

Increasing the resilience of Food Systems in Islamic Countries in the face of future crises



14TH MEETING OF THE COMCEC AGRICULTURE WORKING GROUP

ASSESSING FOOD SYSTEMS IN THE OIC: CURRENT SITUATION, SELECTED CASE STUDIES AND POLICY RECOMMENDATIONS

October 9th, 2019

Presented by:

DinarStandard



Agenda

1. OIC assessment

2. Case study learnings

3. Policy Recommendations

OIC Assessment

OIC Food Security

OIC countries have low rankings in food security

OIC COUNTRIES	GLOBAL RANK	GLOBAL SCORE	AFFORDABILITY	AVAILABILITY	QUALITY AND SAFETY	NATURAL RESOURCES & RESILIENCE
Qatar	22 nd	76.5	92.9	62.8	73.0	53.0
Kuwait	28 th	74.8	84.0	67.5	71.7	55.1
Oman	29 th	74.4	73.1	76.4	71.8	46.9
United Arab Emirates	31 st	72.5	87.0	61.2	67.7	40.7
Saudi Arabia	32 nd	72.4	77.3	68.8	69.9	46.9
Malaysia	40 th	68.1	71.4	64.1	70.5	51.9
Bahrain	41 st	67.8	78.3	62.7	55.5	46.6
Turkey	48 th	64.1	65.3	60.9	70.1	70.2
Tunisia	51 st	60.9	55.5	65.5	61.9	54.4
Azerbaijan	56 th	58.2	61.0	61.0	43.4	57.6
Kazakhstan	57 th	57.7	65.5	50.5	58.3	67.7
Jordan	60 th	57.0	55.7	59.3	53.9	63.5

