Economic and Social Commission for Western Asia

Climate Change, Food Insecurity & Migration

Regional Dialogue on the Climate Change and Migration Nexus in the Arab Region
25 October 2022

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Shared Prosperity Dignified Life

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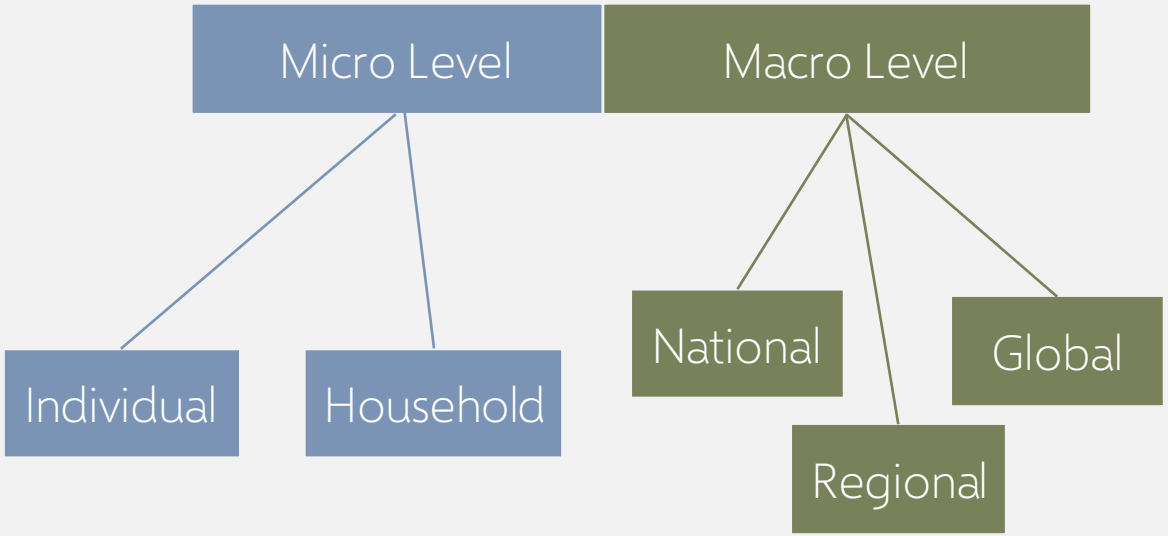
What is Food Security?

"Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (World Food Summit, 1996)

Four Pillars

- Availability
- Accessibility
- Utilization
- Stability

Food Security Levels



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What is Food Security? (cont'd)

Two Additional Pillars

Agency

The capacity of individuals or groups to make their own decisions about what foods they eat, what foods they produce, how that food is produced, processed and distributed within food systems, and their ability to engage in processes that shape food system policies and governance.

Sustainability

Long-term ability of food systems to provide food security and nutrition in a way that does not compromise the economic, social, and environmental bases that generate food security and nutrition for future generations.

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Food Security Status in the Arab Region

Core and Utilization Indicators

- High concerns regarding **undernourishment, food insecurity, obesity** & **women anemia-** higher rates in region compared to World
- Highest rates of Undernourishment & Food Insecurity in **LDCs** , highest rates of Obesity in **MICs and GCC**
- **Child stunting** is High in CICs & LDCs (higher than global average)
- Access to **drinking water** and **safe sanitation services** is alarming in LDCs : 60.8% of access to drinking water, 38.8% to sanitation (global rates of 90% and 78%)

