



Islamic Organization for Food Security
l'Organisation Islamique pour la Sécurité Alimentaire
المنظمة الإسلامية للأمن الغذائي

Islamic Organisation for Food Security

Concept Paper – Pre-feasibility Study of the Establishment of a Islamic Organisation Food Security - Food Security Reserves - Preliminary Feasibility Structure and Principles of Food Security Reserves for the OIC-IOFS

This pre-feasibility study framework sets out the mechanisms for the research and investigation into the practicability of the establishment of an integrated regional policy and operational framework for the IOFS Food Security Reserves

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GLOSSARY OF ABBREVIATIONS AND ACRONYMS

CFM	Council Of Foreign Ministers
COMSTECH	OIC Standing Committee on Scientific and Technical Cooperation
CT	Consultancy Team
FAO	United Nations Food and Agriculture Organisation
FNS	Food and Nutrition Security
FSR	Food Security Reserves
GA	General Assembly of the OIC
IFAD	International Fund for Agricultural Development
IFPA	Islamic Food Processing Association
IOFS	Islamic Organisation for Food Security
IsDB	Islamic Development Bank
KPI	Key Performance Indicators
LRRD	Links between Relief, Rehabilitation and Development
MoA(s)	Ministry of Agriculture / Ministries of Agriculture
M&E	Monitoring and Evaluation
MS	Member States
OMAs	Organisations, Ministries and Agencies
OVI	Observable Verifiable Indicator
PMS	Performance Management System
OIC	Organisation of Islamic Cooperation
WFP	World Food Programme

Executive Summary

1. Background

1.1. Food Security Reserves are vital to OIC Countries

The Food Security Reserve and Grain Fund are a vital and core component of the IOFS programmatic strategy and response for securing food self-sufficiency and the prevention and containment of malnutrition and hunger across the OIC. The reserves are intended to cover food shortages in emergencies, natural disasters and other dire situations by ensuring supply is sufficient to meet demand especially in meeting humanitarian emergency aid to countries displaying extreme vulnerability through inability to meet their own natural crisis driven demand and/or when exacerbated by conflict.

The IOFS has already developed a policy framework and protocols for the Food Reserve. In support of the determination of the 2nd General Assembly, Jeddah Kingdom of Saudi Arabia, August 2019 resolutions in relation to the IOFS 5 Year Action Plan, the IOFS Secretariat prepared a background paper¹ outlining the parameters of the FSR in which it indicated that Food Security should be based on four principles:

- the availability of sufficient quantities of food products;
- economic affordability of food;
- consumption of the required amount of food in accordance with dietary standards;
- stable access to quality and safe food.

Grain stocks and reserves have an impact on prices for two reasons. First, the additional supply means that demand surges can be met and the supply and demand stay in some level of balance. Secondly, buyers can expect that supplies will be adequate so the uncertainty is reduced and an element of calm is provided to the market.

This proposal for development of an FSR effectively intends to solve the problems of food security of the OIC countries, as the FSR will address the whole spectrum of Food and Nutrition Security (FNS) through the so called “Food emergency principle of intervention”.

The OIC countries have various levels of food & nutrition security or insecurity. The Grain Fund will manage the FSR addressing the whole spectrum of food emergency measures in OIC countries, from prevention, relief, rehabilitation and development i.e. FSR should be stored in improved grain storage according to good storage practices.

The Grain Fund may manage the FSR for the three main categories, although with different approaches according to a FNS policy, strategy and existing FNS programmes of the recipient MS. The approach is a mix of bottom up and top down approaches. The 3 Categories define how the FSR proposes to address food crisis emergency, such as:

- Humanitarian food aid in Category 1;
- Structural ones challenging the interlocking needs of humanitarian relief and capacity-building to prevent emergencies and prevent chronic FNS with the existing range of programmes mobilized at country levels in Category 2, and
- Category 3 with more integration of medium term FNS policies requiring public reforms to address the principles of the « Right to Food » and « One health » in OIC countries.

The three Categories of the recipient MS countries are distinguished according to their FNS policy, strategy and existing FNS programmes for mobilizing the FSR:

¹ Annex 12 – Annex Resolution № IOFS/GA/1-12-2019 Explanatory note on report on the 5-year Action Plan (adopted by the 1st IOFS General Assembly)

- Category 1: country where no FNS institutional support is in place or cannot be used because of the situation,
- Category 2: country implementing FNS programmes & projects and,
- Category 3: country implementing FNS structural reform

Country categorization of the 3 levels is dependent on the prevailing situation in each MS. The upper level being the most elaborate with regional FNS programs addressing the food and nutrition circumstance with preventive and corrective measures according to established criteria. However these third level interventions require much more time to construct, as it requires structural reforms in each MS country according to the FNS institutional situation, and related to the particular characteristics of a regional policy situation. The subsidiarity level will have to apply for any OIC country from local – national – regional and interregional level. This means the Grain Fund will build physical FSR from local stocks to the global OIC FSR in any MS country participating in the scheme. The stock at the OIC global level will be comparatively small.

Each country will have or need different tools to manage FNS. It is necessary to modernize the existing cooperation intra-OIC countries to an international arena in the field of food security as it will strengthen FNS complementarity aiming to mitigate individual vulnerability. The Food Security Reserves will be used for sudden shocks (war, displaced people, natural disasters, pandemic and economic shocks) and preventive measures (safety net, insurance, poverty alleviation) to reduce vulnerability from chronic shocks (recurrent natural disasters and economic problems) according to the principle of subsidiarity (from local-national-OIC FSR)

The subsidiarity process would require any OIC programme to rely on supplies from smallholders' surpluses as much as possible for the developmental effect to be successful, using regional supplies, aimed at a balance between regional surpluses and deficits. These may be topped up where necessary from outside sources, but it will be preferential to be from countries, if possible in the same continent. The participatory approach for building stock from the local level is suggested also to develop the private agri-food sector in MS countries (understood to include smallholder farming and informal food trading), as well as domestic and regional trade in agricultural and food products.

It is recommended that the Grain Fund will also emanate from regional programmes for grain management and food sovereignty.

External agencies are needed to assist building the food reserves. They will have experience in the agricultural and commercial situation of any region or country where they operate. Their role is to participate in domestic generation for food and nutrition security bringing to bear experience from other programmes.

The quantitative and qualitative benefits for the OIC countries from this project at the global, regional and national levels

The IOFS Steering Committee will need to respond with FSR to FNS situations in various OIC regions. One-size-fits-all Categories and intervention design will not work due to the importance of addressing the prevailing circumstances of one or more countries in a particular region.

A regional FSR could be very much challenged to respond on its own to a substantial food crisis, like those provoked by major natural disasters such as climatic shocks, pandemics, political disasters (war, civil unrest) or economic shocks (significant increases in food prices, national or global economic turndown). Therefore, the best approaches are those which are decentralized and developed under the 3 Categories. In any category a first line of defence lies in nearby stocks for communities to mobilise, a second line is national stocks, which national arrangements can make use of and a third line is the regional reserve and mechanisms of solidarity between OIC countries within a geographical region. The last line of defence

being at the international level, being the global OIC FSR. Each line of defence must take to consideration and pursue twin goals of the FNS:

- respond usefully to the needs of people affected by hunger, while sustainably strengthening their future capacity to withstand such shocks.
- no country should rely permanently on food aid in order to guarantee its citizens' right to food it is necessary to use the FSR also for longer-term preventive measures.

An important question is where grain stocks are located and at what level they are controlled. They can be anywhere from a village grain bank to a global virtual reserve managed by the IOC Steering Committee of FSR; and be at several different levels simultaneously. Any decision on the FSR management will depend on full understanding through comprehensive data of the nature of hunger and food shortages across the OIC.

There are two broad alternative views:

- Hunger can be seen as an essentially personal, household or local problem: each hungry person faces hunger in their own place and because of their own predicament. Resolving this requires an assurance everywhere of local access to food, fulfilling each citizen's right to food. That implies a bottom-up system, based on local and then national provision in the first instance.
- Hunger is caused by the inadequacy of supplies on organised markets, and especially global markets in food products. This leads to an emphasis on the volumes of global supply and proposals for global or perhaps regional stocks.

Determining a too high a level for food reserves (and food policies generally), and concentrating on aggregate production and availability only, can lead to neglect of the vital question of access to food and other local considerations of supply and demand and/or interruption to food supplies such as post-harvest losses. In many places a household or village grain store can be built in a day and cost very little. Village or household stores need to be improved or provided for, regardless of global decisions of provision, although the FSR has a role to play in strengthening availability and access to address the FNS of the OIC populations.

1.2 Aims and scope of an emergency food reserve

Implementing an emergency reserve system requires an operational definition of a food emergency. Traditionally, a food crisis emergency could be defined as "the state or condition having suffered extreme and unexpected natural or man-induced calamity, which is unable to cope with such state or condition through its food national reserve and is unable to procure the food need supply through normal trade". Under the traditional notion of food security, a food emergency is associated with natural calamity or large-scale conflict, with humanitarian food aid as a typical response. However, other factors are also considered nowadays due to experience.

The 2008 price crisis began a serious re-examination of the concept of food emergency to include large and sudden price increases, owing to abnormal market movements. This sudden price increase came from the low grain yield at the global reserve, that had been exacerbated with some speculative price movements propounding the scarcity of the grain reserve. This led to export bans from main grain producers with the consequence of sudden price increases in countries that traditionally had an import of grain as a buffer to compensate their national production.

The notion of « un-expectation natural or man-induced calamity » has also changed in recent years because an expected food crisis would lead to an emergency food aid response in the event that the chronicity of a food crisis is not effectively anticipated properly. It is noticeable that with milking mother malnourishment and children's stunting and underweight have their origins from the effects of chronic food insecurity. In this regard the FNS response should also consider preventive measures where FSR also have their role to play.

Estimating the appropriate level of emergency reserves is a complicated issue of balancing food security benefits against the high costs of food storage. Moreover, alternative storage and release modalities would need to be incorporated into the calculation. For instance, private sector storage may be a lower-cost option than state agency storage, particularly under a business climate favourable to the private sector development of grain supply chains. Emergency reserves may be supplemented with other risk instruments, such as maintaining an emergency fund as well as financial instruments linked to emergencies (e.g. commodity futures and derivatives).

1.3 Developing an FSR

In establishing an operationally effective food reserve it is necessary to consider how those key principles are met through identification of the modalities and mechanisms by which:

- reserve stocks are established whether in terms of hard commodities (wheat rice etc.) or in accessible financial support for the purchase of food from other reserves
- stocks are progressively built up and replenished and are in quantities that relate to the demand in a particular region
- stocks are protected physically from destruction or pest/ disease deterioration
- food types are compliant with dietary and cultural norms of the countries supplied
- reserves of food are accessible, easily and timeously transportable to the areas of need
- transport and distribution mechanisms are secure, guaranteed and food in transit is protected through refrigeration etc.
- infrastructure for the networks of transport is compatible with the means of transport available – roads, rail, air and sea
- trade controls and tariffs between countries do not prohibit exchange
- safety standards are agreed between MS and processes ensure compliance to those standards
- market food prices amongst MS are controllable in a manner which does not outreach affordability

1.4 Undertaking a Feasibility Study

To be able to assess and evaluate the parameters of the FSR a feasibility study needs to be undertaken which analyses how individual countries, regions, governments and donors (public and private) can collectively contribute to the modalities and mechanisms set up above by obtaining detailed data and agreements on:

- demographics relative to population size and severity of food shortages;
- country and regional resources for self-sufficiency in food reserves – production, consumption and surpluses;
- country/regional capacity and capability to respond to food shortages - existing channels for distribution etc.;
- production capacity, reserve accumulation and restocking capability;
- storage capacity and quality controls for preserving stocks;
- access to reserves whether through government, donor, charity or other forms of humanitarian aid;
- quantification of real-time statistical data, analysis and data sharing – through existing or redeveloped databases;
- import /export volumes relative to the net provision of food per capita (food balance);
- establishment or ratification of existing trade relationships and cross border tariffs/ export regulations;
- current networks for distribution – transport and transporters capacity for rapid distribution and in-transit food ‘quality’ protection;

- establishing relevant/ 'ideal' location of reserves to facilitate supply and demand in a predetermined (country- group) coverage area.

On the 9th November the IOFS Secretariat convened a virtual conference at which representatives of a selection of member states² of IOFS discussed the Draft Protocol of the OIC Food Security Reserves which was later revised to a Memorandum of Understanding (see Appendix 5). In addition to discussions and agreements on amendments and additions to the draft protocol/ memorandum the representatives noted the necessity to conduct a feasibility study with deep and detailed analysis of the regions. The feasibility study will determine the regional country-groupings, volume and types of food commodities, and the physical infrastructure and related storage/ distribution mechanisms and controls. The conference further discussed the role of Food Security Reserves in building sub-regional food stocks, tailored to the needs of each regional group within the OIC member states. The Food Security Reserves would consist of wheat and/or other principal food products or a combination thereof, as selected by the member states.

The Reserves would be administered by the Steering Committee of the OIC Food Security Reserve. The member states undertake to:

- provide adequate storage facilities for the earmarked food-grains;
- to inspect the food grains periodically and to apply appropriate quality control measures and to replace any food-grains that do not satisfy the said standards.
- ensure the member states must comply with the guidelines on storage and quality control as adopted by the Steering Committee.

These basic principles underpin the ethos and mission of the FSR.

However, whilst these aspects serve to define the management of the food reserves they do not define the modalities and mechanisms beyond stocking and replenishment. As has been outlined above the technical infrastructure surrounding the stock needs to be established from production through storage to distribution for the FSR to be effective.

The objective and results of the feasibility study would therefore be:

'To establish an effective framework for the establishment of an IOFS Food Security Reserves and Grain Fund which takes to account the food needs of participating member states, determines the appropriateness of the location(s) of the 'storage' facilities of the reserve and the mechanisms for management of the reserve'.

The study should investigate, review and report on:

- IOFS country and regional demographics relative to population size and severity of food shortages;
- Country and regional resources for self-sufficiency in food reserves – vulnerability;
- Ability of a country or region to respond to food shortages on its own;
- Production capacity and reserve accumulation and restocking capability – including volumes and types of food;
- Storage capacity and quality controls for preserving stocks;
- Access and distribution channels whether through government, donor, charity or other forms of humanitarian aid;
- Quantification of those dimensions through real-time statistical data, analysis and data sharing;
- Import and export data relative to the net provision of food per capita;

² Kuwait, United Arab Emirates, Kingdom of Morocco, State of Qatar, Republic of Azerbaijan, Republic of Turkey, and the Republic of Kazakhstan

- Trade relationships and cross border tariffs/ export regulations which facilitate ease of access to food reserves through related distribution channels;
- Distribution networks – transport and transporters capacity for rapid ‘refrigerated’ distribution and in-transit food ‘quality’ protection;
- Location and relevance of placement of food stocks relative to ease of access of stocks taking to account distribution networks, time lags on distribution etc.;
- Environmental and climate conditions which may affect the effective operation of the FSR;
- Other risks that may affect a country or region from effectively operating food reserve and humanitarian aid food distributions due to political or civil unrest, insurgency or food theft;
- Regional Groupings of member states which best serve the effective and efficient supply and demands on the reserve, distribution etc.;
- The development of new/or access to existing comprehensive database(s) of information related to the operations of the FSR to monitor the supply and demand for food security reserve interventions and the management of the reserve;
- The financial parameters of the FSR and determination of the size of contributions of member states;
- Composition of the Steering Committee and Secretariat of the FSR and MS committees;
- Finalisation of the content Protocols of the FSR including estimated and agreed schedule of quantities of the FSR stock to be provided by participating member states;
- The costs associated with the development and operational recurrent costs of maintaining the FSR.

The feasibility study should be conducted through:

Desk research and review

- ✓ Consultations with member states, donors, charities and other public and private entities who may contribute / partner the FSR;
- ✓ Physical interventions for the assessment and evaluation of the geographical and other logistical dimensions affecting the FSR;
- ✓ Interrogation of international and other regional databases of information on food production, supply and demand, market food prices and availability of financial resources for the FSR;
- ✓ Consultations with other food security organisations to examine experiences and learning – for example ECOWAS (RAAF) / ASEAN+3 / IFPRI / FRA Zambia³.

1.5 Composition of the Member States committed to support for the development of the FSR

In the preamble to this study we have cited the commitment of the IOFS member states of Kuwait, United Arab Emirates, Kingdom of Morocco, State of Qatar, Republic of Azerbaijan, Republic of Turkey, and the Republic of Kazakhstan to the development of the FSR. Whilst some of these states fall into the category of some form of vulnerability to support from the Food Reserve there are many other states who are more vulnerable and require intervention.

The feasibility study would, to ensure a comprehensive analysis of the parameters of the interventions required by the FSR, require including in the investigation an analysis at least one country and/or region that is ranked at the most vulnerable level. We elaborate on the rationale behind this in the body of the main report.

³ FRA – Securing National Food Reserves, Taking Wealth to Rural Zambia FRA – Securing National Food Reserves, Taking Wealth to Rural Zambia

<https://thebestofzambia.com/orgs/food-reserve-agency>

1.6 In Conclusion

The concepts of the FSR are fully understood and articulated by the interventions and actions so far undertaken by the IOFS Secretariat. To be able to formulate a definitive action plan for the design, development and implementation of the FSR, a full review as described by this pre-feasibility study is required to validate the modalities and mechanisms to be adopted.

Main Report

2. Introduction

This concept paper provides an overview of the rationale for a full feasibility study into the FSR prior to its design, development and authorisation by the GA for implementation.

The objectives of the FSR feasibility study are to evaluate the various dimensions which make up the framework of the FSR namely:

- ✓ Structure of operations;
- ✓ Protocols to which MSs commit to participate;
- ✓ Authorities for decisions – Steering Committee(s) terms of reference;
- ✓ Structural framework of stocking of reserves;
- ✓ Qualitative and quantitative measures of the FSR;
- ✓ Infrastructure of movement of ‘grain’ reserves – field to plate;
- ✓ Hygiene and preservation measures;
- ✓ Volumes and commitments of participating MSs;
- ✓ Determining the adequacy of stock locations and distribution corridors in provision of food to countries in need or crisis;
- ✓ Assessment of country self-sufficiency in provision and surpluses available to the FSR;
- ✓ Financial resource availability from MSs, donors and entities other public and private entities to contribute to the monetary fund for food acquisition especially in emergency distribution;
- ✓ Accurate and real-time analysis of the status of food demand through interactive databased statistical diagnostics – warning systems etc.;

3. Part One: Understanding the needs of the Reserve

In order to assess the outcomes and impacts of efficacy, effectiveness and efficiency of the proposed Food Security Reserves and Grain Fund across the member states it is important to establish the requisite dimensions and components of the FSR Framework prior to implementation.

There are a number of these dimensions and components including:

- ✓ The country and regional demographics relative to population size and severity of food shortages;
- ✓ Country and regional resources for self-sufficiency in food reserves;
- ✓ Ability of a country or region to individually respond to food shortages;
- ✓ Production capacity and reserve accumulation and restocking capability;
- ✓ Storage capacity and quality controls for preserving stocks;
- ✓ Access and distribution channels whether through government, donor, charity or other forms of humanitarian aid;
- ✓ Quantification of those dimensions through real-time statistical data, analysis and data sharing;
- ✓ Import and export data relative to the net provision of food per capita;
- ✓ Trade relationships and cross border tariffs/ export regulations which facilitate ease of access to food reserves through related distribution channels;
- ✓ Distribution networks – transport and transporters capacity for rapid ‘refrigerated’ distribution and in-transit food ‘quality’ protection;
- ✓ Location and relevance to ease of access of stocks taking to account distribution networks, time lags on distribution etc.

The design of food reserves policy should also facilitate the development of agriculture and agricultural trade, and in the long run reduce a country’s or region’s dependence on donors and other external influences. Therefore, preference should be given to designs which generate these internal processes to

the fullest amongst MS, even if they take longer to reach their potential or are more expensive for the countries concerned in the short or medium term.

There are two main strategies of food reserve policies; one strategy aims to provide a minimum level of food (consumption) for all consumers while the other strategy aims to reduce price volatility. Both have the overall effect of keeping food stuffs available for consumers, however they are both effective for addressing food security but dependent on the cause of the food crisis. In the most basic form, food reserves help to reduce price volatility by accumulating stocks when prices are low, to prevent steep price slumps and disposing of these stocks when prices are high to smooth price spikes, but only so long as stocks are available. While stocks can be an aid in buffering price shocks, they are unable to eliminate all effects of a supply shock on the market.

Reducing domestic price volatility has historically been a concern for many countries, both developed and developing. In order to achieve their objectives, developing countries have typically used a combination of trade controls and buffer stocks. Price volatility may originate from either domestic or international markets. Thus, a comprehensive policy on volatility cannot focus on international price shocks to the exclusion of domestic supply disruptions. In general, trade is the most cost-effective way to stabilize domestic prices in the face of shocks to domestic supply. For trade to be most effective, however, a solid market information system is of prime importance, so that imports can be arranged (whether by the government or the private sector) in a timely fashion. If there will be significant lags in the arrival of imports or access to emergency humanitarian reserves, buffer stocks may have a key role to play.

Buying and selling grain procedures will be needed to minimize the impact on the markets. Purchases are preferably carried out when prices are low in the main production areas, whilst destocking operations will be carried out preferably when prices are high. In the event of strong pressures on regional markets, the world market can also be addressed too.

For countries with a high number of poors in the population and exposure to production shocks, storage policies aimed at ensuring a minimum level of consumption is usually the chosen course of action to address food insecurity. While ideally, a large international grain reserve controlled jointly by national governments would provide the most economical and stable structure to mitigate global food crises, the differing opinions on reserve management are complex.

In the case of shocks emanating from world markets, countries have two basic choices or combinations to consider:

- Accept the price volatility and cope with it through a combination of risk management instruments and safety nets.
- Use a combination of trade controls and buffer stocks to reduce price transmission from international markets.

Both of these options have costs. Buffer stocks and trade controls also have costs. For example, the interest costs of buffer stocks can be significant, although specific rules of Muslim finance management systems may apply which mitigate these costs.

Governments of vulnerable populations have to consider a local and national (and regional FSR IOFS) strategic reserve as part of their plan to address food security. A key is to determine the optimal size of the reserve; a careful balance between the value of keeping reserves and the cost to store such volumes of grain. Food reserve policies aimed to limit price volatility are considered less effective in ensuring food security for the vulnerable than focusing on their consumption. The world's stocks of cereals were at historically low levels during 2008 crisis (FAO, IFAD and WFP 2015). This caused the world market to be more vulnerable to food price spikes and threatened the proper functioning of markets. This market rigidity was also due to speculative movements that were compounding the scarcity of the grain resources

as the stocks were low. This combined with some bad yield in some parts of the world resulted in export restrictions and trade controls in several countries exacerbating the food crisis in 2008.

This indicates that for the market to function effectively, the food system must hold a minimum level of grain stocks to be able to respond to unexpected shocks (such as bad weather and pandemics) and allow for the transport, marketing, and processing of grains. With such low levels of stocks, utilisation of even a small amount of the stocks can lead to longer term problems. In 2007–2008 grain stocks were approximately 60 million tons less than in 2004–2005, representing a decline of 2.7 percent of global production (IFPRI 2011). But when prices rose sharply in 2007–2008, this difference in grain stocks was enough to partially contribute to serious price increases, especially for commodities whose production is concentrated in just a few countries, such as rice.

While there is a correlation between stock levels and the volatility of prices, reserves can be costly to maintain. However, whilst larger food reserves provide supplies in times of crisis and more importantly, in vulnerable countries, reserves build confidence that trade remains the most efficient mechanism for stabilizing domestic food economies. Once the decision has been made to utilize food reserves to mitigate the impact of production shocks, three main questions must be considered:

- How large should the reserve be;
- who will manage the reserve;
- and where should it be located.

3.1 Objectives of the FSR

Prior to the feasibility study it is essential to establish the objective of the FSR. The IOFS has articulated the mission of the FSR as:

- **MISSION:** To elaborate mechanisms of establishment of regional food reserves to provide member states with a sufficient amount of food in emergencies

It is necessary to frame the Mission given by the IOFS in the overall frame of FSN, as FSR at national & regional levels may have various roles to addressing emergency and/or chronic food and nutrition insecurity, going from prevention, relief and rehabilitation of FSN of local populations. Addressing chronic food and nutrition insecurity requires medium term tools from intersectoral approaches at national level and policy coordination at national as well as at regional levels for regional FSR. This pre-feasibility study considers **3 Categories** according to the FSN situation:

1. FSR addressing humanitarian food aid for relief from for food crisis
2. FSR addressing emergency food crisis for relief, but prevention of food crisis addressing the structural causes with disparate FSN policies
3. FSR addressing emergency food crisis and structural causes with more regional integration addressing sectoral reform with appropriate FSN policies. The perspective IOFS regional FSR may provide a frame for structural reform in some IOC countries. Regional FSR are based on solidarity mechanisms amongst MS.

3.2 Design of the FSR

The proposed elements of the design of the IOFS Food Reserve Fund is:

- have international status, employing the modality of Financing For Development (FFD) and be administered by the IOFS Secretariat supported by a Steering Committee and sub-committees of MSs;
- the activities of the fund should be supported by a comprehensive information and analytical system that allows monitoring and managing the level of food security, tracking risks, and timely preparation of measures to support vulnerable IOFS member countries;
- sources of funds for the capital formation and managing of the finance/fund – composed of targeted contributions of the OIC countries, international organizations, and foundations including

Islamic, entrepreneurs, individuals, from public, private, and civil society sectors (Multi-Stakeholder Partnerships MSP);

- contributions monitored and managed, as well as all the activities of the fund (in a transparent manner), through publication of annual reports on activities, distributions of commodities and financial expenditures and the state of stocks;
- an independent audit including conducting surveys among residents of the regions receiving assistance from the Fund;
- decisions on distribution of the financial provision from the Fund based on clear criteria to assess the specific needs of beneficiaries e.g. the depth of food shortage among vulnerable groups of the population, the ability of the Fund to meet those needs, the degree of risk and the capacity/capability of the Fund's partners to distribute food aid.

In achieving this design, the IOFS should promulgate the programme by:

- establishing the steering committee(s) and working criteria;
- developing the web-based information system and populating the data sets making the system accessible to MSs;
- establishing partners of the Fund for distribution- regional funds for food reserves, charitable and social organizations, states (state infrastructure for social support), in extreme/ emergency cases the military service in the absence of other humanitarian /social or organizational infrastructure in the region capable of supporting residents;
- establishing natural physical food reserve, in stable regions, a well-developed warehousing and transport infrastructure, (30% of the reserve);
- establishing (up to 70%) in the form of Islamic financial instruments from Islamic financial institutions with the highest level of reliability;
- establishing mechanisms for food purchases by the fund carried out from surplus products from producers in the territory of the OIC countries to support local producers, food buffer zones;
- establishing policies and systems for controls and monitoring including audits of quality of products, stockpile data and storage, and production technologies to ensure long shelf life and food hygiene. (The FSR Protocol and FSR Quality Control Systems)

It can be seen that the ability of the Secretariat and the MS of the OIC/IOFS to initiate and implement comprehensive Food Security Reserves system will be dependent on in-depth analysis and diagnosis of each of these dimensions in specific countries and regional areas. For example, determination of the location of physical grain or other commodity storage will be dependent on a number of factors including:

- harvest and excess supply rates within a country or region
- forecasting the emergency/ humanitarian needs of that country or region compared to other geographical/ political formulations
- the existing or future capacity to provide physical storage facilities
- the risks and challenges associated with security of the reserve (climatic changes, theft, pests etc. war/conflict)
- distribution networks (road, rail, air) and the timeframes for distribution

3.3 Establishing the FSR

To be able to establish a coherent Food Reserves Programme, the preliminary IOFS activity, judging by the international experience, is to gather and interrogate data through developing extensive information and analytical systems of the IOFS. The analysis to assess the risks, threats, and scale of problems across OIC/IOFS countries and regions which provides a basis for the IOFS to build then regulate food reserves.

The mechanisms for the management, distribution, and control of food reserves requires transparency and operational modalities, based on successful piloting of these operations to attract innovative financing from donors, both state and institutional (mobilizing, catalysing, providing and managing financial funds from domestic and international organizations), entrepreneurs and individuals.

The development of web-based information-analytical system would provide a platform for collecting contributions and subsequent control of their distribution by the donors. The foundations of the Reserve will need to use the full range of instruments - physical natural food supplies and Islamic financial instruments, as well as instruments of Islamic charities. The organizational structure should be multi-level - international funds, country, in-land regional, down to local community funds. Regional and multilateral cooperation within the existing system of international, country funds, and charitable organizations is necessary, requiring multi-stakeholder partnership(s) for financing and improving sustainable food reserves. The reserve needs to be a combination of commodity interventions, financial grants, natural subsidies, Islamic financial instruments for producers and food processors with well-defined levels of reserves and the specific location of each element of the reserve.

3.4 Objectives of the FSR

General Objectives of the FSR: An effective cyclical food crisis response contributes alongside Members States and stakeholders to the improvement of food and nutrition security of their population

Specific Objective of the FSR: The FSR in complementarity with the support carried out by its Member States, provides quick and diversified response in cash or kind, based on MS solidarity and adequate tools to address the specific needs of the various communities hit by food crises through transparent, equitable and predictable mechanisms that strengthen also solidarity.

The FSR will have a role for emergency /cyclical food crisis while not for structural food crisis that lead to chronic food and nutrition insecurity. However, 'emergency' means also that the FSR may have a role in the prevention of food crisis such as natural disaster preparedness and reduction of price volatility. Addressing chronic food insecurity requires medium to long term tools to alleviate poverty in the form of structural & institutional reforms to provide an improved frame for poverty alleviation such as safety nets, improved management of natural resources and development of local food value chain. Most malnutrition problems are medium term that require appropriate tools. The FSR will contribute with food aid – in cash and/or kind with the aim of prevention and reducing the negative impact of food crises in the MS with components such as:

1. Improving the availability and possibly the level of some national public stocks for cooperation food security scheme amongst its MS;
2. Allowing the flexibility of the use of cash and/or kind aid in its strategical food aid support of MS communities facing food crisis, and according to the comparative advantage/disadvantage of tools of each MS participating in the network;
3. Creating solidarity amongst MS by providing aid that would be reimbursable by the beneficiary MS without any financial interest and a humanitarian reserve that will be allocated as a donation;
4. Providing a facility for stable food purchase for the MS preventing cyclical food crisis;
5. Reducing price volatility.

When determining the scale of the food reserve, the latter risk factor (Price Volatility) is considered, although It is difficult to predict the extent of such a crisis. However, this type of crisis is often long-term and the challenge then becomes in linking the reactive or rapid-intervention of the FSR with setting up a medium term support for food and nutrition security, through what is called LRRD (Links between Relief, Rehabilitation and Development) process. The longer the food crisis, the more LRRD tools will be

necessary to link with the possibility to use medium-long term tools necessary for the development process.

The FSR would be equipped with a physical and a financial reserve with a flexible physical/financial ratio according to the capacity/comparative advantage of each MS or a fixed one being for example:

- 2/3 of resources allocated to setting up a financial reserve, and
- 1/3 of resources allocated to a physical reserve.

The FSR may have two distinct functions depending on the available resources and level of commitment of regional and international decision makers, the reserve will modulate its interventions between the two forms of support: loans or transfers for consideration on the one hand and free transfers (regional solidarity) on the other. i.e:

- a) Allocate food supplies or financial resources as a interest free reimbursable loan to eligible parties. Only MS governments can call on support from the FSR, but when such support is granted, stakeholders can be allocated quotas which they are then authorized to use.
- b) Allocate non-reimbursable food supplies or financial resources from the Humanitarian Fund of the FSR, in the name of OIS solidarity. In this case, FSR funds for emergency intervention would compensate national funding in financing this allocation.

