



**Standing Committee
for Economic and Commercial Cooperation
of the Organization of Islamic Cooperation (COMCEC)**

Proceedings of the 8th Meeting of the COMCEC Agriculture Working Group

“Reducing Post-harvest Losses in the OIC Member Countries”



**COMCEC COORDINATION OFFICE
November 2016**



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**PROCEEDINGS OF THE 8TH MEETING OF THE COMCEC
AGRICULTURE WORKING GROUP
ON**

**“REDUCING POST-HARVEST LOSSES IN THE
OIC MEMBER COUNTRIES”**

(13 October 2016, Ankara, Turkey)

**COMCEC COORDINATION OFFICE
November 2016**

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Introduction

The 8th Meeting of the COMCEC Agriculture Working Group was held on October 13th, 2016 in Ankara, Turkey with the theme of “Reducing Post-harvest Losses in the OIC Member Countries”.

The Meeting was attended by the representatives of 13 Member States, which have notified their focal points for the Agriculture Working Group namely, Cameroon, Islamic Republic of the Gambia, Iraq, Iran, Indonesia, Ivory Coast, Jordan, Palestine, Qatar, Senegal, Sudan, Saudi Arabia and Turkey. Representatives of COMCEC Coordination Office, Islamic Development Bank (IDB), Doga Seed, Food and Agriculture Organization of the United Nations (FAO) and SESRIC have also attended the Meeting.¹

The Meeting began with a recitation from Quran. Afterwards, Mr. Mehmet Metin EKER, Director General of the COMCEC Coordination Office (CCO), and Mr. SALAH BAKHIET, Associate Professor, Agricultural Research Corporation, Ministry of Agriculture and Forests of the Sudan and the Chairman of the Meeting, delivered their opening remarks. Following the opening remarks, the representative of the CCO made a presentation on “COMCEC Agriculture Outlook 2016”. During the presentation of the COMCEC Agriculture Outlook 2016, the participants were informed about the state of agriculture sector in the OIC Member Countries through focusing macro agricultural indicators.

Afterwards, the Meeting considered the research report titled “Reducing Post-harvest Losses in the OIC Member Countries” which was conducted by the Natural Resource Institute (NRI), University of Greenwich specifically for the 8th Meeting with a view to enriching the discussions.

Furthermore, a moderation session was held at the outset of afternoon session. The participants discussed on the policy recommendations for reducing post-harvest losses in the OIC Member Countries. The Room Document prepared by the CCO, in light of the findings of the research report and the answers of the Member Countries to the policy questions was discussed during the meeting. Firstly, the representative of the CCO made a short presentation introducing the responses of the Member Countries to the policy questions as well as the Room Document. Then, participants shared their views and observations about the policy recommendations included in the Room Document.

The representatives of Iran, Senegal, Sudan and Turkey have shared their experiences, achievements and challenges regarding post-harvest losses in their respective countries.

Lastly, FAO and Doğa Seed have made presentations on their experiences with regards to post-harvest losses.

¹ The list of participants is attached as Annex 4.

1. Opening Session

In line with the tradition of the Organization of the Islamic Cooperation (OIC), the Meeting commenced with the recitation from the Holy Quran. Afterwards, Mr. Mehmet Metin EKER, Director General of the COMCEC Coordination Office welcomed all participants. Giving brief information on the details of the programme of the Meeting, Mr. EKER invited Mr. SALAH BAKHIET, Associate Professor, Agricultural Research Corporation, Ministry of Agriculture and Forests of Sudan to chair the Meeting. Afterwards, Mr. BAKHIET welcomed all the participants to the 8th Meeting of the Agriculture Working Group. Following his opening remarks, he invited Mr. E. Emrah HATUNOĞLU to present COMCEC Agriculture Outlook 2016.

2. The COMCEC Agriculture Outlook 2016

Mr. E. Emrah HATUNOĞLU, Expert from the COMCEC Coordination Office presented some of the key findings of the COMCEC Agriculture Outlook 2016.

In his presentation, Mr. HATUNOĞLU briefed the participants on the agriculture sector in the OIC Member Countries specifically hone in on macro agricultural indicators which are agricultural value added, growth rates, population, employment, and trade, with a special emphasize on sectoral indicators such as land use, crop production, and agricultural productivity in the OIC member countries. Mr. HATUNOĞLU, additionally, informed the participants on the current status of food security in the OIC Member Countries. In this framework, he stated that the state of undernourishment is directly and indirectly related to the availability, utilization, access and stability of food.

He stressed that OIC's agricultural GDP was 186 billion US Dollars which was 16 percent of world's agricultural production in 1990. OIC's agricultural GDP reached to 682 billion US Dollars with a share of 21 percent in the world's agricultural production in 2014. Despite that fact that the share of OIC's agricultural production in the world agricultural production has slightly decreased in 2014, it shows an increasing trend. Regarding the sub-regional level, Mr. HATUNOĞLU mentioned that Asian Group has made the highest contribution to agricultural production over the years. Asian Group has more than half of the total agricultural GDP of the OIC Member Countries with 367 billion US Dollars agricultural production. On the other hand, relatively performance of African Group is getting strong compared to the Arab and Asian Groups. In this respect, the share of African Group's agricultural GDP in OIC's agricultural GDP increased from 16 to 24 percent from 1990 to 2014.

Moreover, Mr. HATUNOĞLU stated that the share of agricultural GDP in total GDP of OIC Countries has been decreasing. In this context, the share of agriculture sector in the economies of OIC Countries decreased from 16 percent in 1990 to 10 percent in 2014. He underlined that the importance of agriculture sector in national economies of OIC Countries can be understand by looking at the share of agricultural GDP in country's total GDP. In the top ten country rankings, Turkey, Iran and Malaysia are only three countries whose shares of agriculture sector in the economy is lower than 10 percent.

Afterwards, he informed the participants on the average annual agricultural growth and economic growth in the OIC and World. In this respect, Mr. HATUNOĞLU stressed that for the last two decades, the average agricultural growth in ten years period in the OIC increased from 3.4 percent in 1994-2004 to 3.44 percent in 2004-2014. Although average yearly agricultural growth in the OIC is higher than the world's agricultural growth in both decades, it lags behind the OIC economic growth. He stated that in 1990, OIC agriculture sector employed almost 182 million people, where total employment was 344 million. In 2013, the number of people employed in agriculture sector reached to 240 million people. In the same year, total employment in the OIC Member countries realized as nearly 670 million people. Even though employment in agriculture sector is increasing, the proportion of employment in agriculture has been decreasing over time. The share of agriculture sector in total employment was 52 percent in 1990, 44 percent in 2000, and 36 percent in 2013.

He also stated that in 1990s, the share of agriculture employment in the OIC was higher than the world. At the beginning of the 2000s, both figure intersects at around 44 percent. After this point, the share of agriculture employment in the OIC was getting lower with a higher rate compared to the world. In this respect, as of 2013 the share of agriculture employment in the OIC decreased to 36 percent; where it was 39 percent in the world.

Moreover, Mr. HATUNOĞLU informed the participants that agricultural commodity trade of the 57 OIC Member Countries increased considerably in the period from 1990 to 2012. In this framework, total agricultural trade in the OIC Member Countries grew by more than 5 times from 1990 to 2013 and reached 357 billion US Dollars. In 2013, total agricultural commodity import of the OIC Member Countries reached to 224 billion US Dollars from 35 billion US Dollars in 1990. Similarly, in 2013 total agricultural commodity export of OIC was as 133 billion US Dollars, whilst it was 20 billion US Dollars in 1990. Underlying the export/import ratio, he underscored that while the ratio of export to import was around 58 percent in 1990, it increased to almost 70 percent in 2010. Nonetheless, the export/import ratio has shown a declining trend in recent years and the poor performance in agricultural export in 2013 affected badly the export/import ratio, regressing to 59 percent. Furthermore, the share of the OIC Member Countries' agricultural imports in the world increased to 15.7 percent in 2013 from 9.9 percent in 1990. Accordingly, the contribution of OIC agricultural exports to world total agricultural export reached to 9.9 percent.

