



# CCO BRIEF ON AGRICULTURAL COOPERATION

## **BRIEF ON AGRICULTURAL COOPERATION**

Agriculture is of particular importance for human life and provides fundamental needs for human survival. Agriculture is also an important sector for economic and social development due to its contribution to Gross Domestic Product (GDP) and employment. It is the only source of income for the majority of the rural poor in many countries, particularly in Sub-Saharan Africa.

According to FAO estimations for the period 2014-2016, almost 800 million people are undernourished worldwide, particularly in Sub-Saharan Africa and Asia. World population is expected to reach 9.7 billion by 2050, which implies that in order to meet the increasing food demand and to achieve food security globally, global food supplies need to be increased by 60 percent. In this framework, agriculture will continue to have an important role in addressing rural poverty.

### **Agriculture in the OIC Member Countries**

Agriculture is also a significant sector for the economies of the OIC, where 21 member countries are categorized to be from amongst the least developed countries, according to UN classification.

In most of the OIC Member Countries, agriculture is one of the leading sectors in terms of its contribution to income, employment, and trade. The OIC agricultural Gross Domestic Production (GDP) reached 682 billion US Dollars with a share of 21 percent in the world's agricultural production in 2014<sup>1</sup>. With regards to the contribution of the agriculture sector to the economies of the Member Countries, agricultural GDP's share in total GDP was 9.8 in 2014, whereas this share was only 4.3 in the world. Furthermore, in six Member Countries, namely, Guinea-Bissau, Sierra Leone, Togo, Comoros, Somalia and Sudan, the share of agriculture in total GDP was more than 40 per cent, where it occupies a very crucial place in the economies of these Member Countries.

Agricultural commodity trade of the Member Countries increased considerably from 1990 to 2012. As shown in Figure 1, total agricultural commodity import of the OIC Member Countries increased from 34.9 billion US Dollars in 1990 to 208 billion US Dollars in 2012. Correspondingly, total agricultural commodity exports of the Member Countries reached 132.7 billion US Dollars in 2012. Accordingly, total agricultural trade in the Member Countries reached 340.7 billion US Dollars in 2012.

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<sup>1</sup> UNSTAT National Aggregates Database

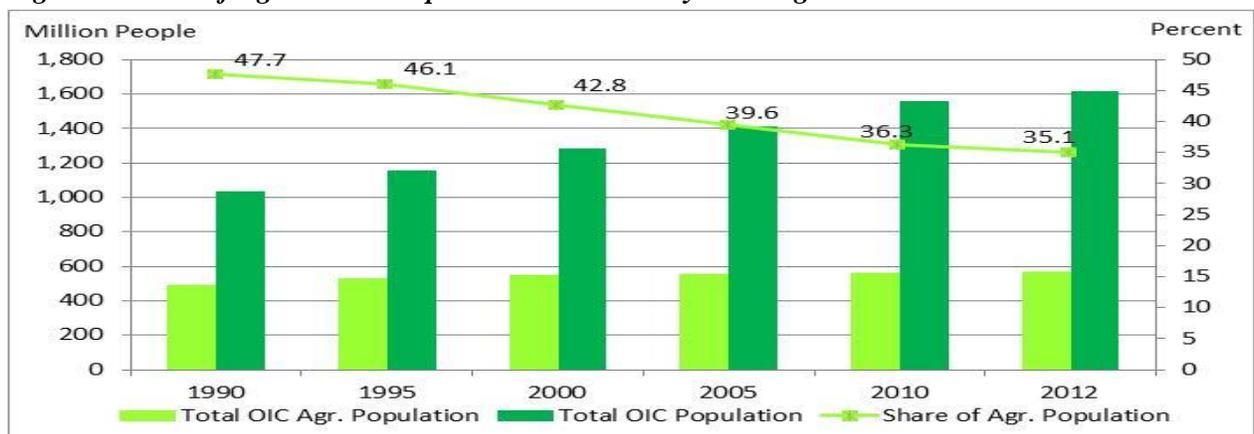
**Figure 1: OIC Agricultural Commodity Trade and Share in World Total (1990-2012)**



*Source: COMCEC Agriculture Outlook 2015.*

As shown in Figure 2, in 2012, the agricultural population in the OIC Member Countries was 568 million, which represented 35.1 percent of the total OIC population. Figure 2 also shows that, among the OIC sub-regions, the African Group has the highest share of agricultural population, when compared to the Asian and Arab Groups, with the share of 46.4 in 2012. At the individual country level, agricultural population represented more than 50 percent of the total population in 16 OIC Member Countries in 2012.<sup>2</sup>