These two tools physical/financial reserves have different strengths and weaknesses

Their use are complementary (see Table 1 (1.2 and 1.2)) and thus the choice ensures a system that is responsive, flexible and effective.

Table 1: Complementarity of Physical and Financial Reserves

1.1 Physical reserve

Strengths and opportunities	Weaknesses and limitations
<ul style="list-style-type: none"> · Immediate availability · Less sensitive to market risks · Possibility of absorbing management costs with benefits of storage · Contributes to market stability when the physical stock is significant and well managed 	<ul style="list-style-type: none"> · Tailoring the stocks to alimentary and technical requirements of different types of food aid interventions · Managing the physical reserve (losses, monitoring sanitary quality, associated costs, etc.) · Destabilizing effect on markets if poorly managed · Risk of impact on private investment in reserves if incentives are not offered · Logistic & management at international level to reach the local level · Multi grains specificities & traditional food utilization in the beneficiary MS

Key Uses:

- Sales at fixed & fair prices;
- Targeted distribution;

- Sites with high labour intensity — food for work : food aid used for food security preventing measures in the LRRD process (Links between Relied, Rehabilitation and Development);
- Programs dealing with severe malnutrition and associated with diversified food allowance.

1.2 Financial reserve

Strengths and opportunities	Weaknesses and limitations
<ul style="list-style-type: none"> · Greater flexibility in use · Better suited to food accessibility crises · Simplified management · More freedom of choice for the recipients · Less interference in the market 	<ul style="list-style-type: none"> · Harder to fund · Less effective in the event of price shocks · Not managed at local level

Key Uses:

- Purchasing food supplies for emergency operations if the physical reserve is insufficient;
- Financing associated costs linked to the mobilization of food supplies: transportation and distribution costs, etc.;
- Purchasing specific products with less seasonally-variable prices (oil, sugar, etc.);
- Food vouchers (food supplies, agricultural inputs, livestock food supply, essential production methods, etc.);
- Cash transfers.

The FSR would be backed by the principle of subsidiarity with several fronts of defence. The principles of subsidiarity means that in a case of crisis, local stocks should be used first and then supported by national MS stocks themselves backed by regional stocks where applicable. The FSR will complement these existing regional stock as a third line of defence.

Many MS that face temporary food & nutrition insecurity do not have a food security strategy for emergency situation, based or not on local and/or national stocks. The FSR will create a new line of defence which strengthens existing MS food security strategies by bringing them into the proposed network of the FSR, and creates ones for the MSs not yet having any FSN strategy.

The FSR for food crises will need to develop a framework of strategic interventions aiming:

- a) To consolidate or create MS national food crisis information systems that are credible, independent and focused on emergencies from the prevention of the food crisis at individual MS and regional level; if not established in some MS yet, the FSR should promote a framework for food crisis interventions in the MS and possibly develop a common framework at regional level;
- b) To promote design and development of contingency plans at MS level, designed as MS pre-prepared frameworks consolidated at regional level, to organize an appropriate response from prevention, relief and rehabilitation from different food crises (natural disaster preparedness, conflict, pandemic, economic shocks) that the country or region may be forced to confront;
- c) To set up several lines of defence that the Regional Reserves would mobilize from local stocks (cereal banks, storage receipt systems), public & private national food security stocks & reserves, sub regional private food storages, cooperation with international organizations & private partners & NGOs;
- d) To develop a food aid management cooperation framework in order to boost collaboration between public bodies & private sector through a pre-establish regional platform linking players to mobilize through the regional networks;

- e) To prepare a set of intervention mechanisms such as food, nutrition and agricultural inputs voucher(s) on paper or on mobile phone support;
- f) To prepare regional humanitarian food aid standards according to local, national and regional specificities.

In view of the nature of the food crises that affect the MS and the vulnerability factors addressed by the FSR temporary intervention for the period of food crisis, the proposed strategy calibrates the scale of the reserve (volume, composition, geographical location) with the aim that it represents a defence barrier for the following five scenarios of emergency food crisis. The FSR will address these food crisis causes with corrective measures of food aid although it may also be used for some prevention when food crisis is predictable. They can be used upstream of the cyclical food crisis addressing the first steps of the in the LRRD (Links between Relief, Rehabilitation and Development) to link with the medium term food & nutrition security in the development process:

1. Production shocks that are more or less closely linked to failures in national and regional markets, that may trigger significant food crises
2. Localized catastrophes (e.g. flooding), causing people to suffer from temporary but intense periods of dependency;
3. Significant rises in prices on local and regional markets, or lack of market supplies regardless of the causes (localized or generalized deficit in production, political tensions, behaviour of operators, etc.);
4. Price shocks on international markets, affecting all the countries in the area to a greater or lesser degree depending on the connection between national and international markets, due to restricted national policy for grain export, speculative movement and additional causes that provokes a rigidity in the grain market and affecting urban areas above all, but also rural households that are net buyers of food products. The impact of this type of shock is more diffuse and harder to measure by food insecurity monitoring systems as being part of preventive measures;
5. Shocks caused by socio-political crises and conflicts, causing internal or cross-border displacement of populations, a decline in economic activity, revenue or supply shortages, breakdown in communications, sharp price rises, insecurity, etc.

3.4.1 Positioning:

- 1) **A food crisis management tool:** The main aim of the FSR is to secure supply for food aid operations in the event of food crises with a focus on emergency with a prevention, relief, rehabilitation process. It will be designed to only be deployed as an alternative to local and national defence barriers, and to implement programs which supply food aid to distressed communities, as opposed to programs designed to regulate the markets. As such, the FSR are designed to be deployed for all types of emergency linked food crises in the region including chronic/structural food crisis, particularly the 5 scenarios mentioned above, when national capacities are unable to cope. The FSR must be able to intervene as quickly as possible and therefore reduce the uncertainty linked to the deployment of international resources.
- 2) **A coherent and fair regional solidarity instrument amongst MS.** Several components underpin this key objective: sizing, geographical location, but also the mobilization regulations of the reserve taking into account the relative vulnerability of the various countries in the region (history of food crises, landlocked countries/access to international markets, financial capacities/level of development, etc.).The FSR aim to improve the autonomy of the MS in the region vis-à-vis international aid in the event of food crises and reduce the cost of managing these crises. This objective is crucial within a global context with an increase in emergencies, to which international solidarity mechanisms (UN, NGOs etc.) struggle to respond.

3.5 Role of the FSR in supporting the full spectrum of food and nutrition security

The FSR programme is proposed to i) focus on managing food crises, ii) treating chronic malnutrition iii) providing transfers and stabilizing prices, as a safety tools that combine food and financial resources to manage food crises.

The FSR role will be to mitigate temporary food crisis coming from an emergency situation or by anticipating an emergency from a cyclical cause (recurrent natural disasters such drought, pandemics) although it may also be for the treatment of chronic food insecurity and malnutrition effects coming from structural factors related to poverty, wrong diet and bad food utilization and habits that require a medium term continuous or permanent support.

The FSR will seek to support price stabilization although it should be managed carefully to avoid medium term disruption of the market and as such generate adverse effects. Price stabilization tools are effective in improving local post-harvest tools such as storage, local cereal banks, processing and packaging by supporting inclusive development of prevention measures for losses of harvest. It does not intend to support food sovereignty of the MS as this will require structural reform in the MS.

As shown in the figure 6.1 (page 46), the nutrition situation in many MS is a preoccupant situation due more to chronic food insecurity such as stunting, the underweight of children under 5 years old and malnutrition of the milking mothers while wasting is more seasonal/cyclical. Overweight is also a chronic nutrition problem that affects both high, middle and low income countries. General food insecurity is also structural in many OIC countries, such as chronic food shortages and malnutrition.

FSR measures will prevent the food crises caused by cyclical causes and also correct emergency food crisis. Some FSR measures will link to medium term FNS such as food/cash for work for sustainable management of natural resources. For example : cash/food for work can aim to :

- i. reduce land erosion by planting trees and construction of terrace, drainage and dam, improving irrigation system;
- ii. make village to market road access.

The FSR will address the steps leading to FSN in the LRRD process (Linking Relief, Rehabilitation & Development) in possible complementarity of other mechanisms of prevention:

1. Improving the inclusive economy by strengthening the resilience at community/village level with developing local management of food value chain and providing jobs and higher income at local level with :

- Developing local financial systems like cereal banks at village/community level and solidarity village banking;
- Improving storage that can also be used by local populations living in remote areas with poor access to market;
- Provide a moral security to isolated populations to have a continuous access to food while being far from market;
- Immediate storage at production site may reduce post-harvest losses (up to 30% of yield);
- Possibility to limit distortion of the local market by favouring local actors to fill up food gaps and reduce the dependency on daily prices that negatively affects the revenue of the local producers.

2. Improving the chronic malnutrition of the local population – as in many OIC MS causes of malnutrition are also chronic such children stunting, underweight and malnutrition of milking mothers by providing safety net and promoting insurance system to poor population.

The FSR will improve the solidarity amongst its MS by also respecting the subsidiarity of the scales of intervention at local, national, regional and international levels. There will be a need to develop food security storage policies according to food safety standards.

The establishment of the FSR at regional level requires to:

- a) Develop regional information systems that are reliable, credible, independent and focused on the different food security parameters;
- b) Promote contingency plans, designed as pre-prepared frameworks, to organize an appropriate response to different emergency and structural food crises that the country or region may be forced to confront;
- c) Strengthen the lines of defence that the FSR would support for local stocks, national stocks and FNS policies & strategies and cooperation at international organizations & NGOs;
- d) Develop a cooperation framework for i) boosting collaboration between public bodies responsible for managing stocks and allow their networks to play a full role in the implementation of the Regional Reserves ii) combining management of the FSR stocks and complementary sectoral FNS programs at regional level, iii) promoting harmonization of FNS intervention criteria amongst the various regional MS FSR iv) supporting sector reform for FNS in each MS.

These dimensions are a prerequisite for the success of a Regional FSR that addresses the full spectrum of moderate and acute food insecurity and malnutrition in the prevention, relief, rehabilitation and development process. The FSR should represent an opportunity to support countries in strategic areas with regard to food & nutrition related challenges related to the principle of the “Right to food”.

The 3 categories of situations in different MS that can be addressed by FSR include:

3.5.1 The Food Security Reserves for short-term relief for food-related emergencies

A classical short term food aid response for food crisis due to sudden shocks. This food aid will be for the relief of population placed in a vulnerability situation of acute food insecurity and malnutrition. The aid is usually short term, being 3 months that may be prolonged to 6 months or even repeated to support mechanisms of LRRD (Links between Relief, Rehabilitation and Development) in the transition of vulnerable population from the relief situation. In addition enabling a transition from the food aid dependency to the rehabilitation process where the authorities and the population start applying tools to mitigate the dependence on short term food aid. The last link of LRRD being development which requires medium to long term strategies and programs outside of the frame of the Category 1.

3.5.2 The Food Security Reserves addressing food crisis with a distinctive focus for chronic food crisis

The FSR may also play a role to address all the dimension of FNS, with a multi-dimensional approach of the emergency and chronic food aid, if being linked to other programmes on Food and Nutrition Security, also in the context of chronic food insecurity. Addressing chronic food and aid insecurity require often structural reforms in each MS as the approach is complex and multi-dimensional. This will depend on the FNS policy & strategy of every MS country, and the coordination mechanisms amongst MS in every considered region. And also depends on how FNS is addressed by sectoral & intersectoral approaches in MS, and the way in which the individual Ministries have been set up for sectoral & intersectoral supports. The political priority of each MS to address the full spectrum of the FNS is also a main factor to set up a coordination process at MS and regional level. To be able to intervene in the alleviation of structural food and nutrition security the FSR will require to be embedded within medium to long-term policies of MS participating in the FSR. Reducing structural food insecurity and malnutrition requires understanding and some integration of medium-term tools from the various strategies developed by MS' ministries such as Ministry of Health, Ministry of Rural Development, Ministry of Agriculture, Ministry of Education, Ministry of Environment and Natural Disasters etc. Addressing structural FNS requires a coordination of mechanisms at MS level supporting sectoral and intersectoral strategies and programmes. A further role of the FSR for structural FNS requires also coordination mechanisms at regional MS level for using the FSR in preventive interventions such as the safety net to build resilience.

An integrated approach should also consider food as a right⁴, and focus actions on the root causes underlying the lack of access to adequate food, as well as the negative repercussions of the current situation on the most vulnerable populations. Treating food as a human right and putting it at the heart of regional and national legislation, policies and programmes means involving the highest level of state institutions (legislative, judicial and executive bodies) and placing FNS at the top of the political agenda. It also implies adopting multi-sectoral approaches, promoting civil society participation and empowerment, involving the private sector, developing multi-year programmes, creating appropriate institutions to monitor progress, and ensuring sufficient financial investment to eradicate hunger.

Positioning:

1. A food crisis management tool integrating intervention for emergency/ chronic/structural FNS
2. A coherent and fair regional solidarity instrument integrating moderate and acute level of chronic food insecurity, and have also other priorities linked to structural approach such as inter- sectoral and sectoral supports. Despite its aim to improve food emergency response capacity, it is envisaged that the FSR is to be used as:
 - a lever to support the development of other priorities for agricultural development and reduce structural vulnerability in the region:
 - support sectoral development linked to structural FNS such as agricultural development including good agricultural practices (land & water management, integrated pest management), good nutrition practices particularly for children and milking mothers, food safety practices, value chain development at local level, agro-ecology, agro-forestry, mixed farming system, inclusive economic development, poverty alleviation activities such non-farm activities,
 - support to farmer organization and consumer associations.
 - The FSR will support its own regional development policy that fosters on policy reforms in each of the MS aiming to address emergency food crisis and also chronic food insecurity and malnutrition.

3.5.3 The Food Security Reserves addressing a regional integrated approach for food & nutrition security

The IOFS Steering Committee(s) will support public reform for addressing better chronic FNS with regional FNS policies and programmes

Positioning

Steering Committee of IOFS-FSR will design policy reforms to address the structural causes of the FNS for sectoral and inter-sectoral policies addressing an integrated FNS strategy to alleviate structural moderate and acute FNS.

The FNS will address synergies within policies and tools that aim to protect with preventive FNS measures the livelihoods of the most vulnerable households, such as social safety net programs, complement agricultural insurance systems and nutrition programs.

Anticipated social assistance programs are effective tools for protecting the livelihoods of the most vulnerable households, who are often forced to decapitalize to deal with food shocks. These programs can also improve investment and in turn productivity in two ways: (1) covering part of the risk through these assistance programs encourages the adoption of strategies that are not as heavily focused on risk management and are often more productive, (2) these assistance programs can work alongside home maintenance or community infrastructure construction programs.

These programs could be regularly supplied by the FSR, within the context of technical stock rotation.

4 Article 11 of the U.N. Convention on Economic, Social and Cultural Rights

The IOFS Steering Committee role will be to decide on how and when to allocate the food aid and supervise the Grain Fund and the FSR.

The main role of the Grain Fund is responsibility for elaborating and implementing projects for building the financial part of the FSR of any MS, make sales in the market to reduce price volatility and the FSN being the mechanism for managing the physical part of the FSR participating in the scheme by:

- Attracting participants and financing, creating management bodies, determining a management company;
- Financing member countries, generating income, monetary and food stocks;
- Buying/selling grains on the world market to reduce volatility, and co-finance finance food safety net;
- Managing an Emergency Storage- a small food humanitarian emergency reserve that is used in extreme emergency situation outside the scheme of the FSR.

3.6 Basics Principles of the OIC Food Security Reserves

The **Main Purpose**: to facilitate the access of food in the OIC Member States through coordination of national food stock policies and national food reserve for guaranteed provision to the population during the period of food shortage.

Management Mechanisms to include: real-time monitoring of the food security situation of Member States by being equipped with an extensive information and analytical system, that assesses and evaluates the risks, threats, and scale of problems in the food security area, and is used to regulate online the FSR activities (withdrawals and replenishment of food reserves). This monitoring mechanism requires complimentary and integrated data from member states that predicts likely scenarios in the medium to long-term but also has the capacity for MS to identify immediate needs and trigger a response. Whether that is centralised by region or operates independently state by state will be dependent on the reliability of existing systems.

Governance: providing supervision and coordination in the implementation of the FSR by a Steering Committee composed of representatives from all OIC Member State. FSR should be sufficiently autonomous where the management of reserves should be independent and transparent.

Structure: The FSR consists of grain or other principal food commodity and a financial element in a combination determined and in the form of an obligation as to the volumes of production and storage by members states in consultations with the Steering Committee in consultations with members states and with other functions to decide on the amount, type of food for stockpiling, physical storage and distribution mechanisms for emergency food supply obligations.

3.7 Format of the Feasibility Study

Generally a feasibility study will take a randomised sample of the entities, population, mechanisms and other parameters to be assessed. In this particular case the IOFS is reliant on those countries that have opted to partner the development of the Food Security Reserve namely:

United Arab Emirates;

Republic of Azerbaijan,

Republic of Kazakhstan;

Kuwait;

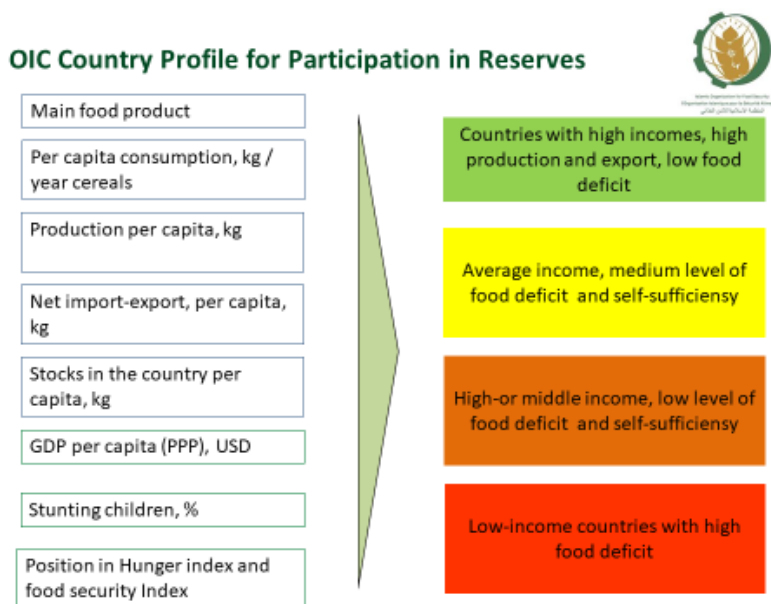
Kingdom of Morocco;

State of Qatar;

Republic of Turkey.

To establish a true randomised sample which reflects the statistical average across the OIC there needs to be established the specific parameters for selection. In the case of the Food Reserve the criteria for categorisation have been identified as described in Figure 1 leading to a hierarchical descriptor:

Figure 1 – Categorisation of the State of Food Security in OIC Countries




Across the 55 OIC countries 20 are categorised (Red Tier) as the most vulnerable, 13 (Orange Tier), 18 (Yellow Tier) with only 4 in the highest self-sufficiency category (Green Tier). This categorisation in the case of these seven countries (opting for inclusion) places them in the upper three quartiles.

Figures 2, 3 and 4 show the specific data for each country relative to the regional groupings in which they lay and their ability to contribute to the reserve.

Figure 2 Profile Europe, Central Asia, Kazakhstan, Iran Turkey, Azerbaijan

Group of countries "Europe, Central Asia, Kazakhstan, Iran, Turkey and Azerbaijan "



Country	Total population	Main food product	Country Profile	average annual grain reserves, kg per person	contribution to the regional fund, in% of the consumption rate 100 kg per year	contribution to the regional fund, in thousand tons	2019 GDP PPP Current USD
Azerbaijan	9 981 457	wheat	high incomes, average food security, but average self-sufficiency	413	0.5%	5	15 001
Albania	2 862 427	wheat	average income, average deficit, average self-sufficiency	110	0.5%	1,4	14 495
Afghanistan	31,575,018	wheat	low incomes, high deficits, average self-sufficiency	46		0	2 294
Iran	82 321 600	wheat	high incomes, high security, average self-sufficiency	677	0.1%	8,2	14 536*
Kazakhstan	18 446 552	wheat	high income, low deficit, net exporter of cereals	778	0.5%	9,2	27 444
Kyrgyzstan	6 389 500	wheat	average income, average income, average self-sufficiency	195	0.5%	3,2	5 471
Tajikistan	8,931,000	wheat	low incomes, high deficits, average self-sufficiency	214	0.5%	4,5	3 520
Turkmenistan	5 634 555	wheat	high income, average security, self-sufficiency	992	0.5%	2,8	15 196**
Turkey	82,003,882	wheat	high income, low deficit, self-sufficiency	253	0.3%	24,6	27 875
Uzbekistan	33 412 688	wheat	average income, average deficit, average self-sufficiency	153	0.3%	10	7 289

<https://maps.fao.org/data/countryprofiles/countryprofiles.html#?a=profile/country>
<https://databank.worldbank.org/source/world-development-indicator>
https://ru.qaz.wiki/wiki/Demographics_of_the_member_states_of_the_Organisation_of_Islamic_Cooperation


*2017 year data
**2018 year data

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It can be seen that Kazakhstan and Turkey represent the most self-sufficient whilst Azerbaijan represents average self-sufficiency.

Figure 3 – Profile Middle East

Group of countries "Middle East"



Country	Total population	Main food product	Country Profile	average annual grain reserves, kg per person	contribution to the regional fund, in% of the consumption rate 100 kg per year	contribution to the regional fund, in thousand tons	2019 GDP PPP Current USD
Bahrain	1 543 300	wheat	high income and food supply, but low self-sufficiency	58	1.50%	2,3	46 892
Yemen	29,579,986	wheat	low incomes, food shortages, low self-sufficiency	50	-	-	2 608*
Jordan	10 381 500	wheat	average income and food supply, but low self-sufficiency	264	0.50%	5,2	10 317
Iraq	39,127,900	wheat	average income and average food supply, average self-sufficiency	126	0.10%	3,9	11 332
Qatar	2 772 947	wheat	high income and food supply, but low self-sufficiency	0	0.50%	1,4	96 491
Kuwait	4 226 920	wheat	high income and food supply, but low self-sufficiency	nine	0.50%	2,1	51 912
Lebanon	6,065,922	wheat	average income and food supply, but low self-sufficiency	85	0.50%	3	15 327
Oman	4 672 823	wheat	high income and food supply, but low self-sufficiency	251	0.50%	2,3	29 053
Palestine	4,780,978	wheat	low incomes and average food security, but low self-sufficiency	-	-	-	No Data
Saudi Arabia	33,413,660	wheat	high income and food supply, but low self-sufficiency	870	0.50%	16,7	48 909
UAE	9 682 088	wheat	high income and food supply, but low self-sufficiency	166	0.50%	4,8	69 901

<https://maps.fao.org/data/countryprofiles/countryprofiles.html#?a=profile/country>
<https://databank.worldbank.org/source/world-development-indicator>
https://ru.qaz.wiki/wiki/Demographics_of_the_member_states_of_the_Organisation_of_Islamic_Cooperation


* 2017 year data

All three member states in this grouping represent the mean average across the Middle East with only three outliers in the lowest and next highest tiers. The three countries display some of the highest and

lowest indicators in the other criterion of average grain reserves, the mean of contributions to the regional fund (% consumption rate) although they do not show representation against 'tonnage' or per capita GDP (being the 3 highest in the region).

Figure 4 – Profile Africa

Group of countries "Africa"



Country	Total population	Main food product	Country Profile	average annual grain reserves, kg per person	contribution to the regional fund, in% of the consumption rate 100 kg per year	contribution to the regional fund, thousand tons	2019 GDP PPP Current USD
Algeria	43 378 027	wheat	average income, average food deficit, average self-sufficiency	503	0.5%	21,7	11 820
Gabon	2 109 099	wheat rice	average income, average deficit, average self-sufficiency	-	0.50%	1,1	15 486
Djibouti	1,078,373	wheat, lentils, rice	low incomes, food shortages, low self-sufficiency	-	0.10%	0,1	5 748
Egypt	98 467 400	wheat	average income, average food deficit, low self-sufficiency	366	0.1%	9,8	12 251
Cameroon	24 348 251	millet, corn, rice, wheat	average income, average deficit, average self-sufficiency	46	0.20%	4,9	3 804
Libya	6 569 864	wheat	average income, average food deficit, low self-sufficiency	96	0.5%	3,3	15 803
Mauritania	4 077 347	wheat, rice	low incomes, high deficits, low self-sufficiency	76	0.50%	2	5 412
Morocco	34 974 200	wheat	average income, average deficit, average self-sufficiency	812	0.5%	17,5	7 826
Mozambique	28 861 863	corn, millet, sorghum	average income, average deficit, average self-sufficiency	20	0.05%	1,4	1 334

<https://reps.fao.usda.gov/odm/oe/index.html#getdownloads>
<https://databank.worldbank.org/source/world-development-indicators/>
https://ru.qaz.wiki/wiki/Demographics_of_the_member_states_of_the_Organisation_of_Islamic_Cooperation

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In this region Africa (including ECOWAS), Morocco represents eight countries in the yellow Tier of average self-sufficiency whilst in the rest of the region 3 countries lay in the 2nd lowest Tier with 17 in the lowest (Red) high deficit low sufficiency rating (the majority being in ECOWAS) . None of the African group are in the highest rating. Morocco does have a strategic position in north-western Africa in terms of ports etc. and does have a certain accessibility for other vulnerable counties in the region especially those in the ECOWAS.

More data tables for other regions and countries are at Appendix 2 and more comprehensively in Appendix 1.

It will be necessary to factor in these limitations to the sampling selection during the feasibility study or to obtain agreements from other countries to enter into MoUs of co-operation and involvement in the feasibility study. This may specifically come from Southern and Eastern Africa /ECOWAS and Asia which have counties in the most vulnerable category.

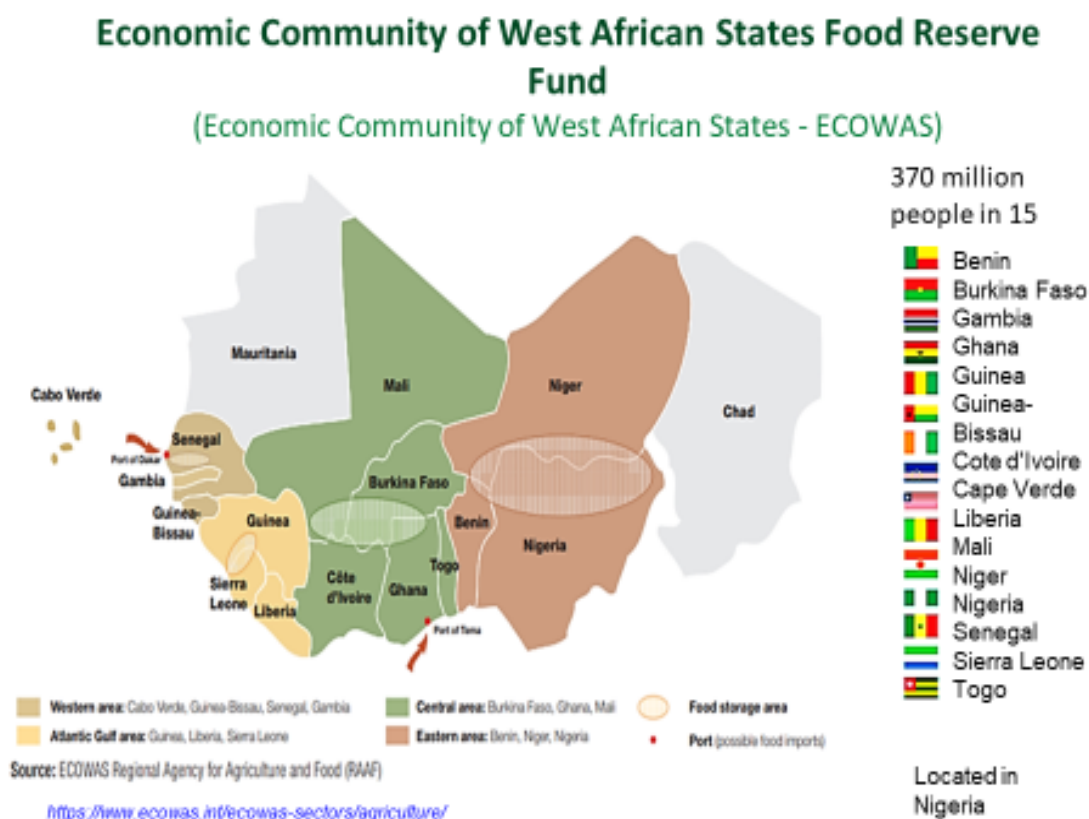
3.7.1 Storage and Distribution

A key factor in provision of Food grain is the ability to store sufficient reserves to meet demand. Typically the food gran reserve would equate to 30% of the whole fund whilst 70% would be in financial commodities. The size of the food grain reserve would need to be based on a percentage of average consumption across the countries to be accommodated by the reserve again typically 5-10% of normal consumption.

Another key factor is the location of the physical reserve which is dependent on a number of dimensions including capacity and technical capability to store (including hygiene and shelf life preservation), distribution and access (ability to transport timeously and through a variety of channels (road, train, air and/ or sea).

The Figure 5 provides an example for ECOWAS where stocks are stored according to capacity needs and geographical / population prominence amongst other factors. The natural food reserves across ECOWAS approximate to 1 million tons. The 5 main pilot countries have between 2017 to 2019 raised 20,000 tons representing 40% of the minimum ideal reserve (50,000 tons). Compare this to ASEAN+3 where the reserve is 800,000 tones, less than 1% of total production and consumption.

Figure 5 – Geographic Locations of Reserves – ECOWAS



3.8 Overview: of the Feasibility Study (FS) framework

Assessment of the specific parameters affecting the FSR is an important aspect of the design implementation of IOFS FSR. Without accurate and validated data of those parameters the FSR will fail.

There are three priority areas that can be identified as basic enablers to the efficacy of the FS:

- economic priorities;
- execution strategy, and the related
- monitoring and evaluation framework.

The performance of an organisation is dependent upon planning, execution and assessment of results measured against intention (outputs and intended outcomes). The quality and quantity of those results can only be assessed through accurate quantitative and qualitative evaluation.

Monitoring throughout the FS is essential to make a judgement on the efficacy, efficiency and effectiveness of the planned interventions. If the interventions are incorrect then the intended outputs and outcomes will not be realised and resources will be wasted.

This FS framework outlines the components of intervention and the tools and templates that are required for conducting the FS.

The FS will require substantial investigation of available data already held in a variety of international data-bases. The International Food Policy Research Institute (IFPRI) <https://www.ifpri.org/> offers information on a variety of programmes and guidance on agricultural and food crisis management portal. In its portal <https://www.foodsecurityportal.org/> it also provides comprehensive data on:

- Global Food Crisis Report 2019 (GFRC);
- Global Information and Early Warning System (GIEWS);
- FAO Early Warning Early Action (EWEA);
- WFP Vulnerability Analysis and Mapping (VAM) - Market Monitor;
- Famine Early Warning System Network (FEWS Net);
- IFPRI's Excessive Food Price Variability Early Warning System;
- Commodities – Price Volatility and Daily Market prices;
- Covid-19 Food Price Monitor.

Research and analysis of this data would provide the feasibility study vital information in assessing and evaluating the framework of the FSR.

The feasibility study should focus on a set of key evaluation questions based on a fundamental question:

- What impact is the FSR seeking to achieve?
- From this the subordinate questions are articulated in the theory of change and fundamental to that are key questions:
- What activities, procedures, mechanisms, people have to be in place?
- And in what sequence – what is the causal chain?
- What resources are required – and are available?
- What data are required – and are available?
- Is the policy/programme feasible/achievable?