Mr. HATUNOĞLU stated that OIC Member Countries' total land area is nearly 3.2 billion hectares and it is equal to 24 percent of the world. With regards to the crops and livestock production, he mentioned that there is an improvement in main crops production such as cereal, oil crops, fruit, vegetable from 2000-2013. As of 2014, OIC Member Countries contributed 395 million tons to the world cereal production, representing approximately 14 percent of the world total cereals production. Furthermore, in 2014, 69 million tons of oil crops were produced in the OIC, where it was 31 million tons in 2000, and the share of oil crops production has reached to 35 percent in the world.

He also mentioned that land and labour are important inputs that are used in the production process. In this framework, in 2013, average agricultural land productivity of OIC Member Countries reached to 1,312 US dollars/ha, where it was 705 US dollars/ha. Regarding the labour productivity Mr. HATUNOĞLU expressed that labour productivity in the OIC was higher than the world average in the OIC Countries during the period 1995 and 2013. During the 1995-2013 period the agricultural land productivity of OIC Member Countries increased by 86 percent, while it was only 61 percent in the world.

With regard to the food insecurity, Mr. HATUNOĞLU, mentioned that as of 2014-2016 period, 168.6 million people are expected to be undernourished in the OIC Member Countries which accounts for the 21 percent of undernourished people in the world.

He underlined that in the last 25 years, while the number of undernourished people in the world has fallen gradually, it has remained almost the same in the OIC Member Countries. Therefore, the share of the OIC undernourished people in the world has risen from 16 percent in 1990-1992 to 21 percent 2014-2016. In this respect, Mr. HATUNOĞLU stated that according to the Global Food Security Index, which includes 37 OIC Member Countries, most of them have improved their Food Security Score incredibly in 2016, compare to 2015. While 28 out of 37 OIC countries has improved their score, only 6 OIC countries, Yemen, Cote d'Ivoire, Syria, Sierra Leone, Bahrain and Turkey have deteriorated their score. Jordan, Niger and Tajikistan have held their score at the same level.

Questions and Remarks

Question: In the presentation it is indicated that agricultural labor productivity is higher in OIC Member Countries than the World average. Could you explain the factors behind this? How the labor productivity is higher than the world average inn OIC?

Answer: Agricultural Labor productivity is an important indicator for measuring the productivity in agriculture sector. In this respect, we can see that agricultural labor productivity is around 1600 Dollar per labor in OIC Countries and it is around 1400 Dollar per labor in the World. This ratio is connected to agricultural GDP per labor, so the World average is lower compares to the OIC, and the difference is getting larger. For instance, in 1995 OIC and World average had similar performance, whereas, in 2013 the difference was larger. It is due to the fact that in OIC agriculture sector employ lower rate of people in recent years compares to 1990s.

3. Reducing Post-harvest Losses in the OIC Member Countries

3.1. Overview of the Post-harvest Losses in the OIC Member Countries

Professor Keith Tomlins, Natural Resources Institute (NRI), University of Greenwich, UK presented the key finding of research report entitled *“Post-harvest Losses in the OIC Member Countries”* conducted by a team from the Natural Resources Institute (NRI). The analysis sought to identify approaches and practices, and policy recommendation for future investments.

Professor Tomlins made two different presentations. The first one was on the overview of the post-harvest losses in the world and the OIC member countries, and the second one was on the selected case studies from the member countries and policy recommendations for reducing post-harvest losses in the OIC countries.

In his presentation Professor Tomlins briefed the participants that the report highlighted the following issues;

- Substantial postharvest losses across all Members and commodity groups are similar to those reported in non-OIC Member Countries.
- The value of high physical losses identified in the commodity groups such as fruit and vegetables, root and tuber crops and meat and meat products.
- The report identified high economic losses for cereals and fish and fish products.
- Nutrition losses were rarely reported but for cereals in Sub-Saharan Africa losses could be equivalent to the annual caloric requirement of 48 million people.
- Weak policy support affect loss reduction strategies almost in all globe.
- Limited on-going measurement of postharvest losses resulted in lack of evaluation regarding the impact of innovation and policy.

He stated that the report was prepared with a view to providing ways to contribute to reduce postharvest losses in the OIC member countries. The analysis in the report seeks to identify approach and practices, and policy recommendations for future investments. Professor Tomlins stated that the definition of postharvest losses is discussed as food damage or degradation of food during different stages of the food supply chain. In other words, post-harvest losses defined as the losses between the farm-gate and prior to retail and consumption. The definition can vary according to what is referred to as quantitative losses (weight loss) and qualitative loss (insect damage) etc.

Afterwards, he stressed that the methods used in the report are a combination of a brief literature review, an on-line survey of key informants, and a series of commodity specific case studies include three field visits. The scope of the study includes all OIC Member Countries, and representation from seven commodity groups (cereals, roots and tubers, oilseeds and pulses, fruit and vegetables, meat and meat products, milk and dairy products and fish and seafood). Field visits were conducted in Indonesia, Bangladesh and Oman.

Following his presentation, Professor Tomlins discussed the global context and losses at the physical, economic and nutritional levels. He stated that the postharvest physical losses in OIC countries are not that different from the global losses for each commodity that the authors extracted from FAO data. In this framework, for cereals, root and tuber crops, oilseeds and pulses, fruit and vegetables, meat and meat products, milk and dairy products and fish and fish products, the extrapolated losses from FAO data was 12-15 percent, 22-34 percent, 15-38 percent, 11-12

percent and 16-25 percent respectively. Compared to this, the level of losses found from the research report was 9-48 percent, 7-50 percent, 14 percent, 3-65 percent, 6-40 percent, 2-30 percent and 3-50 percent respectively. Although the spread is wider than the estimates from FAO reports, it is considered to be consistent. Hence, the postharvest losses in OIC countries are not that different from elsewhere. Some commodities and countries are well covered (e.g. maize in Uganda), but most are poorly analysed in existing research, with some significant knowledge gaps identified (e.g., some countries with little or no literature, other commodities under researched).

Furthermore, Professor Tomlins expressed that the postharvest economic losses are less consistently reported and difficult to compare with the global situation due to differences in reporting (monetary amounts or percentages), different sizes of economies and differing product values. For instance, postharvest losses are considered large and the order of 1 to 4 billion and 4.8 billion US Dollar per annum for cereals (Egypt and Uganda) and fish (Indonesia) respectively. However, postharvest losses were considered as low as 8 to 21 million US Dollar per annum for tomatoes in Bangladesh. This probably the main difficulties in estimating losses as well as valuation. He underscored that the least known/understood postharvest loss in research report was regarding the quality/nutrition losses and was limited to calories in cereals to vitamin A for biofortified cassava. Such information will be critical for countries suffering from nutrition deficiency.