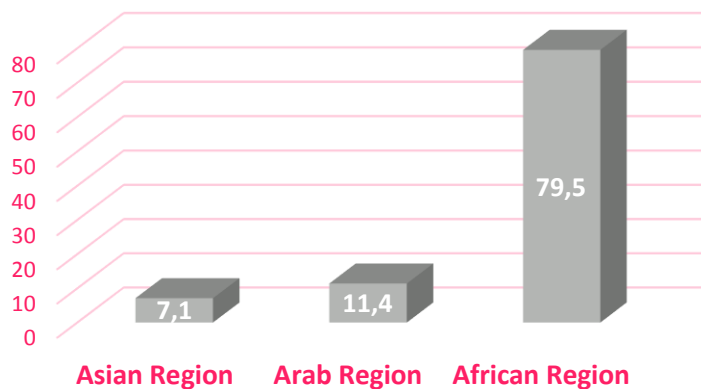
High income GCC countries lead the OIC






Several OIC countries are facing acute food crises

98 million people are food insecure in the OIC

OIC countries are among the worst affected by Food Crises

Number of Severely Food Insecure People (million) (3-year average)
2015 – 2017

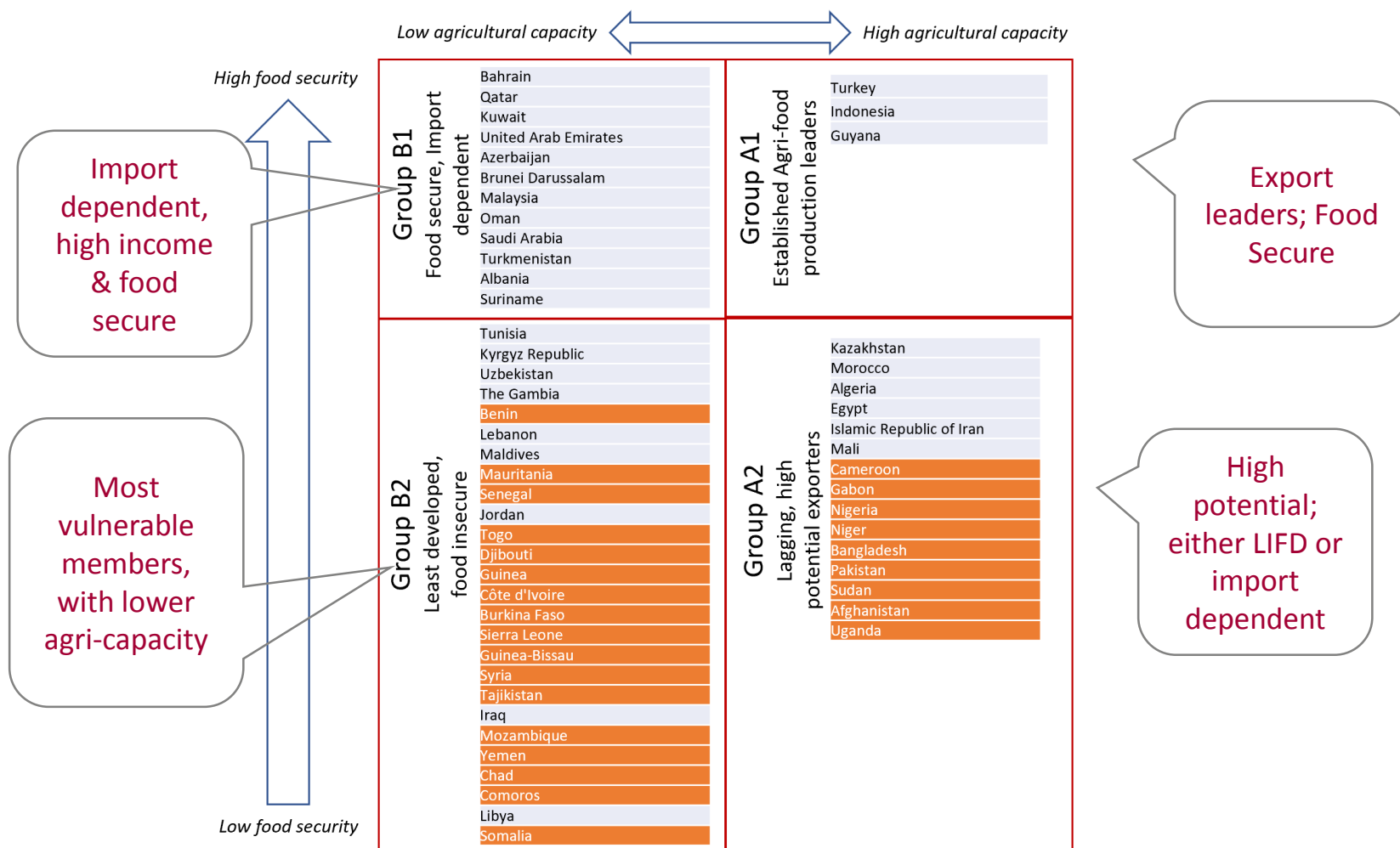


Country	2018 (Million)	Main Causes/Drivers
Yemen 	15.9	Insecurity, and related displacement;
Afghanistan 	10.6	Insecurity; Climate shocks – dry spells, and related displacement
Syrian Arab Republic 	6.5	Insecurity, and related displacement; Climate shocks - dry spells, and related production shortfalls
Sudan 	6.2	Economic shocks - downturn; insecurity, and related displacement
Nigeria 	5.3	Insecurity and related displacement; Climate shocks – floods

OIC Assessment

Segmenting the OIC

The OIC segments into four distinct groups based on food security and agri production capacity



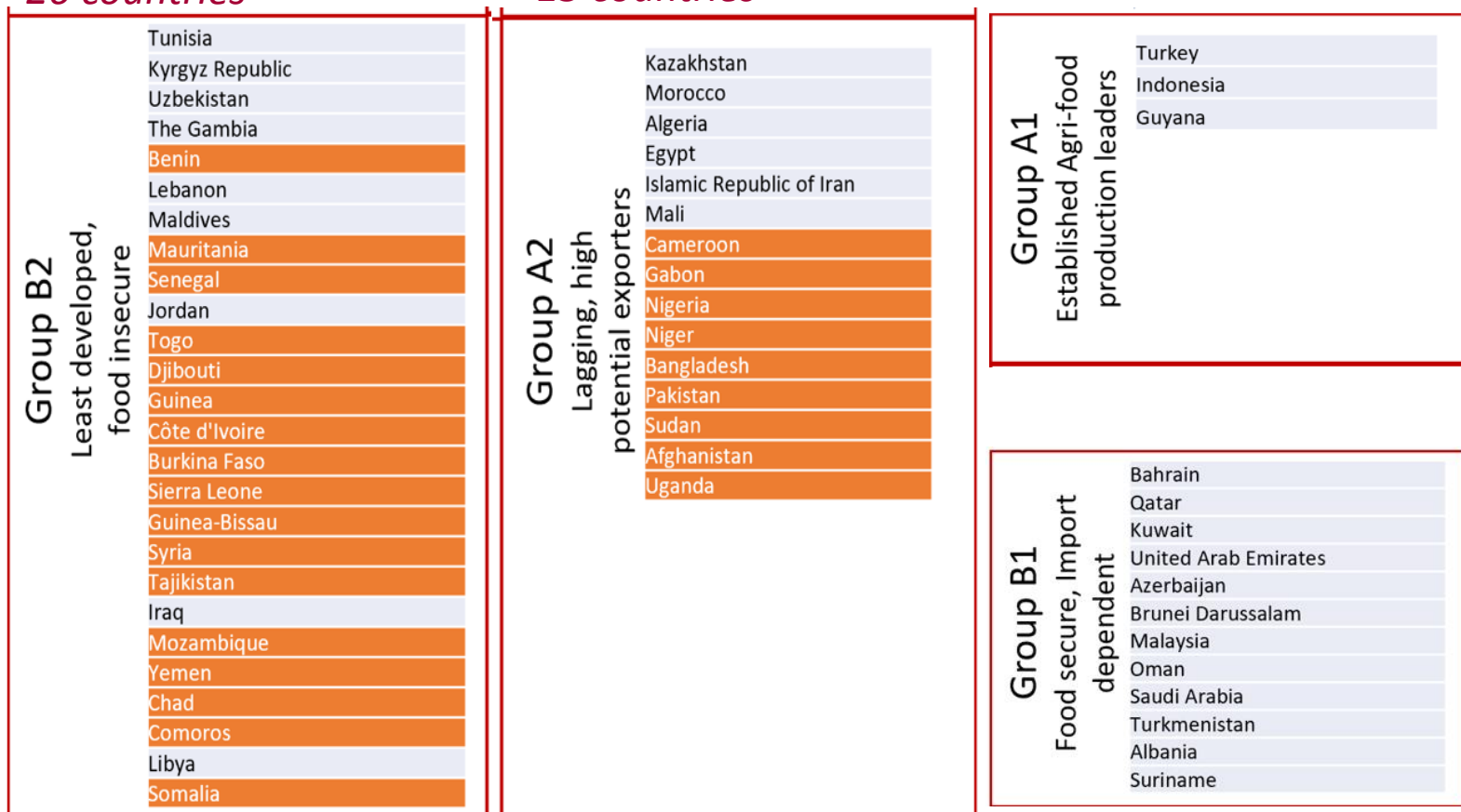
OIC Assessment

Segmenting the OIC

The OIC segments into four distinct groups based on food security and agri production capacity

26 countries

15 countries



OIC Assessment

Strengths & weaknesses

The OIC overall is inhibited by structural challenges, research and limited trade

<u>Area</u>	<u>Weakness</u>	<u>Strength</u>	<u>Data</u>
Natural endowments		▲	29% of arable land; 50%+ of key resources
Demographics		▲	54% below age 24
Institutional infrastructure	▼		Only GCC rank in top 50 food safety
Agriculture	▼		Sampled On-farm losses exceed 30%+
Food production	▼		No global OIC food leaders
Research-based capabilities	▼		1.7% of global patents
Intra-OIC trade	▼		Intra-OIC trade ~ 20% OIC imports

OIC Assessment Opportunities & threats

Substantial trade and investment opportunities, with substantial environmental risks

<u>Area</u>	<u>Threats</u>	<u>Opportunities</u>	<u>Data</u>
Halal Food trade		▲	\$1 trillion opportunity
FDI		▲	\$2 billion “Halal zone” FDI in Malaysia
Food investments		▲	\$3 trillion+ in sovereign wealth
Social safety nets		▲	\$300 billion Zakat potential
Environmental planning	▼		SESRIC score half of developed countries
Water shortages	▼		Drought zones in MENA and Sub-Saharan