To answer those questions research needs to investigate the various dimensions by identifying data which answers:

- What are the country and regional demographics relative to population size and severity of food shortages?
- Does the country and regional resource provide for self-sufficiency in food reserves?
- To what level / degree do the country or region have ability to respond to food shortages?
- What is the production capacity, reserve accumulation and restocking capability
- What is the storage capacity and quality controls for preserving stocks
- Access and distribution channels whether through government, donor, charity or other forms of humanitarian aid
- Quantification of those dimensions through real-time statistical data, analysis and data sharing
- Import and export data relative to the net provision of food per capita
- Trade relationships and cross border tariffs/ export regulations which facilitate ease of access to food reserves through related distribution channels
- Distribution networks – transport and transporters capacity for rapid ‘refrigerated’ distribution and in-transit food ‘quality’ protection
- Location and relevance to ease of access of stocks taking to account distribution networks, time lags on distribution etc.

In addition the work of the IOFS Secretariat in supporting IOFS/OIC Food Security Reserve will be more focussed and strategically and operational more effective and efficiently managed if the following basic recommendations are adopted.

- Installation of an Steering Committee and FSR Secretariat Unit;
- Preparation of a Policy and Procedural Framework;
- Development of a procedural manual;
- Recruitment of competent staff.

The FSR could be elaborated according to an integrated strategy from the approaches that have been developed at various geographical levels and by various groups of stakeholders :

- a. The first line of defence with local stocks, generally organized at community or village level, at district level or at producers' organization level;
- b. The second level of defence, comprising national food security stocks and/or strategic reserves, placed under the responsibility of the member states, or part of systems that are co-managed by the MS and a pool of financial partners;
- c. The third line of defence will be the FSR at regional level

4 Part two: An initial assessment of the Food Reserve requirements of member states

In establishing the Food Reserve it first of all important to consider the back drop to the IOFS and the reasons for its establishment and mandates.

The Statute of the Islamic Organization for Food Security (IOFS) was signed by nineteen (19) OIC member countries, on December 09-11, 2013, during the 40th session of the Council of Foreign Ministers of the Organization of Islamic Cooperation (OIC CFM) in Conakry, Guinea. IOFS as a specialized institution was established during the 7th session of the OIC Ministerial Conference (on Food Security and Agricultural Development) and the session of the General Assembly on April 28, 2016 in Astana. Currently, the IOFS includes fifteen (15) full (ratified) member countries including; Afghanistan, United Arab Emirates, Bangladesh, Burkina Faso, Gambia, Palestine, Qatar, Kazakhstan, Kuwait, Egypt, Niger, Kingdom of Saudi Arabia and 34 countries that have signed the IOFS Charter. The IOFS Charter entered into full legal force on February 19, 2018.

The main mission of the IOFS is to ensure food security in the participating countries and the main tasks include:

- a) To provide expertise and technical know-how to member countries on various aspects of sustainable agriculture, rural development, food security, and biotechnology;
- b) To assess and monitor the country of food security in member countries to be able to identify emergencies, provide social safety nets and humanitarian assistance through food security reserves;
- c) To coordinate, formulate and implement common agricultural policies, such as exchange and transfer of appropriate technology and public food management systems;
- d) To address problems posed by desertification, deforestation, erosion, and salinity;
- e) To mobilize and manage financial and agricultural resources to enhance food security for OIC MSs (Member States).

It can be seen that tasks (b) and (e) could be the priorities in relation to a Food Reserve and Grain Fund as it would be the 'safety- net' mechanism for responding to those identified emergencies and food security needs through provision of food commodities and/or financial assistance. However, to be effective the design of the reserve also needs to take account of the other aspects outlined in tasks a, c, and d, as they will have an impact on the capacity and capability of member states not only to manage their own 'reserve' systems but also their ability to respond the contribution and management of the 'central' reserve.

The IOFS (Secretariat) has already undertaken some initial work on the Food Security reserve culminating in a seminar (online event) of member states on November 9, 2020 to discuss a draft Protocol of the OIC Food Security Reserves in which representatives of the agricultural ministries of Morocco, United Arab Emirates, Qatar, Kuwait, Azerbaijan, Turkey, and Kazakhstan to part.

OIC ASG for Science and Technology, H.E. Ambassador Askar Musinov emphasized the key role the IOFS plays in the establishment of OIC Food Security Reserves and the importance of the programme for food security in the OIC region.

Director-General of IOFS H.E. Yerlan Baidalet expressed hope that ‘the OIC Food Security Reserves will lead to the creation of a credible mechanism for cooperation among the OIC member states to ensure food security through the efforts of each country.’

The LA International Cooperation, a consultancy company, contracted by IOFS to aid the implementation of the programme, shared its vision on OIC Regional Food Security Reserves. The LA International Cooperation is experienced in the development-focused projects and collaborated with a number of international institutions and agencies worldwide.

Earlier, the IOFS Secretariat circulated the Draft Protocol of the OIC Food Security Reserves to the member states. A number of the OIC Member States, such as Kuwait, United Arab Emirates, Kingdom of Morocco, State of Qatar, Republic of Azerbaijan, Republic of Turkey, and the Republic of Kazakhstan submitted their comments and noted the necessity to conduct a feasibility study with deep and detailed analysis of the regions. The feasibility study will determine the regional country-groupings, volume and types of food commodities, and the physical infrastructure.

At the meeting, Dr. Ismail Abdelhamid voiced the proposals of each country and provided all participants with a chance to discuss their suggestions regarding the Draft Protocol. Most country suggestions were accepted.

This section of this paper focuses on some preliminary data and those aspects outlined above for consideration of the IOFS initiative in the creation of a Food Security Reserve and discusses the environmental and socio-economic parameters which it seeks to address through its formation. These include:

- Food security challenges in the OIC countries.
- For most of the OIC countries, ensuring food and nutrition security (FNS) is an extremely urgent priority due to the following circumstances;
- Climatic conditions.

Many OIC MSs (countries) are located in or a subject to unfavourable natural and climatic conditions which lead to a shortage of fertile land and water resources, while the growth of anthropogenic pressure (the human impact on the degradation of the environment) and global climate changes heighten the negative effect on agricultural land and food productivity. According to Arab researchers, only about 50% of the Muslim area is suitable for efficient farming , but no more than 15% is cultivated. Pastures are located on 16% and forests on 11% of the arable area [1].

4.1 Population growth

The OIC countries are characterized by an exponential increase in population. The total population of the OIC MSs exceeds 1.84 billion people and by 2050 is predicted to reach almost 30% of the world's population, not counting the Muslims living in countries outside the OIC MSs:

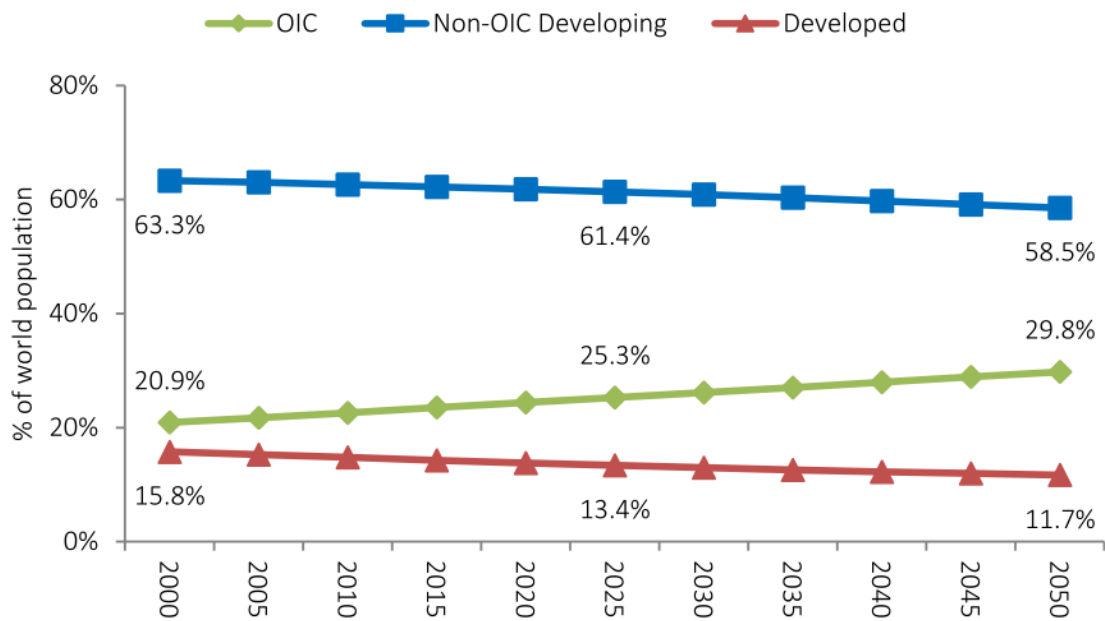


Figure 6. Trends in World Population, 2000-2050

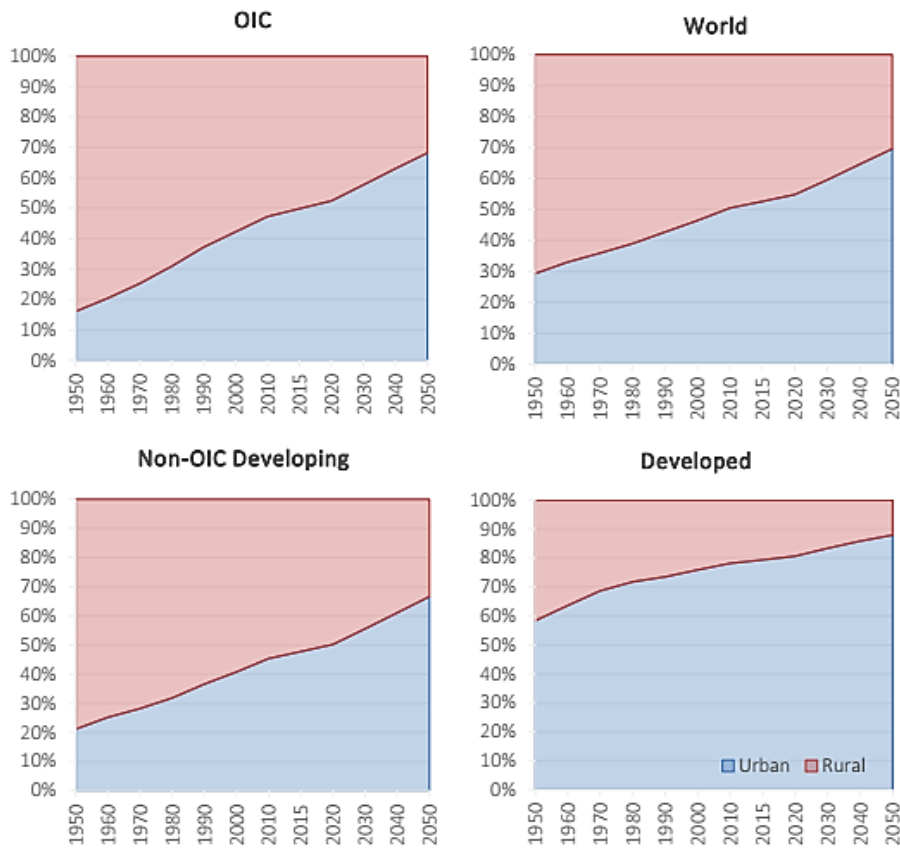
Source: SESRIC Staff Calculations based on UN Population Division Estimates and Projections

4.2 Urbanization

OIC countries are actively progressing urbanization, thus the share of the urban population residing in cities is increasing with rural and agricultural land residence declining. In many countries per capita income is low and declining, as a result the combination of these factors leads to greater exposure to economic risks in food insecurity.

Kuwait, Qatar, Gabon and Bahrain are undoubtedly the leaders in terms of the urbanization rate (the share of the population that lives in cities). In general, for all OIC countries, the share of the population living in cities was 50.5% in 2018.

According to FAO, the urbanized population is exposed to increased risks in the field of economic affordability of food as a result of higher prices for food or falling real incomes, while the rural population suffers more from natural risks - droughts, floods, locust outbreaks etc.

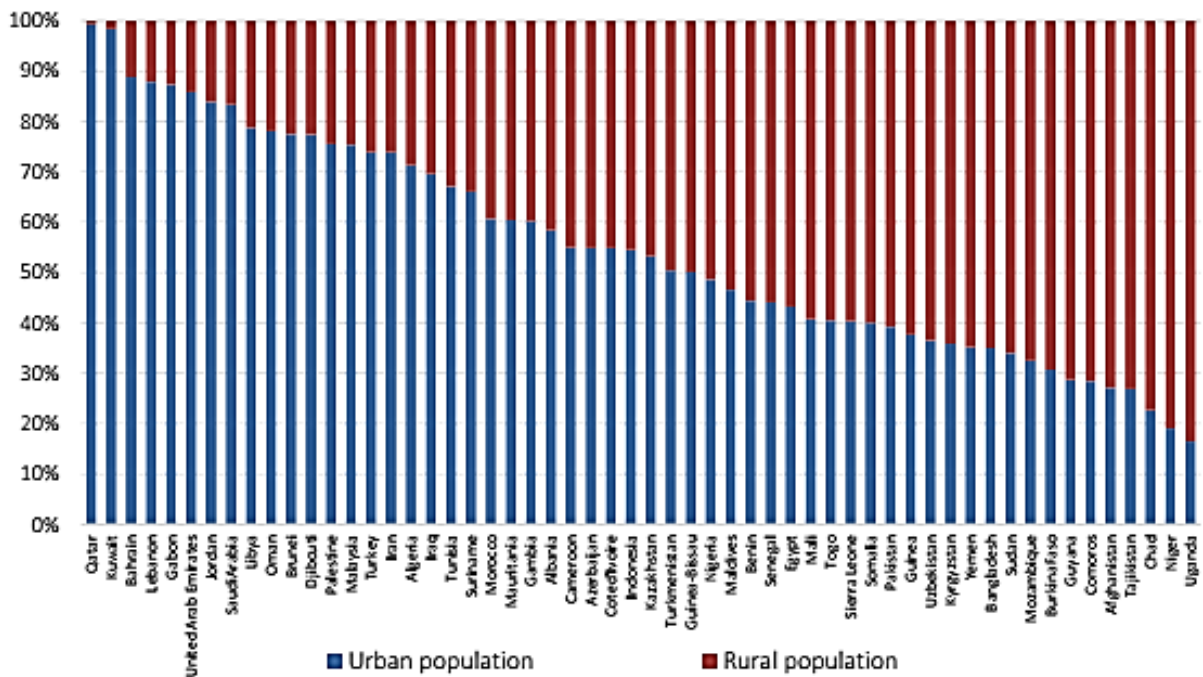


Source: UN Habitat

Notes: OIC N = 56; Non-OIC Developing N = 122; Developed N = 38; World N = 216.

Figure 7. Urban and Rural Population as Proportion of Total Population (1950-2050)

Source <https://www.sesric.org/files/article/713.pdf>



Source: World Bank.

Figure 8. Urban and Rural Population in the OIC Countries, 2018

4.3 War and civil conflicts

Many countries of the OIC are in a state of war or protracted civil conflicts. According to the UN and WFP, more than 56 million people in 17 conflict-affected countries suffer from malnutrition, with the most difficult situations arising in Yemen, Syria, Iraq, Afghanistan, and the Lake Chad region. War conflicts reduce the level of per capita GDP by an average of 17.5 percent, for example, from 2010 to 2015, the GDP of Syria fell more than 50 per cent, in Libya from 2014 to 2017, GDP fell by 24 per cent and in Yemen in 2015 the decline in GDP was 25-35 percent [2]. The agricultural sector suffers due to conflicts of war, as the acts of violence often take place in rural areas.

4.4 Pandemic Covid -19

The Covid -19 pandemic exacerbated all the problems, leading to a drop in GDP in 2019, as well as numerous restrictions on international food trade:

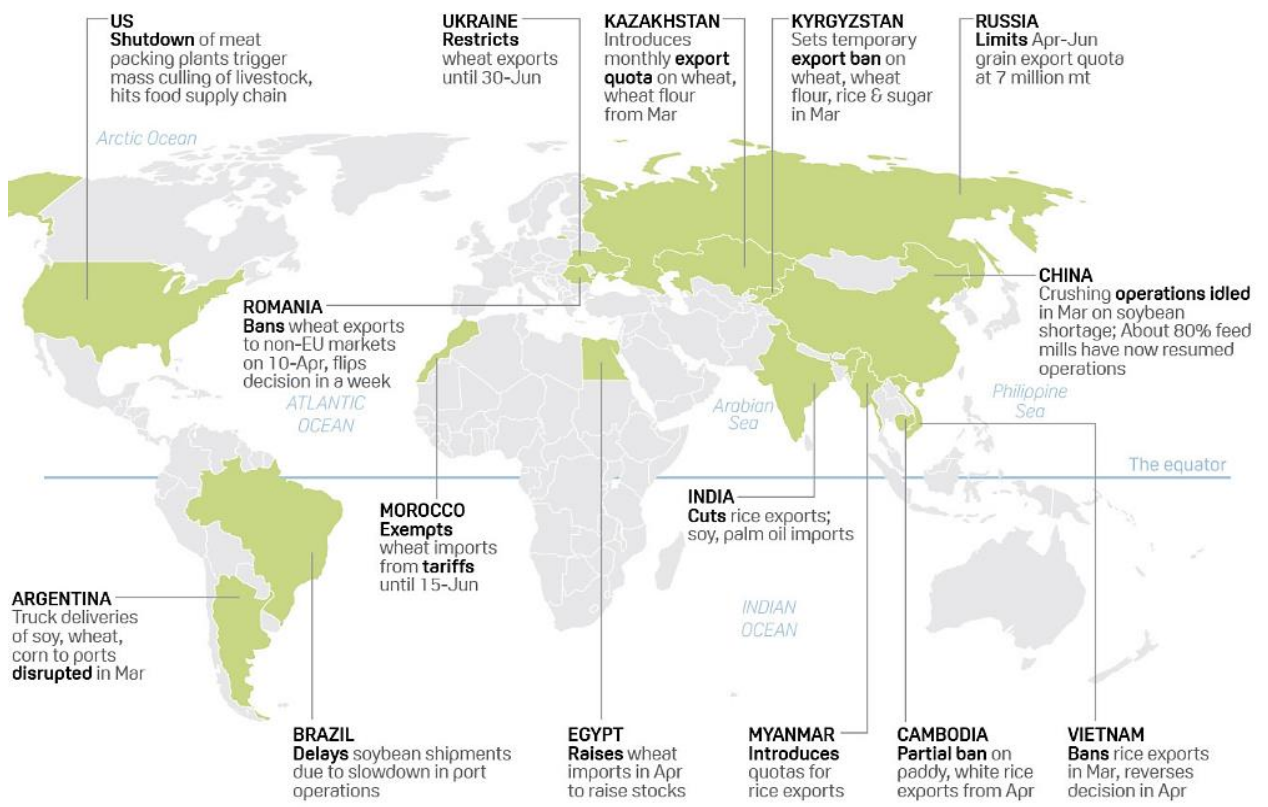


Figure 9. Impact of the Covid -19 pandemic on international food trade [3]

Table 2 – Reduction of GDP in 2020 (forecast)

Country	2019e	2020f	Country	2019e	2020f	Country	2019e	2020f
World	2.4	-5.2	Iraq	4.4	-9.7	Chad	3.2	-0.2
Indonesia	5.0	0.0	Jordan	2.0	-3.5	Comoros	1.9	-1.4
Malaysia	4,3	-3.1	Kuwait	0,4	-5.4	Côte d'Ivoire	6.9	2.7
Albania	2.2	-5.0	Lebanon	-5.6	-10.9	Gabon	3.3	-3.2
Azerbaijan	2.2	-2.6	Morocco	2,3	-4.0	Gambia, The	6.0	2.5
Kazakhstan	4.5	-3.0	Oman	0.5	-4.0	Ghana	6.5	1.5
Kyrgyz Republic	4.5	-4.0	Qatar	-0.3	-3.5	Guinea	5.6	2.1
Tajikistan	7.5	-2.0	Saudi arabia	0.3	-3.8	Guinea-Bissau	4.7	-1.6
Turkey	0.9	-3.8	Tunisia	1.0	-4.0	Mali	5.1	0.9
Turkmenistan	6,3	0.0	United Arab Emirates	1.7	-4.5	Mauritania	6,3	-2.0
Uzbekistan	5.6	1.5	West Bank and Gaza	0.9	-7.6	Mozambique	2.2	1,3
Suriname	2,3	-5.0	Afghanistan	2.9	-5.5	Niger	6,3	1.0
Algeria	0.8	-6.4	Bangladesh	8.2	1.6	Nigeria	2.2	-3.2
Bahrain	1.8	-4.5	Maldives	5.2	-13.0	Senegal	5.3	1,3
Djibouti	7.5	1,3	Pakistan	1.9	-2.6	Sierra leone	5.1	-2.3
Egypt	5.6	3.0	Benin	6.9	3.2	Sudan	-2.6	-4.0
Iran	-8.2	-5.3	Burkina Faso	5.7	2.0	Togo	5.3	1.0
			Cameroon	3.9	-0.2	Uganda	6.5	3.3

World Bank and Haver Analytics. <http://pubdocs.worldbank.org/en/386191588784970163/Global-Economic-Prospects-June-2020-MENA-data.xlsx>

It should be noted that according to the WFP, the OIC countries are the main recipients and donors of food and other forms of assistance amongst other countries of the world. In 2017, more than 64.5 million people in 56 member countries of the OIC have suffered from severe malnutrition and an annual food deficit in the OIC was 67 billion USD . In 2020, according to the FAO and WFP , as a result of the pandemic, the situation worsened:

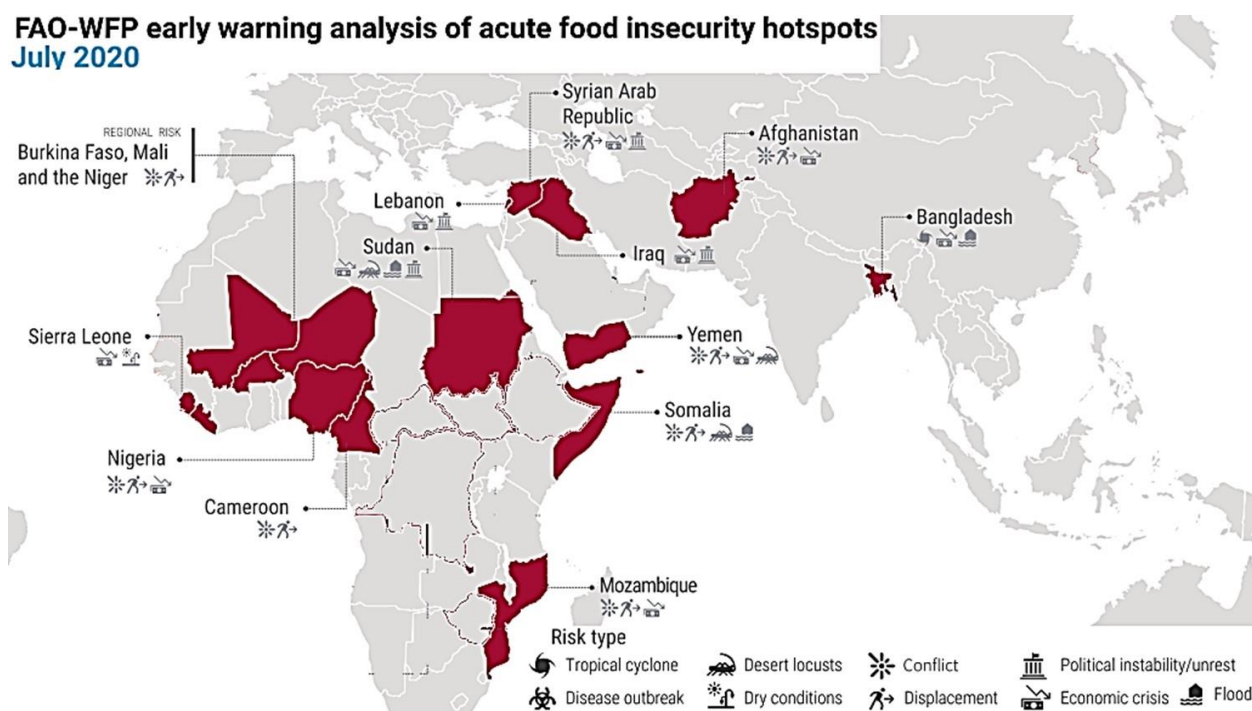


Figure 10. Main threats to food security in vulnerable OIC countries [4]

4.5 Food scarcity indicators

The FAO Stat database presents statistics on the consumption of kilocalories per capita per day, from intake of grams of protein and fat per capita per day for the OIC countries submitting such data to FAO. Recommended by FAO, WHO level of energy security, Dietary Energy Supply (DES) of about 2760 kcal / day per capita [5]. Consumption of protein should be at least 25-30 grams per day as recommended by FAO/WHO [6], fat - at least 16-39 grams. In 22 OIC countries, the population have a deficit of kcal per capita per day, in 10 countries the consumption of fat is less than 16 grams per day per capita, in 13 countries the consumption of protein is less than 25 grams per day per capita:

Table 3 - Statistics of nutrient consumption per capita per day for some OIC countries , 2017

Country	Food supply (kcal / capita / day)	Fat supply quantity (g / capita / day)	Protein supply quantity (g / capita / day)	Food supply quantity (kg / capita / yr)
Afghanistan	2000	4.84	40.42	276.6
Yemen	2063	6.93	33.19	205.21
Chad	2090	19.57	4.31	242.9
Tajikistan	2104	5.25	32.87	447.51
Uganda	2144	7.55	22.91	443.65
Guinea-Bissau	2253	19.56	27.31	262.04
Maldives	2252	6.43	35.56	349.86
Mozambique	2304	10.15	19.94	363.36
Pakistan	2326	39.88	50.14	354.86
Togo	2429	32.29	24.61	338.92
Sudan	2433	20.22	22.31	387.82
Nigeria	2464	25.19	11.65	511.06
Iraq	2506	28.84	41.24	271.16
Niger	2579	4.7	26.74	429.9
Bangladesh	2596	7.28	41.61	368.38
Senegal	2612	48.46	25.6	282.71
Gabon	2643	6.91	18.3	549.85
Cameroon	2653	24.55	13.78	536.95
Djibouti	2680	33.47	38.4	314.75
Suriname	2693	5.42	8.43	457.7
Jordan	2714	36.88	37.09	329.56
Benin	2756	23.43	7.21	584.88

Country	Food supply (kcal / capita / day)	Fat supply quantity (g / capita / day)	Protein supply quantity (g / capita / day)	Food supply quantity (kg / capita / yr)
Guinea	2795	28.17	7.66	394.58
Mauritania	2842	30.15	46.84	340.78
Turkmenistan	2871	33.57	60.73	581.66
Lebanon	2880	24.7	37.98	485.11
Guyana	2885	7.51	39.19	805.22
Indonesia	2892	20.16	32.07	400.87
Malaysia	2909	40.46	23.44	405.5
Mali	2926	5.59	6.96	499.68
Oman	2931	45.65	37.97	594.13
Uzbekistan	3022	59.44	66.2	824.58
Azerbaijan	3103	5.56	54.19	700.88
Kazakhstan	3196	72.38	54.45	803.81
Egypt	3321	14.91	58.09	627.49
Algeria	3349	6.34	68.07	682.87
Morocco	3380	22.35	51.49	623.93
Albania	3400	63.59	78.18	1148.97
Kuwait	3446	8.27	63.12	573.57
Tunisia	3467	34.55	55.48	644.44
Turkey	3540	41.93	61.38	829.1

Source <http://www.fao.org/faostat>

One of the most commonly used indicators of malnutrition are stunting, wasting and underweight among children under 5 years, as it is assumed according UNICEF and FAO that if mothers are truly unable to feed their children, then this reflects the lack of food availability. With this indicator, in more than half of the OIC countries, from 20% to 47% of the population suffer from food shortages:

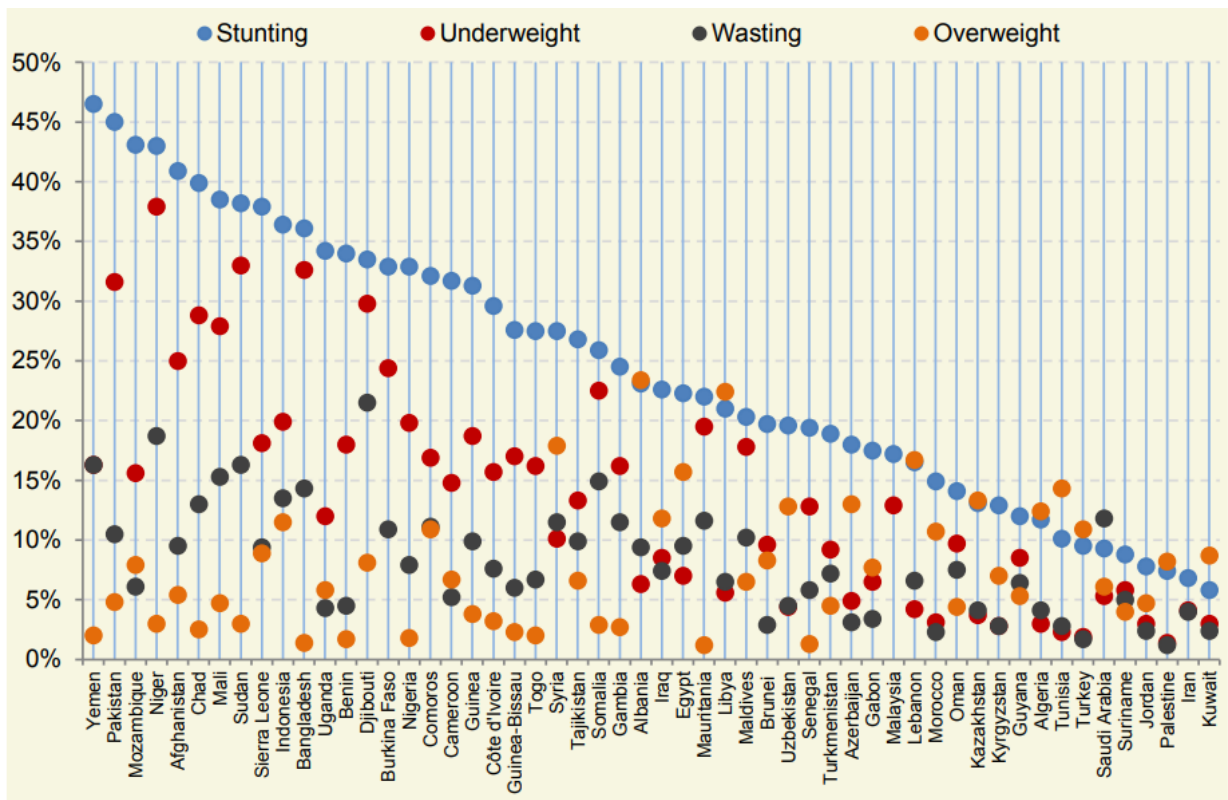


Figure 11-1. The effect of food shortages for children up to 5 years of the OIC countries, 2010-2015 [7]

According to UNICEF, food problems for OIC countries, especially African countries, are more acute than for the rest of the world:

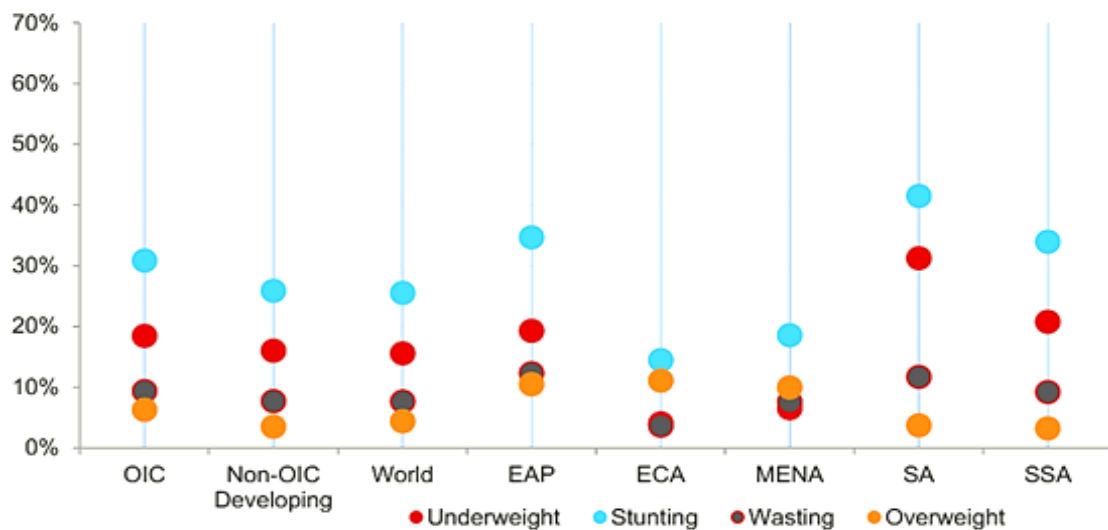


Figure 11-2. The effect of food insecurity on children up to 5 years, 2010-2015 years [eight]

The global food security ranking is compiled on the basis of three indicators:

- the affordability of food,
- their physical availability (presence in stores and other places) where people can get food,
- the quality and safety of food.