Professor Tomlins mentioned that bringing together the estimates for physical, economic and quality/nutrition losses in the OIC Member Countries along with comparisons with the global situation has highlighted a few lessons and gaps. The bulk of the information obtained from the literature review, online survey and case/desk studies concerned the physical losses. This is probably because physical losses are easier to estimate either by direct measurement or by visual inspection. However, it should be noted that all are estimates and few studies are quantitative. Much less was reported concerning the economic losses and the amounts will differ markedly from one value chain for another, even for the same product and commodity. He afterwards, stated that this, therefore, is an area of research that would require more inputs and due to the high cost of undertaking such work, the target value chains would need to be selected according to economic contribution to the OIC Member Country. In all cases the monetary cost of the losses was significant but it was not always known how the costs were estimated. If the monetary losses could be captured, this will lead to benefits for the consumer and actors in the value chain along with potential benefits to national balance of payments. The least known was regarding the quality/nutrition losses but such information may be critical for countries suffering from nutrition deficiency, particularly calories and vitamins.

He underlined that the key findings concerning specific postharvest research issues are sparse and geographically scattered. Some commodities have a greater coverage than others (e.g. artisanal fisheries and maize are far more researched than cattle or bananas). Some OIC Member Countries and regions have seen much more postharvest loss research and practice than others. For example, the Africa Group and low income countries has seen more support, probably from donors, which has been driving postharvest loss research. Commodity specific findings are reported and these related to the product characteristics, uses and markets they each fall into. For example, for the cereals, the challenges are related mainly to drying and storage, especially related to pests in store, whereas for other root crops peeling, storage and marketing are the highest postharvest loss elements reported. For oilseed and pulses, key issues related to storage largely due to the impact of storage pests. For fruit and vegetables, the issue is the high perishability and ease of damage. Meat and meat products issues related to high transport losses for live animals are often a factor of

distance to market or slaughter and the absence of infrastructure including adequate cold chains. For milk and dairy products, key issues are related to the need to upgrade the milk and dairy value chains, particularly setting standards, organising farmers and supporting the emergence of cool-chains. Lastly for fish and fish products, the key issues related to postharvest losses in aquaculture. Investments in cold chains and improved postharvest handling could substantially reduce postharvest losses and food safety concerns.

Questions and Remarks

Question: In the presentation it is mentioned that there is lack of data related to post-harvest losses in the OIC Member Countries, and it is a challenging issue to collect data in the OIC Member Countries. It is also mentioned that the methodologies that are used in collecting data vary from country to country. Furthermore, it is mentioned that there is a network system namely the African Post-harvest losses Information System (APLIS) which is an important model for estimating post-harvest losses. However, only 38 countries from sub-Saharan included in the APLIS. How OIC countries can be included to the APLIS?

Answer: APLIS is a unique system which is very effective as a model for estimating post-harvest losses. In the current phase, it is funded by the Bill-Melinda Gates Foundation. APLIS in its first phase was more about cereal crops. In second phase it will look other commodities and also not only physical losses but also economic losses and nutritional losses. Furthermore, the efforts for reducing post-harvest losses could only be realized if there is a well-functioning data system. This is what APLIS trying to do. NRI tasked by Bill-Melinda Gates Foundation to expand the APLIS with more countries and commodities. In this respect, while designing the second phase of APLIS, NRI will be in contact with COMCEC.

3.2. Selected Case Studies from the Member Countries and Recommendations for Reducing Post-harvest Losses

Professor Keith Tomlins, began the second part of his presentation with giving information about the methodology used for case studies. He finalized his presentation with giving information on selected case studies from the Member Countries and recommendations for reducing post-harvest losses.

3.2.1. EGYPT (Cereals)

Professor Tomlins briefed the participants that report analyzed the postharvest losses and economic burden for cereals in the Egypt in detail. In this respect, he stated that Egypt has not any system for reporting post-harvest economic losses. Nonetheless, it is estimated that the level of post-harvest losses is around 10 to 30 percent in general. 10 percent postharvest loss of all Egypt's domestically produced and imported wheat, maize and rice would equate to the loss of 3.9 million tons of cereal grains per year, which is equivalent to US Dollar 1.16 billion/ annum.

He argued that many of the causes of cereal postharvest losses in Egypt commonly occur across the world such as poor handling techniques, drying, storage pests, weak monitoring, theft etc. In addition, Egypt faces a number of other less common causes of cereal losses due to the various subsidies associated with the cereal (particularly wheat) supply chains. These include fraud (inclusion of cheaper imported cereals), flour resold on black-market, shouna storage open bag-stack arrangements and complex procurement making management inefficient. The main challenges that are faced in Egypt, regarding post-harvest losses for cereals are import of nearly 50 percent of wheat and maize, increasing population, subsidies in bread and heavy reliance on water for rice.

Afterwards, Professor Tomlins informed the participants on the measures and strategies may be implemented for postharvest loss reduction of cereals in Egypt. In that sense, he mentioned that causes of postharvest cereal losses can be addressed through;

- Raising greater awareness on the level of losses, where they occur and causes of the losses.
- Bringing many different activities, actors, sectors and goals together through developing an agricultural innovations system.
- Innovation systems perspective can help to examine technological and institutional change as a complex process of interactions among diverse actors engaged in generating, exchanging and using knowledge, and the social and economic institutions.

3.2.2. NIGERIA (Cassava)

With regards to Nigerian case, Professor Tomlins informed the participants that Nigeria is the largest producer of cassava globally. Cassava is mainly for food consumption, and the government of Nigeria is supporting wheat substitution with high quality cassava flour in bread making. He stressed that the level of physical losses reported as between 8 percent and 25 percent. The economic cost of these losses varied from 20 million US Dollar and 900 million US Dollar. Regarding the nutrition losses of cassava there is not any estimate.

He argued that harvesting and processing are the main sources of losses in Nigeria, and the biggest losses are postharvest deterioration and during peeling. These losses can be reduced if processing

is located close to the farm. In this framework, Professor Tomlins mentioned that the causes of postharvest losses can be addressed through;

- Raising greater awareness of the level of losses and situations where they occur and the causes of the losses.
- Developing Postharvest Innovations System, that bringing many different activities, actors, sectors and goals together.
- Turn losses into gains. EU FP7 GRATITUDE project demonstrated peels and stems can be used for mushroom production, which can use enzymes to recover starch from peels and access new markets (i.e., gluten mfree).

3.2.3. SENEGAL (Groundnuts)

Regarding the Senegal's case Professor Tomlins stated that groundnuts are re-emerging as an important crop in Senegal and production expected to increase to 1.1 million tonnes in 2016/17. Half of the production of groundnuts is exported to China and Vietnam. World Bank is supporting government of Senegal investments in this sector to support livelihoods of 850,000 farmers.

He expressed that according to official estimates the level of losses is 14.1 percent or 150,000 tonnes, which is equivalent to 80 million US Dollar. Saving this loss could potentially increase farm household incomes by 94 US Dollar per year. 82 percent of groundnuts marketed through the informal channels and not subjected to controls by national standards authorities Aflatoxin contamination is high with up to 85 percent of groundnuts contaminated.

Regarding the main causes of postharvest groundnut losses in Senegal, he underlined that shelling, drying, storage, grading, packaging and transportation lead to significant losses, including quality-related losses. Furthermore, traders feel under pressure early in season when nuts have not been properly dried. And informal trade decreases the level standards of groundnut which is an obstacle in access to international market. He stated that few measures and strategies are currently in place. For instance, activities related to awareness of Aflatoxin (particularly moulds) and some of its potential health effects. However, traders do not separate the nuts and do not receive a premium for quality nuts. In addition, government conduct policy and market incentives. Currently much of the groundnut trade in Senegal is informal. Therefore, new measures needed to be applied for enabling international standards and regulations to be followed so that the safety and quality can be improved, and at the same time to reduce losses and realise gains.

