop, CQI has recommended the establishment of technical groups to focus on some of the key issues facing the sector. The role of these groups will be to verify baseline assessments and formulate clearly defined and actionable plans that can be incorporated into the overall sector strategy.

• Key issues for production. The CQI agronomist gave a quick overview of some of the major issues that he had observed during his field visits, including:
  o Genetics and varietal choice. There is uncertainty about which varieties are currently grown; this is especially true for Arabica. The history of the spread of the Hibrido de Timor variety means that there is likely to be significant genetic diversity within the current plantings. The stability/homogeneity of the varieties being raised in nurseries is not clear. There seem to be few or no programs to identify elite local varieties or test the performance of foreign varieties prior to wider distribution. Genetic analysis of leaf samples would be needed to characterize the extent of local variability. When trialing new varieties, a decision will need to be taken as to whether to assess their performance under an optimal production system or on the low-input systems that are typical for most producers here.
  o Soil fertility and response to pruning. Many plants appear undernourished and show signs of mineral deficiencies. In some areas, soil fertility appears very low. This can affect yield, quality, and the response to pruning. There appear to be few or no programs focusing on soil fertility improvements. It is not clear if there has been a formal evaluation of the response/yield increase following pruning and stumpimg efforts.
  o Pests and diseases. There appear to be significant problems with diseases and pests, including coffee leaf rust and coffee berry borer. Coffee stem borer has been observed in the field, and there may also be problems with nematodes. It is not clear if there is any ongoing research on disease issues.
  o Organic production. A commitment to applying organic production across the industry will limit the options for managing fertility and pests and diseases. CQI agronomist Bob Osgood clarification on whether there is a strong commitment to continue with organic production.

2. Ongoing programs
• The Ministry of Agriculture and Fisheries’ (MAF) research efforts have been focused on food crops. However, they are now planning to begin research on coffee as it is a key crop. Land in a government plantation has been identified as a research site for this work.
• MAF has a lab facility for soil analysis and has ongoing programs supporting composting and the use of cover crops for food production. This has yet to be extended to coffee production but can be. To date, there has not been any systematic research on the yield response of the MAF-supported rehabilitation and replanting programs.
• The National University of Timor-Leste (UNTL) has done some socioeconomic research related to coffee but has not done any agronomic research due to funding constraints.
• The extent to which other industry stakeholders are capturing data in a formal and structured way is not clear. This will need to be confirmed.
• Planning for the agricultural census is moving ahead. A pilot will be implemented (possibly in early 2018), followed by a wider rollout at the end of 2018. There may be scope to capture information on the coffee sector during the census.

3. Initial discussion of research priorities
• What is research? Controlled data collection, objective analysis, and the publication of results are the hallmarks of formal research efforts. It is not clear if any of the previous efforts to develop the industry since independence have met these standards.
• Scope of research. It was agreed that significant areas for research include agronomy, quality, and socioeconomic issues. Agronomy would encompass all bio-physical aspects of coffee production. Quality would encompass the relationships between production, processing, and quality. Socioeconomic research would address research questions relating to household behavior, technology adoption, income distribution across the value chain, etc.
• Species selection. It was agreed that future research on agronomy should consider both the Arabica and Robusta coffee species. Arabica accounts for a majority of current production, but the area planted with Robusta is increasing. Current Robusta production has good quality and can provide a significant income stream for producers at lower altitudes.
• Time profile. Some research activities could begin almost immediately with minimal additional cost. Other programs will either have significant costs or will be long-term. Since the industry is facing some very pressing challenges (volatile yields, low quality, pests and diseases, etc.), interventions that can deliver immediate results should be balanced against longer-term programs.
• Arabica variety development and selection. Full characterization of the varieties that are currently being grown and structured trials of other varieties are priorities but will take time.
• Genetic testing. Assessing the diversity of the current nursery stock should be a simpler task than mapping the broader distribution of varieties. World Coffee Research would be a relevant partner for this exercise.
• Micronutrient analysis. Leaf testing can provide much more sophisticated analysis of soil nutrients than soil tests. This should be considered.
• Facilities and human resources. There will be a need to i) upgrade facilities, including laboratory and field testing sites; and ii) build the skills base by training agronomists.

4. Next steps
• Group leader. Claudino Nabais was selected as group leader, representing MAF’s National Directorate for Research, Statistics, and Geographical Information. Acacio Guterres of UNTL was confirmed as the alternate.
• Documentation of current research. It was agreed that an additional effort should be made to collate information on research that has been done, or on ongoing programs that could provide useful data.
- **Next meeting.** It was agreed that the group would meet again to review progress prior to the next in-country visit of the CQI team. This visit is likely to be in late January 2018.