Togo, Syria, Chad, Yemen are at the bottom of the global food security rating. (See Table 4)

Table 4 - OIC countries not included in the IOFS in the global food security ranking, 2019

Country	Overall score	Affordability	Availability	Quality & Safety
Malaysia	73.8	81.7	67.7	70.6
Oman	68.4	77.8	57.6	74.4
Bahrain	66.6	81.9	56.3	56.9
Azerbaijan	64.8	75.3	59.2	54.0
Morocco	62.8	61.5	64.2	61.9
Indonesia	62.6	70.4	61.3	47.1
Jordan	61.0	70.5	54.8	54.2
Tunisia	60.1	61.5	58.0	62.2
Algeria	59.8	66.9	55.8	53.0
Uzbekistan	59.0	65.6	55.1	53.4
Togo	44.0	45.6	47.2	31.0
Syria	38.4	34.6	38.9	46.4
Chad	36.9	40.3	34.9	33.5
Yemen	35.6	45.5	28.6	30.2

Source <https://foodsecurityindex.eiu.com/Index>

In the global food security ranking, the IOFS member countries Nigeria, Sudan, Cameroon, Tajikistan, Mozambique, Guinea, Sierra Leone, Uganda, Niger are in the highest vulnerability "red" zone of the rating:

Table 5 - Places of IOFS countries in the food security ranking (the higher the value, the better), 2019

Country	Overall score	Affordability	Availability	Quality & Safety
Qatar	81.2	98.9	64.0	84.1
United Arab Emirates	76.5	89.8	63.7	78.5
Kuwait	74.8	88.1	62.3	75.9
Saudi Arabia	73.5	86.3	61.8	73.5
Turkey	69.8	74.7	64.8	71.1
Kazakhstan	67.3	77.5	57.7	68.3
Egypt	64.5	57.6	70.2	65.9
Pakistan	56.8	63.2	55.7	43.6
Mali	54.4	45.9	60.1	59.9
Senegal	54.3	51.6	56.1	56.1

Country	Overall score	Affordability	Availability	Quality & Safety
Bangladesh	53.2	60.4	54.8	30.6
Benin	51.0	48.6	54.9	46.4
Burkina Faso	50.1	47.0	55.9	41.6
Cameroon	49.9	53.7	47.6	47.0
Niger	49.6	50.2	53.6	37.4
Tajikistan	49.0	58.8	41.1	46.6
Nigeria	48.4	50.4	45.8	50.7
Guinea	46.7	47.4	52.4	29.0
Uganda	46.2	45.8	45.5	49.1
Sudan	45.7	47.1	44.4	46.0
Mozambique	41.4	42.5	47.9	20.6
Sierra Leone	39.0	40.8	40.3	30.6

Source <https://foodsecurityindex.eiu.com/Index>

There is also a Global Hunger Index (GHI), among the OIC countries that are not part of the IOFS, many countries in the global hunger ranking are among the most disadvantaged countries.

Table 6 - Non-IOFS OIC Countries in the Global Undernutrition Index, 2019

Country	GHI Score 2019 (Global Hunger Index) - the more , the worse
Tunisia	24
Albania	28
Azerbaijan	29
Morocco	42
Algeria	47
Jordan	48
Uzbekistan	49
Oman	52
Lebanon	53
Turkmenistan	54
Malaysia	57
Gabon	64

Country	GHI Score 2019 (Global Hunger Index) - the more , the worse
Guyana	64
Iraq	68
Indonesia	70
Togo	81
Yemen	116

Some IOFS countries also have negative rank in the global “nutritional deficiency index”.

Table 7 - IOFS member countries in the global rating of “malnutrition” (the more, the worse), 2019

Country	GHI Score in 2019- the more , the worse
Kuwait	1.0
Turkey	1.0
Kazakhstan	20.0
Iran	31.0
Suriname	50.0
Egypt	61.0
Senegal	67.0
Cameroon	76.0
Benin	82.0
Mali	83.0
Bangladesh	88.0
Mauritania	90.0
Nigeria	93.0
Pakistan	94.0
Mozambique	96.0
Guinea	99.0
Guinea-Bissau	99.0
Niger	101.0
Uganda	104.0
Djibouti	105.0
Sudan	107.0

Country	GHI Score in 2019- the more , the worse
Afghanistan	108.0

Source <https://www.globalhungerindex.org/results.html>

In comparison with the norms of a normal nutrition (<http://adilet.zan.kz/rus/docs/V1600014674>), populations of many OIC countries (such as Uganda, Chad, Niger, Nigeria, Sudan), do not get enough of basic staple food - cereals (less than 100 kg of cereals), also in many countries people consume less than 100 kg of vegetables per year per capita):

Table 8 - Cereals and vegetables. Consumption of basic food products in OIC countries (kg per year per capita), data for 2017

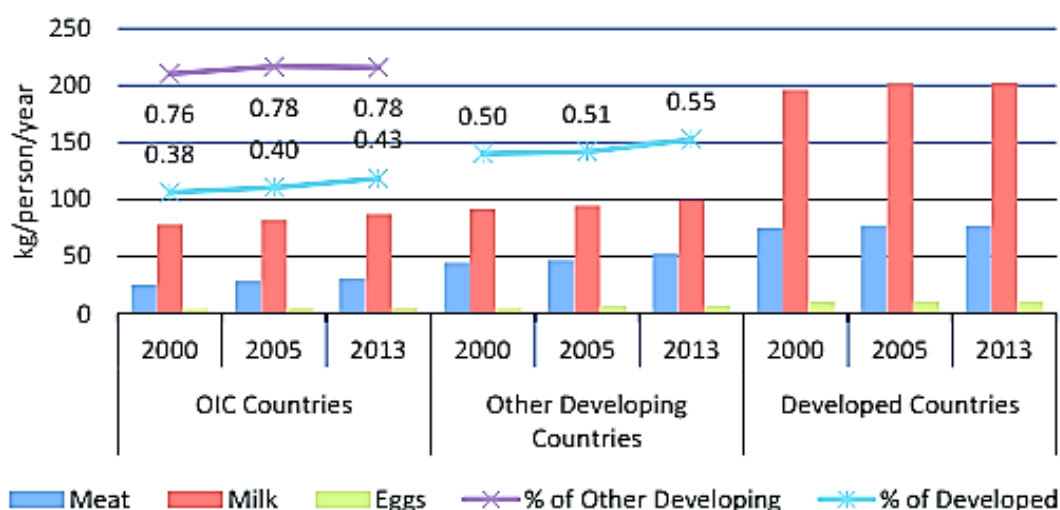
Country	Wheat and products	Rice and products	Maize and products	Cereals	Potatoes	Sugar (Raw Equivalent)	Vegetables
Niger	4.2	25.6	3.9	33,7	3	3.6	106.6
Chad	4.9	16.8	14.8	36.5	2,3	8.9	6,3
Sudan	45.1	3.1	2	50.2	9.9	30.7	84.5
Uganda	11.1	9.5	46.1	66.7	4.3	11.2	28.8
Nigeria	17.9	46.3	34.7	98.9	4.5	7.6	78.9
Kazakhstan	95.6	11	1.2	107.8	103.2	27	192.3
Cameroon	23.3	36.4	50.8	110.5	6,3	8.3	121.1
Togo	16.8	22.7	75.9	115.4	0.5	11.7	19.3
Maldives	68.5	50.4	0	118.9	12.1	24.2	78.6
Gabon	59.1	50.4	14	123.5	1.5	14.5	32.5
Mozambique	24	36	65.9	125.9	8.6	9.9	28
Benin	15.4	74.8	38	128.2	0.2	8.1	60.2
Pakistan	104.8	17.1	13.2	135.1	14.7	23.8	20.8
Oman	76.9	47.4	12.6	136.9	23.8	23.4	154.7
Jordan	116.8	19.8	1.9	138.5	21.1	34.2	104.4
Tajikistan	122.5	11.9	5.9	140.3	31.6	16.2	208.7
Mali	15	81.4	46	142.4	7.8	ten	90.3
Lebanon	130.9	14.1	0	145	39.8	35.1	129.4
Albania	132.6	9.7	2.8	145.1	45.9	21.2	297.9
Yemen	115.1	22.8	14.7	152.6	6.5	29.1	19.4
Guinea-Bissau	14.8	136.8	3.3	154.9	0.5	2.7	18
Kuwait	99.8	52	4.9	156.7	44.1	38	178.7

Country	Wheat and products	Rice and products	Maize and products	Cereals	Potatoes	Sugar (Raw Equivalent)	Vegetables
Suriname	56.1	103.4	1.8	161.3	15,8	40.3	63.1
Djibouti	123.9	45.5	0	169.4	15.9	32.8	84.7
Mauritania	114,7	53	3.3	171	8.2	36.9	36.4
Guyana	58	114.8	2.6	175.4	12.9	29.7	272.1
Afghanistan	155.4	19.8	1.4	176.6	6,3	9.1	48.4
Iraq	131.9	45.7	0.7	178.3	8.2	23.9	37.6
Turkey	143.7	16	20.3	180	46.9	30.5	254.1
Malaysia	49.9	119.6	13.7	183.2	13.6	42	66.4
Guinea	22	152.7	10.2	184.9	5	12.3	50
Senegal	40.2	123.9	32.5	196.6	6,7	16.2	69.3
Turkmenistan	176.6	24.1	0.2	200.9	31.6	7.1	143.2
Tunisia	200.4	1,2	0	201.6	30.6	34.5	272.6
Algeria	185.7	4,3	15.9	205.9	66	26.6	186.1
Azerbaijan	187.4	1.9	16.9	206.2	74.5	21.4	159.5
Morocco	183.2	1.9	41.3	226.4	47.7	36.8	102
Egypt	145.7	52.9	61	259.6	36.7	25.5	159.4
Indonesia	26.9	207.7	41.5	276.1	4.5	18.6	43.8
Bangladesh	18.1	268.5	0.7	287.3	49.9	5.6	35

Source <http://www.fao.org/faostat>

In comparison with developed and even other developing countries, OIC countries generally lag behind in the consumption of many food products. In particular, in the consumption of Livestock products (meat, milk and eggs) Figure 12:

Per capita Consumption of Livestock Products



Notes: Milk excludes butter

Source: Food and Agriculture Organization (FAO) FAOSTAT Online Database, SESRIC Staff analysis

Figure 12. Difference in consumption of meat, milk and eggs in the OIC countries compared to developed and other developing countries

Source <https://www.sesric.org/files/article/537.pdf>

Information about per capita consumption of other products (fish, fruit, etc.) attached in **Annex 1 "Consumption of basic food products in the OIC countries"**.

4.6 The role of In-Country and International food reserves, their place in ensuring food security and conditions for provision

One of the tools for ensuring food security is the creation of food reserves, which are usually established for various purposes:

- guaranteed provision of sufficient food for the entire population during the period of food shortages (strategic, mobilization reserves);
- regulation of market prices for food through commodity interventions (operating reserves);
- provision of sufficient food for vulnerable groups of the population during emergency situations;
- supporting price programme for local producers through food purchases;

Reserves can be both in-country and international.

Reserves can be established in the country through, various non-profit, international organizations and foundations, and private business (commercial reserves created on behalf of the country).

Reserves are provided as stocks of cereals and in the form of financial instruments (voucher cash, liquid Islamic securities, deposits, etc.). The countries, as a rule, determine volume, location and standards of storage and many other conditions.

However, according to the recommendations of FAO, food security reserves should be autonomous; management of reserves should be independent and transparent; budgeting and accounting rules should be publicly monitored.

Food purchased in strategic mobilization reserves, as a rule, should, on average, exceed the quality of shelf-stable products sold on the market - have a longer shelf life, higher protein content, fewer impurities, etc. To safeguard the condition of edible food it should, sometime before the end of their

respective shelf life, be released from reserves to be sold on the open market, but at prices lower than the average market prices, due to their end of the shelf life [9].

The level of food reserves depends on local conditions - the share of the vulnerable population, production volatility, dependence on natural conditions and financial and infrastructural circumstances of the country. So, when reserving a 3-month consumption rate of wheat, under the most severe conditions of food shortage, a minimum physiological consumption rate can be introduced, as a result of which a 3-month usual rate can be consumed, for example, for 9 months, which, is usually sufficient time to for the next 'crop' harvest to become available or to attract humanitarian aid and other sources.

EU experience has shown, as a rule, for developed countries, in which the share of household spending on food is low, that is, less than 15%, in combination with a developed and sustainable domestic production, the creation of food reserves, both in kind and in cash, is impractical, Whereas the problems with the post-war food shortages decreased, they gradually abandoned the creation of food reserves in kind and cash, achieving the goals of social and agricultural policy by other methods [10].

In less developed and those import - dependent countries, a system is required to monitor both food prices and natural balances of the main types of food, using a set of social and agricultural policy instruments, including food reserves. Despite the relatively high level of self-sufficiency in basic food products (wheat, meat, oilseeds, etc., except for dairy products and sugar), Kazakhstan has such a monitoring system, regional stabilization funds and a country food reserve that performs both strategic mobilization and operational tasks of market regulation (price interventions, support for local producers, primarily small ones)

International food reserves are a support for the country's natural reserves, since their use is time – lagged - at least three months are needed to organize their delivery to target groups of the population. In the opinion of the FAO, timescales of provision should also be sufficiently set for a period of 18-20 days in order to give the recipient country time to resolve the problem. In addition to the above functions of food reserves in general, international regional food reserves play an important role as an instrument of international cooperation and the creation of trusting partnerships between countries, in this case, between the OIC countries.

5 Analysis of international experience in creating international reserves of food security: current situation, the main problems and solutions, what problems were encountered at the stage of formation, functioning, how problems were solved

5.1 ECOWAS

5.1.1 Historic Background

The Economic Community of West African Countries (ECOWAS) is a regional group of fifteen West African countries of the Sahel region: Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal, and Togo. Founded in 1975. It aims to promote economic integration in all fields of economic activity, particularly industry, transport, telecommunications, energy, agriculture, natural resources, commerce, monetary and financial matters, and social and cultural questions.

5.1.2 Problems at the stage of formation

In this region the prevalence of undernourishment has halved from the 1990–1992 benchmark set by the Millennium Development Goals (MDGs). Despite this improvement the food situation remains critical in absolute terms, with more than 36 million undernourished people in the West African region. Over the last ten years, the sharp rise in global food prices together with the effects of climate change (droughts and floods), civil conflicts and more recently health crisis (ebola, now covid 19) have resulted in recurrent food crises that have led to regional food insecurity. The current situation is posing a great challenge to national and regional institutions that have to promote local food production, reduce the volatility of food prices, guarantee equitable and sustainable growth, and protect the population, in particular the most vulnerable, from the negative consequences of undernourishment, food insecurity and vulnerability.

In the face of these challenges, in July 2013 ECOWAS country heads of state and governments adopted a Declaration to end hunger in Africa by 2025, prioritizing food and nutrition security (FNS) issues in their political agendas and launching initiatives to address hunger-related problems. The regional food reserve was launched by ECOWAS in September 2013 with the financial support of the EU, AECID, AFD and CILSS. Its objective is “to effectively respond to food crises [...] whilst contributing to the implementation of ECOWAP/CAADP with a regional food security and sovereignty perspective”. However the ECOWAP programme is institutionally linked to the Ministries of Agriculture, and therefore inter-institutional coordination has not been sufficiently taken into account.

The table below indicates how ECOWAS planned the eight-year period for building the Regional Reserve and increasing national public stocks

Table 7: 2013-2020 Plan for the Size of the Regional Reserve (Tons)

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Regional Reserve	0	176,380	176,380	176,380	176,380	293,967	293,967	293,967	411,554
-Physical Reserve	0	60,000	60,000	60,000	60,000	100,000	100,000	100,000	140,000
-Financial Reserve	0	116,380	116,380	116,380	116,380	193,967	193,967	193,967	271,554
National Stocks	227,000*	360,464	360,464	360,464	360,464	600,774	600,774	600,774	841,083

(*) This does not refer to physical stock capacities but the current stock level, calculated on the basis of information available and currently being updated. Data extracted from the *Etude sur la mise en place d'un dispositif régional de renforcement et de coordination des stocks nationaux de sécurité alimentaire dans l'espace WAEMU: actual size of the security stock in the seven countries (WAEMU excl. Côte d'Ivoire): 77,000 tons, to which Nigeria's stock is added: 150,000 tons.*

Source : ECOWAS 2012 - [ecowas_food_reserve_study_en_\(inter-reseaux.org\)](http://ecowas_food_reserve_study_en_(inter-reseaux.org))

5.1.3 The ECOWAS Approach - The stages of formation of the FSR of ECOWAS

Recurrent food crises affecting the region over the years have led ECOWAS and its member states to prioritize the development of food reserves and the establishment of safety nets for vulnerable populations in their regional and national food security plans and/or the adoption of the human rights-based approach in some programmes. In 2013 ECOWAS conference also decided to establish a regional food fund, based on the EU assistance of 56 million Euros and funds from the countries of the region [11]. It is planned that a third of the reserves should be kept in the amount of about 1 million tons of cereals, tubers, and other products, two-thirds in financial form in order to reduce storage costs and diversify possible types of assistance (aid not only in the form of food, but also financial aid). At a national level, seven ECOWAS countries (Burkina Faso, Cabo Verde, Côte d'Ivoire, Ghana, Mali, Niger and Nigeria) have established national food reserves in 2014, which play an important role in ensuring access to sufficient food by vulnerable households. Agriculture in West Africa is mainly rainfed and reliant on few months of summer rainfall. FNS is therefore transitory or seasonal, and ensuring permanent access to food is a great challenge in the region. In their regional and national food security plans, ECOWAS and its member states have prioritized the development of food reserves and the establishment of safety nets for vulnerable populations. However, agri-post-harvest losses are an additional problem that exacerbates the food insecurity of poor agricultural households.

5.1.4 Adapting APTERR to regions in Sub-Saharan Africa

1. The number of foods to be stocked

In ECOWAS, grains are wheat, millet (Niger), sorghum, maize, rice, pulse, cassava (Ghana).

This indicates the availability of a greater number of staple foods in each country, which should be good for nutrition and therefore deserves to be promoted.

2. Reducing external vulnerability

In the light of the price surges since 2007, it is also sensible to reduce any reliance on the main globally traded and priced crops, which are wheat, rice and maize. The exact causes of the food price crisis are disputed, but it is beyond dispute that the problem arose in the global markets of those three crops. The crisis has been used to illustrate the brutality of competition on world cereal markets, which can affect the smallest, poorest and most vulnerable countries first of all.

From this there seems to be a need to reduce dependence on any staple foods which can be affected by such global market shocks. Wherever possible, emergency reserves should draw on local, national or regional production, and make use of other locally important staples. The aim is to reduce the vulnerability to external shocks, including those that have been transmitted through the world cereal markets since 2007 as well as those arising from climate change and ‘natural’ emergencies. In ecological systems, the risk of shocks is reduced by the existence of ‘modular’ arrangements, in which smaller units are used without strong links between them. Likewise a diversity of farm types and farming practices can reduce the vulnerability of food production to changes in climate. A diversity of crop markets will improve economic resilience in the same way.

3. Deficit and surplus areas

Much more often than in South-East Asia, food insecurity and even food emergencies in Africa arise from poor physical communications, exacerbated by the distances required for transport as population densities are generally low, and also from the much smaller extent of trade between African countries. The design of any regional reserve has to take these logistical and economic deficiencies into account, and where possible play a part in overcoming them.

In Africa it is therefore important to build up links between food-surplus and food-deficit areas within the same country or in neighbouring countries, in order to prevent good harvests in surplus areas from being dissipated in wastage and low prices while ensuring that supplies are available even in bad times in deficit areas. This in turn should stimulate supply generally and gradually cut back the continent’s overall food deficit. Food reserves should be designed to assist this process as far as possible.

4. Finance

Most African countries are poorer than the ten members of ASEAN. Furthermore, three of the world’s financially strongest countries are part of the APTERR agreement. They are able to provide both rice and money.

However, many African countries are used to emergency food supplies coming free from the WFP and other donors. But APTERR requires a recipient country eventually to pay for the emergency rice they receive. This aspect of APTERR could not be fully replicated – in particular when an emergency arises from a sudden increase in the prices of grain, as in 2007-08.

In comparison the Tables A and B illustrate the capital investments made within the Asean+3 community.

Table A : Capital contribution of Asean plus Three countries for Endowment Funds

Plus Three members	US\$
China	1,000,000
Japan	1,000,000
Republic of Korea	1,000,000
Asean Member states	US\$
Brunei	107,500

5 Asean Plus Three Emergency Rice Reserve Agreement

Malaysia	107,500
Philippines	107,500
Singapour	107,500
Indonesia	107,500
Thailand	107,500
Vietnam	107,500
Cambodia	83,000
Lao PDR	83,000
Myanmar	83,000

Table B: ASEAN plus Three annual contribution to Operational costs over the 5 years

Plus Three members US\$

China	75,000
Japan	75,000
Republic of Korea	75,000

Asean Member states US\$

Brunei	8,000
Malaysia	8,000
Philippines	8,000
Singapour	8,000
Indonesia	8,000
Thailand	8,000
Vietnam	8,000
Cambodia	6,000
Lao PDR	6,000

Myanmar	6,000
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5.1.5 The establishment of the Regional Reserve

The ECOWAS Regional Food Security Reserve has now 15 members under its Food Storage Strategy Programme has determined its mission as:

- Improve crisis response by enhancing capacity and responsiveness at different levels and in various lines of defence;
- Promote regional solidarity and reduce dependence on international assistance;
- Promote a storage system specifically targeted for emergency response;
- Reduce price volatility and its impact on producers and consumers.

Neither mission statement is incompatible with the basic reason behind food security provision, but the latter eludes in the last three bullets to a more comprehensive framework of the operating systems in that it:

- Encourages regional harmonisation and independence on external sources of aid;
- Indicates that storage should be targeted on the regions of most need;
- Seeks to manage the fiscal effects on market pricing of food for producers (farmers and processors) and the public consumer.

The establishment of the Regional Reserve entailed a further boost to four areas:

- a. development of information systems that are reliable, credible, independent and focused on the different food security parameters;
- b. promotion of contingency plans, designed as pre-prepared frameworks, to organize an appropriate response to different crises that the country or region may be forced to confront;
- c. promotion of other lines of defence that the Regional Reserve supports: local stocks, national food security stocks;
- d. development of the RESOGEST⁶ cooperation framework in order to boost collaboration between public bodies responsible for managing stocks and allow their networks to play a full role in the implementation of the Regional Reserve.

These four dimensions are a prerequisite for the success of the Regional Reserve. The reserve represents an opportunity to support countries in strategic areas with regard to food-related challenges. Countries and stakeholders have to mobilize efforts in this direction with support at the regional level.

A set of guidelines have oriented the design of the Regional Reserve based on the strategic policy framework on food stocks:

- Align the mechanism with ECOWAP/CAADP guidelines as well as with ECOWAS humanitarian policies;
- Position and structure the Regional Reserve within a system that includes the lines of defense of a food crisis, to complement the local and national food security stocks, which may also be deployed or bolstered as appropriate.;
- Reduce the risks and increase the flexibility of intervention by combining a physical and a financial reserve;

⁶ Network of Public Structure for the Management of National Food Security Stocks in the Sahel and West Africa (RESOGEST)

- Implement a sustainable, viable and transparent mechanism;
- Base this mechanism on regional responsibility (sovereignty) and international partners;
- Manage the connections between the food security storage policy and the storage policy for regulating food markets.

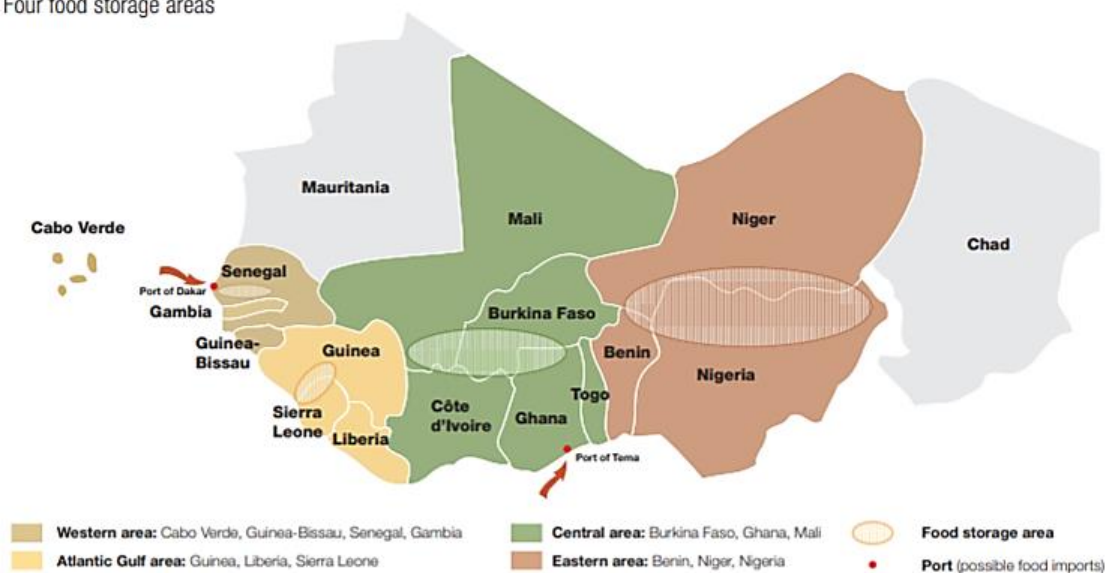
ECOWAS aims in creating the reserves following six principles, which can be summarised as follows:

1. The food stock should be an instrument of regional sovereignty, and aim at both food security and price stabilisation.
2. The food stock will be a fundamental part of the region's crisis response and linked to both local and regional early warning systems.
3. International solidarity is expected to act in support of regional policy, not as a substitute for it.
4. The stock will be financed by national contributions in cash or in kind, as well as regional and international contributions.
5. Management of the stock will be under ECOWAS' control and rely on broad consultations with all interested parties, based on the principles of transparency and accountability.
6. The stock will be integrated with agriculture policy via its methods of supply (including regional preference and direct contracts with producers), the selection of crops, and methods of destocking which avoid market disruption.

Some of these principles are shared with APTERR, but not all.

THE REGIONAL FOOD SECURITY RESERVE

Four food storage areas



Source: ECOWAS Regional Agency for Agriculture and Food (RAAF)

Figure 13. Food Reserve Fund of ECOWAS Countries

5.1.6 Functioning

The principles underpinning the design and operation of this reserve refer to the ones contained in the Charter for Food Crisis Prevention and Management and especially to the application of the right to food and respect for human dignity, among others⁷ :

- Vulnerable groups : The groups of vulnerable people that need the support of the reserve should be identified in case of food crisis.
- Good governance : A sustainable, viable and transparent mechanism should be implemented, and this intent appears in the guidelines and in one of the specific objectives. Accountability is adopted as one of the guiding principles. The decision to mobilize the reserve should rest on objective and recognized criteria, informed by reliable and publicly-available data.
- Policy coordination : The initiative was formulated by representatives of different public and private organizations. The management of the reserve will also be participative. Although end beneficiary organizations are not included, the organization of local stocks by the community is part of the system.
- Multisectoral approach: The reserve focuses on supplying food assistance, but understands the synergies with other interventions, especially prevention measures and vulnerability reduction strategies such as social safety nets. The reserve takes into account the need to preserve livelihoods, to adapt to local diets, and to include nutritional products adapted to the needs of young children.
- Right to food : The right to food is adopted as one of the guiding principles of the reserve.

This fund began to function successfully at three levels - intercountry, country, and local. Assistance provided by the government delivered on explicit criteria - the decline in food consumption and the threat to human health and life as a result of droughts, wars and other emergency situations, price shocks etc. On an ongoing basis, the fund monitors the level of food security - climatic conditions, yields, sown areas, food prices, both with the help of statistical and other reports from countries, and by receiving information from its representatives on the ground, visits of the fund's commissioners. Based on the collected data, forecasts are developed, the information received about the problems is double-checked. However , assistance is provided only after official appeal from the recipient country, after which the governing bodies of the Fund and the regional Agency for Agriculture and Food assess the needs, the Fund's capabilities and take appropriate measures: commodity interventions, financial assistance, etc. Food and financial resources should be subsequently returned by the recipient country as soon as possible.[12].

The renewed 2012 Programme d'Action Unifiées (ECOWAS) proposal represents a broader approach to FNS, mainly in the measures for new axes 3, 4 and 5:

- **Axis 3** "Access to sub-regional and international markets" through support for national and regional FNS information systems and measures for adaptation to price volatility (risk management systems, targeted social protection mechanisms and emergency food reserves).
- **Axis 4** "Development of regional instruments to manage food security and increase the resilience of populations" through coordinated mechanisms of food security stocks, creation of a regional food reserve and development of social safety nets.
- **Axis 5** "Improvement of nutritional status" with the development of a communal programme for undernourished children and the improvement of access to health-nutrition services.

RESOGEST developed the Regional Food Security Reserve strategy led by ECOWAS. The Regional Food Reserve is part of multidimensional programmes, with objectives and actions covering food availability,

7 ECOWAS, WAEMU, RESOGEST and CILSS, 2012

food access and nutrition : i) Zero Hunger in West Africa, ii) AGIR, iii) Regional Social Safety Net Support Programme in West Africa (right to food not integrated), iv) SUN initiative for nutrition

From the start the designing process of the ECOWAS FSR was not built to address chronic food insecurity and malnutrition. This consideration came at a later stage after 2016, as it was noted that insecurity and malnutrition came also from chronic situations, whether natural, human disaster and structural issues. These chronic and structural food insecurities and malnutrition are the causes of children's stunting and underweight/overweight and under-nourished milking mothers, whilst children wasting is related to emergency only.