3.2.4. BANGLADESH (Tomatoes)

Professor Tomlins explained that Bangladesh is an important producer in tomatoes at global level. In this respect, Bangladesh ranked as 4th in production and 3rd largest producer in South Asia. Furthermore, production of tomatoes is rapidly increasing (11 percent per year). Bangladesh produce tomatoes as a winter crop but also have summer crop Dyke Tomatoes which are integrated with fish farming. He emphasized that there is variation in the extent of losses reported and methodology. Total physical losses vary between 3 and 40 percent. Two reports have been conducted to analyse monetary value of the losses (2008-9). According to these reports, the level of losses is 9 million US Dollar at the farm gate price and 11.6 million US Dollar at the retail price in one report. There is lack of data on the impact of quality/nutrition losses.

Furthermore, he underlined following issues as the main causes of post-harvest tomato losses;

- Poor packaging methods and transport, particularly from distant production areas to the main wholesale markets in Dhaka.
- Harvesting methods on-farm also contributory factors. Tomatoes are harvested at any time of the day and removal of field heat is rarely practiced.
- Farmers' knowledge of maturity indices is inadequate – immature and over mature produce are harvested; produce is often piled in heaps which causes bruising.
- Sorting is done to remove damaged and disease/insect infested produce based on visual observation.
- Grading is based on size but most produce is not graded.
- Washing is seldom practiced and there is no regard for water quality.
- Damage by rats to harvested tomatoes were mentioned as a cause of loss.

Lastly, Professor Tomlins emphasized that some important measures needed to be adopted for reducing losses regarding correct maturity, bird scaring and staking of tomato plants.

3.2.5. UGANDA (Milk and Dairy Products)

With regards to milk and dairy products in Uganda, Professor Tomlins expressed that total milk production estimated to be 1.92 million litres/day, and only 12.7 percent of it marketed. In addition, the level of processed milk and dairy products is very low, and the losses of marketed milk estimated at 21 percent which is equivalent to 23 million US Dollar.

Report indicates that the level of the losses after farm gate from 10-21 percent, and it shows high seasonal variability (collection challenges during rainy season). It is estimated that 18 percent of the produced milk and dairy is being lost due to spillage and spoilage in-chain. Afterwards, He argued that the main causes of loss are:

- Lack of access or uncertain electricity
- Spoilage and spillage in chain
- Accessibility of farms during rainy season
- Poor quality control & hygiene leading to contamination
- Lack of cooling infrastructure or ineffective preservation

With a view to reduce the post-harvest losses Uganda has implemented some precautions. In this context,

- National milk and milk production regulations and standards are developed,
- Some practices including boiling large amount of milk in unhygienic environments and use of inappropriate containers (plastic containers) were outlawed.
- Regular inspection and monitoring milk processing centres and retail outlets are intensified.

3.2.6. OMAN (Meat and Meat Products)

Regarding the case of Oman Professor Tomlins informed the participants that Oman's meat sector divided between imported chilled/frozen (almost no losses) and imported/domestic live animals (significant losses identified). The estimated quantitative post-harvest losses in meat and meat

products are from 25 to 40 percent, and the economic losses are around 6 million US Dollar per year. He mentioned that the main causes of losses are as follows:

- Domestic slaughter leads to waste of offal, skins, blood etc., environmental costs and possible health costs.
- Lack of domestic standard for marketing – all transactions are ‘negotiated’ and nothing is weighed.
- Where formal slaughter occurs, most of the by-products are underutilized – e.g., skins and hides exported salted.
- Farmers, market agents and manufacturers in Oman are uncoordinated.
- Under-feeding is common – expensive feed and no weighing.
- Low off-take means extra animal maintenance costs.
- Fodder and feed lose quality and weight in store due to high aridity.
- Food quality is not strongly regulated – the impact of this is unclear.

He stressed that Oman needs to consider tackling its domestic livestock slaughter policy that would improve public hygiene. Moreover, more data on losses and their specific locations could allow implementation of policies that promote reduction of post-harvest losses in meat and meat products.

3.2.7. INDONESIA (Fish and Fish Products)

With regards to fish and fish products in Indonesia, Professor Tomlins emphasized that the level of postharvest losses is estimated as 30 percent, and it is equivalent to 4.8 billion US Dollar. He mentioned that economic losses are the main problem. In this respect he underlined following issues as the main causes of economic post-harvest losses;

- Poor quality raw material due to poor on-board handling is landed and delivered for further processing results,
- Poor on-shore handling and storage
- Poor hygiene and sanitation

He highlighted the following measures and strategies implemented by the relevant institutions of Indonesia for reducing post-harvest losses;

- A comprehensive plan for measuring and tackling postharvest losses in the fisheries sector has been developed.
- Postharvest losses are reported in national statistics (but not disaggregated by physical and economic losses).

Lastly, he underline that Indonesia’s approach to managing post-harvest losses in the fisheries and aquaculture value chain should be shared with other participating countries.

3.3. Overall Policy Recommendations

Professor Tomlins focused on the common challenges faced in 57 OIC member Countries and some common solutions to address these challenges. In this respect, the common challenges include;

- ✓ Underestimation of the impact of rodents on losses,
- ✓ The importance of the impact of actions taken on farm that can affect postharvest losses,
- ✓ The impact of toxins such as aflatoxin,
- ✓ Inadequate cold-chain infrastructure,
- ✓ Inadequacy of the existence of policies supporting strategic crops,
- ✓ Under-investment in postharvest management by the private sector.

He highlighted some common solutions in the postharvest value chain and ones that were systemic such as rules and standards, capacity and training etc. For example, breeding to improve the storability of fruit and vegetables and root and tuber crops would reduce losses, early quality differentiation to improve marketability etc. A number of examples of best practice were given related to ownership are as follows;

- ✓ Highlighting the value of Information and Communication Technology (ICT),
- ✓ Promoting investment for stored fruit and vegetables,
- ✓ Sharing information via mobile phones,
- ✓ Strategic investment such as cold chain infrastructure,
- ✓ Introduction of new industries from waste,
- ✓ Multi-actor collaboration and the importance of national loss-reporting systems (for example APHLIS and Indonesian Fisheries Sector).

Professor Tomlins expressed that in light of the key findings of the research report a number of policy recommendations were suggested to OIC Member Countries to locate and quantify postharvest losses. These recommendations mainly are as follows:

- ✓ The need for establishing national postharvest loss reduction coordination approaches,
- ✓ Establishing consistent methods, sharing best practice and promoting system wide efforts,
- ✓ Promoting capacity building and sharing among OIC Member Countries,
- ✓ Facilitating local, national and, potentially, regional multi-stakeholder commodity platforms etc.
- ✓ Lastly, postharvest losses are generally more complex than pre-harvest losses due to the greater diversity of products and end uses and markets. Considering this complexity each member countries should develop a national level strategy for prioritising which commodity groups and value chains are most important to overcome that challenge.

Questions and Remarks

Questions: One of the policy recommendations, that is highlighted in the report, is related to the creation of post-harvest reduction national coordination committee at national level. Regarding this recommendation, which governmental bodies should be included in that coordination committee? should they include private sector?

Answer: The establishment of such committees should be driven by the evidence base. In this context, it would be different from country to country, and including representatives from the private sector and civil society will be critical.

4. Policy Discussion Session

The session was moderated by Mr. Metin TÜRKER, Deputy Director General, Ministry of Food, Agriculture and Livestock (MFAL) of Turkey.

At the beginning of the session, Mr. Mehmet Akif ALANBAY, expert from the COMCEC Coordination Office, made a short presentation on the responses of the Member Countries to the policy questions on reducing post-harvest losses which were already sent by the CCO. Afterwards, he presented the policy recommendations provided in the room document.