Agenda

1. OIC Assessment
- 2. Case study learnings**
3. Global trends & practices

Case study learnings

Countries selected

Five case studies were selected, three of which were across OIC regions and levels of development

	<div>Best practice</div> <div><i>Leading countries with differing approaches</i></div>		<div>OIC</div> <div><i>Varying levels of development across Arab, African and Asian regions</i></div>		
	United States 	Ireland 	Oman 	Niger 	Indonesia 
Global ranking	3 rd	2 nd	29 th	104 th	65 th
Affordability ranking	5 th	3 rd	33 rd	106 th	63 rd
Availability ranking	10 th	8 th	22 nd	96 th	58 th
Quality and Safety ranking	4 th	7 th	34 th	104 th	84 th

Case study learnings: Assessment

Governance foundations

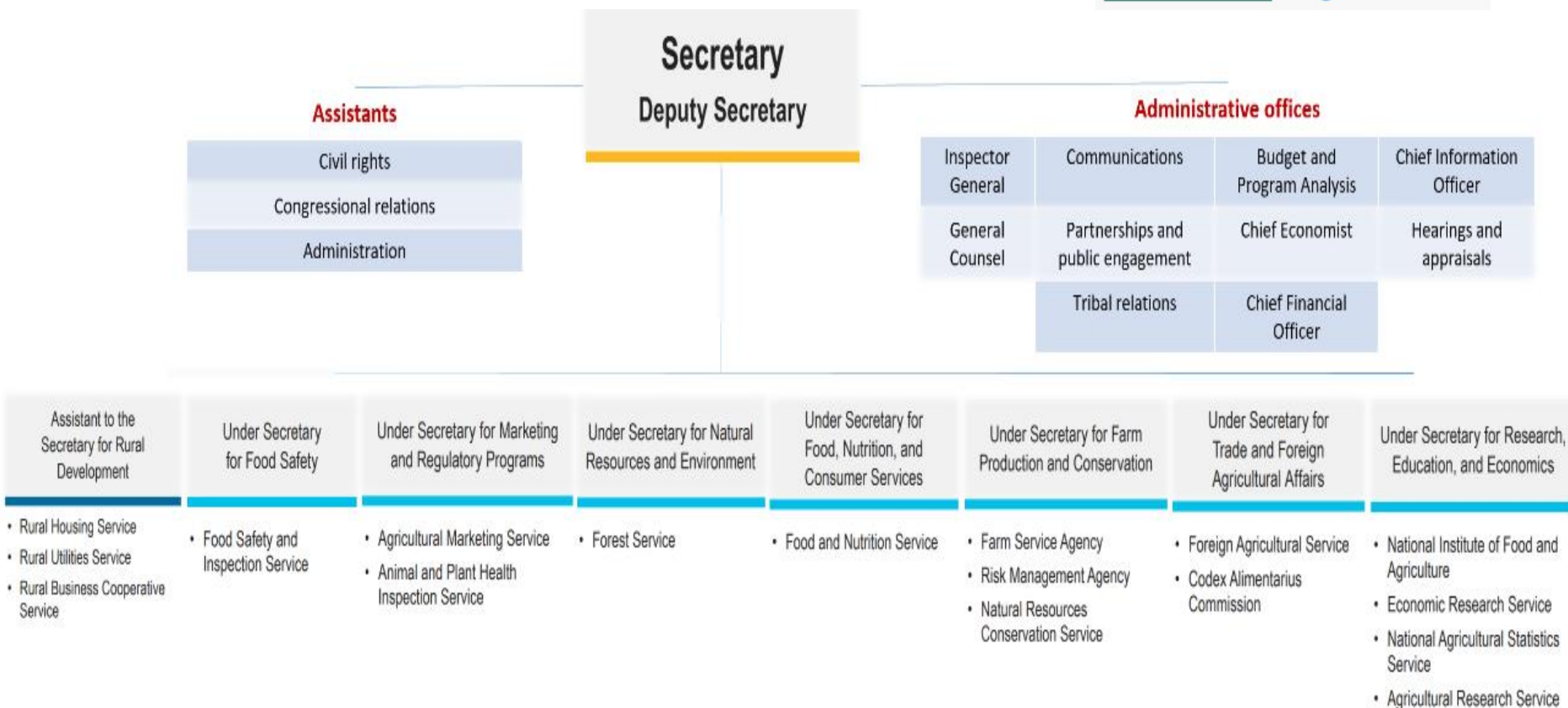
Food systems require dedicated governance and robust budgets

Category		Developed Countries		OIC – A1	OIC – A2	OIC – B1
Country		<u>U.S.</u>	<u>Ireland</u>	<u>Indonesia</u>	<u>Niger</u>	<u>Oman</u>
Main Departments Responsible	Availability	USDA	Department of Agriculture, Food & Marine	Ministry of Agriculture	Department of Agriculture & Livestock	Ministry of Agriculture and Fisheries
	Access			Supported by Food Security Agency (BKP) and PT Bulog (gov't owned)	Supported by HC3N program	(supported by several Ministries)
	Safety	FDA, USDA	Food Safety Authority	National Agency of Drug and Food Control	Ministry of Public Health	Ministry of Health
Government spending on Food System stability, \$ billions		\$867 billion (4% of GDP)	\$3.1 billion (0.8% of GDP)	\$3.8 billion (0.4% of GDP)	\$270 million (3.3% of GDP)	\$161.3 million (0.19%)