5. **Meeting attendees**

1. Acacio Guterres  
   Head of Department of Agronomy, National University of Timor-Leste
2. Bobby Lay  
   Director, Timor Global
3. Paoulo Correia  
   Director, Center for Scientific Research, National University of Timor-Leste
4. Claudino Nabais  
   Director, National Directorate for Research, Statistics, and Geographical Information, Ministry of Agriculture and Fisheries
5. Bruno Benavente  
   Advisor, Ministry of Agriculture
6. Antero Veiga  
   Advisor, Ministry of Development and Institutional Reform
7. Leonito Soares  
   Advisor, Office of the Minister of Agriculture
8. Joao Rui Pinto  
   Officer, National Directorate for Research, Statistics, and Geographical Information, Ministry of Agriculture and Fisheries
9. R.K. Chaitanya  
   Country Manager, Outspan Agro Timor
10. Arsenio Borromeu  
    Staff, Market Development Facility
11. T. Moniz  
    Staff, Ministry of Agriculture and Fisheries
12. Fernando Santana  
    Director for Coffee and Industrial Crops, Ministry of Agriculture and Fisheries
13. Cipriana Soares  
    Focal Point, Ministry of Agriculture and Fisheries
14. David Freedman  
    Country Economist, Asian Development Bank
15. Bob Osgood  
    Agronomist, Coffee Quality Institute
16. Stephen Walls  
    Team Leader, Coffee Quality Institute
Summary of the second meeting

- **Date:** 12 December 2017
- **Venue:** ADB office, Farol

1. **Introduction**
   - **Group role.** This group will focus on the development of a clear, actionable, and time-bound plan for improving coffee production and productivity that is consistent with the overall vision for Timor-Leste’s coffee sector.
   - **Initial observations and issues for discussion.** The CQI agronomist shared his initial observations on the key issues and challenges that will need to be addressed through the plan:
     - **Current productivity.** The average productivity of areas planted with coffee in Timor-Leste – measured through yield per unit area – is among the lowest in the world. Although the highest yields are found in countries where coffee is grown under full sun, countries such as Ethiopia show that forest/shaded coffee production can deliver good yields. There is potential for substantial improvements in productivity and total production if the factors that contribute to current low productivity can be addressed. An initial assessment of these factors is presented below.
     - **Aged & overgrown trees.** An unknown proportion of the planted area (estimates vary) consist of overgrown and aged trees that need to be rejuvenated (through stumping) and replanted. In some cases, trees are 80 years old; this is far beyond the usual productive life of a tree, and in these cases, complete replanting is needed. The average age at which trees are replanted varies across countries – for example, in Colombia trees are replanted after as few as 12 years, whereas in Hawaii trees may be replanted after 40 to 50 years.
     - **Pests and diseases.** During initial field visits to Ainaro, Ermera, and Liquica, Arabica coffee trees were often found to be in worse condition than one would expect for coffee growing in a forest system. Pests and diseases may be part of the reason for this. An initial survey identified visible problems with coffee leaf rust and coffee borer, and some incidence of coffee stem borer. Nematodes which attack the root systems, could also be a serious problem.
     - **Low use of inputs.** Smallholder coffee producers in Timor-Leste are sometimes described as gatherers rather than farmers. However, it may be more useful to think of current household production as a low-input system that is part of a broader livelihood strategy that includes production of subsistence crops, animal husbandry, off-farm employment, etc. In any case, low yields are a direct consequence of low levels of labor input, little or no application of additional fertilization and compost, and inappropriate levels of shading.
     - **Lack of knowledge.** The penetration of extension services that can disseminate knowledge about improved production techniques appears to be low. As a result, many
farmers may lack basic knowledge about what to do to improve productivity and how to do it.

- **Land tenure.** It is not clear exactly how much of a problem this is, but in some areas it may be a serious constraint to improving production.

- **Information management and research.** Information on current production is incomplete, and there are large unexplained variations between different data sources. Data on initiatives to improve productivity is generally not published, and there is little or no ongoing research to formally test technologies for productivity improvement.

2. **Ongoing programs and initiatives**

- **CCT/NCBA rehabilitation programs.** Cooperativa Café Timor (CCT) and the National Cooperative Business Association (NCBA) are currently implementing a large project to rehabilitate Arabica production. The project covers the municipalities Aileu, Ainaro, Ermera, Liquica, and Same. Some important features include:
  
  o The project has 280 staff and aims to reach 3,000 households per year (both CCT members and non-members). Participating households receive free tools, planting materials, and support from project staff. No cash incentives are provided, and there is no compensation for the initial income loss. Initial community engagement is done in partnership with local level staff from the MAF.
  
  o The model is to work with participating households to rehabilitate a quarter of their coffee plot. The expectation is that in the following years they will continue without support. With an average of 1 hectare (Ha) per household, the project is directly supporting the rehabilitation of 750 Ha per year \((3,000 \times 0.25 = 750)\).
  