Following Mr. ALANBAY's presentation, the participants expressed their views and comments for each policy recommendations as well as the experience of their respective countries with regards to the post-harvest losses. Based on intensive discussions, the participants have highlighted the following policy recommendations:²

- ✓ Improving and developing agricultural extension, training and outreach research activities for reducing postharvest losses
- ✓ Mobilizing agricultural finance providers to allocate more financial resources with a view to addressing agricultural infrastructure investment needs in postharvest losses
- ✓ Setting up national postharvest losses reduction coordination committees with a view to identifying, prioritizing and sharing postharvest losses data and practices across a range of strategic commodities and raising awareness on postharvest losses

The policy recommendations are attached to this report as annex 3.

5. The Way Forward: Utilizing the COMCEC Project Cycle Management (PCM)

Mr. Ali ORUÇ, expert at the COMCEC Coordination Office made a presentation on the COMCEC Project Funding introduced by the COMCEC Strategy. At the outset, Mr. ORUÇ informed the participants about where the COMCEC Project Funding stands in the COMCEC Strategy. Mr. ORUÇ also explained purpose and function of the Project Funding Mechanism and its linkage with the Strategy. He underlined the basic qualifications of the COMCEC Project Funding as “simple and clearly defined procedures and financial framework”, and mentioned that CCO provided continuous support to the member countries during the all stages of the COMCEC Project Funding Mechanism. With respect to the financial framework, Mr. ORUÇ emphasized that the funds are grant in nature and would be provided by the CCO.

After briefly explaining the COMCEC Project Funding, three key actors and their responsibilities under the COMCEC Project Funding were identified; Project Owner (Project Submission and Implementation); the CCO (Program Management) and the Development Bank of Turkey (Project Monitoring and Financing). Moreover, steps and roles of these key actors throughout the project application process were defined.

He continued his presentation by explaining the “Project Selection Criteria” namely, compliance with Strategy's Principles, and targeting strategic objectives of the Strategy, focusing on output areas and pursuing multilateral cooperation among the OIC Member Countries. Mr. ORUÇ also

² Please find the Room Document attached as Annex 3 for further information regarding the rational of the policy recommendations.

emphasized that project proposals submitted by the member countries should be compliant with the sectoral themes for the fourth call stated in the Program Implementation Guidelines. Mr. ORUÇ pointed out the importance of the multilateralism for project appraisal and stated that project proposals should focus on common problems of at least two member countries and also should offer joint solutions for these problems. He also underlined that CCO considers regular and active participation of countries and institutions to the relevant working group meeting while evaluating their project proposals.

Mr. ORUÇ also gave information on 2014, 2015 and 2016 projects. He stated that member countries and OIC institutions had shown great interest and 209 project proposals were submitted by member countries and OIC institutions in three-year period (2013-2015). He also stated that totally five agriculture projects were implemented under the COMCEC Project Funding in 2014 and 2015. They were implemented respectively by Pakistan, Indonesia, Chad, Turkey and Suriname. He also mentioned that three projects are being implemented by Iran, Turkey, and Palestine in 2016.

Mr. ORUÇ reminded participants that fourth call for project proposals has started as of September 1st, 2016 and has finished as 7th October, 2016. He also underlined that 57 project proposals had submitted by 20 member countries and two OIC institutions under the fourth call for project proposals. He also invited all esteemed countries and OIC institutions to submit their project proposals next year.

In the last part of his presentation, Mr. ORUÇ shared brief information with participants regarding steps of project proposal submission process and online project submission system. He also stated that member countries could submit their project proposals easily by using this user-friendly system.

Questions and Remarks

Questions: Who are the potential beneficiaries of projects financed by the COMCEC Project Funding?

Answer: OIC Member Countries which are registered to the COMCEC Working Groups and the relevant OIC Institutions are potential beneficiaries of projects financed by the COMCEC Project

6. Member Country Presentations

In this section, member country representatives had chance to present their experiences with regards to reducing post-harvest losses. Participants from Iran, Sudan, Senegal and Turkey made presentations.

6.1. Iran

Ms. ROGHAIH SOKOOTIFAR, senior expert at the Ministry of Agriculture and Forests of Iran, made a presentation on the experience of Iran with regards to the Post-harvest losses.

In her presentation Ms. SOKOOTIFAR briefed the participants that Iran's arable land is 51 million ha with 20 million ha cultivated lands in 2015. Agriculture accounts for 16 percent of Iran's GDP and 25 percent of its non-oil exports and has 85-90 percent food sufficiency.

Ms. SOKOOTIFAR stated that there are more than 3000 rice milling in Iran, most of them using low-technology that result in high losses. The qualitative loss of rice (broken rice) is 22 percent and in some cases is more than 22 percent. Responsible authorities in Iran has conducted the "Renewing and Reforming the Rice Mill Project" for reducing post-harvest losses of rice. As the outcome of the mentioned project 600 rice milling has been modernized with procurement of new machinery, modern drier, color sorter, modern drier and rubber huller. With the modernization of the rice millings, qualitative losses were reduced approximately 17 percent. She stated that there are other ongoing programs/projects aiming at reducing post-harvest losses such as improvement of the milk chain and modernization the processing milk factories with production added value products, and good practices in contract farming as supplier of the raw material to processing units.

Afterwards, Ms. SOKOOTIFAR expressed that major challenges in reducing post-harvest losses are, as follows;

- ✓ Inefficient manpower involved in logistics and marketing,
- ✓ Limited expertise in orchard care and post-harvest management,
- ✓ Insufficient transportation facilities,
- ✓ Inadequate dialog between government and other stakeholders, and
- ✓ Inability to initiate and insufficient linkage with international markets.

She lastly underlined that in order to reduce losses Iran needs to promote usage of fully air conditioned sorting/grading/packing facilities to retain best quality at all stages. In this respect, Iran should facilitate mechanized packing for both retail and bulk. So, the establishment HACCP system in production chain and promotion of education for the post-harvest labor and supporting the agri-food producers needed to be promoted in Iran.

6.2. Sudan

Dr. Salah BAKHIET, Associate Professor, Agricultural Research Corporation, Ministry of Agriculture and Forests of the Sudan made a presentation on the experience of Sudan on the theme of post-harvest losses.

In his presentation Dr. BAKHIET firstly informed the participants on general overview of agricultural areas in Sudan. Then he highlighted the production and losses percent that related to horticultural crops. In this respect, Dr. BAKHIET mentioned that the highest losses in fruit and vegetable were found at the phase of preparation and packing, with 34 percent and 33 percent

respectively. And the lowest level of losses occurred at the level of distribution, 8 percent and 9 percent respectively.

Dr. BAKHIET, afterwards, stated that a study has been conducted on the disinfestations of the Sudanese mango cultivar Abu Samaka. The effectiveness and suitability of vapor heat treatment (VHT) for disinfestations of the Sudanese mango cultivar Abu Samaka were under taken in this study. He expressed that in the VHT the relative humidity of the treatment chamber was maintained at 99.7 percent and the temperature of the fruit pulp was raised gradually to reach 46.7°C in 5 hours then kept at this degree for 30 minutes before hydro-cooling for 20 minutes.