**Figure 2: Share of Agricultural Population in the OIC by Sub-Regions**



*Source: Calculated by using SESRIC and FASOTAT Databases.*

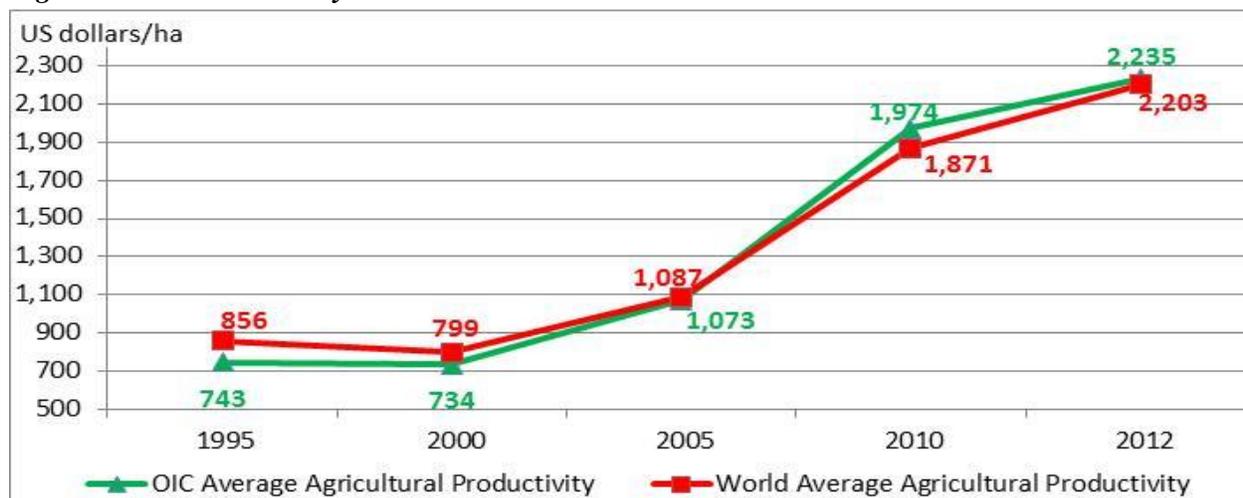
There has been an important development in the OIC Member Countries in terms of agricultural land productivity. Figure 3 shows a comparison between land productivity in the OIC Member Countries and the rest of the World.<sup>3</sup> The figure shows that the average agricultural land

<sup>2</sup> SESRIC Database

<sup>3</sup> In order to calculate labor productivity, the agricultural value added (at current price-US Dollar) is divided by economically active people in the agriculture sector.

productivity of the OIC Member Countries reached to 2,235 US Dollars/ha in 2012, and it has a similar value with respect to the world average.

**Figure 3: Land Productivity in the OIC and the World**



**Source:** Calculated by using UNSTAT and FAOSTAT.

At the sub-regional level, the Asian Group had the highest level of agricultural land productivity in the OIC, with 2,833 US Dollars per hectare in 2012. The Asian Group was followed by the Arab Group, with 2,376 US Dollars per hectare. Amongst all the sub-regions, the African Group had the lowest level of agricultural land productivity during the period 1995-2012. While the African Group had the lowest performance with respect to agricultural land productivity over the years, it accomplished the highest level of growth, where its productivity, during the same period, increased by more than 3 times<sup>4</sup>.

### **Main Challenges of the Agriculture Sector in the OIC Member Countries**

The majority of the OIC Member Countries are not self-sufficient in terms of food production and considerably depend on import of agricultural products. Besides, agricultural production in the Member Countries is mainly concentrated in a limited number of Member Countries, namely Indonesia, Nigeria, Turkey, Pakistan, Iran, Egypt, Malaysia, Bangladesh, Sudan and Algeria. More than 75 percent of the total agricultural products in the Member Countries are produced by these countries. In addition, millions of people in the OIC Member Countries suffer from food shortages and do not have access to sufficient food.<sup>5</sup>

The agriculture sector in the OIC Member Countries has mainly been suffering from, among others:

- Low agricultural productivity;
- Lack of institutional framework to provide necessary adjustments for a more efficient and productive agriculture sector;
- Inadequate public sector investments in infrastructure;
- Lack of private sector investments in farming and agribusiness enterprises;

<sup>4</sup> COMCEC Agriculture Outlook 2015

<sup>5</sup> Ibid.

- Lack of sustainable natural resource management (land, water, fisheries and forests);
- Post-harvest losses.