  o The project includes distribution of shade tree and coffee seedlings for in-filling in areas where the density of coffee plants is below the recommended levels, as well as shade tree replacement. The project is supporting the replacement of Albizia shade trees with Casuarina and Leukina. Coffee seeds for seedling production are sourced from a specific area of the Letefoho sub-district of Ermera and are understood to be of the Hibrido de Timor variety.
  
  o The project is demonstrating a basic package of good agricultural practices on demonstration plots that are managed by project CCT staff. This includes collecting organic matter from within the plot (leaf droppings, etc.) and placing them around each coffee tree to increase the availability of nutrients to the plant. The project is also demonstrating and implementing terracing for sloping land.
  
  o The application of fairly simple practices, including pruning and mulching using leaf droppings, has generated a five-fold yield increase compared to the “unimproved” system used by most farmers. There may be a “yield gap” between the yields achieved at the model farms and the yields on farmer-managed plots, but this has not been formally measured.
  
  o Overall project impacts will partly depend on the extent to which households implement the recommended practices within the quarter of their coffee plot undergoing rehabilitation on an ongoing basis, and whether they extend this to the rest of their plots. It is understood that the project is having great success on both dimensions, but it is not clear if this is being formally measured.

- **CCT Robusta expansion program.** CCT and NCBA are also implementing a project of planting Robusta in the Lautem, Baucau and Viqueque districts. CCT has stated it wants to do this project because there is currently a market for Robusta, which can provide lowland farm families with a little income.
• **Government rehabilitation program.** The government is implementing a rehabilitation program in Arabica-producing areas that makes use of the suco-level extension staff and a dedicated project team. The government model includes some payments to households. The payments are based on an assessment of the labor inputs required for each of the activities associated with rehabilitation and maintenance of the rehabilitated area until it returns to full production. In this sense, the government program can be thought of as a combination of a short-term “cash for work” scheme to develop productive assets.

• **Government expansion program.** The expansion program has been focused in one site in the Letefoho sub-district of Ermera, where a community identified a 116 Ha site for a new coffee plantation. Government staff have provided instruction and supervision to a group of 41 members of the community who have been working to establish the plantation. Like the rehabilitation program, the rates of payment to community members are based on an assessment of the work input for each activity associated with bringing the plantation to production, while disbursement of payments is conditional on verification of progress by MAF staff.

3. **Lessons learned, challenges, and knowledge gaps**

• **Extension system.** The extension system and extension service provides the key bridge between the development of technical knowledge on how to improve production and the widespread adoption/application of this technology. The public extension system has been developed with support from the EU-funded Rural Development Programs (especially RDP II and RDP IV), and there is a perception that the system has improved in recent years, although serious challenges remain. Suco-level extension workers are responsible for a relatively large area and are expected to provide extension support for the full range of crops and other agricultural products. The resources and support provided to extension workers are often below the desired levels. Given the constraints faced by suco-level extension workers, MAF has recruited additional staff to work on coffee rehabilitation programs. CCT also employs 32 extension workers (in addition to the 280 staff working on the Arabica rehabilitation project). Given the crucial role of extension, there are a number of issues that will need to be considered in more detail – these include the models used for extension, linkages between public and private extension activities, and the extent to which training methodologies are aligned with the typical division of responsibilities within the household.

• **Land tenure.** Land tenure is clearly an issue in the areas that were formally managed by the Sociedade Agrícola Pátria e Trabalho (SAPT) and are now under state lease (e.g., Fatubessi, Pahata, Talo). It is estimated that these plantations constitute a total area of 14,000 Ha, or around 25 percent of the total planted area. Land tenure is also an issue on plantations that were formerly owned by individual families and are now occupied by smallholders. The number, location, and total area of these plantations is unknown.

• **Soil nutrition and fertilization.** All participants agreed that this is an important issue. Limited availability of nitrogen, potassium, and phosphorous, as well as deficiencies in minerals and other micro-nutrients, are likely to be affecting both the volume of production (yield) and the quality of the fruit. However, no formal soil or leaf testing has been done, and there have been no efforts to provide tailored advice on compost production and plant nutrition to farmers. This is a major gap.

• **Production models and returns per labor-day.** Organic production has advantages, but it is not clear that the improved organic production models being supported through the government and CCT programs will deliver a decent income and livelihood to households. At current/recent prices, a family that harvests 3 tons of fresh cherry from a 1 Ha plot would earn a gross income
of around $1,000. During the meeting, it was suggested that this did not represent a good income per Ha. Furthermore, previous analysis (see the Annex at the end of this section) of the improved model has suggested that it does not increase the return per household labor-day. It was suggested that the economic performance of different systems should be benchmarked (e.g., with the use of additional mineral or fertilizer inputs) with the goal of maximizing the sustainable income to households.