He mentioned that, by the mentioned study, the evaluation regarding the effectiveness of the treatment, naturally and artificially infested fruits were examined for fruit flies after treatment, and compared with their respective untreated samples. The main target was to assess suitability of the treatment with respect to quality of the mango cultivar, respiration rate, peel color, weight loss, flesh firmness, ascorbic acid content, total soluble solids, titratable acidity and reducing sugar were measured in the treated and control fruits. As a result, the VHT was found effective in sterilization of the mango cultivar Abu Samka from fruit flies and did not adversely affect the fruit market quality and increased the shelf life. Through conducting these kind of studies, relevant Sudanese authorities aims at reducing post-harvest losses.

6.3. Senegal

Dr. Ibrahima SARR, Expert at the Ministry of Agriculture and Rural Development of Senegal made a presentation on the experience of Senegal in post-harvest losses. He informed the participants that Senegal has 3.8 million of arable land in total and 65 percent of this (i.e 2.5 millions) is cultivated. Employing 60 percent of the population, agriculture is one of the priority sectors of the national emergence plan addressing the structural changes in the economy. He also stated that low productivity of the economy is mainly due to the low productivity of the Agriculture. Given the importance of agriculture sector, many efforts have been made for improving agricultural productivity and market Access.

He expressed that quantitative post-harvest losses mostly occurred during the 4 - 6 months of storage, it around of 5 percent to 30 percent. And the main qualitative losses are physical, culinary and nutritional, and aflatoxin.

Afterwards, Dr. SARR, briefed the participants on the three projects that are conducted to reduce post-harvest losses in by Senegal in cooperation with other different countries. In that respect, He firstly shared information on the project titled "Sustainable reduction of harvest losses in feed future countries through technology & innovation that link farmers to markets: Focus Kenya & Senegal". The objective of this project is to increase access to safe and nutritious foods along the value chains by improving the drying and storage capacity of smallholder farmers and expanding market opportunities through diversified processed products that address quality in the market and nutritional needs. The second project is "Improvement of food security, food quality and revenues of poor actors of the groundnut value chain in West Africa through aflatoxin reduction". It aimed at improving the competitiveness of groundnut and byproducts in the groundnut in Burkina Faso, Ghana and Senegal. Lastly one is titled "Evaluation of Purdue improved cowpea storage bags in Tivaoune and Kebemer counties". The target of the project is to demonstrate the efficacy of Purdue Improved Crop Storage (PICS) bag to farmers.

6.4. Turkey

Mr. Melik AYTAÇ, Expert at the Ministry of Food, Agriculture and Livestock of Turkey (MoFAL) made a presentation on the current status of the post-harvest losses in Turkey. Mr. AYTAÇ stated that food loss and waste (FLW) is a challenge for all countries as well for Turkey. He explained that post-harvest activities are integral part of the food production system, and Turkey aims at promoting best practices for post-harvest handling and management along the entire food supply chain.

Furthermore, post-harvest losses vary greatly among commodities and production areas and seasons. As a product moves in the post-harvest chain, losses may occur due to different causes. Many of these causes are; poor temperature management, lack of proper storage facilities, food processing, packaging, marketing options, poor quality field containers or shipping packages and consumption.

An assessment that made on food losses and waste illustrate that the post-harvest losses are generally more than agricultural production losses. In that respect, the assessment argued that;

- Losses that occur in the postharvest loses stages are relatively higher than pre-harvest loses (agricultural production).
- Recent advances in transportation, processing and storage technologies and preference of firms in the supply chain for new technologies are helping to reduce losses.
- Reducing of loses need the proper application, control and governance at the all stages of agri-food supply chain

Afterwards Mr. AYTAÇ underlined the priority actions and policies for reducing food losses and waste (FLW) in Turkey. He explained that in order to reduce food losses and waste, a strategic plan has been prepared (2013-2017) by MoFAL for the following 5 areas;

- Agricultural production and supply security
- Food safety
- Plant health, animal health and welfare
- Agricultural infrastructure and rural development
- Institutional capacity

Furthermore, Ministry of Food, Agriculture and Livestock (MFAL) has been following measures and policies to minimize pre-harvest and post-harvest losses and FLW throughout the food value chain. An important example of these measure is The Campaign for Preventing Bread Waste. The mentioned campaign contributed to the economy of Turkey as much as 2.8 billion TL (1.3 billion \$) annually. This campaign will be continuing until 2018. Daily bread consumption is 91 million/daily in Turkey. By this campaign 1.1 million waste of bread has been prevented.

7. Experiences of International Organizations and Private Sector in Reducing Post-harvest Losses

7.1. The Experiences of FAO in Reducing Post-Harvest Losses: The Case of SAVE FOOD Initiative

Ms. Jennifer SMOLAK, Agro-Industry and Infrastructure Officer, FAO Regional Office for the Near East and North Africa, made a presentation on the Case of SAVE FOOD Initiative.

At the outset, Ms. SMOLAK stated that the magnitude and complexity of the problem of food loss and waste (FLW) needs a global response and many levels of coordination and collaboration. The SAVE FOOD Global Initiative on Food Loss and Waste Reduction³ (Save Food) aims to serve the mentioned need. In that sense it is as an umbrella programmes for FAO's work and to fulfil a major coordinating role for the many initiatives that are coming up world-wide. It takes a holistic, integrated food supply chain and food systems approach, to ensure that FLW reduction is technically, economically, environmentally and socially acceptable, feasible and cost-effective.

She mentioned that in the Near East and North Africa (NENA) region, countries have recognized FLW reduction as a strategic priority to address food security and nutrition challenges in the region. FAO's member countries set a goal in 2012 to reduce FLW by 50 percent over 10 years, and subsequently endorsed a Regional Strategic Framework for Food Losses and Waste Reduction in the NENA Region⁴. Afterwards, Ms. SMOLAK informed the participants that a growing programme of work on FLW reduction is emerging with FAO assistance across several NENA countries, with an emphasis on need for reliable data and information on the magnitude of FLW. This includes developing tools and methods for post-harvest loss analysis, for which the methodology "Food Loss Analysis: Causes and Solutions. Case studies in the Small-scale Agriculture and Fisheries Subsectors" has been pilot-tested and rolled out in several OIC and other countries around the world.

Lastly, Ms. SMOLAK highlighted that for reducing FLW, especially in the NENA region, countries need to develop coherent and evidence-based plans, aligned with national strategies and agriculture sector development plans, in consultation with all concerned stakeholders from production to consumption, and across disciplines (nutrition, education, health, industry, etc.). In particular, there is a need to put emphasis on the importance of collecting and sharing data and information on FLW to better understand the causes and effects, potential solutions, and relation to national and regional food security and nutrition. Linking to global policy processes will lend support to countries in tackling this issue, in particular in the context of The 2030 Agenda and Sustainable Development Goal 12 to "halve the per capita global food waste at the retail and consumer level, and reduce food losses along production and supply chains including post-harvest losses"

³ <http://www.fao.org/save-food/en/>

⁴ <http://www.fao.org/documents/card/en/c/e9589c20-5507-4eee-a965-22fc5a08f42f/>

7.2. The Experience of Doğa Seed on Reducing Post-Harvest Losses

Prof. Dr. Mehmet Emin ÇALIŞKAN, Consultant to Doğa Seed made a presentation on Experiences of Doğa Seed on Reducing Post-harvest Losses.

Prof. ÇALIŞKAN informed the participants that being founded in 1995 Doğa Seed centrally located in Nevşehir, and it is the leading company in potato sector. He stated that Doğa Seed is biggest producer of raw material and seed for global brands in various fields like industrial potatoes, potato seeds production and potato storage with its production capacity of 150.000 tons in 30.000 acre.