The experience of this fund has shown that it can be effective if a number of conditions are met:

Functioning of a regional food security information system, which allows you to reliably assess the situation and make the right decisions, allows you to monitor physical reserves, households livelihood security, and economic indicators. Regional food security information system is placed on a single platform (www.Ecoagris.Net) and includes a number of different sub-systems

The recipient country will subsequently reimburse the received aid on a repayable basis reaching stocks up to 5% of the total food reserves of countries

The need for the governments of the countries of the region to conduct agricultural policies aimed at developing the industry, since it is impossible to meet the goals of the fund by means of food reserves alone.

5.1.7 Solidarity mechanisms

The regional solidarity mechanism is based on:

- Each country accumulating a reserve of at least 5% of its national food security stock, that can be mobilized as a loan or transfer for free or for consideration, to respond to the needs of other member countries confronted by a food crisis outweighing the capacity of their own stocks. The terms for mobilizing and restoring stocks, as well as for taking financial control of the stock and logistical issues will be prepared and detailed in the framework of the overall Regional Food Security Reserves strategy;
- Capacity building for technical and financial management by national bodies, capitalizing on best practices and the sharing of skills developed within national companies at a regional level;
- Developing an "information and support for decision-making" component for food reserves, taking advantage of existing national and regional food security information and early warning systems;
- Respecting the principles of free movement of people and goods in force within the regional economic Communities, and facilitating regional trade in the event of a food crisis;
- Promoting regional trade and in particular exploiting opportunities provided by the existence of surpluses in the strategy for mobilizing and restoring national stocks;

For countries lacking a national food security stock, their contribution to regional solidarity may be financial (contributions as loans or free transfers) to help restore stocks on concessional terms.

5.1.8 Costs of the ECOWAS FSR

The costs of setting up, maintaining and governing the Regional Food Reserve is estimated at \$263 million over eight years (2013-2020 – Table 2.2 Annex 3), an average of \$33 million/year. These costs vary widely from year to year due to the phased increase of the physical and financial capital. The financing scheme recommended by the ECOWAS Commission relies on a combination of national, regional and international resources. In order to create a predictable, secure and supportive financial mechanism, the scheme proposes to establish new funding mechanisms, including the creation of a contribution levied on all imports (to be called "Zero Hunger in West Africa") at 0.5% of the value of imports.

The financing scheme suggested not only to cover all the costs of the regional component of the food security reserve, but to significantly co-finance the concomitant strategy of strengthening national security stocks and local stocks, together with supporting measures. On average 80% of regional resources, mainly resulting from the "Zero Hunger" contribution, would be utilized to finance or co finance stocks and national food security stocks, as well as supporting measures for the entire west African Regional Reserve strategy. The ECOWAS Food Reserve project also has an objective related to food sovereignty as showed in the Figure no below :

Objectives of the Regional Reserve Project Political objectives		Food security objectives
Vis-à-vis international aid	Food sovereignty of ECOWAS member States	Improving FS by complementing international aid
Vis-à-vis national policies	Solidarity between ECOWAS member States	Improving FS by fostering and complementing national policies

The experience of this fund has shown that it can be effective if a number of conditions are met:

- functioning of a regional food security information system [13], which allows you to reliably assess the situation and make the right decisions, allows you to monitor physical reserves, households livelihood security, and economic indicators.
- the recipient country will subsequently reimburse the received aid on a repayable basis;
- reaching stocks up to 5% of the total food reserves of countries;
- the need for the governments of the countries of the region to conduct agricultural policies aimed at developing the industry, since it is impossible to meet the goals of the fund by means of food reserves alone.

During the creation of the fund, pilot commodity interventions were undertaken on the food market of the countries of the region:

Table 9 - Volume of interventions during pilot food reserves in West and Central Africa

Nigeria	5,000 tons	31 January 2019
Ghana	2,750 tons	28 December 2018
Burkina Faso	4,303 tons	9 August 2018
Niger	6,528 tons	7 August 2018
Nigeria	1,130 tons	8 August 2017

Source : Echoes from Food Stocks Quarterly Information Bulletin of the ECOWAS Regional Food Security Reserve Double Issue N°s 5 & 6, December 2018 / March 2019, https://www.ecowas.int/wp-content/uploads/2019/03/Information_Bulletin-N5-6.pdf

Financial assistance was provided for Cape Verde in the amount of 150 thousand US dollars.

Table 10 - Volume of interventions by the Regional Reserve of Food Security during the Covid 19 Pandemic

Country	Amount in 000 T	Date in 2020
Burkina Faso	954	July

Mali	733	November
Niger	473	July
Nigeria	3999	August
Total	6219	–

Source : Ecowas, Nov 2020

Regional food security information system is placed on a single platform and includes and number of different sub-systems:

- early warning,
- agricultural production, including crops, livestock, fisheries,
- agricultural markets providing agricultural production with goods and raw materials - fuel, etc.
- agricultural input ,
- the impact of the industry on the economy and society,
- hydro meteorological and land data,
- macroeconomic parameters,
- food consumption by the population,
- stocks and balances,
- natural resources and
- climate change.

5.1.9 Multiprogramming dimension of FNS in ECOWAS

The FSR is an instrument amongst others to combat food insecurity and malnutrition such the Zero Hunger Initiative in West Africa; the Alliance for Resilience Initiative (AGIR); the Regional Programme to Support the Regulation of West African Markets; the Regional Social Safety Net Support Program in West Africa and RESOGEST.

RESOGEST manages the Food Security Storage Support Project for West Africa .i.e. the food items provided by the Regional Food Security Reserve are stored in various warehouses decentralized in various parts of each country to be mobilized and distributed in a faster way according to logistics of transport and distribution. The Regional Food Security Reserve aims to complement the efforts of its member states. This required mobilizing National and International efforts for improved and functioning physical structures to utilise the harmonized policy instruments, integrated systems and structures, and improved technical standards, particularly:

- laboratories for food quality control, phytosanitary and zoo-sanitary norms;
- processing, packaging, storage, transportation infrastructures.

At a national level, there are a diversity of Food and Nutrition Security coordination mechanisms with different focuses on FNS (emergency vs development; sectoral vs intersectoral; policy-based vs technical) that need to be strengthened as an instrument to support awareness and the promotion of the right to food in ECOWAS countries.

CSOs play a fundamental role in making regional institutions accountable for their commitments, their actions (or lack thereof) and for the impacts achieved with regard to their objectives and anticipated results. Their participation in the institutional governing bodies would ensure greater transparency and accountability among the institutions.

The Global Strategic Framework for Food Security and Nutrition (CFS, 2012) states that overcoming the structural causes of hunger and malnutrition will require promoting the alignment of all relative national, regional and international policies with the right to food. The Global Strategic Framework as well as the Right to Food Guidelines recommend undertaking an assessment of existing policies, legislation, institutions and current programmes as one of the starting points for the practical implementation of the right to food. A integrated approach to alleviate emergency and chronic food insecurity and malnutrition is pursued the right to food concept: “the right to enough, healthy food and drinking water is part of fundamental human rights”.

5.1.10 Promoting the Cooperation Framework in the Design and Implementation of Regional Food Security Reserves

With this in mind, national bodies will be one of the major pillars of the system, at the interface between local stocks and the Regional Reserve.

The contribution capacity of shared national stocks will be put to good use and will make up one of the components of the Regional Reserve.

5.1.11 The stock objective of the Regional Reserve is 1,000,000 Tonnes in 2020, considering that 300,000 Tonnes is physical stock

Local stocks or “cereal banks” of the ECOWAS FSR are collective stocks managed at the local level (villages or group of villages) by communities. Therefore, strictly speaking, these stocks are not public stocks except in Mali where they are managed by municipalities (each of the 700 municipalities of the country has its own “cereal bank”). These local stocks seek to improve food security in the community. They exist mainly in the three Sahel countries (Burkina Faso, Mali, Niger). A rough estimation is that in each of these three countries around 1000 cereal banks are operating, each of them managing around 15 tons of grains. In the other countries of the region, cereal banks also exist but their number is rather small.

The narrative of local cereal banks is that they contribute to stabilizing prices and reducing traders’ excessive margins and speculation. However, in practice, they manage rather small quantities and their selling prices is usually close to the market price (otherwise they would not cover their costs, their working capital would vanish and they would be likely to collapse). Therefore, the roles of cereal banks seem that they provide two kinds of value added. The first one is “psychological”: whatever experts think about the ability of so small cereal banks to provide a response to food crises; the fact is that when a cereal bank is around people feel more secure. This feeling of security does not only provide some kind of psychological well-being: it is also likely to influence behaviours: when people feel more secure, they are less likely to panic when prices raises. The second value added by cereal banks is allowing poor households purchasing small quantities. Usually, in rural areas, grain transactions are made by bags (contrary to towns where retailers offer small quantities). Therefore, as most cereal banks (not all) accept to sell small quantities, they give an improved access to food to households who would have face difficulties to find the money to buy a bag.

5.2 The Emerson International Food Reserve Fund

Humanitarian fund of the Bill Emerson (The Bill Emerson Humanitarian Trust - BEHT) is an example of international food reserves fund. The Fund can manage up to 4 million tons of grain, established in 1980, and since 2008 holds the assets only in financial instruments rather than physical food reserves, the last of which were implemented in 2008. Interventions in the markets of recipient countries are carried out as a result of food purchases in the US market, but only in case of real hunger in recipient countries and not to the detriment of the interests of the United States. For example, aid for 50 million USD was provided for the starving in South Sudan [14]. The fund was established by USAID in 1980 with commodity reserves in the form of wheat, and in 1996 the list of cereals was expanded.

The fund is administered by the US Department of Agriculture, food purchases are carried out by the Department in the USA, however applications for assistance are submitted by USAID and followed by their implementation. Currently, the fund's portfolio (about 260 million USD) is invested in low-risk financial instruments [15].

5.3 Charitable Local Food Reserves Foundations Oxfam

An example of the operation of local food funds is the Local Food Security Reserves (FSR) network of the Oxfam project in the Yatenga province of Burkina Faso. The Aidons l'Afrique Ensemble created 21 funds of several types - 400 tons (1 unit), 30 tons (13 units), 40 tons (6 units), 60 tons (1 unit) for local communities. Financial assistance for food purchases was provided by Oxfam. It is one of the oldest and largest charities in the world founded in 1940 years in the UK and implements projects worldwide, mainly in developing countries [16]. Final recipients get about 70% of the donated funds, the rest 30% support logistical activities of the fund. The organization works in more than 90 countries with 20 subsidiaries and related organizations, it has about 10 thousand employees and 50 thousand volunteers, managed by a Board of Directors and Executive management. During 2018-2019 about 998 million Wuros were spent. Funding sources are international organizations and governments (UN, EU), proceeds from charitable actions, private and corporate, donations, income from commercial activities and investments:

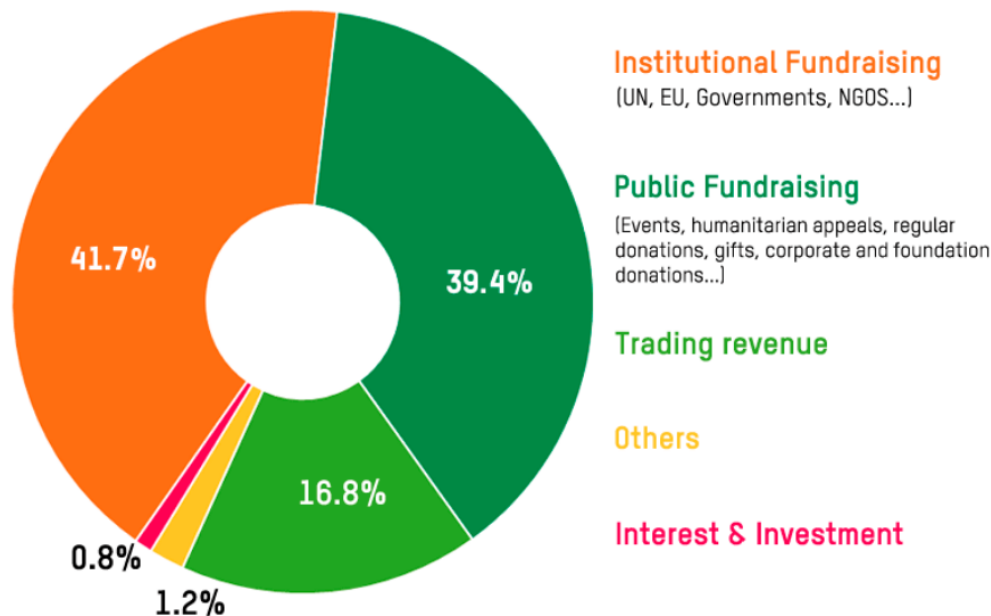


Figure 14. Sources of funding for the international fund Oxfam

Source: Oxfam website, <https://www.oxfam.org/en/what-we-do/about/our-finances-and-accountability>

The Food Security Reserves project in Burkina Faso was funded primarily by the central Oxfam endowment, but local contributions were also accepted. Assistance was provided with a variety of instruments: most of the inventory was purchased from surplus of local producers at a fair price. Food was sold at fair prices in order to smooth out seasonal price fluctuations and was also distributed among vulnerable people at preferential prices and free of charge. Cooperative groups of farmers (5 farms each) received cash about 320,000 African francs (about 500 USD) to procure required agricultural inputs, with return during 5 years with “grace period” for the first 2 years. After the first stage of the project, a survey was conducted among the recipients, which revealed a positive impact on most aspects of people's lives, including; food availability, a decrease of migration, time losses on finding work and food, reducing travel time and even the level of traffic accidents and related injuries [17]. Certain problems in administration were also identified, as well as a shortage of fund capacity.

5.4 Food Reserves Fund of ASEAN +3

The Association of Southeast Asian Nations (ASEAN) includes: Brunei, Vietnam, Indonesia, Cambodia, Laos, Malaysia, Myanmar, Singapore, Thailand, the Philippines, with a population of about 650 million people and a general area about 4.5 million km², with a total GDP more than 800 billion USD. On October 7, 2011, the AFSR (ASEAN Food Security Reserves) Agreement was signed in Jakarta, Indonesia. Since 1979 and 2010, a lot of food reserve pilot project were implemented, for example, 3,000 tons of rice were distributed among victims of natural disasters and poor households in Cambodia, Indonesia, Laos, Myanmar and the Philippines, 10,000 tons of stocks were sent from Vietnam to support Philippines' recovery after the devastating typhoon in 2010. Later, three countries joined the ASEAN countries agreement - China, Japan, and Korea, establishing rice food reserves fund - ASEAN Plus Three Emergency Rice Reserve – APTERR. Stocks are divided into two parts - the country reserves and central fund. Country stocks remain owned and / or controlled and are also stored in the countries participating in the agreement. China, Japan and South Korea pledged to provide 300,000 tons, 250,000 tons and 150,000 tons respectively, with the remaining 87,000 tons to be provided by the ASEAN countries in amounts varying from 3,000 tons each from Brunei, Laos and Cambodia up to 15,000 tons from Thailand, the largest rice-exporting country in the world.⁸ Currently, the volume of such stocks is 787,000 tons (87,000 tons from ASEAN member countries and 700,000 tons from "+3 countries").

Table 10 - Country food reserves APTERR, tons, 2020

No.	Country	Volume of reserves, thousand tons
1	China	300
2	Japan	250
3	Korea	150
4	Thailand	15
5	Myanmar	14
6	Vietnam	14
7	Indonesia	12
8	Philippines	12
9	Malaysia	6
10	Singapore	5
11	Brunei	3
12	Cambodia	3
13	Laos	3
Total		787

Source: APTERR [18]

⁸ Briones, 2012

At the same time, participation in the reserves, depending on the population of countries, differs significantly - Japan and the Republic of Korea contribute more than 2 kg per capita, and the rest of the countries - about 0.2 kg: (Table 10)

Table 11 - Distribution of contributions depending on the population of APTERR countries

From	population	% of the population	reserves	% of reserves	kg per capita
Republic of Korea	52	2%	150	19%	2.9
Japan	126	6%	250	31%	2.0
China	1404	63%	300	38%	0.2
ASEAN	661	29%	100	13%	0.2
Total	2243	100%	800	100%	0,4

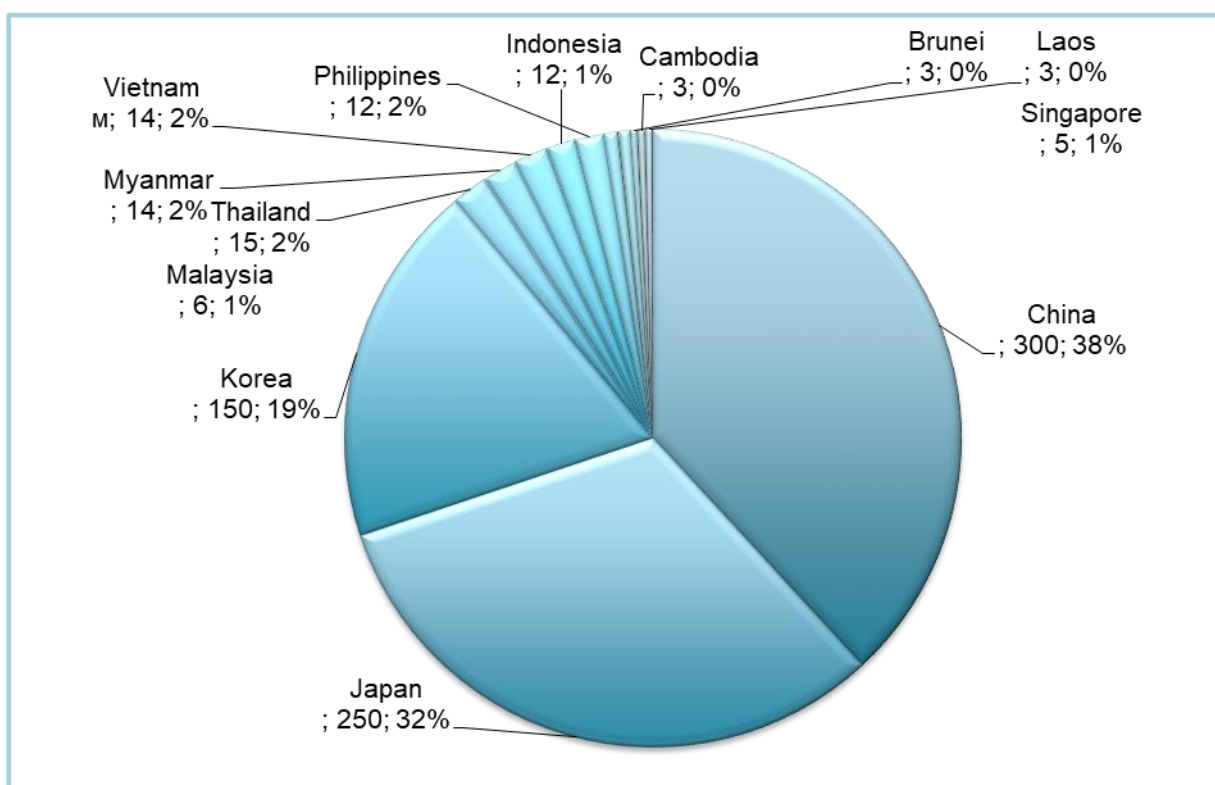


Figure 15. Structure of APTERR reserves, thousand tons, %

Source: APTERR

5.4.1 Functioning

APTERR's reserve, called the EAERR (East Asia Emergency Rice Reserve) consists of national food security stocks voluntarily designated or earmarked to address food emergencies. Initial earmarks totalled 50,000 tons to 787,000 T in 2021. Releases from the AERR were initially to be channelled through bilateral negotiation between a country in a state of emergency and a country offering its earmarked reserve. Each of these cooperation arrangements, however, turned out to be ineffective. In particular, the AERR never made a release from its stocks. The AERR was unresponsive to emergency needs because (i) the reserves

were too small, (ii) the bilateral negotiation procedure for the AERR merely duplicated regular market or government-to government transactions, and (iii) the AFSR Board was not able to operate AERR as a regional entity due to the lack of funds for the secretariat. Actually APTERR secretary manages its own FSR earmarked food stocks .

However, in the crisis of 2007-08 it could provide no help, since part of the very problem lay in the disruption of the region's rice distribution by embargoes from exporting countries.

A. Rules

The objective of APTERR is to help the members in ASEAN+3 in an emergency natural disaster and other humanitarian purposes .

APTERR's strategy, includes the aims to smooth-out erratic rice price fluctuation in the region and increase rice trade in ASEAN plus three areas and to improve farmers' income and welfare

EAERR activities were conducted by its Secretariat with the supervision of the EAERR Project Steering Committees residing one representative from each member country. Its Secretariat is hosted by the Government of Thailand

APTERR contains only rice, which is the main staple food of every country in the region. All stocks are to be stored within the region, but they can initially be imported by the member state which provides them. There are also stocks managed directly by APTERR. These reserves are formed from donor contributions from the countries participating in the agreement, as well as from other sources, and reach 10,000 tons of rice. Japan is the main donor. Management (procurement, storage, logistics, etc.) is carried out by the APTERR Secretariat based in Bangkok.

Like the AFSR before it, APTERR institutionalises the distinction between food-surplus and food-deficit members of ASEAN, which includes both leading rice exporters (Thailand and Vietnam) and countries which depend heavily on imports (mainly Indonesia, Malaysia and the Philippines). The main difference from AFSR, apart from the size of the reserve, is that it is owned by APTERR rather than member states in their own right, and APTERR covers the costs of maintaining it. The rice is stored in the three donor countries and rice-importing countries. After the export bans of 2007-08 when rice was thinly traded it was commented that there would not be confidence that a reserve centrally held by exporters would be available to all in the event of tight supplies. Use of the reserves is still to be paid for by the recipient country rather than donated. As under the AFSR, their utilisation follows on a request from a member country. That country will pay for the transport and operating costs and agree a rice for the supply with APTERR, to be paid later.

B. Programs

All stocks (country and APTERR) are managed under three main programs.

Tier 1 Programme

The programme involves the release of earmarked emergency rice reserves under the pre-arrangement terms for anticipated emergencies. It is formalized as a forward contract, stating the specific quantity and grade of rice, pricing method, terms of payment and delivery, and other requirements between the supplying country and a recipient country.

Delivery of rice from the supplying country will be made in the event of emergency in the recipient country with payment based on prevailing international market price.

The amount of rice under the forward contract is based on an estimate of shortfall in the event of emergency over the medium term.

Tier 2 Programme

The programme involves the release of earmarked emergency rice reserves under other agreement for unanticipated emergencies not addressed by Tier 1.

Delivery follows an on-the-spot agreement between the supplying country and the recipient country.

Pricing is similar to Tier 1; in which payment can be made in cash or through long-term instalment payments or grant based on mutual agreement of the countries involved.

Tier 3 Programme

The programme involves the release of stockpiled emergency rice reserves under the contribution for severe emergencies and humanitarian responses, such as poverty alleviation and eradication of malnourishment, to ensure food security in the region.

Rice distribution under Tier 3 can be the fast track to assistance under an automatic trigger.

C. Management of APTEER

APTERR operations are continuously managed by the APTERR Secretariat, which is overseen by the APTERR Council. The Secretariat is located in the host country selected by the Council and is headed by a Director General appointed by the Council. The Council includes one representative of the member countries, decisions are made by consensus, the Council meets on a regular basis at least once a year, and special separate meetings are also convened.

APTERR stocks are normally held in one of the host countries with suitable infrastructure under contract with the Secretariat, however, no physical stocks of APTERR rice are currently foreseen. The earmarked stocks are typically part of a country's existing national food security reserve. The earmarking country maintains control over these stocks but bears responsibility for storage. Earmarking places these stocks at the disposal of APTERR as a collective scheme and they are delivered under two different conditions, a pre-arranged delivery or an ad hoc emergency. A pre-arranged delivery requires an agreement between the supplying country and the recipient country. The agreement must address the specific quantity and quality of the rice from the earmarked supply to be delivered within 30 days. An emergency situation requires a call letter from the recipient and approval by the APTERR Secretariat and the APTERR Council⁹.

Oversight of the EAERR was vested in a Project Steering Committee that reports to the ASEAN Ministers of Agriculture and Forestry plus the Ministers of Agriculture of the People's Republic of China, Japan, and the Republic of Korea (AMAF+3). Day-to-day management is vested in a Management Team (MT-EAERR), whose office is hosted by the Ministry of Agriculture and Cooperatives (MOAC) of Thailand. There are two types of reserves under the EAERR:

- Earmarked reserves, which are defined as being under the AERR. The size of the earmark increased tremendously, from the original 50,000 tons under the AERR to 787,000 tons under the EAERR, largely from the sizable contributions of the Plus Three countries. Withdrawal from earmarked stocks can take the form of an emergency loan or grant (under the Tier 2 program) or as a special commercial contract (under the Tier 1 program) to address a supply-demand deficit in rice. Both types of release are to be facilitated by MT-EAERR to ensure that the terms and conditions are mutually agreeable to the transacting parties.

- Stockpiled reserves, which are rice stocks or in-kind contributions donated to the rice reserve. Stockpiled reserves are provided as free food aid under the Tier 3 program of the EAERR, which is intended to meet the acute emergency needs of disaster victims, on grant terms. The receiving country is expected to defray the logistics and distribution costs. Japan largely finances the stockpiled reserves, with significant in-kind contributions from Thailand.

Rice purchased under Tier 3 program is distributed among needy households by government agencies of the affected country, and distribution is also possible through international organizations (for example, the World Food Fund) and non-governmental organizations.

Issues facing APTERR

A. Technical issues relating to the release and storage of stocks.

The stockpiled reserves of APTERR are aimed at providing humanitarian food relief for localized emergencies; this more closely corresponds to the emergency reserves being recommended to counter food crises (FAO et al. 2011). The amount of stockpiled reserves will likely remain modest due to their high cost. Nevertheless, APTERR would clearly benefit from a strategy of raising a suitable level of stockpiled reserve as well as identifying the appropriate storage form and locations, to provide immediate assistance for disaster victims in the throes of a food emergency.

APTERR should also move more aggressively in the releases from:

The earmarked reserves, as these represent the scheme's biggest resource to overcome food emergencies are targeted to address market-wide disruption, such as a sudden food availability gap at the national level or an extreme price spike.

Procedures are streamlined to make emergency response more frequent. Tier 1 offers a sustained basis for tangible food security cooperation. The mechanism have to be sensitive and responsive enough to detect and act quickly in cases of food emergencies where domestic response or importation may be insufficient or too slow. However, release triggers that are too sensitive may lead to large-scale withdrawals from earmarked reserves in excess of actual requirements. This raises concerns about potential distortions to normal international trade. "Emergency" needs to be more accurately defined in relation to "normal trade" as a condition for release of APTERR stocks to prevent trade distortions and assure World Trade Organization (WTO) compliance.

Clearly, trigger and release procedures under APTERR must be guided by a food emergency monitoring and information system. The existing ASEAN Food Security Information System (AFSIS), hosted by the Office of Agricultural Economics (OAE) of the MOAC of Thailand, together with the ASEAN Food Security Reserve Board under the Ministry of Commerce of Thailand, may be existing mechanisms to support APTERR's information and monitoring requirements. APTERR should take more concrete steps to formalize information exchange and build its analytical capability toward a more proactive and systematic implementation of emergency food response.

B. Finance

This entails mobilizing strong funding support from all the ASEAN+3 member countries, based on ability to pay and other criteria. A credible benefit-cost analysis may be useful to mobilize this support. Furthermore, there may be mechanisms to recover costs or to make benefits conditional on payments. This frames a business model for APTERR that would be helpful in ensuring its financial sustainability.

C. Institutional.

Both the regional reserve and national stock agencies have to achieve some level of organizational capacity for effective response to food security crises. Moreover, laws, policies, and regulations should be harmonized across member countries to facilitate food security cooperation and the quick and orderly transfer of rice stocks.

Relationships with other schemes and organizations would need to be re-examined, such as with domestic emergency reserve, international aid agencies, or even a proposed international food emergency reserve.

Another external linkage to be explored is the relationship with the private sector. The Tier 1 program may interest commercial players; storage and logistical requirements of the reserve may also be opened to the private sector.

D. Position

APTERR may need to position itself in relation to other market-based instruments for addressing food insecurity. These include index-based risk transfer products as well as forward and futures contracts (and their variants such as commodity options). Currently, however, the futures market in Southeast Asia remains in its infancy; nevertheless, a permanent scheme on emergency rice reserve should remain dynamic and adaptive to a changing set of market conditions and financial institutions.

ASEAN+3 member states have generally implemented aggressive domestic policies to combat food security threats. However, a regional and multilateral approach to food security requires renewed commitment among all the member states. Currently, APTERR is strong on the principles of cooperation, but short on specifics. While the experience of the EAERR would be invaluable in applying lessons learned, APTERR will have to operate significantly beyond the level of a pilot scheme.

E. Key conclusions reached from this study

The main conclusions and recommendations of this limited international experience study are highlighted below:

- part of the reserves can be kept in a financial form
 - the conclusion of mutual agreements on the use of own country reserves for mutual support of other countries is an effective mechanism of mutual support, similar to insurance system and provides a high level of support
 - in addition to country reserves, a "joint" humanitarian fund for food reserves in financial form is also required, for grant support of the recipient countries
 - the sources for "humanitarian" fund are usually donor countries and international organizations
- information and analytical 'early warning' system is an essential element of the FSR and needs to be based on a digital platform with a web interface for accessibility to a wide range of authorized users

F. Lessons Learnt

APTERR shows it is ideal to address short term emergency situations but is not adequate for addressing extreme price volatility (Mane 2014).

APTERR of 787,000 tons may not be enough to withstand natural calamity, specifically due to climate change. A study utilizing the RICEFLOW model, a numerical simulation tool for a "massive calamity" of 5% production shock for China and Indonesia with a consumption decrease by about 3%, coupled with an increase of 30-55% in consumer prices determined that in order to be effective, the size of the reserve must be increased and the ASEAN countries need to increase their earmarked allowance¹⁰.

Weaknesses and risks:

- achievement of targets due to lack of resources in the founding countries
- lack of procurement systems in recipient countries, which deprives local farmers with support
- disproportionate participation of the founding countries
- high costs of administration

10 Asian Development Bank, Briones, 2012

- some protocols and principles may be contrary to Islamic principles, such as concluding food forward transactions at fixed prices, interest-bearing cash loans to farmers, generating commercial income from interest-bearing securities

Some OIC countries already involved in international and regional funds (Senegal, Sierra Leone, Côte d'Ivoire - ECOWAS, Malaysia, Indonesia - APTERR).

6 Methodology for assessing the need for IOFS Food Security Reserves

It is necessary to consider for each country the most common types of staple food in that country. Cereals are traditionally used in reserves: wheat, rice, maize, sorghum (and millet), and others, having optimal characteristics for caloric value content, long time storage (shelf-life), transportability, standardized, with transparent pricing, supply and demand in global and regional markets, availability (sufficient supply in international markets).

The following are the main quantifiable measurements for calculations (per capita for each country):

- main types of food consumed
- consumption
- production
- net import-export
- annual carryover balances of cereals
- proportion of children under 5 suffering from malnutrition
- GDP per capita (PPP - purchasing power parity)
- positions in international food safety ratings .