- **Farmer behavior and behavioral change.** Farmers are often interested in learning about new production systems or techniques, but achieving sustained adoption of new practices is not easy. There is a shortage of formal evaluations of different approaches; however, Mercy Corps is currently working with Café Brisa Serena to implement a “barrier analysis” to formally analyze the factors that have determined whether households that received training from Café Brisa Serena have implemented this training.

- **Knowledge gaps.** The initial discussion identified the following knowledge gaps:
  - What proportion of coffee farms require rehabilitation/replanting?
  - What area has been rehabilitated in the last 3, 5, and 10 years? Where has this been done?
  - What proportion of farms/smallholders are affected by land tenure disputes? Where is the disputed land?
  - Is there a yield gap between farmer-managed and agronomist-managed plots?
  - What are the most affective models for achieving sustained adoption of technologies to improve/increase production?
  - How important are soil nutrition and micro/macro nutrients? What are the labor and other input requirements of different production systems? Which models offer the best returns to households?

4. **Next steps**
   - **Group leader.** Fernando Santana was selected as the group leader, representing MAF’s National Director for Coffee and Industrial Crops. David Boyce of CCT/NCBA was confirmed as the alternate for the group.
   - **Documentation of current/recent efforts.** It was agreed that additional efforts should be made to collate relevant information on recent or ongoing work to improve production or productivity.
   - **Next meeting.** It was agreed that the group would meet again before or during the next visit of the CQI technical team. It was also agreed that the CQI training and extension specialist would facilitate an in-depth session on extension models and linkages between the public and private systems, as this will be a critical component of the new sector plan.

5. **Meeting attendees**
6. Annex

- During the meeting, there was some discussion of production models, the relationship between inputs (including household labor) and outputs, and the final net income per labor day to the household.
- The following summary (see Chart 1) was presented in Mendez England & Associates. 2013. Performance Evaluation of the USAID/Timor-Leste Consolidating Cooperative and Agribusiness Recovery (COCOAR) Project:
<table>
<thead>
<tr>
<th>Model:</th>
<th>Unimproved</th>
<th>Improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trees per hectare</td>
<td>1,479</td>
<td>2,000</td>
</tr>
<tr>
<td>% of trees replaced annually</td>
<td>0%</td>
<td>3%</td>
</tr>
<tr>
<td>Yield per tree (kg)</td>
<td>0.7</td>
<td>1.65</td>
</tr>
<tr>
<td>Yield cherry per ha (kg)</td>
<td>1,036</td>
<td>3,003</td>
</tr>
<tr>
<td>Yield of parchment</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Yield of green bean per ha (kg)</td>
<td>179</td>
<td>519</td>
</tr>
<tr>
<td>Gross income $/Ha</td>
<td>$412</td>
<td>$1,195</td>
</tr>
<tr>
<td>Cash input costs</td>
<td>$0</td>
<td>$90</td>
</tr>
<tr>
<td>Cash gross margin $/Ha</td>
<td>$412</td>
<td>$1,105</td>
</tr>
<tr>
<td>Total family labor days (FLD)</td>
<td>64</td>
<td>167</td>
</tr>
<tr>
<td>GM per FLD</td>
<td>$6.49</td>
<td>$6.61</td>
</tr>
<tr>
<td>Tree replacement 60 trees/yr/ha</td>
<td>30.00</td>
<td></td>
</tr>
</tbody>
</table>

**Gross margin after tree replacement**

- Per Ha.             - $1,094
- Per FLD             - 6.52

<table>
<thead>
<tr>
<th>Organic inputs</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pruning</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Weeding</td>
<td>Partial</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Simply picking coffee from an unproductive coffee garden that requires little other than labor input, can provide a reasonable return to time spent on harvesting but the technology is unproductive per unit area. There is a much greater improvement in gross margin per hectare in the improved management technology - from $412 to $1,094 per ha (a 265% increase). While the efficiency of coffee harvesting is improved with better coffee tree management, the labor involved from better agricultural practices increases from an average of 64 to 167 labor days. FGDs suggested that these increased labor requirements could be met by most rural households or by sharing work with other CCT local group members.
TIMOR-LESTE COFFEE SECTOR DEVELOPMENT PLAN
TECHNICAL GROUP
FOR
QUALITY AND VALUE ADDITION