Case study learnings: Assessment

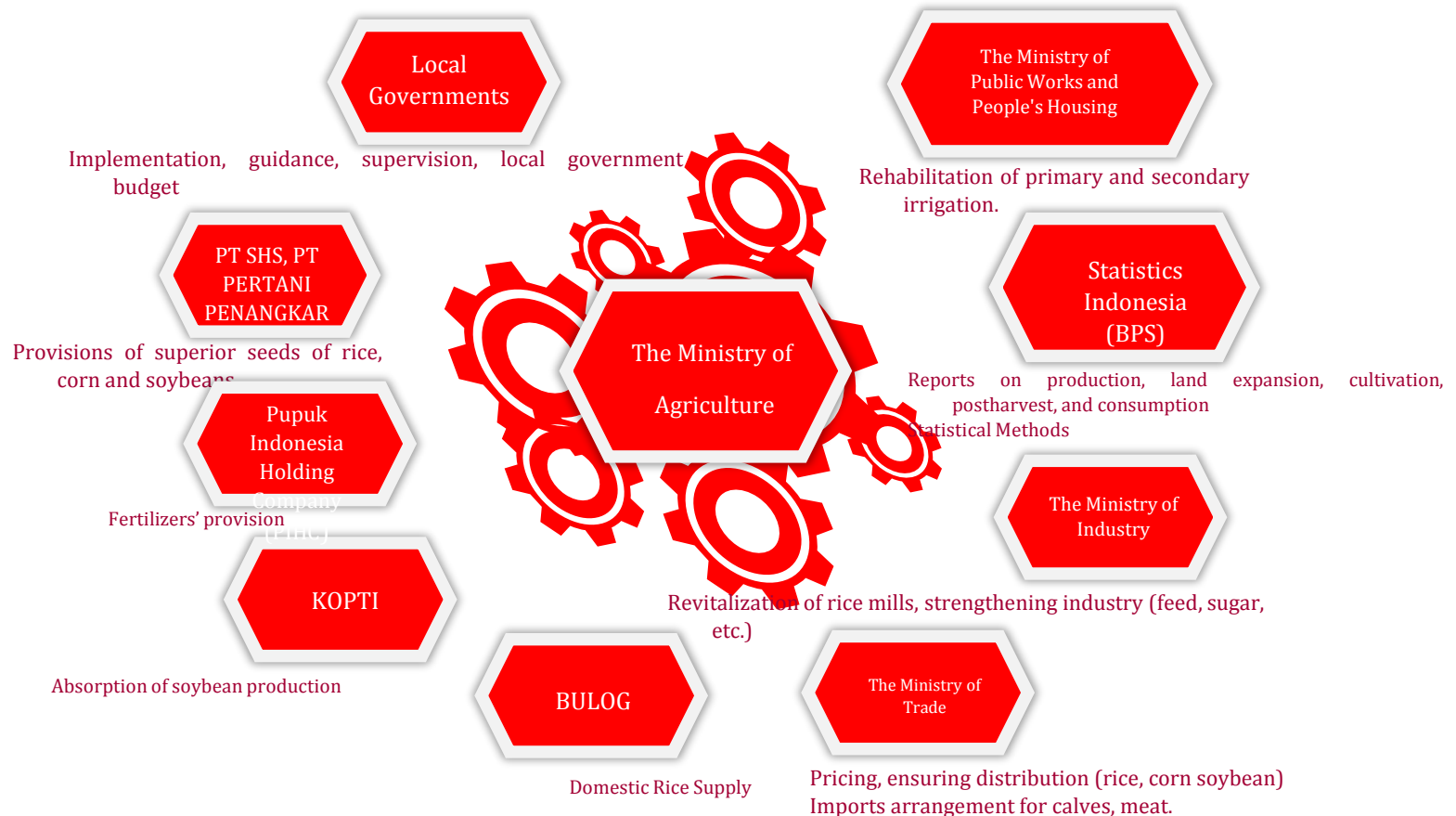
Governance foundations

The USDA has a comprehensive role underpinning food security



Case study learnings: Assessment Governance foundations

Indonesia has an extensive apparatus that extends beyond the Agriculture Ministry



Case study learnings: Monitoring Monitoring active risks

Beyond surveys, continuous cross-supply chain monitoring is needed

Category	Developed Countries		OIC – A1	OIC – A2	OIC – B1
Country	<u>U.S.</u>	<u>Ireland</u>	<u>Indonesia</u>	<u>Niger</u>	<u>Oman</u>
Core Agency	USDA Economic Research Service FDA	Agriculture and Food Development Authority Food Safety Authority	Central Statistics Agency (BPS)	Early Warning Systems for Crisis and Catastrophe of Prime Minister's Office	Ministry of Health
Frequency and Data Tracked	Annual household (access)	Annual household (access)	Annual food security index (production; access; safety)	Annual household (access)	Annual Health survey (access, safety)
	Continuous supply chain; consumer level (production; safety)	EU-compliant continuous supply chain and consumer level (production; safety)	Weekly district-level (production; access)	Continuous early warning systems- <u>supported by UNFAO</u> (production; safety)	Integrated Disease Surveillance and Response (safety)

Case study learnings: Adaptation and Mitigation

Social safety nets

Ongoing assistance is mandatory to supporting the most vulnerable

Category	Developed Countries		OIC – A1	OIC – A2	OIC – B1
Country	<u>U.S.</u>	<u>Ireland</u>	<u>Indonesia</u>	<u>Niger</u>	<u>Oman</u>
Core Agency	USDA	Agriculture and Food Development Authority	Government assistance program (Under Ministry of Finance)	HC3N Coordination office	Ministry of Finance (supported by others)
Type of Assistance	Family assistance – Supplementary Nutritional Assistance; School Lunch Program	Family - Health Food for All and Community Food initiatives	Specific family assistance – cash and non-cash aid restricted to rice and aid	Dedicated National Stock to provide emergency assistance Ongoing vouchers and family-level support	Food subsidies; school programs

Case study learnings: Adaptation and Mitigation

Supporting farmers

Comprehensive support mechanisms are needed for farmers, going beyond loans and incentives

Category	Developed countries		OIC – A1	OIC – A2	OIC – B1
Country	<u>U.S.</u>	<u>Ireland</u>	<u>Indonesia</u>	<u>Niger</u>	<u>Oman</u>
Agricultural and Industrial Processing Risks	Farmer low-interest loans	Low-interest loans to farmers	Low interest loans to farmers	Investment funds available to farmers	Subsidized seeds
	Insurance	Insurance	Rice farm insurance		Insurance program to farmers
	Technical support centers to manage climate risks	Cash incentives for adopting low emission practices			
	Conflict and disease risk assessments				
Consumer Risks	Disaster planning by FEMA	Disaster funds available	Disaster funds available	Disaster funds available	Disaster funds available