As can be seen from Figures 1-4 (Pages 29 -32 above) and this further analysis, OIC-countries can be divided into four main groups (see Figure 11 below) :

- "green": medium or in high GDP, high production and net exports, the low number of people with a deficit of food (less than 10%) - such as Turkey, Kazakhstan

- "yellow": the average level of production, the average self-sufficiency, the average number of the population deficit (10-15%), the average GDP - countries of Central and South-East Asia

- "orange": the low self-sufficiency (high imports) and high income (more than 10 000 USD), a low percentage of the population with a deficit (less than 10%) – mostly Middle East countries

- "red": low incomes, a high proportion of the population with a food deficit, medium or low self-sufficiency - mainly African countries

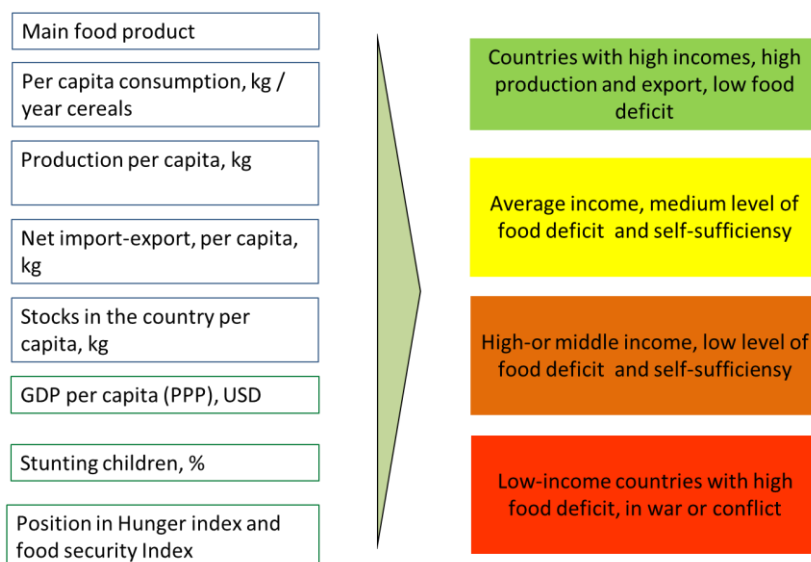


Figure 16. Country profiles Categorisation

The following table illustrates the staple foods for each country and their per capita consumption:

Table 12 - Consumption of basic food products (cereals) per capita, in 2017, kg / year [20]

Country	Cereals - Excluding Beer	Wheat and products	Rice and products	Maize and products	Other Cereals (oats, millet, sorghum, rye etc.)
Afghanistan	177.3	155.4	19.8	1.4	0.8
Albania	145.8	132.1	9.8	2.8	1.0
Algeria	218.6	185.7	4,3	15.9	12.8
Azerbaijan	207.4	187.6	2.0	16.9	0.8
Bangladesh	287.3	18.1	268.5	0.7	0.1
Benin	138.1	15.4	74.8	38.0	9.8
Brunei	NA	NA	NA	NA	NA
Burkina Faso	211.5	13.7	35.9	77.0	84.9
Cameroon	141.0	23.3	36.4	50.9	30.4
Chad	148.4	5.0	16.8	14.8	111.9
Côte d'Ivoire	148.0	25.6	98.1	20.5	3.9
Djibouti	174.9	124.1	45.9	0,4	4.6
Egypt	262.1	145.7	52.9	61.0	2.5
Gabon	124.9	59.2	50.4	14.1	1,3

Country	Cereals - Excluding Beer	Wheat and products	Rice and products	Maize and products	Other Cereals (oats, millet, sorghum, rye etc.)
Gambia	153.8	35.9	58.0	15.1	44.7
Guinea	195.2	22.0	152.8	10.2	10.2
Guinea-Bissau	168.6	15.0	136.5	3.3	13.8
Guyana	175.3	58.6	114.2	2,3	0.2
Indonesia	276.6	26.9	207.7	41.6	0.5
Iran	210.4	164.3	42.6	3.0	0.6
Iraq	182.4	131.9	45.7	0.7	4.0
Jordan	138.7	116.7	19.8	1.9	0.3
Kazakhstan	122.5	95.4	11.0	1,2	14.9
Kuwait	157.1	99.9	52.0	4.9	0.3
Kyrgyzstan	164.6	127.0	8.1	28.1	1,3
Lebanon	145.6	130.8	14.0		0.8
Libya	NA	NA	NA	NA	NA
Malaysia	186.5	49.9	119.6	13.7	3.2
Mauritania	187.2	114.6	53.1	3.2	16.3
Morocco	262.0	183.2	1.9	41.3	35.6
Mozambique	133.2	24.1	36.0	65.9	7.2
Niger	223.7	4.2	25.6	3.9	190.1
Nigeria	137.6	17.9	46.3	34,7	38.6
Oman	137.5	77.0	47.3	12.7	0.6
Pakistan	137.4	104.8	17.1	13.2	2.2
Qatar	66.0	No Data	66.0	No Data	No Data *
Saudi Arabia	178.4	96.3	51.1	25.3	5.7
Senegal	227.8	40.2	123.9	32.5	31.2
Sierra leone	209.4	12.9	186.2	2.1	8.1
Somalia	NA	NA	NA	NA	NA

Country	Cereals - Excluding Beer	Wheat and products	Rice and products	Maize and products	Other Cereals (oats, millet, sorghum, rye etc.)
Sudan	130.8	45.1	3.1	2.0	80.6
Suriname	162.2	56.3	103.4	1.8	0.8
Syria	NA	NA	NA	NA	NA
Tajikistan	144.7	122.5	11.9	5.8	4.4
Togo	140.8	16.8	22.8	75.9	25.4
Tunisia	208.3	200.4	1,2	0.0	6,7
Turkey	182.4	143.7	16.0	20.3	2.5
Turkmenistan	203.6	176.7	24.1	0.2	2.6
Uganda	72.8	11.1	9.5	46.1	6.2
UAE	162.0	102.2	56.7	1.4	1.7
Uzbekistan	194.7	173.9	10.9	6.0	3.9
Yemen	164.6	115.2	22.8	14.7	11.9

<http://www.fao.org/faostat/en/#data/FBS>

7 Basic principles (ideas) for Food Security Reserves of the OIC countries

7.1 Participating Contributions

Countries with 'yellow', 'orange', 'green' profiles are proposed to contribute about 2 kg per capita, but not more than 10% of annual average ending country stocks and at least 2 thousand tons. Countries with a 'red' profile contribute about 0.2 kg per capita, but not less than 2-3 thousand tons. These figures are based on the experience of APTERR. Countries in a special situation such as - Island countries (Maldives, Comoros), in crisis and wars (Palestine, Iraq) do not contribute reserves to participate in the system, but they can receive food aid from other countries. The reservation rate recommended by WFP is 0.5 kg per day per capita [21], up to 20 days (FAO), but specific amounts of food aid depend on the situation in the recipient country and its request. The distribution (% contribution to the reserve) from the year ending stock for each country is illustrated in Figure 12.

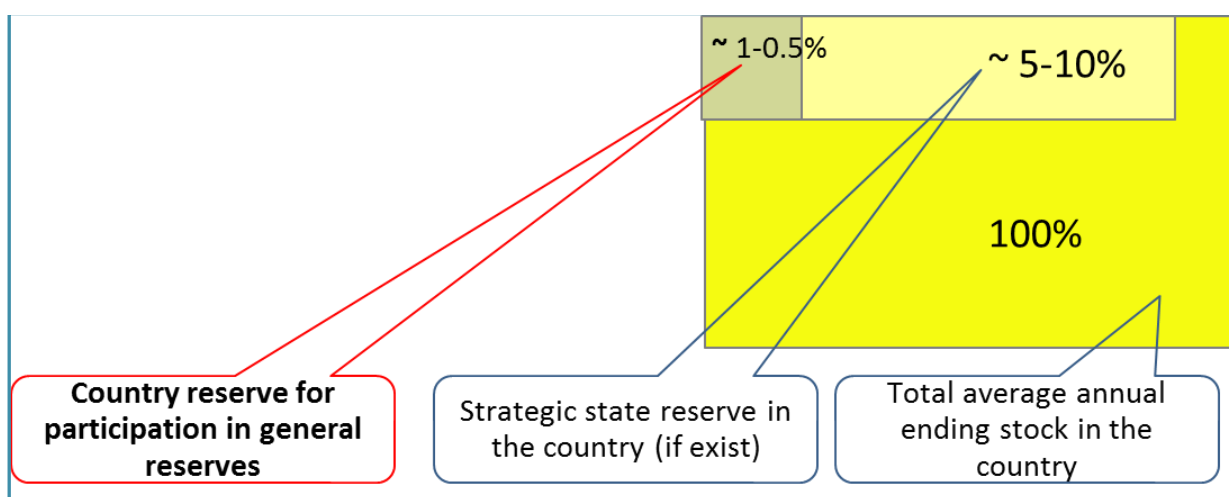


Figure 17. The share of annual average year ending country stocks in the country provided for the international food reserves of the OIC

Also, countries can optionally provide equivalent amount or part of reserves in financial form. Other countries, international organizations, other donors also can make contribution of reserves instead of the specified country. Procurements for reserves are recommended preferably in the countries of the OIC to support local producers and dependent on the recipient country pricing policies. Financial formats of safeguarding would be in the form of - cash deposits of IsDB, or other Islamic financial instruments of IsDB or other international financial institutions.

7.2 Membership and Agreements (Protocols)

To enter the OIC food reserve system, countries would need to enter into a signed Memorandum of Understanding (MoU) (adhering to the Protocols, initiated by the IOFS and approved by the CFM, on participation in the food reserve system (the suggested draft is at Annex 5: Memorandum on Food Reserves of the OIC). Further, the countries conclude among themselves bilateral and multilateral long-term mutual support agreements. The size of the reserves entered into the system further clarified through negotiations between representatives of the participating countries with the approval of the Steering Committee.

Before forecasted emergency situations, countries conclude additional agreements on the use of reserves, which indicate specific volumes of deliveries, terms, costs, payment terms (current or fixed prices, delivery terms, instalment payments, grants, etc.)

In the event of an unpredictable crisis situation, countries also conclude additional agreements on the use of reserves, which also indicate specific volumes, terms, costs, payment terms (current or fixed prices, delivery terms, instalment payments, grants etc.).

The country that withdraws reserves should restore them within a year (in physical or financial form)

Thus, the following parameters and options will need to be considered and agreed for participation of countries in the OIC food reserve system:

1. The Form of reserves: a) cereals stocks or b).financial form
2. Sources: a) country strategic reserves or b) commercial stocks reserved
 - by the government or c) contributions from a donor country instead of
 - another participating country
3. Forms of payment: a). immediate cash payment, b). instalment payments and c).grants
4. Agreements between countries: a). long-term and b).short term

5. Number of participants in agreements: a). bilateral and b).multilateral taking to account regional and geographical demarcation

6. Emergency situations: a). Forecasted and b).unpredictable

7.3 Management of Humanitarian Reserves

The Humanitarian Reserves are funded from donor countries or other funding agencies and directly managed by the Steering Committee and the IOFS Secretariat. The volume of humanitarian reserves is estimated to be equivalent to about 10 thousand tons. Humanitarian reserves are allocated by decision of the management of the Steering Committee and upon requests of countries in emergency situations, to maintain vulnerable groups, in addition to assistance from international OIC reserves. After implementation of each humanitarian aid project, an independent organization should conduct a sociological survey among the residents of the recipient country to assess the effectiveness of the assistance provided, to gauge the value for money (VfM). In country procurements should ideally be carried out within OIC countries to support OIC farmers in resolving shortfalls in production and/or availability of food reserves through food losses. The places of purchase, storage, standards, and types of products are determined depending on the situation (in order to save costs). Where possible those standards should be aligned and approved by the Steering Committee.

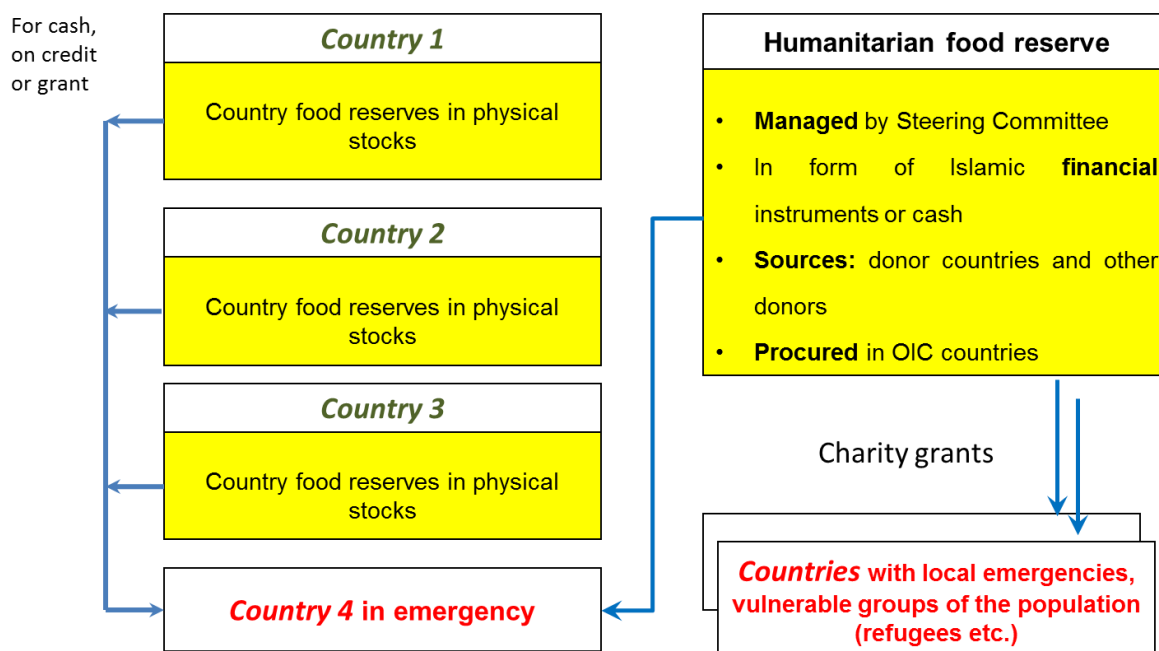


Figure 18. Interaction of countries in the OIC food reserve system

7.4 Structure and form of reserves, location, standards, storage conditions

Food reserves are usually located in the country that provides the reserve, storage according to the standards of the host country, the quality also according to the standards of the host country.

Humanitarian provisions are in financial form, standards of storage and food standards, transportation should be determined in mutual agreements between recipient country and donor country. In order to ensure adequate governance of the humanitarian reserves should be regulated through approved statute and/or legitimized through recognition and registration as a legally formalized international fund.

When deciding on the distribution of aid, the Fund will rely on clear criteria:

- an assessment of the current balance of food resources and balance food basket per household,
- the economic and physical availability of food,
- the depth of food shortages among vulnerable groups of the population,

- the ability of society and the country to solve the problem independently,
- the availability of local organizational and logistic infrastructure for distribution assistance,
- obtaining a clearly formulated request from the government for support, objective opportunities to meet the Fund's request.

7.5 Distribution Partnership Mechanisms

To ensure seamless and timeous distribution the partners of the Fund will need to make optimal use of the existing infrastructure for storing and distributing food utilising regional food reserves funds, charitable and social organizations, countries social systems (country infrastructure for social support), in extreme cases, other organizations, for example, the military, through which aid can also be distributed.

In the absence of other social or organizational infrastructure in the region capable of providing residents with support. The fund's assets need to be invested in Islamic financial instruments. Food purchases by the fund should be carried out on the territory of the OIC countries in order to support local producers based on the current fair price of “Al-Sar-al- Adl” on the terms of “Bai al-Salam” (deferred payment until farmers receive the harvest). Rotary procurements (to update the physical natural reserves) are encouraged to use “Istidzhar (Istijrar)” [22]

The remuneration of the Secretariat for the management of the Fund's activities should be based on the principles of “Vakalatul Istismar”, that is, regardless of the profit or loss of the Fund as a whole, at the expense of membership fees and donor funds.

To manage the financial part of the Fund's assets, it is possible to attract a specialized management company, the remuneration of which would be carried out on the principles of “Musharaka”, sharing partnership -Halal Investments in Dow Jones Islamic market index, MSCI Islamic index, S&P Shariah index. The Dow Jones Islamic market index shows an exceptional current annualized return of 24.47% per annum [23]. The total amount of Islamic finance in the world is more than 2.5 trillion USD with a forecast of growth to 3.8 trillion USD by 2023, or 1% of the total assets of the global financial sector. Islamic banking accounts for about 70% of the total assets of the Islamic financial sector, insurance (“Takaful”) and the Islamic capital market are also actively developing [24].

7.6 Steering Committee and Secretariat Support

The Steering Committee located at the IOFS Headquarters with OIC member states send country representatives to participate in the Steering Committee. The committee thus includes a representative from each member country of the food reserve system. Meetings of the Committee would be ideally held twice a year with extra-ordinary meetings convened, as necessary (e.g. Non-Predicted Crisis or Humanitarian Disaster). If necessary, meetings can be held in a remote format (online).

The decisions of the Committee are taken by a simple majority, and in case of equality of votes, the decision is taken with the casting vote of the Chairperson of the Committee. The Secretariat of the Steering Committee is the executive body of the Steering Committee.

Representatives of the Management Committee participate in the negotiations on the conclusion of mutual agreements between countries and their implementation, if necessary, carry out inspections of reserves in the countries of the location of reserves and inspections in the recipient country.

The maintenance of the Committee and the Secretariat is carried out at the expense of membership fees and donor assistance. The proposed staff of the Secretariat: 10-15 people, the costs of maintenance is estimated up to US\$ 600,000 (six hundred thousand USD) per year. The Secretariat submits to the Committee, IOFS and GA OIC Summit annual reports on the results of its activities and reports on the results of the annual independent audit.

The use of donor funds is also tracked through the Secretariat's online analytical information system.

7.7 Information and Analytical System (Early Warning System)

The Food Reserve cannot operate effectively without data that is in 'real time', historical data can only provide forecasts of a limited nature. The Secretariat under the Food Reserve Management Committee would need to develop and maintain an early warning information and analytical system. Its main functions include:

- Database of indicators required to monitor FNS indicators, in addition to statistics of the OIC member countries, should include data from WFP, FAO, CRED (Center for Research on the Epidemiology of Disasters), USDA, WTO, etc.
- Proposed indicators for monitoring: Malnutrition and anthropometric, Malnourishment, production, import and consumption, pricing, key factors (climate change, political and military events, decisions of governments, etc.), the main problems
- Monitoring risks and stability of FNS and assessment of their impact on food security, utilization and safety: trends in the food market, climate changes, political, economic and military crises, physical and economic availability of food, assessment of possible damage (extent of damage, vulnerable groups of the population, for example, urban population is more vulnerable in economic crisis, the rural population is more vulnerable to natural disasters, etc.).
- Forecasting and planning - assessment of the impact of various factors on the country of FNS, assessment of alternative scenarios, potential damage, and the necessary actions to avoid worst-case scenarios.
- Assessment of the food required for aid from international reserves and humanitarian reserves of OIC.

The annual costs of information and analytical system for food security is estimated at up to US\$500,000 (Five hundred thousand USD) on the basis of the current information and analytical system of the IOFS.

7.8 OIC Country Contributions to the Reserve.

Based on the methodology suggested above the Table 12 below and the subsequent analytical tables (page 83 onward) illustrate the country profiles and estimates reserves size contributions proposed for each country. The total size of food reserves, taking into account these estimates would be in the region of the 572,000 (five hundred and seventy-two thousand) tons with a further 10,000 (ten thousand) tons of 'humanitarian' reserves, totalling about 582,000 five hundred and eighty-two thousand tons, which is enough to provide about 64 million people for 18 days. This would provide for the problem of acute food shortages in the short term, sufficient for additional measures to be introduced by countries and the international community. As mentioned above, according to the United Nations, about 64.5 million people in 56 member countries of the OIC suffered from acute malnutrition in 2017 and in later years.

Several options to fund the FSR may be considered as:

1. Member States may optionally provide equivalent amount or part of reserves in financial form (cash deposits in Islamic Development Bank) equivalent to up to 30% of the reserve as mentioned in the draft Memorandum of Understanding (see Annex 5),
2. Part of the fund's reserves will be in the form of natural physical food reserves in stable regions with a developed warehouse and transport infrastructure, most (up to 70%) in the form of Islamic financial instruments in Islamic financial institutions with a high level of reliability. This is the figure of Ecowas that has 2/3 financial and 1/3 physical. i.e. Ecowas Regional Reserve has the equivalent of 411,000 Metric Tonnes (Mt) by 2020, portioned as follows: physical stock = 140,000 Mt and financial stock = equivalent to 271,000 Mt.
3. The Draft Memorandum of Understanding mentions that the 572.2 metric tons of the 56 members allows cash or kind without stipulating any fraction of the whole reserve to be in cash or kind. This flexible approach is practical considering that some MS have no grain production while strong financial capacity.

The ratio cash/finance could be proposed by each individual MS. The Steering committee will decide of the appropriateness of the contribution cash/king of each MS. Some MS coastal countries do not have any Public Stock (Côte d'Ivoire, Guinée Bissau, Senegal) while others have a very small one (10,000 to 15,000 tonnes in Benin and Togo respectively) and even more significant Public Stocks (Burkina Faso, Mali, Niger and Nigeria).

Preliminary options for regional groupings of member states (based on geographical demarcation without full consideration of other factors – storage capacity, distribution channels/ transport etc.) to give effect to efficient access and distribution of reserves and the quantities for storage (related to regional food security resilience and population) are suggested as follows;

No	Regional FSR	Countries	Type of food commodities	Total volume (000, thousand tons)
1	Middle East (12)	Palestine, Yemen, Syria, Jordan, Iraq, Lebanon, Oman, Bahrain, Saudi Arabia, UAE, Kuwait, Qatar	wheat	350
2	South Asia and South America (5)	Bangladesh, Pakistan, Maldives, Guyana, Suriname	rice, wheat, corn	TBD
3	East and Southeast Africa (6)	Comoros, Sudan, Somalia, Uganda, Djibouti, Mozambique	rice, millet, wheat, cassava, lentils, corn	180
4	Central Africa (3)	Chad, Cameroon, Gabon	millet, sorghum, wheat, cassava, rice	76
5	West, North and Northwest Africa (6)	Mauritania, Libya, Tunisia, Egypt, Algeria, Morocco	rice, wheat	332
6	Europe, Central Asia, Kazakhstan, Iran, Turkey and Azerbaijan (10)	Albania, Afghanistan, Tajikistan, Kyrgyzstan, Uzbekistan, Azerbaijan, Turkmenistan, Iran, Kazakhstan, Turkey	wheat	350

These groups may be further divided or reformatted where logistical, distribution or other strategic management issues prevail.

A number of OIC Member States are not included in the preliminary OIC FSR system because they are already members of other regional food reserves programmes (ASEAN+3 and ECOWAS). These include Benin, Burkina Faso, Côte d'Ivoire, Gambia, Guinea, Guinea Bissau, Mali, Niger, Nigeria, Sierra Leone, Senegal, Togo, Brunei, Indonesia and Malaysia. IOFS Secretariat will seek to encourage these MS to join the OIC FSR.

An alternative grouping which considers the inclusion of all OIC member states especially those already linked to ECOWAS and ASEAN+3 Food Security systems could potentially be as in the table below. However, as with the option above considerations would need to be given to the operational and logistical dimensions affecting the feasibility of the linking these countries in these particular groupings. Some of those considerations are highlighted in the table.

No	Regional FSR	Countries	Type of food commodities	Total volume (000, thousand tons)	Other Dimension Considerations
1	Middle East (12)	Bahrain, Syria, Iraq, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar Saudi Arabia, UAE, Yemen,	wheat	TBD*	
2	South Asia and South America (5) +ASEAN (2)	Bangladesh, Guyana, Suriname Maldives, Brunei Darussalam Malaysia, Indonesia,	rice, wheat, corn	TBD	Distances Asia to South America (Guyana/Suriname) are more likely to rely on CARICOM and have comprehensive individual country and regional programmes in place
3	North, East and Southeast Africa, Part Central Africa (9)	Chad, Djibouti, Egypt, Libya, Sudan, Somalia, Uganda, Comoros, Mozambique,	rice, millet, wheat, cassava, lentils, corn, sorghum	TBD	Distances Comoros /Mozambique to others in group
4	West and Northwest Africa (Part central) (6) + ECOWAS (12)	Mauritania, Tunisia, Algeria, Morocco, Cameroon, Gabon Benin, Burkina Faso, Cote d'Ivoire, Gambia, Guinea, Guinea Bissau, Mali, Nigeria, Niger, Senegal, Sierra Leone, Togo	rice, wheat, millet, sorghum, wheat, cassava,	TBD	Large group – coordination – would need regional stores ECOWAS has comprehensive storage network
5	Europe, Central Asia, Kazakhstan, Iran, Turkey and Azerbaijan (11)	Albania, Afghanistan, Tajikistan, Kyrgyzstan, Uzbekistan, Azerbaijan, Turkmenistan, Iran, Kazakhstan, Turkey, Pakistan	wheat, rice, corn	TBD	Addition of Pakistan due to proximity to Afghanistan rather than Bangladesh as in option 1 Railway Kazakhstan/Iran

*Potential sizes of the reserve are not stipulated at this time.

Table 13 - Country profiles and proposed food reserves (cereals) for allocation to international regional food reserves

No.	Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net export	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system
1	Bangladesh	166,290,000	South Asia and South America	287	rice	36	4207	546	-83	88	53.2	low incomes, high deficits, average self-sufficiency	81	8.0
2	Guyana	786,508	South Asia and South America	175	rice	12	8 266	2,054	1312	64		average income, average deficit, net exporter	887	2.0
3	Maldives *	427,756	South Asia and South America	119	wheat , rice , taro , corn	20	19178					high incomes, medium deficits, low self-sufficiency		
4	Pakistan	212 742 631	South Asia and South America	135	wheat	45	5 354	453	58	94	56.8	low incomes, high deficits, self-sufficiency	122	12.0

No	Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net export-import	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system
5	Suriname	573,085	South Asia and South America	161	rice	nine	13 876	1 952	934	50		middle income, low deficit, exporter	0	2.0
6	Azerbaijan	9 981 457	Central Asia, Europe, Azerbaijan, Iran	206	wheat	18	17 433	828	-490	29	64.8	high incomes, average food security, but average self-sufficiency	413	20.0
7	Albania	2 862 427	Central Asia, Europe, Azerbaijan, Iran	145	wheat	23	12 472	414	-241	28		average income, average deficit, average self-sufficiency	110	6.0
8	Afghanistan	31,575,018	Central Asia, Europe, Azerbaijan, Iran	177	wheat	41	1889	386	-199	108		low incomes, high deficits, average self-sufficiency, conflicts	46	0.0

Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net to export-import	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system
9 Iran	82 321 600	Central Asia, Europe, Azerbaijan, Iran		wheat	7	20,030	867	-415	31		high incomes, high security, average self-sufficiency	677	67.0
10 Kazakhstan	18 446 552	Central Asia, Europe, Azerbaijan, Iran	108	wheat	13	26,071	2,056	971	20	67.3	high income, low deficit, net exporter of cereals	778	37.0
11 Kyrgyzstan	6 389 500	Central Asia, Europe, Azerbaijan, Iran		wheat	eight	3652	507	-124			average income, average income, average self-sufficiency	195	13.0

No	Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net export-import	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system
12	Tajikistan	8,931,000	Central Asia, Europe, Azerbaijan, Iran	140	wheat	27	3131	232	-228		49	low incomes, high deficits, average self-sufficiency	214	18.0
13	Turkmenistan	5 634 555	Central Asia, Europe, Azerbaijan, Iran	202	wheat	nineteen	18 680	968	-99	54	69.8	high income, average security, self-sufficiency	992	11.0
14	Turkey	82,003,882	Central Asia, Europe, Azerbaijan, Iran	201	wheat	nine	26453	770	-71	1		high income, low deficit, self-sufficiency	253	25.0
15	Uzbekistan	33 412 688	Central Asia, Europe, Azerbaijan, Iran		wheat	nineteen	6990	283	-102	49	59	average income, average deficit, average self-sufficiency	153	15.0

No	Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net export-import	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system
16	Bahrain	1 543 300	Middle East		wheat		51 846	0	-117		66.6	high income and food supply, but low self-sufficiency	58	5.8
17	Yemen	29,579,986	Middle East	153	wheat	46	2 300	32	-288	116	35.6	low incomes, food shortages, low self-sufficiency, conflicts	50	0.0
18	Jordan	10 381 500	Middle East	139	wheat	eight	12487	nine	-419	48	61	average income and food supply, but low self-sufficiency	264	21.0
19	Iraq	39,127,900	Middle East	178	wheat	23	17,004	279	-254	68		average income and average food supply, low self-sufficiency, conflicts	126	12.0

No.	Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net export-import	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system
20	Qatar	2 772 947	Middle East		wheat		124,927	0	-124		81.2	high income and food supply, but low self-sufficiency	0	6.0
21	Kuwait	4 226 920	Middle East	157	wheat	6	69669	0	-529	1	74.8	high income and food supply, but low self-sufficiency	nine	2.0
22	Lebanon	6,065,922	Middle East	145	wheat	sixteen	19486	57	-600			average income and food supply, but low self-sufficiency	85	8.0
23	Oman	4 672 823	Middle East	137	wheat	fourteen	45 464	0	-374	52	68.4	high income and food supply, but low self-sufficiency	251	9.0

No.	Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net export-import	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system
24	Palestine *	4,780,978	Middle East		wheat	eight	1888	10.5	91			low incomes and medium deficits, low self-sufficiency, conflicts	-	0.0
25	Saudi Arabia	33,413,660	Middle East		wheat	nine	55263	77	-1 055		73.5	high income and food supply, but low self-sufficiency	870	67.0
26	UAE	9 682 088	Middle East		wheat		68245	0	-524		76.5	high incomes and food abundance, but low self-sufficiency	166	16.0
27	Algeria	43 378 027	Africa	206	wheat	12	15 150	198	-517	47	59.8	average income, average food deficit, average self-sufficiency	503	50.0

No	Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net export-import	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system
28	Gabon *	2 109 099	Africa	124	wheat rice c assava	18	19266	0	-69	64		average income, average deficit, average self-sufficiency	-	2.0
29	Djibouti	1,078,373	Africa	169	wheat , lentils , rice	34	3567	0	0	105		low incomes, food shortages, low self-sufficiency	-	0.0
30	Egypt	98 467 400	Africa	260	wheat	22	12994	472	-451	61	64.5	average income, average food deficit, average self-sufficiency	366	36.0
31	Cameroon	24 348 251	Africa	111	millet , corn , rice , wheat	32	3359	261	-110	76	49.9	average income, average deficit, average self-sufficiency	46	4.6

No.	Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net export-import	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system
32	Libya	6 569 864	Africa		wheat	21	9 792	73	-737	53		average income, average food deficit, low self-sufficiency, conflicts	96	0.0
33	Mauritania	4 077 347	Africa	171	wheat , rice , couscous	22	4 474	113	-248	90		low incomes, high deficits, low self-sufficiency	76	0.8
34	Morocco	34 974 200	Africa	226	wheat	fifteen	8 612	717	-578	42	62.8	average income, average deficit, average self-sufficiency	812	8.0
35	Mozambique	28 861 863	Africa	126	corn , millet , sorghum	43	1,266	123	-89	96	41.4	average income, average deficit, average self-sufficiency	20	2.0

No.	Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net export-import	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system
36	Somalia	15,636,171	Africa		sorghum , wheat	26	600	18	-89			low incomes, food shortages, low self-sufficiency		0.0
37	Sudan	41 394 625	Africa	50	millet , sorghum , wheat	37	458	401	-114	107	45.7	low incomes, high food shortages, average self-sufficiency	107	0.0
38	Tunisia	11,551,448	Africa	115	wheat	ten	11,987	627	-890	24	60.1	average income, average deficit, average self-sufficiency	686	23.0
39	Uganda	40,006,700	Africa	180	cassava corn matooke rice	34	2352	152	fourteen	104	46.2	low incomes, high food shortages, self-sufficiency	32	3.0