### **Reducing On-Farm Food Losses in the World**

The level of food losses and waste in edible food products in different commodity groups (cereals, roots and tubers, oilseeds and pulses, fruits and vegetables, meat, dairy products, fish and seafood) differ in the various regions of the world. Global food loss and waste are equal to approximately 24 percent of all food produced. Fruits and vegetables, as well as roots and tuber crops, have the highest rates of quantitative losses, in part due to their high water content. Global quantitative food losses and waste per year are roughly 30 percent for cereals, 40-50 percent for root crops, fruits and vegetables, 20 percent for oil seeds, meat and dairy, and 30 percent for fish.<sup>6</sup>

The estimated percentage of total food losses and waste is 17 percent in South and Southeast Asia; 19 percent in North Africa and West and Central Asia; and 23 percent in Sub-Saharan Africa. The global average is 32 percent, mainly due to the enormous amount of food losses and waste occurring in North America, where it is estimated to be more than 42 percent.<sup>7</sup>

Food losses and waste occur in different stages of the agricultural supply chain with different categorizations. There are five main stages of the food chain where food losses and waste can occur:

- **Production losses:** on-farm cultivation practices, harvesting
- **Post-harvest handling:** sorting, grading, trimming, packing, cooling, and storage losses
- **Processing losses**
- **Distribution losses:** transport, shipping to markets, marketing
- **Consumer waste:** home consumption discards or food service waste

On-farm losses occur during production and at the time of harvesting. Therefore, the above-mentioned first two stages are included in on-farm losses. The immediate losses in food calories, nutrition and monetary value are borne directly by the farmers. Post-harvest handling, which takes place on the farm after the harvest, can then either protect food from losses or become an added cause of losses.

According to the Swedish Institute for Food and Biotechnology (SIK, 2013), estimates for on-farm losses (production and harvesting) for the food groups in the three regions of the world where the OIC Member Countries are located are 29 million tonnes per year in North Africa and West and Central Asia; 44 million tonnes per year in Sub-Saharan Africa and 85 million tonnes per year in South and Southeast Asia (Table 1)<sup>8</sup>.

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<sup>6</sup> Reducing On-Farm Food Losses in the OIC Member Countries, COMCEC Coordination Office, 2016

<sup>7</sup> Ibid.

<sup>8</sup> Ibid.

**Table 1: Estimates of Food Losses/Waste by Stage of the Food Chain**

Stage	Region		
	North Africa and West and Central Asia	South and Southeast Asia	Sub-Saharan Africa
Production	23%	32%	39%
Handling/Storage	21%	37%	37%
Processing	4%	4%	7%
Distribution/Marketing	18%	15%	13%
Consumption	34%	13%	5%
<b>Total Food Losses and Waste</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Percentage of the Total Available Food in the Region that is Lost or Wasted</b>	<b>19%</b>	<b>17%</b>	<b>23%</b>

*Source: COMCEC Publication: Reducing On-Farm Food Losses in the OIC Member Countries*

The common causes of on-farm food losses include pests, poor water management or drought, lack of proper storage facilities, poor harvesting practices, poor cultural practices (pruning, fertilizing, and pesticide spraying), lack of proper processing and packaging, poor information and planning, poor temperature management, and delays in transport or distribution.

### **Reducing On-Farm Food Losses in the OIC Member Countries**

Despite the global progress in the field of food loss assessment and food loss reduction, there remain many gaps in the knowledge base and data available on on-farm food losses for the food groups of interest in the OIC Member Countries. In general, the perceived and measured on-farm losses for perishable plant based foods (roots and tubers and fruits and vegetables) are higher than on-farm losses reported for staple crops (cereals, oilseeds and pulses). On-farm losses for meats, eggs, milk and dairy products and fish and seafood are generally low, but vary more widely from country to country, depending on whether or not a cooling system, which occurs via ice or refrigeration, is available after harvesting or collection to slow down the rate of losses.

In this regard, cereals demonstrated moderate losses of 10-30 percent, with roots and tubers at 30-50 percent. Oilseeds and pulses revealed losses of 10-30 percent, with fruits and vegetables ranging from 30-50 percent. Milk and dairy losses ranged between 10-30 percent. Lastly, fish and seafood losses ranged between 10-30 percent (Table 2).