Food Security Monitoring Framework

	Code	Description	Year	World	Arab	GCC	MICs	CiCs	LDCs
CORE INDIC-ATORS	CO1	Undernourishment (**R**) - %	2019	8.9	14.0	4.1	4.7	n.a.	23.6
	CO2	Food insecurity (**R**) - %	2019	27.6	32.6	n.a.	25.4	n.a.	56.0
	CO3	Obesity (**R**) - %	2016	13.1	26.4	34.1	29.9	25.9	8.9
AVAILABILITY INDICATORS	AV1	Wheat yields - %	2018	n.a.	84.6	121.4	101.0	52.0	n.a.
	AV2	Agriculture expenditure - index	2019	n.a.	0.39	0.32	0.24	n.a.	0.11
	AV3	Food loss (**R**) - %	2019	n.a.	4.9	1.9	6.9	4.4	1.0
	AV4	Dietary energy supply - %	2019	n.a.	126	131	142	102	108
	AV5	Wheat import dependency (**R**) - %	2017	n.a.	62.3	96.3	59.6	65.6	29.2
	AV6	Agriculture water (**R**) - %	2020	n.a.	80.4	71.0	74.7	88.6	94.7
ACCESS INDICATORS	AC1	Poverty (**R**) - %	2021	26.2	26.9	n.a.	18.9	36.2	40.9
	AC2	Food consumption (**R**) - %	2018	n.a.	31.1	18.9	33.1	35.9	n.a.
	AC3	Unemployment (**R**) - %	2020	6.6	12.3	5.5	11.3	14.0	19.1
	AC4	Logistics - index	2018	2.9	2.6	3.2	2.7	2.2	2.4
	AC5	Inflation (**R**) - %	2020	1.9	21.9	1.6	6.1	n.a.	133.5
UTILIZATION INDICATORS	UT1	Drinking water access - %	2020	90.0	89.1	99.3	96.5	86.1	60.8
	UT2	Sanitation access - %	2020	78.0	83.7	99.8	93.3	83.5	38.8
	UT3	Child stunting (**R**) - %	2020	22.2	19.2	5.0	16.1	24.8	31.4
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	ST3	Political stability - ranking	2020	n.a.	15	38	19	1	7
	ST4	Production variability (**R**) - 1000$/capita	2017	n.a.	12.1	8.8	13.6	14.4	6.7
	ST5	Supply variability (**R**) - kcal/cap/day	2019	n.a.	51.0	43.4	48.9	65.9	44.0

R = Reversed during normalization

n.a. = Not Available

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Food Security Status in the Arab Region

Availability Indicators

- Regional **Wheat yields below** potential **(~85%)**
- Regional **high wheat import dependency (62%)**, higher in GCC with **96% , &** much lower for LDCs with only **29%**
- The agriculture sector **use 80.4%** of **water resources** out of total renewable water resources
- Agricultural expenditures are low in the Arab region; not a priority sector for governments investments

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Challenges & Vulnerabilities: Performance of the Agri-Sector

	Arab Region	Low income	High income	World
Arable land (% of Total land area)	5	9	10	11
Arable land (hectares per person)	0.1	0.2	0.3	0.2
Cereal yield (kg per hectare)	1853	1412	5914	4065
Fertilizer consumption (kg/ha arable land)	56	14	139	141
Agriculture employment in total (%)	18	60	3	27
Agriculture value added (% of GDP)	5	25	1	4
Agriculture value added/worker (constant 2015 US$)	7208	824	39729	3952

Source: WDI (2022); FAOSTAT (2022)