Case study learnings: Resilience and cooperation

Countries selected

Stable Food systems require three core pillars spanning awareness, immediate action and long-term

Category	Developed Countries		OIC – A1	OIC – A2	OIC – B1
Country	<u>U.S.</u>	<u>Ireland</u>	<u>Indonesia</u>	<u>Niger</u>	<u>Oman</u>
Core Agency	USDA	Agriculture and Food Development Authority	BKP - Center for Food Availability and Vulnerability	MCC	Ministry of Agriculture and Fisheries; Research council of Oman; OFIC
R&D & Capacity Building Efforts	<p><i>\$4 billion by the U.S. government; \$6.4 billion by the private sector</i></p> <p>Close partnership with U.S. universities</p>	Numerous innovation labs - National Innovation Hub; Consumer Food Production Center	<p>Program to boost food security – focused on data and knowledge sharing</p> <p>UPSUS program to boost rice, corn and chili</p>	<p>10-year plan to boost availability of seeds and fertilizer</p> <p>USAID collaboration to remove trade barriers</p>	<p>Research council established to fund agricultural research</p> <p><i>\$34 million spend on agricultural research in 2012</i></p> <p>OFIC direct investments</p>
Human Capital	Extensive programs including youth agriculture organization	<p>Post-graduate fellowships by Agriculture Dept</p> <p>Direct professional training courses</p>	Agricultural Development Schools set up	Limited evidence of human capital development	Close collaboration between Ministry of Agriculture and Sultan Qaboos University on agriculture programs

Case study learnings: Resilience and cooperation

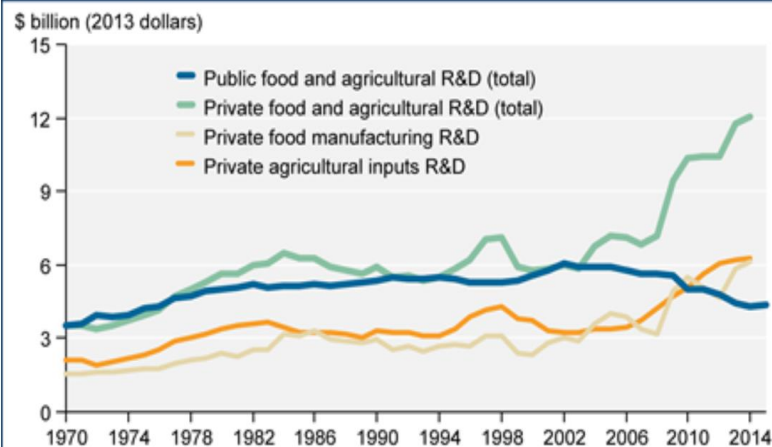
R&D and education

The USDA has formed extensive links with Universities to conduct vital research

\$10 billion spent on agricultural research

35,646 agricultural degrees awarded in 2016

Food and agricultural research and development (R&D) funding, real (inflation-adjusted) dollars, 1970-2015



Note: Private agricultural research funding data are through 2014; public agricultural research funding is available through 2015.







Source: USDA, Economic Research Service (ERS) using data from National Science Foundation, USDA's Current Research Information System, and various private sector data sources. Data are adjusted for inflation using an index for agricultural research spending developed by ERS. Data as of February 2019.

Texas A & M University-College Station	3.36%	University of California-Davis	1.63%	University of Nebraska-Lincoln	1.28%
Iowa State University	2.45%	University of Florida	1.6%	Virginia Polytechnic Institute and State University	1.28%
University of Illinois at Urbana-Champaign	1.97%	Purdue University-Main Campus	1.54%	Oregon State University	1.17%
Kansas State University	1.92%	Michigan State University	1.52%	University of Georgia	1.15%
California Polytechnic State University-San Luis Obispo	1.69%	Ohio State University-Main Campus	1.5%	Colorado State University-Fort Collins	1.1%
North Carolina State University at Raleigh	1.64%	Oklahoma State University-Main Campus	1.32%	South Dakota State University	1.09%
				University of Missouri-Columbia	1.08%

Case study learnings: Resilience and cooperation

Oman Investments

OIFC has invested over \$300 million in establishing agricultural and agri-food production

Company	Capital Outlay/Investment (Omani Rials, million)	Products
A'Namaa Poultry Company 	100	Poultry
Mazoon Dairy Company 	100	Dairy products
Al Bashayer Meat Company 	37	Red Meat and livestock
Oman Oilseeds Crushing Company 	38	Soya beans mill & unfiltered vegetable oil
Al Murooj Dairy Company 	16	Milk and milk products
Oman Dates Production and Packing Company 	28	Dates

Case study learnings: Resilience and cooperation

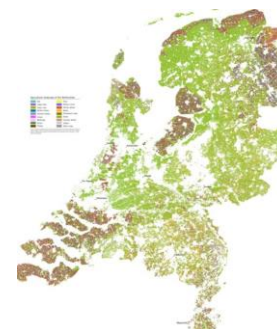
OIC cooperation

Despite robust progress, important gaps remain

Area of Cooperation	Bodies Involved	
Research and cooperation	 COMCEC	13 reports; 14 meetings
Agricultural Project Financing	 IsDB البنك الإسلامي للتنمية Islamic Development Bank	\$9.4 billion in agriculture projected funded
Training Programs and Initiatives	 SESRIC	5-year cotton action plan
Standardization Initiatives	 The Standards and Metrology Institute for the Islamic Countries	OIC-wide training
Trade	 COMCEC	OIC Trade Preferential System
Food Security	 Islamic Organization for Food Security l'Organisation Islamique pour la Sécurité Alimentaire المنظمة الإسلامية للأمن الغذائي	Dedicated body

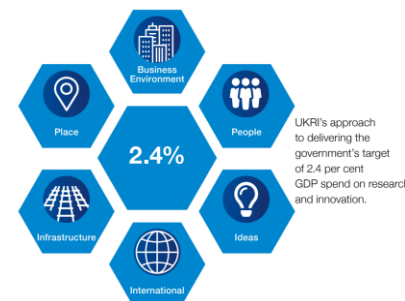
A common trade area remains an aspiration

Example:



A collaborative project management function would be transformational

Example: Innovate UK



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Policy Recommendations Survey