Summary of the third meeting
• Date: 13 December 2017
• Venue: ADB office, Farol

1. Introduction
• Group role and introduction. Following the inception workshop, CQI has recommended the establishment of technical groups to focus on some of the key issues facing the sector. The role of these groups will be to verify baseline assessments and formulate clearly defined and actionable plans that can be incorporated into the overall sector strategy. CQI Technical Director Mario Fernandez gave an introduction that drew on his professional experience working on quality improvement programs and his visit to Timor-Leste in 2016:
  o What is quality? Coffee is a food product, so quality is connected to flavor. Ultimately, high quality is associated with desirable flavors. This means that to understand quality we need to understand how coffee flavors are formed and expressed, and how this varies between different countries and regions.
  o How is quality measured? The quality of commercial- and commodity-grade coffees are usually defined with respect to the physical characteristics of the coffee, such as the size of the beans and the proportion of beans with physical defects (e.g., insect damage). These characteristics are broadly correlated with flavor. For specialty coffee, quality is usually assessed as compliance against simple measures of physical quality and through sensory analysis to assess the degree of excellence. There are several approaches for sensory analysis, but the cupping framework that was developed by the Specialty Coffee Association of America is probably the most widely used.
  o What determines quality? Many factors influence coffee quality, including genetics (the variety or varieties of coffee being grown), the growing conditions, harvest and post-harvest practices, and the storage conditions.
  o Potential quality and the quality gap. Potential quality is defined as the maximum quality that can be achieved for coffee from a specific region or location if each of the factors that can be controlled is adjusted to its optimal level. Potential quality can be measured through a carefully controlled process and can be compared with the actual quality that is achieved from the same region. The difference between potential and actual quality for a given region is then defined as the "quality gap." It is a simple measure of the scope for improvement in quality within a given region.
  o Quality potential in Timor-Leste. A range of factors suggest that Timor-Leste has excellent quality potential. This includes the country’s location and topography, as well as the existence of unique and heirloom varieties. During his 2016 visit, Mario Fernandez also noted that some of Timor-Leste’s coffees have a very distinct flavor profile.
  o Other aspects of value addition. Certifications such as organic and fair trade can add value by providing buyers with independent assurances about the way in which coffee was produced and traded. Where production systems support sufficient transparency and traceability, value can also be added by linking quality with a range of “intangible” factors.
2. Where are we now?

- **The best coffee in the world?** The results of the 2016 and 2017 coffee quality competitions showed that average quality declined slightly in 2017 (see the Annex at the end of this section). This is probably a direct result of the difficult growing conditions in 2017. We can compare the results of the 2017 competition with the results from similar competitions in other countries through the Cup of Excellence (COE). COE competitions aim to find the best coffees in selected producing countries and offer these coffees to the market through an auction. COE uses a scoring system that is similar to the SCA system that was used for the competitions in Timor-Leste. However, it is not exactly the same and tends to produce slightly higher scores. Still, the comparison (see the Annex at the end of this section) suggests that Timor-Leste has some catching up to do.

- **Business models for processing.** CCT and Timor Global described their approaches to coffee procurement and processing. CCT buys fresh cherry from its members. It offers a standardized price per kg for cherry that is delivered to one of their three washing stations, and a lower fixed price for cherry that is bought at one of their designated buying points. This model is a practical response to the challenges that farmers face in processing their own coffee to a high standard, which include limited access to water for washing and fermentation, and challenges with drying pulped coffees. Timor Global buys dry parchment for commodity grades, and limited amounts of fresh cherry and wet parchment that are processed to higher quality grades. In the past, Timor Global focused on commercial- and commodity-grade coffees with quality measured by screen size and defect counts of 45 to 55 defects per 300 grams. It is now moving toward a specialty coffee model and is building in-house capacity for quality control through cupping of all lots. Timor Global has found that some areas such as Maubisse have such high levels of humidity and cloud cover that is difficult to properly dry coffee. Dry parchment from these areas is often damaged by mold or has other defects that result from improper drying. The wet-parchment model has some advantages for these areas: It reduces the mass to be transported and allows organic material to be retained for composting at the farm. It also allows quality control through flotation, washing, and controlled fermentation that cannot be done for dry parchment. Several smaller exporters (Alter Trade Timor, Café Brisa Serena, People’s Trade Company, YMCA) help farmer groups to process their coffee to dry parchment using simple equipment. These companies have an explicit focus on producing high quality and certified coffees that can secure premium prices. They have achieved good results, but they were unable to attend the meeting and share their experiences.

- **Government support.** The MAF has implemented a range of programs relating to coffee quality. The RDP IV program included a component to provide processing equipment and to train farmer groups to produce good-quality dry parchment. RDP IV also supported the preparation of proposals for a grading system for fresh coffee and dry parchment that would help to clarify the relationship between quality and price and thus strengthen the incentives for quality improvement. These recommendations are yet to be taken forward. MAF has an ongoing problem helping farmers in remote areas by providing them with equipment to pulp their coffee. The machine that is normally provided has a pulping capacity of 250 kg per hour. The logic for this support is that farmers are not able to sell fresh cherry due to limited accessibility. Farmers are then left to organize the marketing of their processed coffees.

- **Do we have a clear picture of current quality?** The 2016 and 2017 competitions provide a snapshot of the quality of some of the best coffees that were produced in these years. However, they don’t give a clear picture of the average quality of coffees that are being produced and exported. This makes it difficult to assess the current quality of coffees, or to see if quality is improving over time. Many exporting countries use grading systems to classify their exports.
These systems have traditionally been based on the physical characteristics of the coffee, but more and more countries are now incorporating cupping scores into their export statistics and grading systems. CQI advised that Timor-Leste would not need to adopt a very complex system to provide useful information. For example, a simple system that combined a cupping score with one or more physical grades would probably suffice.