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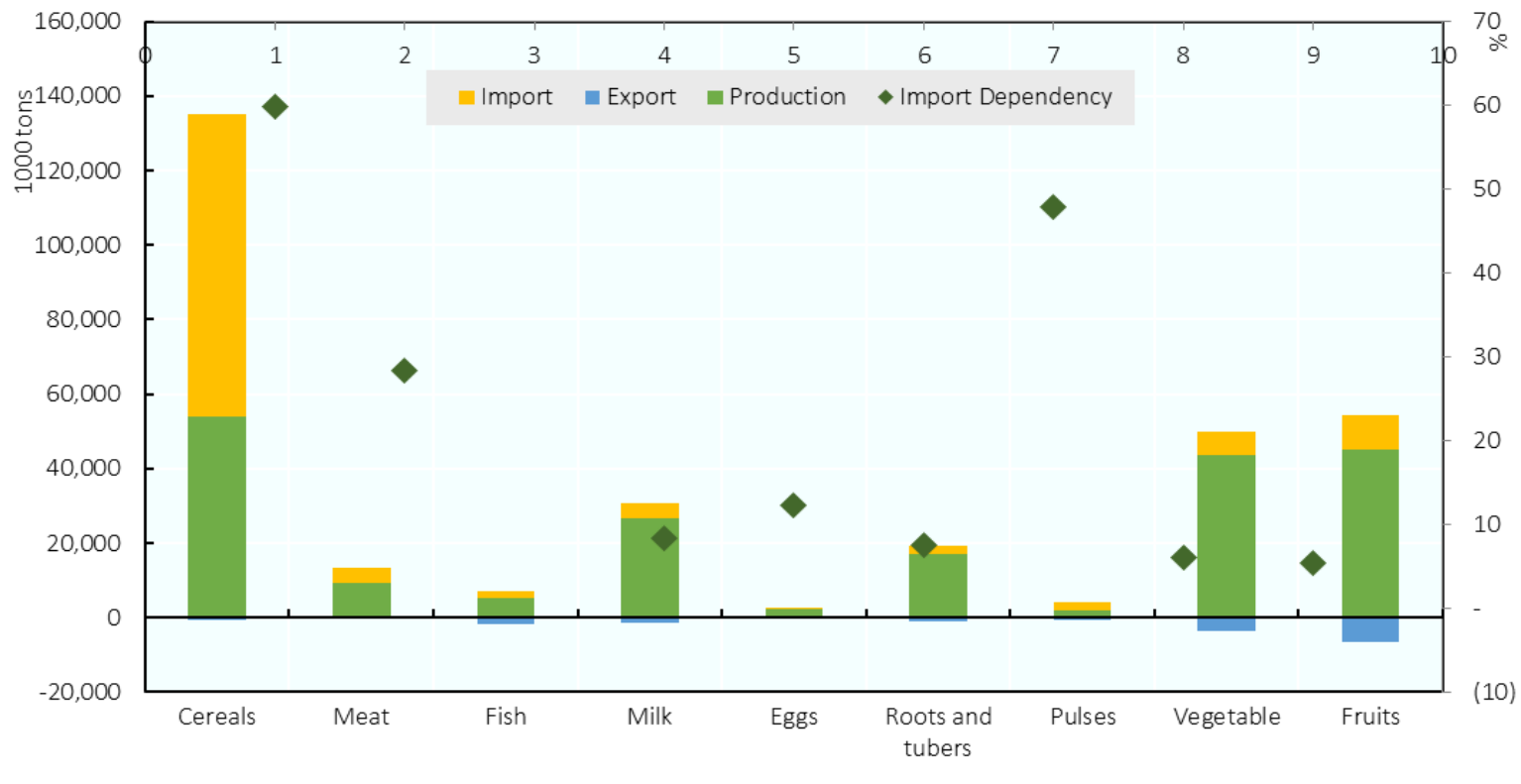
Challenges & Vulnerabilities: High Import Dependency



Commodity groups production, export, import self sufficiency 2018-2020

Source: Computed from FAOSTAT (2022)

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Food Security Status in the Arab Region

Accessibility Indicators

- High **poverty** levels in Arab LDCs (**40.9%**) and in CICs (**36.2%**)
- **Unemployment** rate in the Arab region (**12.3%**) is almost double the global average.
  ➔ Contributing to **labor migration**
- High share of **food consumption expenditure** (**31.1%**) of the total household expenditure
- Rising I**nflation** in Arab countries (**21.9%**) compared with global average 1.9% due to COVID pandemic, global economic crisis and currency devaluation (Egypt, Lebanon, Syria, Tunisia, others)

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Food Security Status in the Arab Region

Stability Indicators

- Low Ranking in terms of political stability and worse for LDCs (7) and CiCs (1)
- The Temperature Change in MICs (1.8 C) is higher than the global Temperature rate (1.7 C)
- Production Variability is higher in the CICs and MiCs (14.4 & 13.6) than the Arab average rate (12.1)
- Lack of data is a concern