The survey highlights the importance of trade and long-term resilience

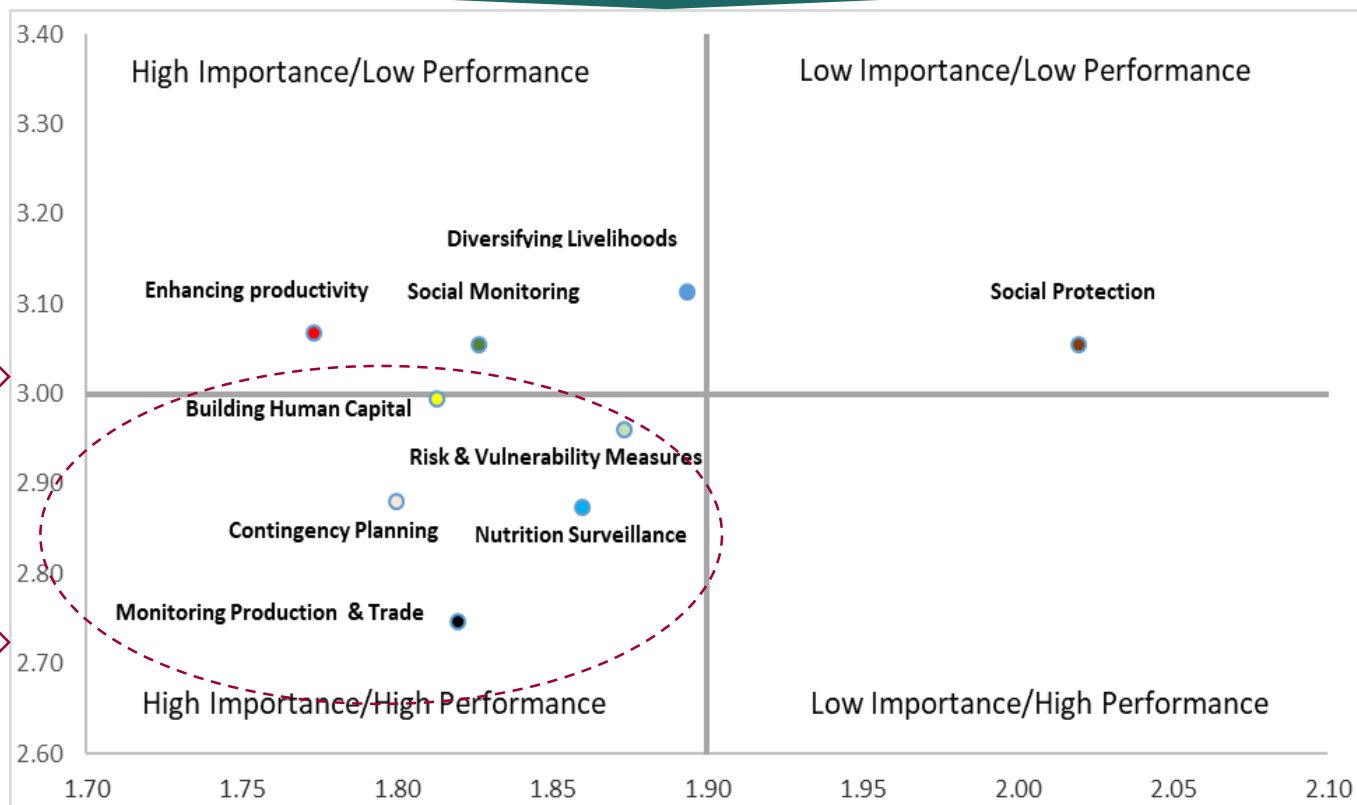
OIC Survey raised concerns

Trade, human capital and planning were among top policy priorities

150 responses

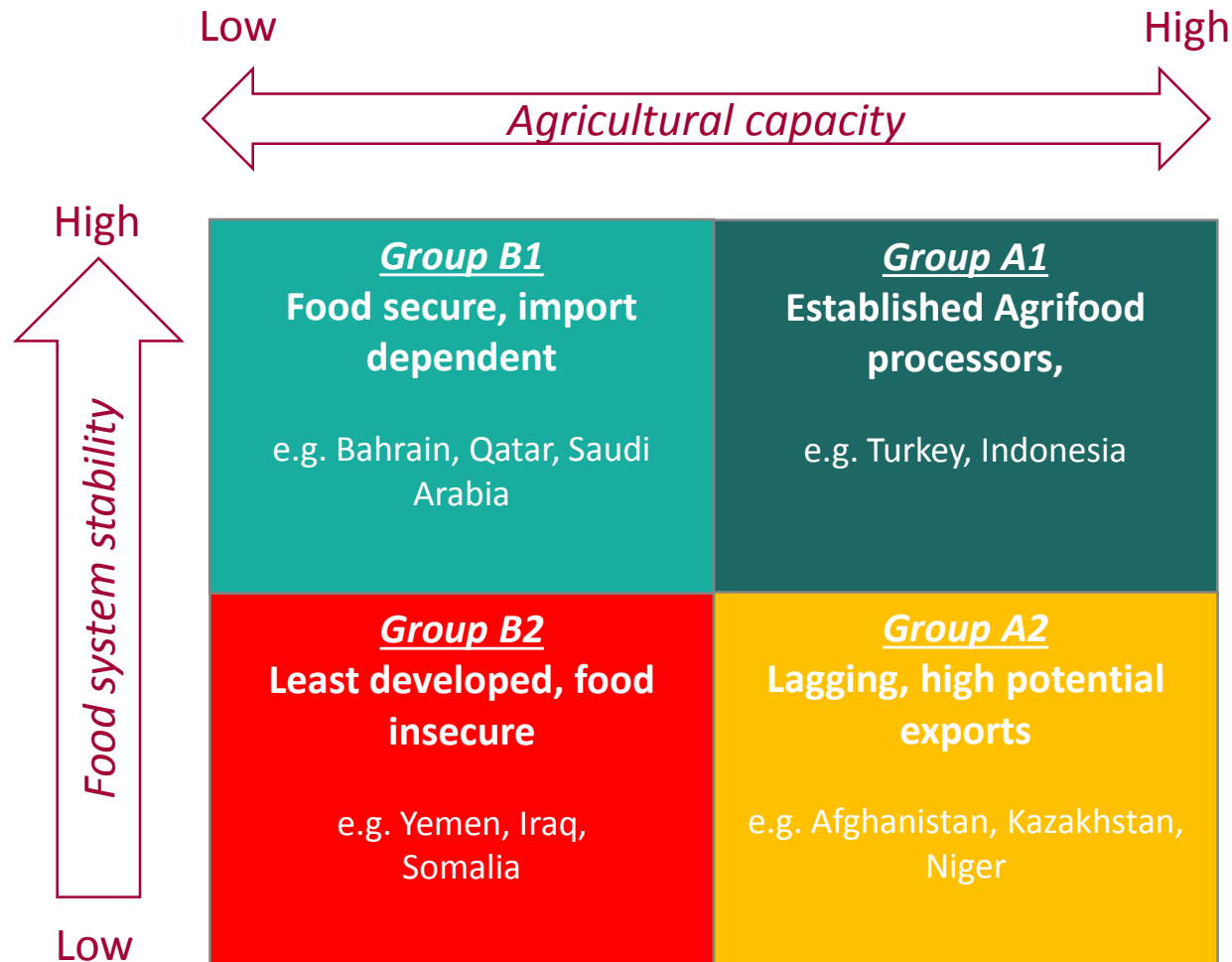
51% claim it's difficult to sustain a livelihood as a farmer