No	Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net export-import	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system
40	Chad	15 692 969	Africa	37	millet , sorghum , wheat	40	2 433	273	-38		36.9	average earnings, the average deficit, the average self-sufficient	24	2.0
41	Comoros	873,724	Africa		rice	32	156					low incomes , food shortages		0.0
42	Indonesia	268,074,600	APTERR	276		36	12378	427	-80	70	62.6	average income, high deficit, average self-sufficiency	139	13.0
43	Malaysia	32 666 700	APTERR	183		17	28871	123	-377	57	73.8	high incomes, average deficit, average self-sufficiency	163	16.0
44	Benin	11 733 059	ECOWAS	128		34	2219	341	-139	82	51	low incomes, high deficits, average self-sufficiency	37	2,3

No.	Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net export-import	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system
45	Brunei	421,300	ECOWAS			nineteen	76743	4	-159			high incomes, medium deficits, low self-sufficiency	0	2.0
46	Burkina Faso	20 870 060	ECOWAS			33	1884	428	-65		50.1	low incomes, high deficits, average self-sufficiency	67	4.2
47	Gambia	2,228,075	ECOWAS			24	1,686	113	-173			low incomes, high deficits, average self-sufficiency	50	2.0
48	Guinea	12 218 357	ECOWAS	185		31	2039	366	-120	99	46.7	low incomes, high deficits, average self-sufficiency	81	2.4
49	Guinea-Bissau	1 604 528	ECOWAS	155		27	1 806	191	-179	99		low incomes, high deficits,	39	2.0

No	Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net export-import	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system
												average self-sufficiency		
50	Cote d'Ivoire	25,823,071	ECOWAS			29	3857	195	-127			low incomes, high deficits, average self-sufficiency	92	2.0
51	Mali *	19,973,000	ECOWAS	142		38	2 169	160	50	83	54.4	low incomes, high deficits, average self-sufficiency	-	2.0
52	Niger	22314743	ECOWAS	34		43	1 153	402	-50	101	49.6	low income, high deficit, the average self-sufficient	28	2.0
53	Nigeria	193 392 517	ECOWAS	99		33	5927	363	-75	93	48.4	low incomes, high deficits, average self-sufficiency	50	2.0

No.	Country	Population	Region	Consumption cereals, kg per capita per	Main food product	% of stunting children under 5 years old,%	GDP per capita (PPP), USD	Production, kg/capita	net export-import	Hunger index. (the higher the	Food security index (the lower the	Country Profile	Average annual ending stock, kg per capita	Food security reserves for system	
54	Senegal	16 209 125	ECOWAS	197		nineteen	2 678	390	-390	67	54.3	low incomes, high deficits, average self-sufficiency	178	2.0	
55	Sierra Leone	7 901 454	ECOWAS			37	1791	244	-97		39	low incomes, high deficits, average self-sufficiency	-	2.0	
56	Togo	7,538,000	ECOWAS			27	1612	275	-93	81	44	low income, high deficit, the average self-sufficient	40	2.0	
Total		1,810,399, 070												2062	572.2

Thus, the general structure of reserves by regions can be as follows:

South and Southeast Asia , South America

Country	The total number of population	Main food product	PPP GDP per capita of \$ US	Country Profile	average annual grain reserves, kg per person	Participation in the OIC food reserves
Bangladesh	166,290,000	rice	4207	red	81	8.0
Guyana	786,508	rice	8 266	yellow	887	2.0
Maldives *	427,756	wheat , rice , taro , corn	19178	yellow		
Pakistan	212 742 631	wheat	5 354	red	122	12.0
Suriname	573,085	rice	13 876	green	0	2.0
Indonesia	268,074,600	Rice	12378	green	139	13.0
Malaysia	32 666 700	rice	28871	green	163	16.0
Total						53

Central Asia, Europe, Azerbaijan, Iran

Country	Total population	Main food product	PPP GDP per capita of \$ US	Country Profile	Average annual grain stocks, kg per person	Share in the OIC's food reserves
Azerbaijan	9 981 457	wheat	17 433	yellow	413	20.0
Albania	2 862 427	wheat	12 472	yellow	110	6.0
Afghanistan	31,575,018	wheat	1889	red	46	0.0
Iran	82 321 600	wheat	20,030	yellow	677	67.0
Kazakhstan	18 446 552	wheat	26,071	green	778	37.0
Kyrgyzstan	6 389 500	wheat	3 652	yellow	195	13.0
Tajikistan	8,931,000	wheat	3131	yellow	214	18.0

Country	Total population	Main food product	PPP GDP per capita of \$ US	Country Profile	Average annual grain stocks, kg per person	Share in the OIC's food reserves
Turkmenistan	5 634 555	wheat	18680	green	992	11.0
Turkey	82,003,882	wheat	26453	green	253	25.0
Uzbekistan	33 412 688	wheat	6990	yellow	153	15.0
Total						212

Middle East

Country	Total population	Main food product	PPP GDP per capita of \$ US	Country Profile	Average annual grain stocks, kg per person	Share in the OIC food reserves
Bahrain	1 543 300	wheat	51,846	orange	58	5.8
Yemen	29,579,986	wheat	2 300	red	50	0.0
Jordan	10 381 500	wheat	12487	orange	264	21.0
Iraq	39,127,900	wheat	17,004	red	126	12.0
Qatar	2 772 947	wheat	124,927	orange	0	6.0
Kuwait	4 226 920	wheat	69669	orange	nine	2.0
Lebanon	6,065,922	wheat	19486	orange	85	8.0
Oman	4 672 823	wheat	45 464	orange	251	9.0
Palestine	4,780,978	wheat	1888	red	-	0.0
Saudi Arabia	33 413 660	wheat	55263	orange	870	67.0
UAE	9 682 088	wheat	68245	orange	166	16.0
Total						146.8

Africa

Country	Total population	Main food product	PPP GDP per capita of \$ US	Country Profile	Average annual grain stocks, kg per person	Share in the OIC Reserves
Algeria	43 378 027	wheat	15 150	yellow	503	50.0
Gabon *	2 109 099	wheat rice cassava	19266	yellow	-	2.0
Djibouti	1,078,373	wheat , lentils , rice	3567	red	-	0.0
Egypt	98 467 400	wheat	12994	yellow	366	36.0
Cameroon	24 348 251	millet , corn , rice , wheat	3359	yellow	46	4.6
Libya	6 569 864	wheat	9 792	red	96	0.0
Mauritania	4 077 347	wheat , rice , couscous	4 474	red	76	0.8
Morocco	34 974 200	wheat	8 612	yellow	812	8.0
Mozambique	28 861 863	corn , millet , sorghum	1,266	yellow	20	2.0
Somalia	15,636,171	sorghum , wheat	600	red	-	0.0
Sudan	41 394 625	millet , sorghum , wheat	458	red	107	0.0
Tunisia	11,551,448	wheat	11,987	yellow	686	23.0
Uganda	40 006 700	cassava corn matoke rice	2352	red	32	3.0
Chad	15 692 969	millet , sorghum , wheat	2 433	yellow	24	2.0
Comoros	873,724	rice	156	red	-	0.0
Benin	11 733 059	rice	2219	yellow	37	2,3
Brunei	421,300	rice	76743	yellow	0	2.0
Burkina Faso	20 870 060	Millet, rice	1884	red	67	4.2

Country	Total population	Main food product	PPP GDP per capita of \$ US	Country Profile	Average annual grain stocks, kg per person	Share in the OIC Reserves
Gambia	2,228,075	Rice, millet	1,686	red	50	2.0
Guinea	12 218 357	rice	2039	red	81	2.4
Guinea-Bissau	1 604 528	Rice, millet	1 806	red	39	2.0
Cote d'Ivoire	25,823,071	Millet, rice, corn	3857	red	92	2.0
Mali	19,973,000	wheat	2 169	red	-	2.0
Niger	22314743	Wheat, rice, corn	1 153	red	28	2.0
Nigeria	193 392 517	Wheat, rice, corn	5927	red	50	2.0
Senegal	16 209 125	Wheat, rice	2 678	red	178	2.0
Sierra Leone	7 901 454	Rice	1791	red	-	2.0
Togo	7,538,000	Wheat, corn	1612	red	40	2.0
Total						160.3

7.9 Withdrawals of reserves

Withdrawal from the Reserve may be made by a Member State in need by withdrawing stocks from its own share of the reserve. Where a Member State has released all or part of the national stocks, forming its share of the Reserve, they should be required to notify the Steering Committee including the date of its recovery prior to withdrawing stocks. Replenishment of that Reserve should be as soon as practicable and, in any event, not later than one calendar year following the date of release.

Whilst the concrete terms and conditions (cost, terms, volumes, standards, delivery conditions, etc.) are determined by countries in additional bilateral and multilateral agreements within the framework of the basic agreements.

The provision of assistance within the framework of the system is carried out upon request from the recipient country in the framework of intercountry bilateral and multilateral agreements on the basis of transparency and information about the current situation and the admission of inspection by the Steering Committee. The Committee's proposals will be of a recommendatory nature, designed to play a facilitative role and mandatory one concerning humanitarian reserves. Also, the Secretariat of the Steering Committee presents a forecast for the withdrawal of food dependent on the security situation with a country or region based on the analysis and monitoring (early warning) system. In case of a negative forecast, the Secretariat recommends the provision of assistance, as well as an assessment of the required volume, delivery conditions (grant, sale, etc.), use of infrastructure for storage and delivery, organizational infrastructure and opportunities for distribution of food to target groups.

7.10 Seed Capital and Operational Costs of the FSR

These will vary according to several assumptions, including the degree of regional solidarity. These costs may distinguish:

- a. The constitution and the technical management of the physical and financial reserves;
 - i. initial allocations of physical and financial capital and complementary allocations;
 - ii. costs for maintenance and daily management of the physical reserve: storage, phytosanitary care, losses, technical rotation, etc.;
 - iii. costs of stock maintenance, technical and administrative management and governance; and,
 - iv. administrative costs (including M&E and audits) and expenses related to governance.
- b. Costs associated with interventions made by the reserve under the auspices of regional solidarity and on the financing for a yet-to-be-created Fund, the Emergency Response Fund.

The likely costs associated with the establishment of the FSR will need to be estimated within a full feasibility study of the design and functionalities of the FSR. Some indications of these costs are presented at Annex 3 based on the ECOWAS experience. These should only be considered as indicative as they relate to a programme which is limited in relation to its territorial scope covering a geographic spread across seven countries in a tight knit grouping of West Africa. Comparative costs for the OIC as a whole are likely to be much higher as they relate to a number of regional geographical regions which are multiplies of the ECOWAS FSR.

Annex 1 Consumption of basic foodstuffs in OIC countries

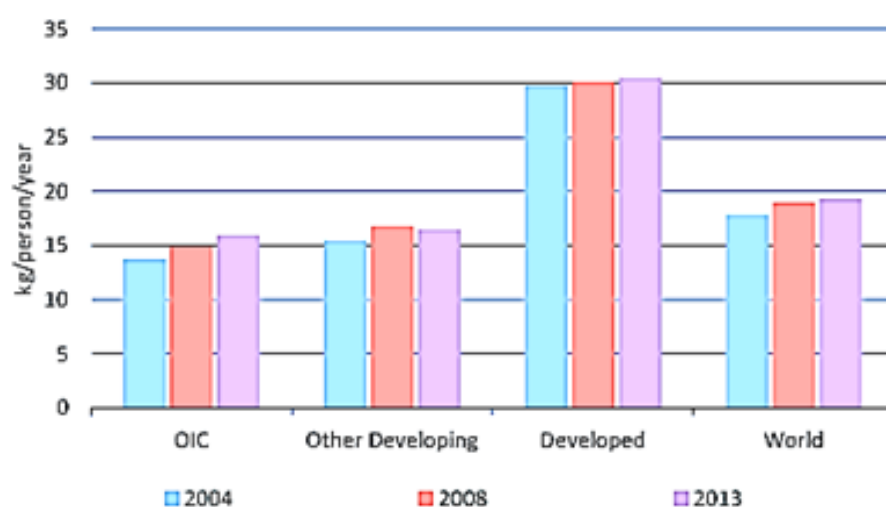
Table 1. Meat, eggs, oil. Consumption of basic food products in OIC countries (kg per year per capita), data for 2017

Country	Bovine Meat	Mutton & Goat Meat	Pig meat	Poultry meat	Meat Other	Offal Edible	Butter; Ghee	Eggs	Milk - Excluding Butter
Turkmenistan	29.5	25.9	0.3	4.5	0.0	0.9	0.7	7.1	145.2
Kazakhstan	23.8	9.3	7.8	18.3	5.8	5.5	1,2	8.6	270.7
Albania	14.6	9.0	7.3	16.4	0.0	5.9	1.7	14.6	397.8
Turkey	12.9	5.3	0.0	20.6	0.0	1.6	2.7	7.4	175.9
Azerbaijan	12.7	7.8	0.5	13.1	0.0	2.4	3.9	8.8	131.7
Egypt	10.8	1,3	0.0	13.0	1,3	4.7	0.5	3.4	41.2
Lebanon	10.7	1.6	0.9	10.7	0.0	1.0	0.0	2.2	62.5
Mali	9.3	8.5	0.2	2.8	2.8	3.4	0.0	0.7	88.2
Pakistan	8.6	2,3	0.0	5.9	0.1	1.9	0.0	3.4	184.6
Chad	8.3	16.8	0.1	0.5	0.9	8.4	0.1	0.3	40.6
Oman	7,7	11.6	0.0	21.6	2.4	2.6	0.0	8.1	108.2
Sudan	7,7	8.5	0.0	1.6	3.6	2.8	0.1	1,2	105.4
Kuwait	7.6	12.8	0.0	46.3	0.2	2.7	0.0	18.2	47.8
Morocco	7.2	5.1	0.0	21.0	1.8	2.7	1.5	6.8	52.6
Mauritania	7.0	12.6	0.0	5.1	6.1	4.0	0.5	2,3	89.7
Niger	6,7	2.5	0.0	0.9	2.5	2.0	0.9	0.2	54.4
Guinea	6.5	1.8	0.2	4.1	0.5	1.9	0.0	1.8	16.7
Djibouti	6.4	5.3	0.0	3.2	1.1	2.1	0.0	1.1	25.4
Gabon	6,3	0.5	8.2	29.5	15.0	7,7	0.0	1.0	13.1
Maldives	6.0	0.0	0.0	14.1	0.0	0.0	0.0	12.1	24.2
Tajikistan	5.7	6.1	0.1	4.4	0.0	2.4	0.0	2.5	56.6
Malaysia	5.6	0.8	7.2	39.2	0.0	0.8	0.0	17.9	5.7
Tunisia	5.6	5.5	0.0	17.1	0.3	1.6	1.4	7.8	112.0
Jordan	5.1	4.7	0.0	28.1	0.1	1,3	0.0	3.3	41.8

Country	Bovine Meat	Mutton & Goat Meat	Pig meat	Poultry meat	Meat Other	Offal Edible	Butter; Ghee	Eggs	Milk - Excluding Butter
Senegal	4.9	2.9	0.9	4.7	0.6	1.8	0.1	1.6	11.0
Algeria	4.6	6,7	0.0	6.4	0,4	1.4	0.2	8.4	121.7
Yemen	4,3	4.0	0.0	8.5	0.1	1.7	0.0	1.5	11.4
Uganda	4.2	1.1	2.9	1.5	0.0	1,2	0.0	0.9	37.5
Guyana	3.9	1,3	2.6	38.7	0.0	1,3	0.0	1,3	85.1
Guinea-Bissau	3.8	1.6	9.8	2.2	0.0	1.6	0.0	0.5	17.0
Suriname	3.5	0.0	7.0	31.6	0.0	0.0	0.0	7.0	12.3
Benin	3.4	0.9	0.7	14.4	0.8	1,2	0.0	1.0	13.6
Cameroon	3.3	1,3	1,2	3.2	3.1	0.9	0.0	0,4	8.6
Indonesia	2.8	0.5	1,2	7.2	0.0	1.9	0.1	5.6	6,7
Afghanistan	2.6	4.2	0.0	1.5	0.3	1.5	1.0	1.5	54.2
Iraq	2.6	1.5	0.0	14.9	0.1	0.3	0.2	9.4	15.1
Nigeria	1.9	2.0	1.4	1.0	0.9	0.8	0.1	2.5	2.2
Togo	1.7	1.7	1,3	7.0	0.8	0.6	0.0	0.9	6.5
Bangladesh	1,2	1.4	0.0	1.5	0.0	0.6	0.0	2.8	18.1
Mozambique	0.6	0.7	4.5	3.6	0.0	0.9	0.0	2.0	16.5

Source <http://www.fao.org/faostat>

Consumption of fish products per capita per year, kg / capita / per year



Source <https://www.sesric.org/files/article/537.pdf>

Table 2. Fish and aquaculture. Consumption of basic food products in OIC countries (kg per year per capita), data for 2017

Country	Freshwater fish	Demersal Fish	Pelagic Fish	Crustaceans	Cephalopods	Molluscs ; Other
Indonesia	20.3	6,3	11.7	4.7	0.2	0.5
Bangladesh	20.2	0.5	0.5	1,2	0.0	0.0
Egypt	14.1	4.8	4,3	0.2	0.1	0.1
Uganda	11.1	0.0	0.0	0.0	0.0	0.0
Benin	7.2	2.4	1,3	0.5	0.0	0.0
Chad	7.1	0.0	0.0	0.0	0.0	0.0
Malaysia	6.5	13.3	18.4	4.6	2.6	1.5
Mali	6.2	1.9	0,4	0.0	0.0	0.0
Gabon	5.8	8.2	14.5	0.0	0.0	0.0
Togo	4.5	2.5	3.4	0.0	0.0	0.0
Nigeria	3.8	1.9	2.7	0.3	0.0	0.0
Mauritania	3.5	0.2	3.5	0.0	0.2	1,2
Mozambique	3.4	0.1	0.2	0.5	0.1	0.0
Turkmenistan	2.6	0.0	0.3	0.0	0.0	0.0
Kazakhstan	2.4	0.2	1,2	0.1	0.0	0.0

Country	Freshwater fish	Demersal Fish	Pelagic Fish	Crustaceans	Cephalopods	Molluscs ; Other
Iraq	2.2	0.9	0.2	0.1	0.0	0.0
Kuwait	2.2	2.5	3.9	1.5	0.0	0.0
Guinea	2.1	1.7	6.1	0.0	0.0	0.0
Uzbekistan	2.0	0.0	0.1	0.0	0.0	0.0
Senegal	1.9	3.8	11.5	0.2	0.1	0.5
Cameroon	1.7	4.5	8.1	1.5	0.0	0.0
Niger	1.7	0.1	0.1	0.0	0.0	0.0
Guyana	1,3	1,3	3.9	12.9	0.0	0.0
Lebanon	1,3	1,3	3.4	1.0	0.1	0.1
Pakistan	1,3	0.1	0.3	0.0	0.0	0.0
Turkey	1,2	0.8	2.6	0.0	0.0	0.3
Sudan	0.9	0.0	0.1	0.0	0.0	0.0
Jordan	0.8	0.7	3.6	0.1	0.0	0.0
Albania	0.7	1.0	1.7	0.3	0.3	0.3
Azerbaijan	0.7	0,4	1.8	0.2	0.0	0.0
Morocco	0.5	1.7	15.6	0,4	0.1	0.0
Oman	0,4	13.5	10.3	0.9	0.2	0.0
Tunisia	0.3	4.8	6.9	0.3	0.3	0.2
Afghanistan	0.2	0.0	0.0	0.0	0.0	0.0
Algeria	0.2	0,4	2.8	0.1	0.1	0.0
Tajikistan	0.2	0.1	0.1	0.0	0.0	0.0
Djibouti	0.0	1.1	2.1	0.0	0.0	0.0
Guinea-Bissau	0.0	0.5	0.5	0.0	0.0	0.0
Maldives	0.0	0.0	82.6	4.0	0.0	2.0
Suriname	0.0	0.0	5.3	3.5	0.0	0.0
Yemen	0.0	0.5	2.7	0.0	0.0	0.0

Source <http://www.fao.org/faostat>

Table 3. Citrus fruits, pineapples, apples, grapes and other fruits. Consumption of basic food products in OIC countries (kg per year per capita), data for 2017

Country	Oranges; Mandarins	Lemons; Limes and products	Citrus; Other	Bananas	Apples and products	Pineapples and products	Grapes and products (excl wine)	Fruits; Other
Morocco	41.3	0.6	0.1	9.2	14.6	0.2	8.9	22.5
Suriname	33.3	0.0	7.0	17.5	0.0	7.0	0.0	12.3
Egypt	29.5	2.9	0.1	11.5	9.4	0.1	14.8	20.9
Algeria	27.4	1.7	0.0	2.1	11.4	0.2	12.3	25.9
Turkey	26.3	5.1	0.1	6.1	27.7	0.2	25.0	35.8
Mali	24.4	1.8	0.0	9.8	0.2	0.1	0.1	11.0
Albania	16.4	2.4	0.0	9.7	33.8	0.0	52.9	52.2
Lebanon	15.3	9.5	0.4	16.7	9.7	1.0	4.1	24.4
Oman	11.8	3.2	0.2	3.2	4.9	0.9	2.8	59.4
Tunisia	11.2	4.5	11.1	4.6	9.4	0.1	8.3	30.4
Iraq	10.4	2.2	0.0	6.1	4.6	0.1	2.8	17.2
Guyana	10.3	5.2	1.3	15.5	1.3	19.3	1.3	38.7
Kuwait	8.6	3.9	3.5	3.2	7.1	2.0	3.5	18.2
Indonesia	8.2	0.1	0.0	21.8	0.6	4.6	0.4	26.7
Maldives	8.1	4.0	0.0	4.0	6.0	6.0	2.0	30.2
Pakistan	8.0	0.4	0.1	0.4	2.5	0.1	0.8	8.6
Jordan	7.7	3.6	0.1	5.9	10.0	0.3	5.1	8.9
Azerbaijan	5.3	1.5	0.4	1.4	14.7	0.1	12.7	39.2
Malaysia	5.0	0.7	0.3	8.9	3.4	7.9	1.3	16.6
Yemen	4.4	0.8	0.0	4.0	0.4	0.6	4.6	13.8
Sudan	3.6	6.1	0.0	19.7	0.2	0.1	0.1	27.6
Guinea-Bissau	3.3	2.2	0.0	3.3	0.0	0.5	0.0	16.4

Country	Oranges; Mandarins	Lemons; Limes and products	Citrus; Other	Bananas	Apples and products	Pineapples and products	Grapes and products (excl wine)	Fruits; Other
Afghanistan	3.2	0.0	1.3	3.7	4.0	0.0	17.9	8.1
Senegal	3.2	3.0	0.0	1.8	1.0	0.8	0.1	8.9
Kazakhstan	2.7	0.3	0.1	1.8	17.5	0.3	15.2	21.3
Mozambique	2.5	0.2	0.0	16.0	0.4	2.3	0.0	6.8
Gabon	1.9	0.0	0.5	8.2	1.5	0.5	0.5	9.2
Togo	1.7	0.0	0.0	2.9	0.3	0.0	0.0	3.1
Benin	1.1	0.0	0.0	1.4	0.0	28.9	0.0	10.7
Djibouti	1.1	4.2	0.0	2.1	0.0	0.0	0.0	18.0
Turkmenistan	1.0	0.0	0.0	0.0	14.1	0.0	24.5	17.0
Bangladesh	0.9	0.4	0.0	4.5	1.5	1.2	0.1	18.6
Mauritania	0.7	0.0	0.2	0.9	0.9	0.2	0.0	3.3
Cameroon	0.6	0.0	0.0	31.1	0.3	12.8	0.0	8.1
Tajikistan	0.2	0.5	0.0	0.1	9.1	0.0	21.5	9.6
Guinea	0.1	0.1	17.2	13.6	0.1	9.9	0.0	14.1
Niger	0.0	0.0	0.0	0.2	0.0	0.0	0.0	23.7
Nigeria	0.0	0.0	19.0	0.0	0.2	7.7	0.0	14.0
Uganda	0.0	0.0	0.0	13.4	0.1	0.0	0.0	1.1

Source <http://www.fao.org/faostat>

Annex 2 – The state of Food Security across OIC - IOFS – Ability to Contribute

Group of countries "Africa" -2



Country	Total population	Main food product	Country Profile	average annual grain reserves, kg per person	contribution to the regional fund, in% of the consumption rate 100 kg per year	contribution to the regional fund, thousand tons	2019 GDP PPP Current USD
Somalia	15,636,171	sorghum, wheat	low incomes, food shortages, low self-sufficiency			0	No Data
Sudan	41 394 625	millet, sorghum, wheat	low incomes, food shortages, average self-sufficiency	107	0.10%	4,1	4 123
Tunisia	11,551,448	wheat	average income, average deficit, average self-sufficiency	686	0.5%	5,8	11 201
Uganda	40 006 700	cassava, corn, matoke, rice	low incomes, food shortages, high self-sufficiency	32	0.05%	2	2 272
Chad	15 692 969	millet, sorghum, wheat	average income, average deficit, average self-sufficiency	24	0.05%	0,8	1 645
Comoros	873,724	rice	low incomes, food shortages				3 209

<https://apps.fas.usda.gov/online/app/index.html#/app/download>
<https://databank.worldbank.org/source/world-development-indicator>
https://ru.qaz.wiki/wiki/Demographics_of_the_member_states_of_the_Organisation_of_Islamic_Cooperation

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Group of countries "South Asia and South America"



Country	Total population	Main food product	Country Profile	average annual ending stock, kg per capita	contribution to the regional fund, in% of the consumption rate 100 kg per year	contribution to the regional fund, thousand tons	2019 GDP PPP Current USD
Bangladesh	166 290 000	rice	low incomes, high deficits, average self-sufficiency	81	0.05%	8,3	4 951
Guyana	786 508	rice	average income, average deficit, net exporter	887	1.0%	0,8	10 105
Maldives	427 756	wheat, rice, taro, corn	high incomes, medium deficits, low self-sufficiency	-	-	-	19 698
Pakistan	212 742 631	wheat	low income, high deficit, self-sufficiency	122	0.03%	6,4	4 885
Suriname	573 085	rice	middle income, low deficit, exporter	0	0.5%	0,3	17 005

<https://apps.fas.usda.gov/online/app/index.html#/app/download>
<https://databank.worldbank.org/source/world-development-indicator>
https://ru.qaz.wiki/wiki/Demographics_of_the_member_states_of_the_Organisation_of_Islamic_Cooperation

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Group of countries-members of "APTERR"



Country	Total population	Main food product	Country Profile	average annual ending stock, kg per capita	contribution to the regional fund, in% of the consumption rate 100 kg per year	contribution to the regional fund, in thousand tons	2019 GDP PPP Current USD
Indonesia	268 074 600	rice	average income, high deficit, average self-sufficiency	139	0.01%	2,7	12 302
Malaysia	32 666 700	rice	high incomes, average deficit, average self-sufficiency	163	0.30%	9,8	29 526

<https://maps.fas.usda.gov/onlineapp/index.html#/app/onlineapp/>
<https://databank.worldbank.org/source/world-development-indicators/>
https://ru.qaz.wiki/wiki/Demographics_of_the_member_states_of_the_Organisation_of_Islamic_Cooperation

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Country	Total population	Main food product	Country Profile	average annual grain reserves, kg per person	contribution to the regional fund, in% of the consumption rate 100 kg per year	contribution to the regional fund, in thousand tons	2019 GDP PPP Current USD
Benin	11 733 059	Corn, Wheat	low incomes, high deficits, average self-sufficiency	37	0.30%	3,5	3 424
Brunei	421,3	Rice Milled	high incomes, medium deficits, low self-sufficiency	0	3.00%	1,3	64 673
Burkina Faso	20 870 060	Sorghum, Corn	low incomes, high deficits, average self-sufficiency	67	0.10%	2,1	2 280
The Gambia	2,228,075	Rice Milled, Millet	low incomes, high deficits, average self-sufficiency	50	0.50%	1,1	2 298
Guinea	12 218 357	Rice Milled, Corn	low incomes, high deficits, average self-sufficiency	81	0.30%	3,7	2 670
Guinea-Bissau	1 604 528	Rice Milled	low incomes, high deficits, average self-sufficiency	39	0.50%	0,8	2 072
Cote d'Ivoire	25,823,071	Rice Milled, Corn	low incomes, high deficits, average self-sufficiency	92	0.05%	1,3	5 455
Mali	19,973,000	No Data	low incomes, high deficits, average self-sufficiency	-	0.10%	2	2 424
Niger	22314743	Millet, Sorghum	low incomes, high deficits, average self-sufficiency	28	0.05%	1,1	1 270
Nigeria	193 392 517	Corn, Sorghum	low incomes, high deficits, average self-sufficiency	50	0.05%	9,7	5 348
Senegal	16 209 125	Rice Milled, Millet	low incomes, high deficits, average self-sufficiency	178	0.10%	1,6	3 536
Sierra Leone	7 901 454	Rice Milled	low incomes, high deficits, average self-sufficiency	-	0.10%	0,8	1 790
Togo	7,538,000	Corn	low incomes, high deficits, average self-sufficiency	40	0.05%	0,4	1 662

<https://maps.fas.usda.gov/onlineapp/index.html#/app/onlineapp/>
<https://databank.worldbank.org/source/world-development-indicators/>
https://ru.qaz.wiki/wiki/Demographics_of_the_member_states_of_the_Organisation_of_Islamic_Cooperation

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Annex 3 – Comparative estimates of funding the implementation of the FSR – ECOWAS

Table 20: Reserve Budget Over Eight Years

	Unit	Market Price	Transport costs	Acquisition Cost	Trader Margin	Unit Price in warehouse	Proportion of reserve (%)	2013	2014	2015	2016	2017	2018	2019	2020	Total
Size of the reserve (thousands of tons) - Scenario 2																
Regional reserve								176	176	176	176	294	294	294	412	
Financial reserve								116	116	116	116	194	194	194	272	
Physical reserve								60	60	60	60	100	100	100	140	
Costs of the Physical reserve (thousands of dollars)																
Stocking costs								27 452				18 301			18 301	64 054
Millet	tons	288	50	338	24	361	25%	5 419				3 613			3 613	12 645
Sorghum	tons	260	50	310	22	332	24%	4 780				3 187			3 187	11 154
Maize	tons	278	50	328	23	351	26%	5 473				3 648			3 648	12 770
Rice	tons	632	50	682	48	730	7%	3 065				2 043			2 043	7 151
Gari	tons	366	50	416	29	445	14%	3 739				2 493			2 493	8 724
Enriched flour	tons	1500	50	1550	109	1659	5%	4 976				3 317			3 317	11 610
Cost of warehouse rental	tons					12		733	733	733	733	1 221	1 221	1 221	1 709	8 303
Cost of maintenance of stock (security, fumigation, etc.)	tons					29		1 735	1 735	1 735	1 735	2 892	2 892	2 892	4 048	19 664
Cost of management by the national operator						2%		549	549	549	549	915	915	915	1 281	6 222
Annual losses						2%		549	549	549	549	915	915	915	1 281	6 222
Costs of stock rotation																
Cost of stock depreciation	tons					10%			915		915		1 525		2 135	5 490
Costs of replenishment of stocks (intra annual price variation)	tons					9%			824		824		1 373		1 922	4 941
Total (I)								31 017	5 304	3 566	5 304	24 244	8 841	5 943	30 678	114 897
Costs of financial reserve (thousands of dollars)																
Costs of conversion into physical stock								53 247				35 498			35 498	124 243
Provision for price risk interests						15%		7 987				5 325			5 325	18 636
						3%			- 1 597	- 1 597	- 1 597	- 1 597	- 2 662	- 2 662	- 2 662	- 14 377
Total (II)								61 234	- 1 597	- 1 597	- 1 597	39 225	2 662	2 662	38 160	128 503
Costs of reserve governance and external institutional strengthening																
Investments								90	0	0	0	0	70	0	0	160
Payroll								1282	1282	1282	1282	1282	1282	1282	1282	10 256
Operation activities								144	144	144	144	144	144	144	144	1 150
- of which external institutional strengthening								661	661	661	661	661	661	661	661	5 292
Control, certification and audit								160	160	160	160	160	160	160	160	1 280
Unforeseen expenses 5%								104	104	104	104	104	104	104	104	835
								114	110	110	110	110	113	110	110	885
Total (III)								2 556	2 461	2 461	2 461	2 461	2 535	2 461	2 461	19 857
Grand Total (I+II+III) - Thousands of dollars								94 807	6 168	4 429	6 168	65 930	8 713	5 742	71 299	263 257

Table21: Estimated Expenditure of the Emergency Response Fund Excluding Creation and Maintenance of the Reserve

	Years 1 to 4		Years 5 to 7		Year 8 and beyond	
Total Reserve	176 000 T eq.		294 000 T eq.		412 000 T eq.	
Physical Reserve	60 000 tons		100 000 tons		140 000 tons	
Financial Reserve	116 000 T eq.		194 000 T eq.		272 000 T eq.	
Cost of initial stocking physical reserve (1000\$)	27 452		45 753		64 054	
Cost of financial reserve (1000\$)	61 234		100 459		138 619	
Rate of annual mobilization of the reserve for regional solidarity (funded by emergency response funds) (%)	75	100	75	100	75	100
Cost restocking physical reserve/year (1000 \$)	20 589	27 452	34 314	45 753	48 040	64 054
Cost restocking financial reserve/year (1000 \$)	45 926	61 234	75 344	100 459	103 964	138 619
Total cost of regional solidarity interventions / year (1000 \$)	66 515	88 686	109 658	146 212	152 004	202 673

Table22 Consolidated Budget for the Emergency Response Fund

Thousands of dollars	Rate used by the emergency response fund	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Total Years 1 to 8
1A. Cost of initial stocking and maintenance of the physical reserve		31 017	5 304	3 566	5 304	24 244	8 841	5 943	30 678	114 897
1B. Cost of initial financial reserve		61 234	-1 597	-1 597	-1 597	39 225	-2 662	-2 662	38 160	128 503
1C. Cost of governance and technical management of the reserve		2 556	2 461	2 461	2 461	2 461	2 535	2 461	2 461	19 857
Total 1 (A+B+C) : costs of establishment, maintenance and governance of the entire reserve		94 807	6 168	4 429	6 168	65 930	8 713	5 742	71 299	263 257
2. Costs of regional solidarity interventions handled by the fund	75%	66 515	66 515	66 515	66 515	109 658	109 658	109 658	152 004	747 038
	100%	88 686	88 686	88 686	88 686	146 212	146 212	146 212	202 673	996 053
Total annual requirements for restocking emergency response fund (1+2)	75%	161 322	72 683	70 945	72 683	175 588	118 372	115 400	223 303	1 010 296
	100%	183 493	94 854	93 116	94 854	212 142	154 926	151 954	273 972	1 259 311

Annex 4 Papers regarding work already undertaken by IOFS in respect of the Food Reserve.