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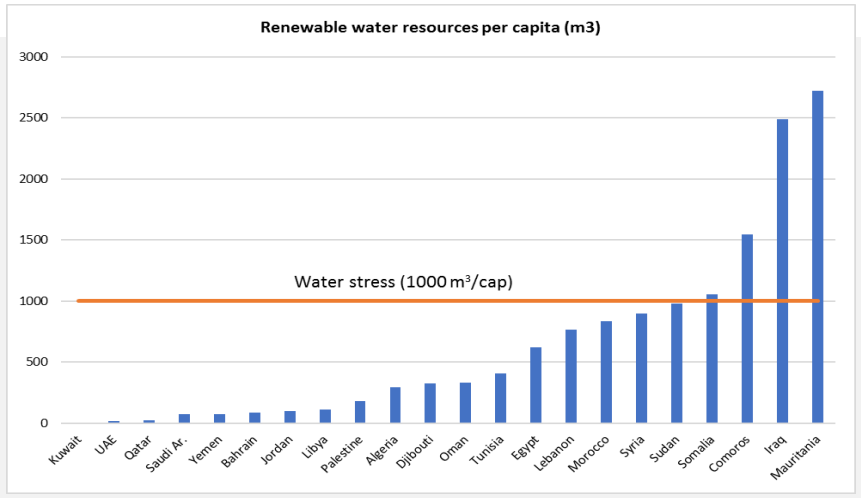
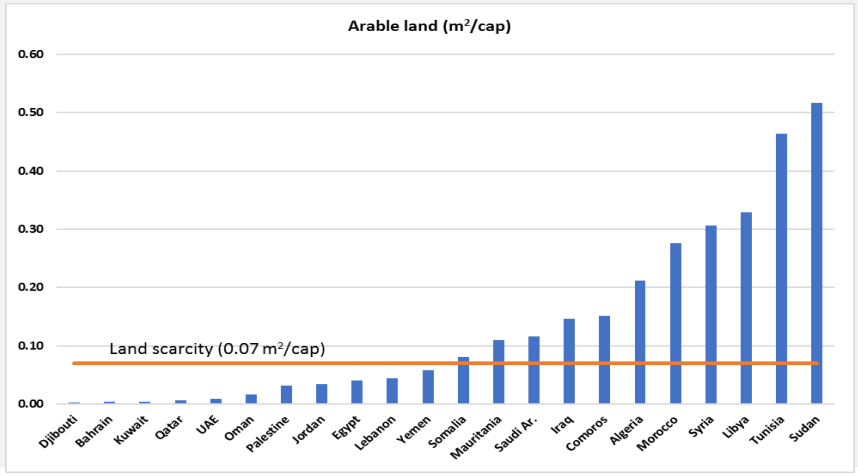
Scarce Resources & Negative Impact of Climate Change

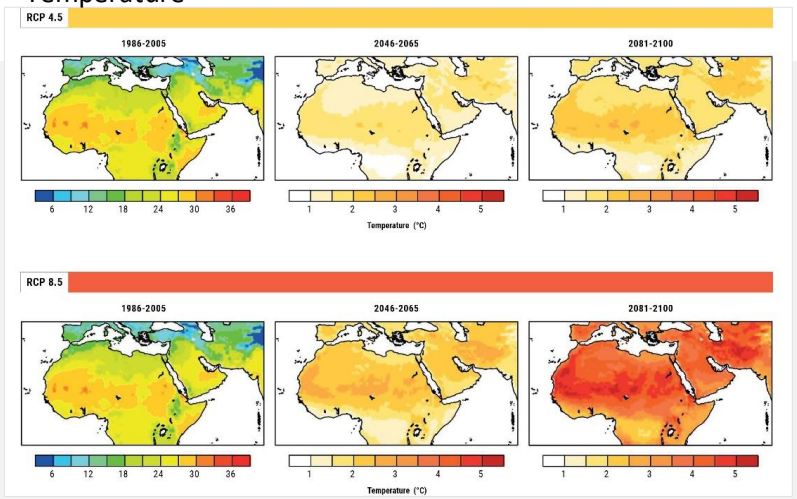




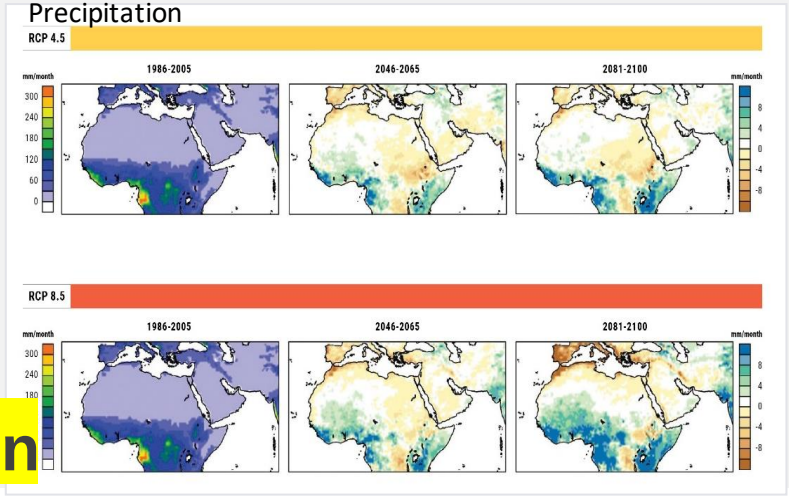
Land and water for food production are growing scarce and climate change could worsen the situation (High temperatures and low precipitation)