Food price volatility the "biggest factor" for potential crisis



Policy Recommendations Segmentation

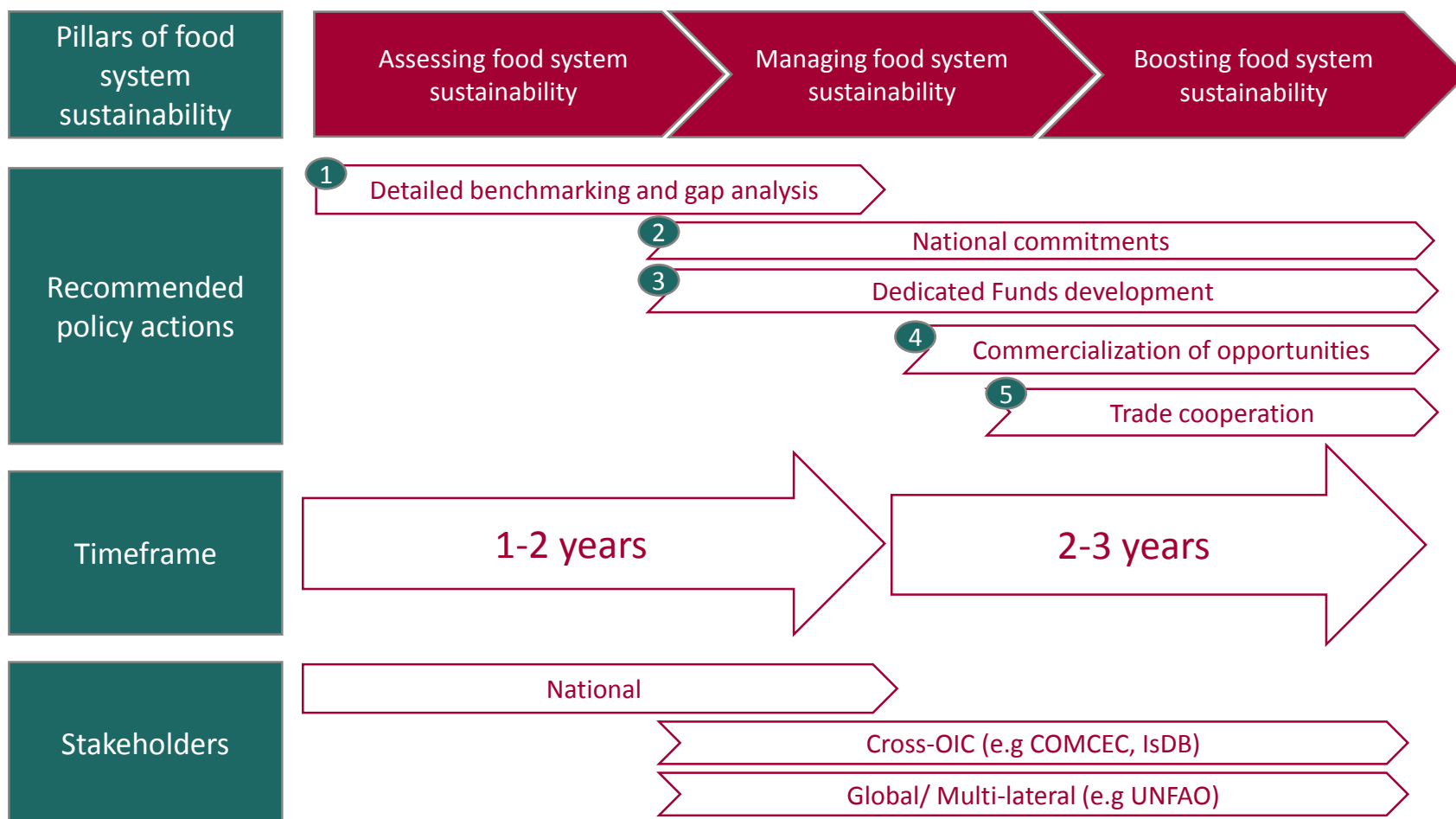
The segmentation of countries is vital to following the recommendations



Policy Recommendations

Recommendations

The Study highlighted five core recommendations over three years



Policy Recommendations: B1, A2 and B2 countries

1 Benchmark and gaps

Further detailed studies and datasets are needed

Country-level gap assessments

Country-level gap assessments could be led by the majority of OIC countries but supported by the OIC, which could lead to a **food security “rating”** that is continually updated

Suggested Topic Areas	Specific Learnings	Potential Outcomes
Pre-harvest disease management	The prevalence of aflatoxin	Government funding and incentives to eradicate aflatoxin
Safety net programs	Gaps and inefficiencies in current programs	New programs; additional OIC-led, Zakat-based funding
Stakeholder perspectives	Current gaps in government apparatus	New government functions; new partnerships with private sector organizations