- **What are the main constraints to improving quality?** Low productivity, a lack of incentives for supplying ripe cherry, households’ need for immediate cash income at the start of the coffee harvest, and weather conditions during the harvest can result in coffee being picked before it is fully ripe. Problems with logistics, a lack of knowledge, and weak incentives/sanctions can create significant delays between picking and pulping of coffee. Poorly controlled fermentation and drying can further reduce quality and can result in defects including mold. Storing coffees for extended periods in Dili can also negatively impact quality due to high temperature and humidity. Where agents or other middlemen link farmers to exporters, traceability can be lost, making it harder to provide farmers with clear incentives to improve quality and feedback on what they need to do to achieve this.

- **What solutions are available for drying coffees?** CQI shared some information on the recent development of mechanical drying technologies. Simple greenhouses made with bamboo and clear plastic sheeting are one solution for improving solar drying. Mechanical drying has also improved, and new systems now replicate the day/night cycle for solar drying. Small-scale and cost-effective solutions have been developed by companies such as GrainPro®, and these systems may be a good solution for areas of Timor-Leste with high humidity or cloud cover.

- **How important is certification?** The value of formal certifications depends on the market-access benefits that result from certification, and on the balance of supply and demand for coffees with specific certifications (e.g., fair trade, organic, etc.). It is well known that the global supply of fair-trade-certified coffee exceeds current demand. As a result, not all coffee that is certified as fair trade can be sold as such. The balance of supply and demand for organic-certified coffee and the price premium for organic certification are less clear. (Fair-trade coffees have a fixed premium if they are organic, but the premium for other organic coffees is not fixed.) For example, all of CCT’s production meets fair trade and organic certification requirements, but not all of its exports are sold with fair-trade and/or organic certification. Expanding organic certification is a possible value-addition strategy for Timor-Leste, so CQI will try to gather additional information on the outlook for supply and demand for organic-certified coffee to see whether this is likely to be a good strategy.

3. **Initial discussion on priorities**

- **Determining potential quality.** A controlled assessment would be needed to assess the potential quality of coffees from the different growing regions within Timor-Leste.

- **Measuring current quality.** A more systematic approach is needed in order to benchmark current quality and to track progress in improving quality over time.

- **Strengthening knowledge and incentives.** Farmers and other actors in the value chain need to understand what is required to achieve good quality, and the incentives that they face should encourage them to implement the required actions.

4. **Next steps**

- **Group leader.** Sr. Caetano, senior advisor to the National Directorate of Agribusiness, was nominated as the group leader. The group decided to invite a representative of a smaller exporter that focuses on specialty coffee production to serve as the alternate group leader.
• **Next meeting.** It was agreed that the group would meet again before or during the next visit of the CQI technical team.

5. **Meeting attendees**

1. Mateus Maia Manager Training, National Cooperative Business Association/Cooperative Café Timor
2. David Boyce Advisor, National Cooperative Business Association/Cooperative Café Timor
3. Bobby Lay Director, Timor-Global
4. Zannat Ferdous Advisor, Market Development Facility
5. Fernando Santana National Director of Coffee and Industrial Crops, Ministry of Agriculture and Fisheries
6. Agostinho Marques Advisor, Ministry of Agriculture and Fisheries
7. Antero Veiga National Director of Coffee and Industrial Crops, Ministry of Agriculture and Fisheries
8. Leonito Soares Advisor, Office of the Minister of Development and Institutional Reform
9. Juliao dos Santos Ministry of Agriculture and Fisheries
10. Mateus das Neves Mercy Corps
11. Cipriana Soares Focal Point, Ministry of Agriculture and Fisheries

6. **Annex – cupping competition results**

![Graph showing cupping scores for Festival Kafe Timor 2016 vs 2017]
Summary of the fourth meeting

- Date: 14 December 2017
- Venue: ADB office, Farol

1. Introduction

- Following the inception workshop, CQI has recommended the establishment of technical groups to focus on some of the key issues facing the sector. The role of these groups will be to verify baseline assessments and formulate clearly defined and actionable plans that can be incorporated into the overall sector strategy. This group will focus on physical infrastructure for transporting and processing coffee, the availability of market support services including information and financial services, and the promotion of Timorese coffees in the international markets.

- The CQI team shared their initial findings and impressions:
  - Information: There is very little reliable information on the cost of production, and the data on planting, production, and exports from different sources lack consistency. In general, information management is weak.
  - Processing facilities: There may be a need for additional investment in processing capacity.
  - Transport: Rural road access is clearly a significant issue.
  - Finance: Farmers’ income is highly seasonal, and households may experience financial hardship before the harvest starts. Businesses also face challenges in accessing working capital for procurement and processing activities.
  - Market positioning: Timor-Leste is not a new origin, but it could be rebranded or relaunched as an emerging producer of specialty coffee. The key issue is the availability of high-quality coffee – can you produce the required quality, and can you scale up production to meet rising demand?