ANNEX 12

RESOLUTION № IOFS/GA/1-12-2019
ON
REPORT ON THE 5-YEAR ACTION PLAN
(ADOPTED BY THE 1ST IOFS GENERAL ASSEMBLY)

The Second General Assembly of the Islamic Organization for Food Security (IOFS) held in Jeddah, Kingdom of the Saudi Arabia, on 27-29 August 2019/26-28 Dhu'l Hijja 1440H,

Recalling sub-clause (f) clause 2 of Article 10 of the IOFS Statute;

Following sub-clause (n) clause 1 of Article 14 of the IOFS Statute;

Having considered the Report of the Third Meeting of the IOFS Executive Board held on 3 July 2019/29 Shawwal, 1440H, in this regard:

1. **Makes** efforts to create a comprehensive and complete Database on the Internet platform on all aspects of food security for the mutual exchange of information between all countries participating in the IOFS.
2. **Addresses** Member States to provide their comments and proposal for further perfection of the database and its convenient usage by Member States.
3. **Considers** formulating a pipeline of feasible and prioritized national & regional projects/food security programs, sector and policy regulations in the area of food security and food safety, and to incorporate viable proposals of the Member States within the scope of the IOFS Rolling Three-Year Work Program, safeguarding the principles of integrity, solidarity and cooperation among all stakeholders.
4. **Requests** the IOFS Secretariat to take necessary steps in mobilizing the required financial resources to ensure a successful implementation of the IOFS Rolling Three -Year Work Program.
5. **Calls on the** Member States again to provide appropriate focal points for communication and interaction with the IOFS Secretariat in an efficient and responsive manner.
6. **Calls on the** Member States to contribute to development, elaboration and implementation of national and regional projects, food safety by means of financial, technical, administrative and other resources.

Adopted in Jeddah, 29 August 2019



Annex

Resolution № IOFS/GA/1-12-2019

on report on the 5-year Action Plan

(adopted by the 1st IOFS General Assembly)

EXPLANATORY NOTE

In line with the report on the 5-year Action Plan (adopted by the 1st IOFS General Assembly), the database on State of Food Security in OIC member states, which will cover ensuring of food balance among the IOFS member-states, to be elaborated.

IOFS food security analysis needs to be done at the organizational level for comparing the indicators of all Member States. However, food security is being formed, first of all, at the country level, which makes it possible to ensure national food security on a country-wide level so that it is possible to form the deficit and surplus levels of each country separately.

The elaborated model is based on a universal methodology for assessing food security at the country level of the economy, which distinguishing features are its complexity and universality, which allows for holding a comparative analysis of the level of food security in individual countries, taking into account IOFS requirements.

Food security should be based on four principles: the availability of sufficient quantities of food products; economic affordability of food; consumption of the required amount of food in accordance with dietary standards; stable access to quality and safe food.

Assessment of food security at the macroeconomic level is carried out by analyzing food self-sufficiency, determining the degree of physical and economic affordability of food for the population.

The effectiveness of agri-food policy cannot be assessed as a single indicator, since, along with ensuring food security, it includes a number of independent areas: the development of agricultural production, improving the living standards of the rural population, and the growth of incomes of agricultural producers. In this regard, assessment of the effectiveness of agri-food policy should include a detailed analysis of various areas using specialized assessment indicators.

The ultimate goal of the platform is the ability to use a structurally functional approach to data analysis. To carry out all the stages, it implies the introduction of uniform data collection forms for all participating countries, which allows for collecting all the necessary data on the structures that directly affect the food security of each individual participating country, as well as at the macro level for the entire IOFS.



RESOLUTION № IOFS/GA/1-13-2019
ON
ELABORATION OF IOFS INVESTMENT PROGRAM (BY 3-YEAR
WORK PROGRAMMING)

The Second General Assembly of the Islamic Organization for Food Security (IOFS) held in Jeddah, Kingdom of the Saudi Arabia, on 27-29 August 2019/26-28 Dhu'l Hijja 1440H,

According to sub-clauses (l) and (m) clause 1 to the article 14 of the IOFS Statute;

Having considered the Report of the Third Meeting of the IOFS Executive Board held on 3 July 2019/29 Shawwal, 1440H, in this regard:

1. **Adopts** the IOFS Investment Program including 1) two structures for year 2020: a) to improve database platform performance, and b) to commence feasibility study on Grain Fund with core target of ensuring food security, especially in regions that are more dependent on grain imports; and 2) by two new structures annually in accordance with the adopted IOFS regular budget.
2. **Requests** the Secretariat of the IOFS to execute the above Investment Program in proper and effective manner.
3. **Addresses** the Islamic Development Bank and other interested financial/investment institutions to assist in executing Investment Program.

Adopted in Jeddah, 29 August 2019

Resolution № IOFS/GA/1-13-2019 on elaboration of IOFS investment program (by 3-years Work Programing)

EXPLANATORY NOTE

Establishment of Grain Fund

According to the UN FAO data, the major part of calories intake in average comes from cereals and this level remain above the half of calories intake in the perspective by 2030. OIC member countries import grain annually for a total amount of about 18-20 billion US dollars, which makes up 25% of the world grain export. The dynamics of grain imports by OIC member countries will only increase, given the rapid population growth in Islamic countries. According to the expert community, the Muslim population of the world by 2050 will be more than 2 652.5 million people, that is, about 29% of the total population of the globe.

Among the above countries, the fastest-growing markets for wheat since 2013 were: Egypt (up 263.6%), Bangladesh (up 68.2%), Vietnam (up 55.9%) and Indonesia (up 48.7%).

As we can see from the same database, the top 15 OIC countries that imported the highest dollar value worth of wheat during 2017 is below:

Indonesia: US\$3.6 billion (8.7% of total wheat imports)

Egypt: \$2.6 billion (6.3%)

Algeria: \$1.8 billion (4.3%)

Nigeria: \$1.24 billion (3%)

Bangladesh: \$1.22 billion (3%)

Turkey: \$1.04 billion (2.5%)

Morocco: \$0.85 billion (1.96%)

Yemen: \$0.61 billion (1.41%)

Sudan: \$0.60 billion (1.40%)

Tunisia: \$0.42 billion (0.96%)

Cameroon: \$0.36 billion (0.83%)

Malaysia: \$0.34 billion (0.78%)

United Arab Emirates: \$0.29 billion (0.67%)

Libya: \$0.24 billion (0.55%)

Azerbaijan & Kingdom of Saudi Arabia: \$0.22 billion (0.52%)

It is noteworthy that the following current IOFS Member States are active participants of the wheat trade operations (by decrease of USD value): Egypt (full Member), Bangladesh (full Member), Turkey, Sudan, Cameroon, UAE (full Member), Libya, KSA (full Member), Tajikistan, Senegal, Uganda, Mozambique, Kuwait (full Member), Mauritania, Djibouti, Guinea, Afghanistan (full Member), Mali, Burkina Faso (full

Member), Qatar (full Member), Iran, Gabon, Somalia, Kazakhstan (full Member), Benin, Suriname, Niger (full Member), Sierra Leone, Palestine (full Member), Guinea-Bissau.

Consequently, it appears expedient establishment of the IOFS Grain Fund. In the context of global agri-food trade, grain plays an increasingly important role in food security, especially for import-dependent regions. This is the main fundamental factor in the proposal to establish a Grain Fund which aims to systematize and meet the needs of the IOFS member States. The Grain Fund will function as an important part of the food reserve network.

During 2020, the Secretariat of the IOFS will conduct a detailed study on the Grain Fund, carry out a wide discussion of this issue with the IOFS member countries, interested parties, potential donors and beneficiaries. The IOFS will prepare an advisory feasibility study taking into account the interests of all parties. The implementation of this initiative is planned for 2021.

3 years Investment Program

Based on the results of an analysis of national and regional food security programs, data on food balances in the IOFS-countries, the Secretariat worked out the 3-years Investment Program that aims to resolve common issues for the vast majority of members, taking into account the possibility of solving them within the organization, on the basis of resources and available capacities in the IOFS member countries themselves.

The 3-year Investment Program provides for:

In 2020:

Creating Food and Nutrition Security (FNS) Database Platform

The Food security database platform makes it possible to operate with objective data, identify our capabilities and problems, give an objective assessment of the situation in the region and in a particular country, and build an overall effective food security policy. In the future, this database should become a practical platform for the adoption by private sectors of our countries of investment decisions, the conclusion of trade, transport and logistics operations.

Feasibility studies of IOFS Grain Fund

The study will include the following questions: goals, objectives, functions, the structure of the Fund, indicators of its activity, efficiency and effectiveness. Fund management principles and procedures, decision-making procedures, geographical location, sources of financing, etc.

This work will be carried out in close cooperation with the IOFS member states, taking into account their suggestions and comments.

In 2021:

Feasibility studies of Agriculture Investment Fund of IOFS

To implement the initiatives of the IOFS, as well as measures for the development of the agro-industrial sector of the IOFS countries, financial resources are needed. In this regard, the creation Agrarian Investment Fund is proposed.

Feasibility studies of IOFS transport and logistics center

A significant share of food imports in OIC member countries is in non-Muslim countries. There are objective reasons for this, but the main reason for the current situation is the weakness of the transport and logistics infrastructure. By allocating sufficient resources to this issue, we are creating a powerful

foundation for the sustainable and self-sufficient development of Muslim countries. To solve these problems, it is proposed to create transport logistics center under the IOFS.

In the year 2022:

IOFS center of scientific and technological development

Technology and applied science are important in the development of agricultural production and ensuring food security. In this regard, the creation of the IOFS center of scientific and technological development is proposed.

IOFS online commodity exchange

Further development of the Food security database platform through the creation of IOFS online commodity exchange on it

Notes regarding the:

WORKING PROGRAMME

EXPERT MEETING ON DISCUSSION

THE OIC REGIONAL FOOD SECURITY RESERVES PROTOCOL

NUR-SULTAN, KAZAKHSTAN 9 NOVEMBER 2020

Key issues in formulating the protocol on FSR

Essential to review and consolidate the MS comments and contributions outlined in the IOFS presentation - the Lattanzio team would like to receive copies of:

The revised updated protocol in its current form

MS responses and contributions to enable review and consolidation and to provide advice to Secretariat on appropriate integration into an updated protocol for ratification by Steering Committee and GA

Key issues in formulating the mechanisms within the FSR:

At the beginning of the expert meeting I highlighted the need for the protocol and /or a supplementary modalities/ procedural manual to set out the various mechanisms of the FSR/Grain Fund operationalisation including: (some of the participants at the meeting also raise these issues)

Forecasting and assessment of the needs of specific countries/region for access to the FSR

Elaborating how an Emergency and Disaster monitoring system would operate –how and by whom the data will be collected and the authorities and timing of decisions to ensure ‘immediacy’ of response – the protocol points to 2 bi-annual meetings of the steering committee – one country suggested meetings may be ‘ad hoc’ – so the protocol should perhaps indicate that ‘emergency meetings to give authorities for withdrawals from the FSR or to give effect to emergency humanitarian aid will be called at short notice. This may also mean that ‘total consensus’ of the steering committee may not be possible and /or that a majority vote of a quorum (% of members attending /voting) would be required.

How Humanitarian aid will work – who coordinates etc. – how will vulnerability be determined – a set of criteria will need to be established/ratified - KPI’s - ? - population affected, age and health demographics, ability rating of country to feed itself, speed of response (geographic / transport / conflict barriers) etc.

What will be the mechanisms amongst MS for identify potential disasters / monitoring and report actual events and the procedures and processes for immediate response

Transport and storage arrangements and volumes of storage/ monitoring in each location etc. (Turkey raised this) quality of storage facilities / maintenance

Definitions of the quality of food stored in countries / shelf life and disposal and mechanisms for quality assurance (Turkey)

Abilities of member states holding stocks etc. to meet demand and supply, (Turkey)

Disputes and settlements who will arbitrate (Turkey again) – if the steering committee is the decision making who will reconcile issues – IOFS or GA and time frames to ensure that emergency aid etc. is not delayed

Sanctions if no contributions from member states who have signed up (Turkey) – what and how would these be imposed

Determining schedule of stocks (Annex 1 to protocol) this is reliant on the forecasting and data analysis mentioned above.

Item 51 – of the MS comments – should there be country / regional definition or global agreements – the danger of segmentation at the country region level is disparity of product etc.

Establishing standards – lead time for stocking and replenishing

If the protocol is to apply to sub-regions how will they be grouped

It's clear there is some confusion /debate around whether the protocol is for OIC or IOFS and perhaps as the protocol mechanism eludes to regional approaches that may imply that IOFS is one 'region' with 'sub' regions and OIC is another. Given that only 7 countries have so far got involved/cooperated is there some dissent / barrier to include others in the grouping covered by the protocol ?? Certainly the FSR should be multilateral.

The Lattanzio/ACEPAS presentation highlighted the Rules of Work – this may also need to be detailed in the protocol to ensure that Steering Committee and MS partners are aware and ratify.

Question - is this current steering committee's remit to facilitate the feasibility study or will it be 'The Coordinating Committee for the Management of the FSR' or both? Whichever, there will need to be a set of TORs for feasibility study and then as in Article XI full elaboration of its role and functions. This would need TORs as for the Financial Control Committee.

Stephen Catchpole

Team Leader

IOFS Institutional Framework Study.

Annex 5 Draft Memorandum on Food Security Reserves of the OIC countries



DRAFT MEMORANDUM

ON CREATION OF OIC FOOD SECURITY RESERVE

For Sub Region _____

The Governments of _____ being members of the Organisation of the Islamic Cooperation (OIC),

Recalling the OIC Charter, and the OIC General Agreement on Economic, Technical and Commercial Cooperation (1977), which call for increased intra-OIC cooperation with a view to promoting economic and social development in OIC Member States;

Bearing in mind the Resolution No. 1/4-MFSAD adopted by the Fourth OIC Ministerial Conference on Food Security and Agricultural Development held in Tehran, Islamic Republic of Iran, on 14-16 January 1995, on OIC Food Security Reserve,

Reaffirming the Resolution on Promoting Food Security and Agricultural Development in OIC Member States adopted by the Sixth OIC Ministerial Conferences on Food Security and Agricultural Development held in Istanbul, Republic of Turkey, on 3-6 October 2011,

Recalling Resolution No.3/40-E adopted by 40th CFM held in Conakry, Guinea, on 09-11 December 2013, which approved the Statute of Islamic Organisation for Food Security (IOFS) as a specialised institution of OIC,

Noting the high vulnerability of the OIC Member States in the region to wide fluctuations in the production of basic foodstuffs and hence to instability of the region's food supply,

Affirming the need for effective and concerted action by OIC Member States in

the region, aimed at strengthening food security in the region,

Have agreed as follows:

ARTICLE I

General Provisions

The OIC Member States in _____, hereby, agree that ensuring food security needs to be dealt with several aspects, especially, where appropriate through:

strengthening of the agricultural efficiency and food production base;

post-harvest management and agricultural value addition;

establishment of a food information and early warning system;

promotion of agricultural and rural development;

investment promotion and joint venture;

increasing the income of the small-holder farmers.

ARTICLE II

Establishment of the OIC Food Security Reserve for

The Governments of the OIC Member States in _____ hereby agree to establish the OIC Food Security Reserve for _____ (hereinafter referred to as the Reserve) on the conditions and for the purpose described in this Memorandum. Food reserves hereinafter referred to the part of national strategic food reserves administered or controlled by a Member State and reserved by Member States to participate in the OIC Food Reserve System

The Reserve shall be administered by the Steering Committee of the OIC Food Security Reserve (hereinafter referred to as the Steering Committee) provided for in Article X of the present Memorandum.

ARTICLE III

Objectives of the OIC Food Security Reserve for

The objectives of the Reserve are:

to ensure the food security of OIC Member States in through coordination of national food stock policies and national food reserve;

to monitor the food security situation of OIC Member States in with regard to production volumes of food, movement of food stock and prices of principal food products through data collection, their processing and analysis.

ARTICLE IV

The Reserve

The Reserve shall consist of cereals (wheat, rice, maize, sorghum, teff, etc.) or principal food product or a combination thereof, (hereinafter referred to as foodgrains) earmarked by the Member States exclusively for the purpose described in Article III. The foodgrains forming part of the Reserve shall remain the property of the Member State that has earmarked them and shall be included in any national reserve that may be maintained by that member state;

Each Member State undertakes to earmark as its share of the Reserve the amount of foodgrains allocated to it in the Schedule of this Memorandum. The said Schedule shall be an integral part of this Memorandum.

The Member States shall keep the Schedule under review and may amend it in the light of operating experience in accordance with the procedure laid down in Article XII.

A Member State may, at any time, voluntarily earmark for the purpose provided for in this Memorandum, foodgrains exceeding the amount allocated to it in the Schedule. In such a case the Member State concerned may only withdraw an amount in excess of its allocation by giving six months advance written notice to the Steering Committee.

The quality of all foodgrains earmarked by the Member States shall meet the current standards in country of storage approved by Steering Committee to a minimum standard as set by the Steering Committee in agreement with Member States'

The Member States undertake to provide adequate storage facilities for the foodgrains that they have earmarked; to inspect the food grains periodically and to apply appropriate standard quality control measures, including turnover of the foodgrains, if necessary, with a view to ensuring that all times the foodgrains satisfy the required quality standards; and to replace forthwith any foodgrains that do not satisfy the said standards. In addition, the Member States agree to make every effort to comply with any guidelines on storage methods or quality control measures recommended by the Steering Committee.

The Member States will share data available for the quantities of commodities and main products available in the private sector and within the private supply chain

Member States may optionally provide equivalent amount or part of reserves in financial form (cash deposits in Islamic Development Bank) equivalent to up to 30% of the reserve.

Other countries, international organizations, other donors also may make contribution to the reserves instead on behalf of a country.

Procurements for reserves are recommended preferably in the countries of the OIC to support local producers.

ARTICLE V

Agreements of the countries

1. Member States Parties shall conclude bilateral and/or multilateral long-term mutual agreements on cooperation in the sphere of food reserves.
2. The specific quantities, terms and conditions of payment for deliveries are determined by short-term agreements.
3. Terms of payment should be defined in short-term agreements and may be cash, instalment payments or grants.
4. Country or local-level emergencies shall be declared by the Government of the recipient country or by the United Nations.
5. Emergencies may be defined as predictable or unpredictable.
6. The Member States will share the data available for the quantities of cereals and other reserved products available in the country, including private sector and within the private supply chain

ARTICLE VI

Creation of a Humanitarian Reserves

In order to fund the relevant activities under this Memorandum, Member States undertake to create a Humanitarian Reserve, which shall be administered by the Steering Committee. The activities of the Humanitarian reserves shall comprise the following:

Provision of humanitarian assistance in emergency situations, both at the country and local levels
Food support for vulnerable populations (refugees, famines, others)
Assistance to recipient countries in addition to deliveries from food reserves from donor countries

The Private Sector, philanthropists and net-worth individuals shall be encouraged to contribute to the Fund, including the utilization of endowment funds (Wakf) under the Islamic Social Finance.

ARTICLE VII

Withdrawal of Reserves in an Emergency

An emergency means a situation of natural calamities (earthquakes, droughts, floods, hurricanes, epidemics, etc.) or created by military and civil conflicts, blockades, etc., which disrupt the supply of food for the population, when a State is unable to cope with the situation by using its national reserves and normal trading transactions

Each Member State shall be entitled, on the conditions and in accordance with the procedures laid down in Articles V and VIII, to draw on foodgrains forming part of the Reserve in the event of an emergency.

The Member State in need shall directly notify other Member State or States of the emergency it is facing and the amount of reserves required.

The other Member State or States being requested agree to undertake immediate measures to ensure immediate deliveries of the required reserves, subject to availability in the combination requested.

The prices, terms and conditions of payment, standards of food provided shall be the subject of direct negotiations between the Member States concerned.

The requesting Member State shall at the same time inform the Steering Committee of their requests to the other Member State or States.

The Steering Committee shall provide support to the recipient country, upon request, in the assessment of the level and period of assistance required, in the negotiation and implementation of assistance agreements with other countries participating in the system.
8. Representatives of the Steering Committee shall participate in all stages of negotiations on the use of Reserves.

ARTICLE VIII

Changes of the Reserve.

A Member State in need shall be entitled to withdraw stocks from its own share of the Reserve.

A Member State that has released all or part of the national stocks forming its share of the Reserve shall notify the Steering Committee and the date of its recovery.

Member State before withdrawing stocks shall inform the Member States and the Steering Committee of such withdrawal.

A Member State that has released all or part of the national stocks forming its share of the Reserve shall replenish that Reserve as soon as practicable and, in any event, not later than one calendar year following the date of release.

ARTICLE IX

The Steering Committee of the OIC Food Security Reserve

For the purpose of providing supervision and coordination in the implementation of the OIC Food Security Reserve a Steering Committee shall be established. The Steering committee shall comprise one representative delegated from each Member State.

The Steering Committee shall elect a Chairman and Vice-Chairman based on the principle of rotation among Member States whose terms of office shall be two years. Rules of Procedure for the meetings of the Steering Committee shall be the same as for other OIC meetings.

The Secretariat is the executive body of the Steering Committee

The Steering Committee shall meet periodically, at least twice a year, and extraordinarily at other times as required (e.g. in an unprecedented crisis).

Decisions of the Steering Committee shall be taken on the basis of unanimity.

The decisions of the Steering Committee are taken by an absolute majority, or in the case of an equal number of votes, the Chairperson shall have the casting vote.

ARTICLE X Functions of the Steering Committee

The functions of the Steering Committee shall include:

Undertaking a periodic review and assessment of the food situation and prospects in the region including factors such as production, consumption, trade, prices, quality and stocks of foodgrains. The periodic assessment reports shall be disseminated to all member states;

Examining immediate, short term and long term policy actions as may be considered necessary to ensure adequate supplies of basic food commodities in the region and to submit, on the basis of such examination, recommendations for appropriate action to the concerned member states;

Reviewing implementation of the provisions of the Memorandum, calling for such information from member states as may be necessary for the effective administration of the Reserve

issuing of guidelines of technical matters such as maintenance of stocks, storage conditions and quality control;

Monitoring the establishment and changes of Reserves and Humanitarian reserves

Monitoring and evaluation of the Secretariat's activities in accordance with the Steering Committee's directives

Suggesting amendment to the Memorandum, as and when considered necessary, in accordance with the procedure specified in Article XII.

The Steering Committee shall submit a periodic annual report to the OIC Council of Foreign Ministers on discharging its functions in accordance with the OIC resolutions.

ARTICLE XI

Secretariat and its responsibilities

The Steering Committee shall be assisted by its own Secretariat. The Secretariat shall be located in the headquarters of the IOFS. The Head of Secretariat shall be appointed by the Chairperson of the Steering Committee.

The Head of Secretariat shall report to, and coordinate with, the Chairperson of the Steering Committee and the Secretary General of the OIC on issues related to the implementation of the Steering Committee decisions.

The Secretariat's responsibilities shall include monitoring all matters relating to the management and release of the Reserve, and convening and administration of meetings of the Steering Committee.

The Secretariat may, on behalf of the Management Committee, inspect food reserves included by countries under this Memorandum for participation in the Food Security Reserve System of OIC countries

5. The Secretariat may inspect the situation and/or the reserve when requested by the recipient country with the consent or request of the donor country and the recipient country. The financial expenditures for the inspections shall be paid by the recipient or donor country or by a third party.

6. Inspection by the office of the Secretariat is mandatory for the provision of assistance from humanitarian reserves.

7. Following the distribution of aid from humanitarian reserves, the Secretariat shall conduct an independent sociological survey among the population of the recipient country to assess the effectiveness of the assistance provided.

8. Procurements for Humanitarian reserves are made in OIC countries to support OIC farmers. Locations for procurement, storage, standards, products are determined by the recipient country (to reduce costs)

9. The Secretariat shall develop, establish and maintain an Information and analysis system ('early warning') for

10. The Secretariat under the Food Reserve Management Committee should develop, establish and maintain an 'early warning' information and analytical system assessing and monitoring food security of OIC countries. The main functions of the system shall be to:

Provide a database of indicators required to monitor food security measures, in addition to statistics of the OIC member countries, and should include data from WFP, FAO, CRED (Center for Research on the Epidemiology of Disasters), USDA, WTO, etc.

(i(a)) - indicators for monitoring shall include: production, import and consumption, pricing, key factors affecting a countries ability to manage food supply (climate change, natural disasters, political and military events, decisions of governments, etc.), outbreaks of diseases or pest infestations that may affect production, supply or storage of food grains or other food commodities

Provide monitoring of risks and the assessment of their impact on food security: trends in the food market, climate changes, political, economic and military crises, physical and economic availability of food, assessment of possible damage (extent of damage, vulnerable groups of the population, for example, urban population is more vulnerable in economic crisis, the rural population is more vulnerable to natural disasters, etc.).

Forecast and plan – by assessment of the impact of these various factors on a country or regions food security state, assessment of potential damage, alternative solution scenarios, and the necessary actions to avoid worst-case food shortage scenarios.

Assessment of the food required for aid from international reserves and humanitarian reserves of OIC.

On-line tracking of the use of donations for donors

11. The budget of Secretariat shall be financed from the membership fees.

12. The level of membership fees shall be determined and approved by Steering Committee

13. Secretariat remuneration for the management of Humanitarian reserves is based on the principles of 'Vakalatul Istismar', regardless of the gains or losses of the Humanitarian reserves as a whole.

14. Secretariat should report annually to Steering Committee with results of independent audit of the financial statements of the Secretariat. All reports should be accessible in the public domain of the Secretariat.

ARTICLE XII

Final Provisions

This Memorandum shall be signed by official representatives of the OIC Member States who are members of the reserve

This Memorandum shall enter into force on the thirtieth day after the tabling of the memorandum before the Council of Foreign Ministers (CFM)

Any amendment to the provisions of this Memorandum shall be effected by consent of all OIC Member States in _ .

This Memorandum shall be deposited with the Director General of the IOFS, who shall promptly furnish a certified copy thereof to each OIC Member State in .

In witness whereof, the undersigned plenipotentiaries, being duly authorized thereto, have signed this Memorandum.

Signed at on in three originals in Arabic, English and French languages.

Annex 5 - Recommended Size of the earmarked Reserves of each OIC Member States

For the OIC Food Security Reserve (thousands metric tons):

No	Country	Reserves, 000 tons
1	Bangladesh	8.0
2	Guyana	2.0
3	Maldives *	0.0
4	Pakistan	12.0
5	Suriname	2.0
6	Azerbaijan	20.0
7	Albania	6.0
8	Afghanistan	0.0
9	Iran	67.0
10	Kazakhstan	37.0
11	Kyrgyzstan	13.0
12	Tajikistan	18.0
13	Turkmenistan	11.0
14	Turkey	25.0
15	Uzbekistan	15.0
16	Bahrain	5.8
17	Yemen	0.0
18	Jordan	21.0
19	Iraq	12.0
20	Qatar	6.0
21	Kuwait	2.0
22	Lebanon	8.0
23	Oman	9.0
24	Palestine *	0.0

№	Country	Reserves, 000 tons
25	Saudi Arabia	67.0
26	UAE	16.0
27	Algeria	50.0
28	Gabon *	2.0
29	Djibouti	0.0
30	Egypt	36.0
31	Cameroon	4.6
32	Libya	0.0
33	Mauritania	0.8
34	Morocco	8.0
35	Mozambique	2.0
36	Somalia	0.0
37	Sudan	0.0
38	Tunisia	23.0
39	Uganda	3.0
40	Chad	2.0
41	Comoros	0.0
42	Indonesia	13.0
43	Malaysia	16.0
44	Benin	2,3
45	Brunei	2.0
46	Burkina Faso	4.2
47	Gambia	2.0
48	Guinea	2.4
49	Guinea-Bissau	2.0
50	Cote d'Ivoire	2.0
51	Mali *	2.0
52	Niger	2.0
53	Nigeria	2.0

№	Country	Reserves, 000 tons
54	Senegal	2.0
55	Sierra Leone	2.0
56	Togo	2.0
Total		572.2

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- [21] http://www.inter-reseaux.org/IMG/pdf/Faisabilite_Reserve_Regionale_EN.pdf , page 38
- [22] recurring sale for continuous purchase based on a master agreement between buyer and supplier with regular purchases without the need to prepare a specific offer and confirm an order, the price is determined either in advance or after the expiration of a specified period, subject to certain conditions.

[23] <https://www.spglobal.com/spdji/en/indices/equity/dow-jones-islamic-market-world-index/#overview>

[24] <https://aifc.kz/ru/islamic-finance/>