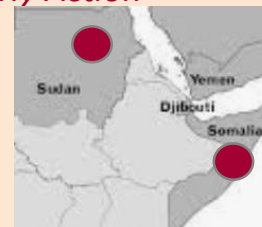
KPI development

Consistent, comparable **KPIs are recommended for monitoring** food system stability, led at the OIC-level, with cross-OIC efforts to develop early warning systems

Example – Early Warning, Early Action



Food and Agriculture Organization
of the United Nations



Policy Recommendations: A2 and B2 countries

2 National commitments

Establishing firm commitments to food security are required

*Food
sustainability
pledge*

National pledges can be made within the framework of COMCEC, with an emphasis on lagging countries, **and with continued measurement of progress by countries against their strategies**

Focus Areas	Suggested Targets
Malnutrition	Reduction of malnutrition below 5% of the total population; particular focus on children and women
Agricultural Infrastructure	Eradication of aflatoxin; existence of one grain storage facilitate in every province in which agricultural products are grown
Research	At least one dedicated agriculture program; at least 10 agricultural studies developed over a five-year period
Monitoring	Adoption of all best practice KPIs related to monitoring

*National
strategy*

Food system strategies can be developed by each country that aims to elaborate on and develop an implementation roadmap for national commitments made, with a robust commitment to long-term talent development in food and agriculture

Example – National Food related strategies

Malaysia Halal
Development (2006)



Dubai Capital of the
Islamic Economy (2013)



Indonesia Halal Economy
Masterplan (2018)



Policy Recommendations: B1, A2 and B2 countries

3

Funds

\$1 billion+ a year is a robust target for varied cross-OIC funding

Area of Funding	Focus	Suggested Providers	Example
Agriculture infrastructure development	Farming sector development and projects	Islamic Development Bank; Private investors	Online land investment projects on Acetrader
Social safety nets	Immediate cash assistance for food	UNHCR; National tax and Zakat collection bodies (OIC); Islamic financial institutions	Refugee Zakat Fund (UNHCR)
Agricultural research and commercialization	Dedicated project management to address specific challenge areas	WHO; Islamic Development Bank	USDA competitive grant funding to address a specific food safety challenge
Cross-OIC collaboration projects	Dedicated cross-country supply chain development initiatives	Islamic Development Bank; Private equity; Pension funds	Collaboration on agriculture development between Russia's Sovereign Wealth Fund and Vietnamese Food Company

Potential Partners



Policy Recommendations: All countries

4 Commercialization

Enabling IOFS as a commercialization body will activate projects across the OIC

Kazakhstan-based IOFS can supplement COMCEC to manage commercially viable projects on behalf of OIC

Innovate UK is a good example; strong potential studies



- 12 full members.
- substantial promise for promoting food system stability across the OIC
- \$2 million in funding from Saudi Arabia.

Role

1. Seek Government and Private funding for viable projects
2. Work with key stakeholders to ensure delivery of these commercial ventures as self sustained businesses
3. Work with OIC entities to build a seamless project implementation process.
4. Develop a efficiently functioning entity by setting up committees of industry leaders
5. Work with OIC MCs and academic institutions

Innovate UK



Area	Project Description	Potential Partners
Spray Dryers	Feasibility study and development for spray dryers	Kerry Group (Food company)
Blockchain	Evaluation and implementation for establishing an OIC-wide food provenance system	OneAgrix (Halal and Ethical blockchain trading system)

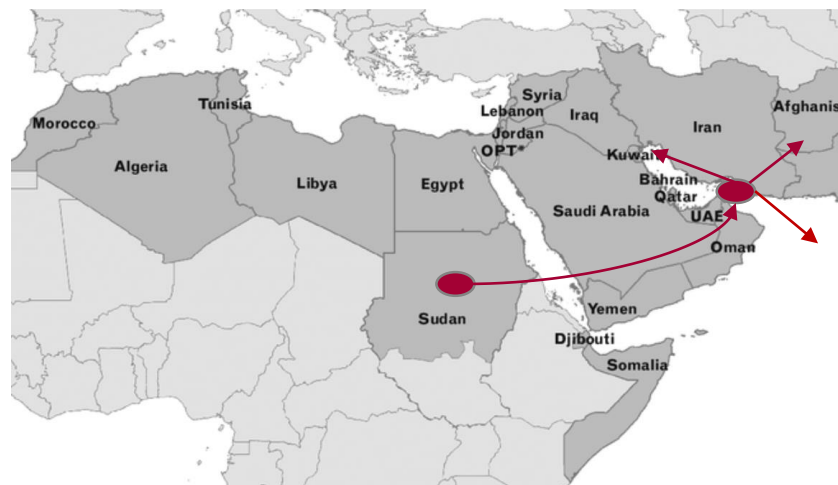
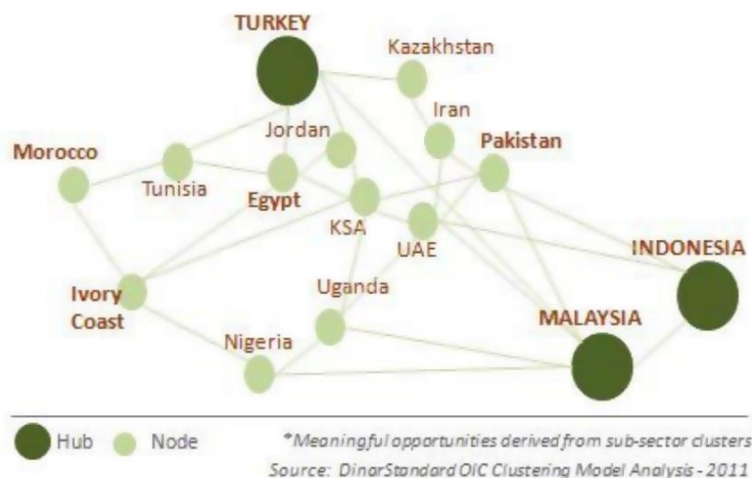
Policy Recommendations: All countries

5 Open, Strategic Trade

Trade liberalization remains an important objective

Building on OIC-TPS efforts, there should be a push for open trade across OIC

Strategic trade corridors can be developed such as Sudan providing meat for processing in GCC



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