2. Group discussion

- Transport. Road quality is a key issue for the major buyers and processors. CCT owns and operates 53 trucks, Olam has 14 trucks, and Timor Global also has a fleet of trucks. Bad roads cause wear and tear and prevent timely access to key producing areas. Often, bad conditions on a small section of road can have a wider impact, so it would make sense to prioritize repairs on these sections. In some cases, roads have deteriorated significantly in recent years. There is currently no forum for the coffee sector to provide input on the planning of road repairs and upgrades, but this could be established. Even relatively small improvements in some areas would make a difference, and labor-based construction methods could provide a useful additional source of employment during the off-season.

- Markets. CCT sell to the U.S., Canada, France, Germany, Norway, Australia, and New Zealand. They generally sign supply contracts in February and do not face any shortage in demand for their coffee. In fact, they are more likely to face constraints on the production side. Olam also noted that there is strong demand for specialty-grade Timorese coffees, but volatility in production and quality make marketing more challenging as they do not have a predictable supply. In 2015, there
was a medium-sized crop, and the average quality of parchment bought by Olam was very good. They exported to specialty buyers in the U.S. and received a good response. However, it has been difficult to build on this. In 2016, heavy rains affected quality, while in 2017, the crop was very small. Olam noted that harvest practices have a big impact on quality and are affected by both weather and the size of the crop.

- **Finance and payments.** Coffee procurement still relies on cash payments to farmers. At the peak of the harvest season, CCT is paying up to $0.5 million per day in cash to coffee farmers.

3. **Regional profiling**
   - Timor-Leste could use regional flavor profiling as a basis for more differentiated marketing of its coffees. Regional profiling combines geographical and sensory information. A flavor map can be used for decision making and communication to potential buyers, while increased use of GIS systems can provide increased traceability. The key requirements for regional profiling are:
     - Base map and other geographical layers such as soil types, rainfall, topography, climate, etc.
     - Production information, including shade trees and coffee varieties.
     - Sensory information: This can come from sensory analysis of coffee produced under controlled processing conditions, or based on the actual flavor profiles of coffees that are currently produced from each area.
   - Examples where regional profiling has been used successfully include Guatemala, where ANACAFE has well defined regional profiles and uses a balance of unified and differentiated marketing; and Ethiopia, where ECX uses a form of regional profiling.¹ Mexico has also made extensive use of GIS information to design a support system for 300,000 farmers. However, the Mexican program is not linked to profiling or product traceability.

4. **Roles and next steps**
   - **Roads.** Improving road access is a high priority. An immediate next step is to look at how best to establish a forum for the coffee industry to provide input on planning and prioritization of rural road upgrades.
   - **Information.** Improving access to information will require coordination on data collection and publication. CCT/NCBA noted that they are willing to share information on operations, but some information on sales prices and their finances is confidential.
   - **Partnerships.** Government and the private sector can work together. The Vice President of the Timor-Leste Coffee Association (ACTL) noted that the association and its members could work with the government on market information and promotion, farm rehabilitation, and quality improvement programs.
   - **Group leadership.** It was proposed that a representative from the Ministry of Commerce and Industry would serve as group leader, and that a private sector representative such as the Country Manager of Olam would serve as the alternate.

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¹ A typical profile has been defined for each major region in Ethiopia. For example, Yirgacheffe type A is a coffee from the Yirgacheffe region with the floral flavor that is associated with the region. Yirgacheffe type B is a coffee from Yirgacheffe that lacks the floral flavor.
5. **Meeting attendees**

1. David Freedman  
   Country Economist, Asian Development Bank
2. R.K. Chaitanya  
   Country Manager, Outspan Agro Timor
3. David Boyce  
   Advisor, National Cooperative Business Association/Cooperative Café Timor
4. Eusebio Dias  
   Manager Agribusiness, National Cooperative Business Association/Cooperative Café Timor
5. Bency Issac  
   Advisor, National Cooperative Business Association/Cooperative Café Timor
6. Afonso Oliveira  
   BDM Timor-Global
7. Mateus Soares  
   Supervisor, ATT
8. Antero Veiga  
   Advisor, Ministry of Development and Institutional Reform
9. Leonito Soares  
   Advisor, Office of the Minister of Development and Institutional Reform
10. Juliao dos Santos  
    Ministry of Agriculture and Fisheries
11. Agostinho Marques  
    Ministry of Agriculture and Fisheries
12. Cipriana Soares  
    Focal Point, Ministry of Agriculture and Fisheries
Summary of the sixth meeting
- **Date:** 15 December 2017
- **Venue:** ADB office, Farol

1. **Introduction**
   - **Group role.** Following the inception workshop, CQI has recommended the establishment of technical groups to focus on some of the key issues facing the sector. The role of these groups will be to verify baseline assessments and to formulate clearly defined and actionable plans that can be incorporated into the overall sector strategy.