Afterwards, Prof. ÇALIŞKAN stressed that high water content in tuber makes potato very vulnerable crop to post harvest losses during storage period. In some countries, post-harvest losses in potato can reach up to 50 percent especially if there is lack of suitable storage facilities. Harvested potato tubers are living organisms and hence interact with the surrounding environment. Therefore, to be able to maintain potato quality during storage, the storage environment must be adjusted to minimize tuber deterioration. Temperature, humidity and air movement can always affect the keeping quality of stored potatoes. Thus, when potatoes are not properly stored, tuber losses due to fungal and bacterial infections can be high. In order to prevent these losses, storage conditions should be properly controlled depending on the type of potatoes stored.

In his presentation Prof. ÇALIŞKAN mentioned that in Turkey, majority of potato crops have been stored in inappropriate storage conditions. This results in significant post-harvest losses that accounted up to 30 percent in some occasions. The special geological structure of Cappadocia region, especially in Nevşehir, allow farmers to build up cave storages, which are very useful for potato storage. However, these cave storages still need improvement to reduce post-harvest losses from 20 to around 5 percent.

He stated that Doğa Seed is the biggest potato producer in Turkey with annual potato production of 120.000 tonnes. The company has also the largest cave storages in Turkey having 120.000 tonnes capacity. Doğa Seed has been conducting studies on reducing post-harvest losses for ten years. The company focused on both pre-harvest and post-harvest precautions to decrease losses in potatoes. The Company utilize the following post-harvest precautions to reduce losses:

- Reducing dropping height during loading to storage,
- Elimination of damaged/diseased/rotten/greened tubers before storage,
- Special attention to hygiene in storage houses,
- Curing of tubers at the beginning of storage,
- Maintaining the best storage climate for potatoes.

Lastly, Prof. ÇALIŞKAN underlined that as the outcomes of the above-mentioned precautions, Doğa Seed succeed to reduce post-harvest losses in potato from 20 percent to 6 percent.

Closing Remarks

The Meeting ended with closing remarks of Mr. SALAH BAKHIET, Chairman of the Meeting and Mr. Metin EKER, Director General of the COMCEC Coordination Office (CCO).

Mr. BAKHIET expressed its appreciation to the all the member country representatives as well as participants from FAO, SESRIC, and Doğa Seed for their participation and valuable contributions.

Mr. Metin EKER also thanked all participants for their attendance and precious contributions. He stated that the main outcome of the meeting is the Policy Recommendations Document which includes a number of policy advices for the member countries. He expressed that these recommendations will be submitted to the 32nd COMCEC Ministerial Meeting as an output of the 8th Meeting of the Agriculture Working Group.

Moreover, Mr. EKER informed the participants that the next meeting (9th) of the COMCEC Agriculture Working Group will be held on 23rd February, 2017 in Ankara with the theme of “Reducing Food Waste in the OIC Member Countries”. He mentioned that a research report will also be shared with the focal points and other participants at least one month before the said meeting.

ANNEXES

Annex 1: Agenda of the Meeting



AGENDA

8th MEETING OF THE COMCEC AGRICULTURE WORKING GROUP (October 13th, 2016, Ankara)

“Reducing Post-harvest Losses in the OIC Member Countries”

Opening Remarks

1. The COMCEC Agriculture Outlook
2. Overview of the Post-harvest Losses in the World and the OIC Member Countries
3. Selected Case Studies from the Member Countries and Recommendations for Reducing Post-harvest Losses
4. Roundtable Discussion on Policy Options for Reducing Post-harvest Losses in the Member Countries
5. Utilizing the COMCEC Project Funding
6. Member State Presentations
7. The Role of International Institutions and NGOs in Reducing Post-harvest Losses

Closing Remarks

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Annex 2: Programme of the Meeting



COMCEC

PROGRAMME

8th MEETING OF THE COMCEC AGRICULTURE WORKING GROUP (October 13th, 2016, Crowne Plaza Hotel, Ankara)

“Reducing Postharvest Losses in the OIC Member Countries”

- 08.30-09.00 **Registration**
- 09.00-09.05 **Recitation from the Holy Quran**
- 09.05-09.15 **Opening Remarks**
- The COMCEC Agriculture Outlook**
- 09.15-09.35 - *Presentation: Mr. Erdođan Emrah HATUNOđLU*
Expert
COMCEC Coordination Office (CCO)
- 09.35-09.45 - *Discussion*
- 09.35-09.45 **Overview of the Postharvest Losses in the World and the OIC Member Countries**
- 09.45-10.05 - *Presentation: Prof. Keith TOMLINS*
Natural Resources Institute
University of Greenwich
- 10.05-10.30 - *Discussion*
- 10.30-10.45 *Coffee Break*
- Selected Case Studies from the Member Countries and Recommendations for Reducing Postharvest Losses**
- 10.45-11.30 - *Presentation: Prof. Keith TOMLINS*
Natural Resources Institute
University of Greenwich
- 11.30-12.30 - *Discussion*
- 12.30-14.00 *Lunch*

Policy Options for Reducing Postharvest Losses in the OIC Member Countries There will be a moderation session under this agenda item. The participants are expected to deliberate on the policy options/advices for reducing postharvest losses in the OIC Member Countries. The Room Document has been prepared by the CCO, in light of the findings of the analytical study prepared specifically for the Meeting and the answers of the Member Countries to the policy questions which have already been sent by the CCO. This Document was shared with the Agriculture Working Group focal points before the Meeting with a view to enriching the discussions during the Session and coming up with concrete policy advices for the policy approximation among the Member Countries in this important field. At the beginning of the session, CCO will make a short presentation introducing the responses of the Member Countries to the policy questions as well as the Room Document.

- 14.00-14.15 - Presentation: “Responses of the Member Countries to the Policy Questions on Reducing Postharvest Losses in the OIC Member Countries”
Mr. Mehmet Akif ALANBAY
Expert
COMCEC Coordination Office

- 14.15-15.30 - Discussion

Utilizing the COMCEC Project Funding

- 15.30-15.45 - Presentation: *Mr. Ali ORUÇ*
Expert
COMCEC Coordination Office (CCO)
- Discussion

15.45-16.00

16.00-16.15 *Coffee Break*

16.15-17.15 Success Stories of the Member States

- *Presentation(s)*
- *Discussion*

The Role of International Institutions and Private Sector in Reducing Postharvest Losses

- 17.15-17.30 - Presentation: “The Experiences of FAO on Reducing Postharvest Losses: The Case of SAVE-FOOD Initiative”
Ms. Jennifer SMOLAK
Agro-Industry and Infrastructure Officer
Regional Office for Near East and North Africa of FAO

- 17.30-17.45 - Presentation: “The Experience of Doğa Seed on Reducing Postharvest Losses”
Prof. Dr. Mehmet Emin ÇALIŞKAN
Advisor
Doğa Seed

- 17.45-18.00 - Discussion

18.00-18.10 *Closing Remarks*

Annex 3: The Policy Recommendations

ROOM DOCUMENT FOR THE POLICY DEBATE SESSION OF THE 8TH MEETING OF THE COMCEC AGRICULTURE WORKING GROUP

A policy debate session was held during the 8th Meeting of the Agriculture Working Group to come up with some policy recommendations for reducing postharvest losses in the OIC Member Countries and approximating policies among the Member Countries in this important field. The policy advices given below have been identified in light of the main findings of the analytical study titled “*Reducing Postharvest Losses in the OIC Member Countries*” and the responses of the Member Countries to the policy questions which have already been sent by the COMCEC Coordination Office.