➔ Contributing to **migration**

Temperature



Precipitation



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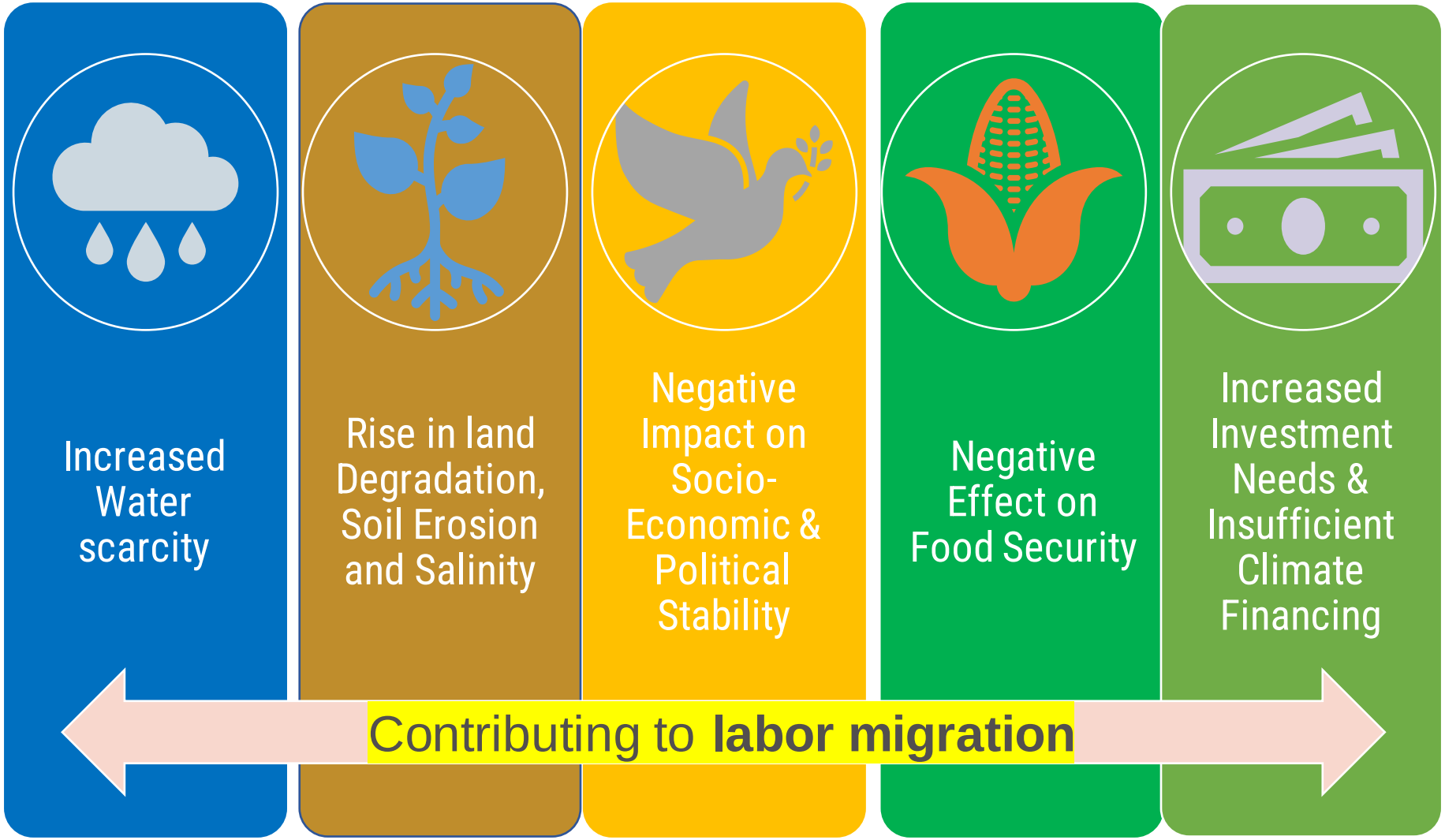
Climate Change Impact on Agriculture/Food Availability and Acessibility in the Arab Region