2. **Presentation on coffee-tourism linkages**
   - David Freedman shared a 2016 conference presentation on coffee-tourism linkages in Timor-Leste. Some of the key points from the presentation were as follows:
     - **What is coffee tourism?** Coffee can form part of a range of visitor experiences with varying time commitments and costs. The simplest is that many tourists will drink coffee in the morning at their hotel or visit a café. Attending a workshop on coffee cupping or barista skills, making a day trip to a coffee farm, making an overnight trip, a visit to a coffee museum, or taking part in a coffee festival are other examples.
     - **Why it matters.** i) It offers additional opportunities for income generation and value addition from coffee (e.g., sales of roasted or prepared coffees, fees for farm visits, etc.); ii) It contributes to the ongoing development of consuming markets – visitors come, enjoy the product, and are more likely to consume it when they return home.
     - **Models vary, impacts can be significant.** Case studies on a farm visit program in Tanzania and the Kona Coffee Festival in Hawaii show that coffee-related tourism can have significant impacts on household income (Tanzania) and tourist flows, branding, and markets (Kona).

3. **Discussion**
   - **Current Ministry of Tourism program:**
     - Data of visitors are targeted at 200,000 annually to Timor-Leste
     - The Government has adopted a Tourism Policy 2017 – 2030 and will develop a Tourism Development Strategic Plan.
     - The Ministry has, so far, been focusing on facilitating development of tourism spots.
     - The Ministry has identified and targeted potential demand from Japanese visitors who travel through Bali and continue on to explore Timor-Leste. The Ministry will coordinate and cooperate with tour operators in Bali to develop tourism packages that should include Timor-Leste.
     - As part of the tourism development process, the Ministry also has:
       - Allocated budget for construction on guest houses in tourist spots and sites;
       - Conducted a research/survey on accessible proper home stays;
       - Provided training on tourism hospitality;
And initiated a quality standard construction of home stays/hotels, piloting in Baucau and Lospalos.

- **Tour operators’ experiences.** Timor Adventures has been offering coffee-focused tours and is interested in doing more. One challenge that they have faced is that it is not always easy to find farm locations to visit. The CCT demonstration farm and training center at Rai Laco is a good place to visit and is easily accessible from Dili, but it is often not possible to visit.

- **Possible locations for coffee tourism development.** Maubisse can serve as a good base for visits to coffee farms, and the Pousada is a very attractive and historical place to stay. The old SAPT plantations at Fatubessi could also be developed as a place to visit. The opportunity to visit the “Kafe Inan” or original Hibrido de Timor would be of interest to coffee enthusiasts, and the history of the area is interesting. The old SAPT warehouse could be converted into a museum recording the history of the area.

- **UNESCO recognition.** Timor-Leste’s coffee landscapes could gain recognition from UNESCO as a world heritage site, or under another UNESCO program such as the Man and Biosphere Programme. The coffee landscapes of Colombia and the coffee production sites in Cuba have both achieved World Heritage Site status. UNESCO has indicated that a similar recognition may also be possible for Timor-Leste.

- **Forthcoming donor support.** USAID has been supporting CCT/NCBA’s activities. The demonstration plot (demplot) is only prioritized to official visitors mainly coming from USAID and the embassies; therefore, it is not open to everyone. USAID’s Tourism Management specialist, Flavia da Silva, will raise the issue of tourist visits at the demplot with CCT. USAID has an upcoming project on tourism and will work with the government to prepare the plan. It will also touch on to community-based project where it will be possible to look at on the coffee sector.

4. **Next steps**

- **Group leader.** Jose Quintas was selected as group leader, representing MT’s National Directorate for Marketing and Promotion. Flavia da Silva of USAID was confirmed as the alternate.

- **Next meeting.** It was agreed that the group would meet again to review progress prior to the next in-country visit of the CQI team. This visit is likely to be in late January 2018.

5. **Meeting attendees**

  1. Antero Veiga Advisor, Ministry of Development and Institutional Reform
  2. Leonito Soares Advisor, Office of the Minister of Agriculture
  3. Flavia da Silva Tourism Program Manager, USAID
  4. Antonio P. S Marketing Officer, Ministry of Tourism
  5. Leanorda Eurico Planning Officer, Ministry of Tourism
  7. Jonias M. Exposito Administration Officer, Timor Adventures
  8. Cipriana Soares Focal Point, Ministry of Agriculture and Fisheries
  10. Mario Fernandez Technical Director, Coffee Quality Institute senior staff member
  11. Stephen Walls Team Leader, Coffee Quality Institute