Policy Advice I: Setting up national postharvest losses reduction coordination committees with a view to identifying, prioritizing and sharing postharvest losses data and practices across a range of strategic commodities and raising awareness on postharvest losses

Rationale:

Handling and processing of commodities require the necessary technical knowledge and expertise. However, researches on postharvest issues are very scarce among the OIC Member Countries and the benefits that can be gained from them are poorly acknowledged. In this respect, identifying the specific causes of postharvest losses through producing and prioritizing the data related to the postharvest losses in strategic commodities are crucial for ensuring food security. On the other hand, most of the Member Countries do not have the necessary institutional mechanisms to directly deal with the levels and specific causes of postharvest losses. In this regard, establishing coordination committees would be very instrumental for identifying causes of postharvest losses, sharing the good practices and raising awareness. These committees may include all the stakeholders from public sector, private sector and NGOs.

Policy Advice II: Mobilizing agricultural finance providers to allocate more financial resources with a view to addressing agricultural infrastructure investment needs in postharvest losses

Rationale:

Underutilization of proper technologies and lack of required infrastructure investments are among the major causes of postharvest losses in the Member Countries. Ensuring adequate financing is needed for smallholder farmers and agribusiness to adjust latest technologies and methods as well as make necessary infrastructure investments. In this regard, mobilizing finance providers such as development banks, agricultural credit cooperatives or donors, is of particular importance to enable farmers and agribusiness to adjust modern technologies and have necessary equipment for reducing postharvest losses.

Policy Advice III: Improving and developing agricultural extension, training and outreach research activities for reducing postharvest losses

Rationale:

Agricultural extension services, training and outreach activities and providing necessary information to farmers are very instrumental in preventing postharvest losses. Handling, transportation and storage processes should be properly dealt with, particularly for the perishable products. Hence, designing and making use of appropriate methods and technologies bear great importance throughout these processes. In this regard, dissemination and extension of the various technologies through agro-industrial education, training and demonstrations to farmers would contribute to reduce postharvest losses. Therefore, these activities should be extended in the Member Countries.

Instruments to Realize the Policy Advices:

COMCEC Agriculture Working Group: In its subsequent meetings, the Working Group may elaborate on the above-mentioned policy areas in a more detailed manner.

COMCEC Project Funding: Under the COMCEC Project Funding, the COMCEC Coordination Office calls for projects each year. With the COMCEC Project Funding, the member countries participating in the Working Groups can submit multilateral cooperation projects to be financed through grants by the COMCEC Coordination Office. For the above-mentioned policy areas, the member countries can utilize the COMCEC Project Funding and the COMCEC Coordination Office may finance the successful projects in this regard. These projects may include organization of seminars, training programs, study visits, exchange of experts, workshops and preparing of analytical studies, needs assessments and training materials/documents, etc.

Annex 4: List of Participants

LIST OF PARTICIPANTS 8th MEETING OF THE COMCEC AGRICULTURE WORKING GROUP (13 OCTOBER 2016, ANKARA)

A. MEMBER COUNTRIES

REPUBLIC OF CAMEROON

- Mr. MAHAMAT ABAKAR
Expert, Ministry of Agriculture and Rural Development
- Ms. IYA MAGUIRA
Expert, Ministry of Agriculture and Rural Development

REPUBLIC OF COTE D'IVOIRE

- Mr. ADINGRA PRINCE MENZAN
First Counsellor, Embassy of Cote D'ivoire in Ankara

REPUBLIC OF THE GAMBIA

- Mr. EBRAHIMA NJIE
Embassy of Gambia in Ankara
- Mr. SERING MODOU NJIE
Deputy Head of Mission, Embassy of Gambia in Ankara

ISLAMIC REPUBLIC OF IRAN

- Mr. YAGOUB ALI DARABI
Head of Administration, Ministry of Agriculture
- Ms. ROGHAIH SOKOOTIFAR
Senior Expert, Ministry of Agriculture

HASHEMITE KINGDOM OF JORDAN

- Mr. YOUSEF ABDELGHANI
Minister Plenipotentiary and Deputy Head of Mission, Embassy of Jordan in Ankara

SULTANATE OF OMAN

- Ms. SIHAM AL HADABI
First Secretary, Embassy of Oman in Ankara

THE STATE OF PALESTINE

- Mr. SAMER ALTEETI
Director of Policies and Planning, Ministry of Agriculture

STATE OF QATAR

- Mr. MASOUD ALMARRI
Director, Ministry of Municipality and Environment
- Mr. MOHD SAED
Head of Unit, Ministry of Municipality and Environment

KINGDOM OF SAUDI ARABIA

- Mr. MOHAMMAD ALEIDAN
Director, Ministry of Environment, Water and Agriculture
- Mr. SAUD AL OTHMAN
Deputy Director, Ministry of Environment, Water and Agriculture

REPUBLIC OF SENEGAL

- Dr. IBRAHIMA SARR
Expert, Ministry of Agriculture and Rural Development

REPUBLIC OF SUDAN

- Mr. SALAH BAKHIET
Associate Professor, Agricultural Research Corporation, Ministry of Agriculture and Forests
- Ms. WIDAD AHMED
Associate Professor, Agricultural Research Corporation, Ministry of Agriculture and Forests

REPUBLIC OF TURKEY

- Mr. METİN TÜRKER
Deputy General Manager, Ministry of Food, Agriculture and Livestock
- Mr. FATİH BORAN
Expert, Ministry of Food, Agriculture and Livestock
- Mr. MEHMET ALİ ÖZDEN
Expert, Ministry of Food, Agriculture and Livestock
- Ms. BERNA EYİT
Engineer, Ministry of Food, Agriculture and Livestock
- Mr. MELİK AYTAÇ
Engineer, Ministry of Food, Agriculture and Livestock
- Mr. REFİ RATİP ÖZLÜ
Engineer, Ministry of Food, Agriculture and Livestock
- Ms. AYGÜL ÇAĞDAŞ
Engineer, Ministry of Food, Agriculture and Livestock
- Ms. VİJDAN KURNAZ
Engineer, Ministry of Food, Agriculture and Livestock
- Mr. ADİL ALTAN
Expert, Ministry of Food, Agriculture and Livestock

- Mr. HAKAN ARSLAN
Expert, Ministry of Food, Agriculture and Livestock
- Mr. EMİN DÖNMEZ
Expert, Ministry of Food, Agriculture and Livestock

B. THE OIC SUBSIDIARY ORGANS

**STATICAL, ECONOMIC, SOCIAL RESEARCH AND TRAINING CENTER FOR ISLAMIC COUNTRIES
(SESRIC)**

- Ms. ALIA SHARIFY
Researcher

C. INVITED INSTITUTIONS

FOOD AND AGRICULTURE ORGANIZATION (FAO)

- Ms. JENNIFER SMOLAK
Agro-Industry and Infrastructure Officer, FAO

DOĞA SEED FOOD INDUSTRY AND TRADE CORPORATION

- Mr. MASHAR TAŞKIN
Chariman, Doğa Seed Food Industry and Trade Corporation
- Prof. MEHMET EMİN ÇALIŞKAN
Advisor, Doğa Seed Food Industry and Trade Corporation

NATURAL RESOURCES INSTITUTE, UNIVERSITY OF GREENWICH

- Mr. KEITH TOMLINS
Professor, Natural Resources Institute
- Mr. CHRISTOPHER BENNETT
Professor, Natural Resources Institute

D. COMCEC COORDINATION OFFICE

- Mr. M. METİN EKER
Director General, Head of COMCEC Coordination Office
- Mr. SELÇUK KOÇ
Head of Department
- Mr. MUSTAFA TEKİN
Head of Department
- EMRAH HATUNOĞLU
Expert
- Mr. MEHMET AKİF ALANBAY
Expert