**Table 2: Summary of Key Informant Rating of On-Farm Losses by Food Group**

Food Group	Production	Harvesting	Handling	Overall Rating of On-Farm Losses
Cereals	Low	Low	Low	Moderate (10-30%)
Roots and Tubers	Moderate	Moderate	Low	High (30-50%)
Oilseeds and Pulses	Low	Low	Low	Moderate (10-30%)
Fruits and Vegetables	Moderate	Moderate	Moderate	High (30-50%)
Meats and Eggs	Low	Very Low	Very Low	Low (5-10%)
Milk and Dairy	Low	Low	Low	Moderate (10-30%)
Fish and Seafood	Low	Low	Low	Moderate (10-30%)

*Source: COMCEC Publication titled “Reducing On-Farm Food Losses in the OIC Member Countries”*

The range of food losses, as reported for the six commodity groups, is very big, varying from very low losses to extremely high losses. This reflects reality, since these kinds of local assessments and case studies provide only a snap-shot view of the current conditions, which can vary widely by location and change rapidly over time.

## **Efforts under the COMCEC**

- **Seventh Meeting of the Agriculture Working Group**

Given the importance of food losses, the COMCEC AWG has devoted its three meetings to different dimensions of this subject namely: On-Farm Food Losses, Post-Harvest Losses and Food Waste in the OIC Member Countries.

In this respect, the 7<sup>th</sup> Meeting of the Agriculture WG was held on March 3<sup>rd</sup>, 2016 with the theme of “Reducing On-Farm Food Losses in the OIC Member Countries”. An analytical report on “Reducing On-Farm Food Losses in the OIC Member Countries” was submitted to this Meeting. The WG has discussed the subject and come up with the following policy recommendations:

1. Identifying the knowledge and information gaps regarding the levels and specific causes of on-farm food losses for key crops and food products with a view to providing solutions for each OIC Member Country.
2. Improving/developing agricultural extension, training and outreach activities for reducing on-farm food losses.
3. Developing specific programs/projects to address on-farm losses in agricultural value chains in cooperation with the relevant OIC Institutions.

The Proceedings of the Meetings and the presentations made during the Meetings are available on the COMCEC web page ([www.comcec.org](http://www.comcec.org)).

Furthermore, the 8th Meeting of the Agriculture Working Group will be held on October 13th 2016, in Ankara, Turkey with the theme of "Reducing Post-Harvest Losses in the OIC Member Countries".

- **COMCEC Project Funding (PCM)**

The member countries having registered to the Agriculture Working Group and the OIC Institutions working in the economic domain can propose multilateral cooperation projects within the framework of the COMCEC Project Funding, which is another important implementation instrument of the Strategy.

Within the framework of the second project call, four projects proposed by Chad, Indonesia, Suriname and Turkey have been implemented successfully. Project titles and brief information about the projects implemented in 2015 are as follows;

- Chad implemented a project on “Support to the Agricultural Training Centers” with the participation of Burkina Faso and Turkey. The project aims at developing capacities of young rural farmers and experts working in agricultural training centers.

- The project titled “Improving the income of small and medium scale farmers in the OIC Member States through Integrated Farming System” was implemented by Indonesia with three partner countries namely, Sudan, Gambia and Egypt. The purpose of the project is to enhance the capacity of the small and medium scale farmers in partner countries through an integrated farming system.
- Suriname conducted the project titled “Good Agricultural Practices (GAP) for Greenhouse Vegetable Crops; Principles for Tropical Climate Areas” with Turkey and Guyana. The main purpose of the project is to increase the quality and effectiveness of public services to support and train farmers by taking tropical climatic conditions into account.
- Turkey implemented a project titled “The Establishment of Database, Network Connection and Web Pages of Smallholders/family Farmer’s Agricultural Cooperatives between COMCEC Member States” with the participation of 19 Member Countries. The project aims at identifying the system requirements for a trade information system to be established among Member Countries along with a roadmap for the establishment of information infrastructure for improving trade of agricultural products.

Moreover, under the third Project Call made in September 2015, the following 3 projects proposed by Iran, Palestine and Turkey will be implemented in 2016.

- Rural Household Empowerment on Management of Production, Supply and Market Access (Proposed by the Islamic Republic of Iran).
- Improving Small Ruminates Productivity by using different technologies as silage, feed block and hydroponic in Palestine, Jordan and Tunisia. (Proposed by Palestine)
- Establishment of Database, Network Connection and Web Pages of Smallholders/ Family Farmer’s Agricultural Cooperatives between COMCEC Member States. (Proposed by Turkey)

Regarding the ongoing cooperation activities in this cooperation area;

- Till now, 6 Ministerial Meetings on Agriculture have been held. The 6th Ministerial Meeting on Agriculture was held on 3-5 October 2011 in İstanbul, Turkey, with the theme of “Food Security: Agricultural Development and Access to Food and Nutrition in OIC Countries”. The 7<sup>th</sup> OIC Ministerial Conference on Food Security and Agricultural Development will be held on 26-28 April 2016, in Astana, Kazakhstan.

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