Disaster-induced Migration

- Global environmental change could drive anywhere from 50 to almost 700 million people to migrate by 2050. The impacts of climate change may both trigger displacement and worsen living conditions or hamper return for those who have already been displaced.
- The increased intensity and frequency of extreme weather events is also threatening agriculture productivity, food security and livelihoods.
- Arab LDCs accounted for almost all disaster-induced internal displacement in the region in 2020, Somalia more than 1 million, Sudan 454,000 IDPs newly displaced by disaster in 2020

Internal displacement in Arab Countries, 2020

Country	New conflict-caused displacements in 2020	New disaster-induced displacements in 2020	Number of conflict-induced IDPs in 2020	Conflict-induced IDPs as a percentage of the total population
Algeria	-	9,600	-	
Bahrain	-	-	-	
Comoros	-	-	-	
Djibouti	-	11	-	
Egypt	1,000	8,400	3,200	0.0%
Iraq	67,000	1,200	1,224,000	3.0%
Jordan	-	140	-	
Kuwait	-	-	-	
Lebanon	-	-	7,000	0.1%
Libya	39,000	-	278,000	4.0%
Mauritania	-	1,600	-	
Morocco	-	340	-	
Oman	-	120	-	
Qatar	-	-	-	
Saudi Arabia	-	610	-	
Somalia	293,000	1,037,000	2,968,000	18.7%
State of Palestine	1,000	110	131,000	2.6%
Sudan	79,000	454,000	2,276,000	5.2%
Syrian Arab Republic	1,822,000	25,000	6,568,000	37.5%
Tunisia	-	10,000	-	
United Arab Emirates	-	610	-	
Yemen	143,000	223,000	3,635,000	12.2%
Total Arab region	2,445,000	1,771,741	17,090,200	3.9%

Source: ESCWA calculations based on DESA, 2019; and Internal Displacement Monitoring Centre, 2020.

Source: *ESCWA Situation Report on International Migration 2021: Building forward better for migrants and refugees in the Arab region* *(July 2022)*
UNCCD thematic fact sheet series No. 3: Migration and desertification
UNHCR Climate change and disaster displacement

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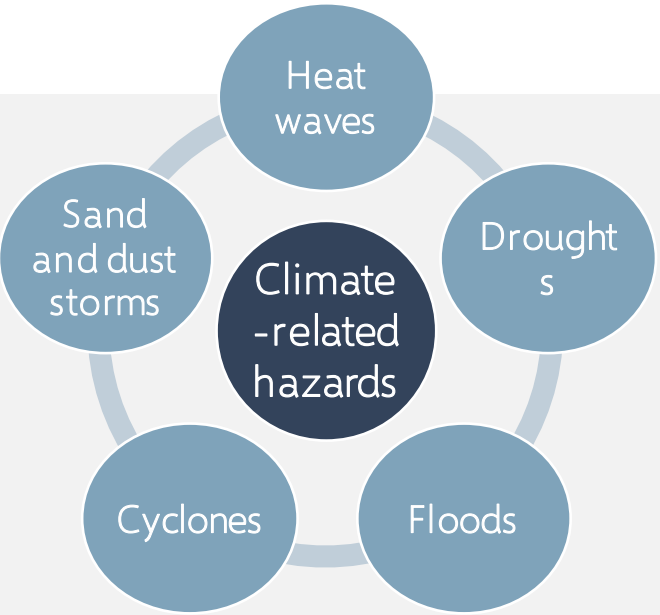
2017 Fiji COP Recognized the Significance of the Agriculture & Food Security in Climate Change Agenda (KJWA)



By 2025, Climate change will expose:

➔ 20 million people will be affected by rising sea levels and coastal flooding

➔ 100 million people will be exposed to water stress, including droughts

Koronivia Joint Work on Agriculture
KJWA: an Arab Regional Perspective

Exposure and sensitivity to climate change by farming sector

Farming system	Exposure: Expected climate related impacts	Sensitivity: likely impacts on farming systems
Pastoral	‣ Increased aridity ‣ Greater risk of drought ‣ Reduced water for livestock and fodder	‣ Very vulnerable system, where desertification may reduce carrying capacity significantly ‣ Increase in non-farm activities, exit from farming, migration

Droughts

> 1 million people displaced
internal displacement and social tensions (1998-2000 and 2007-2010)

about 4 million people were displaced by 2011
close to 900,000 people were displaced (2016-2017)
>1 million people internally displaced – *disaster induced* (2020)

➔ Contributing to **migration**

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Projecting Agricultural Productivity within Climate Change

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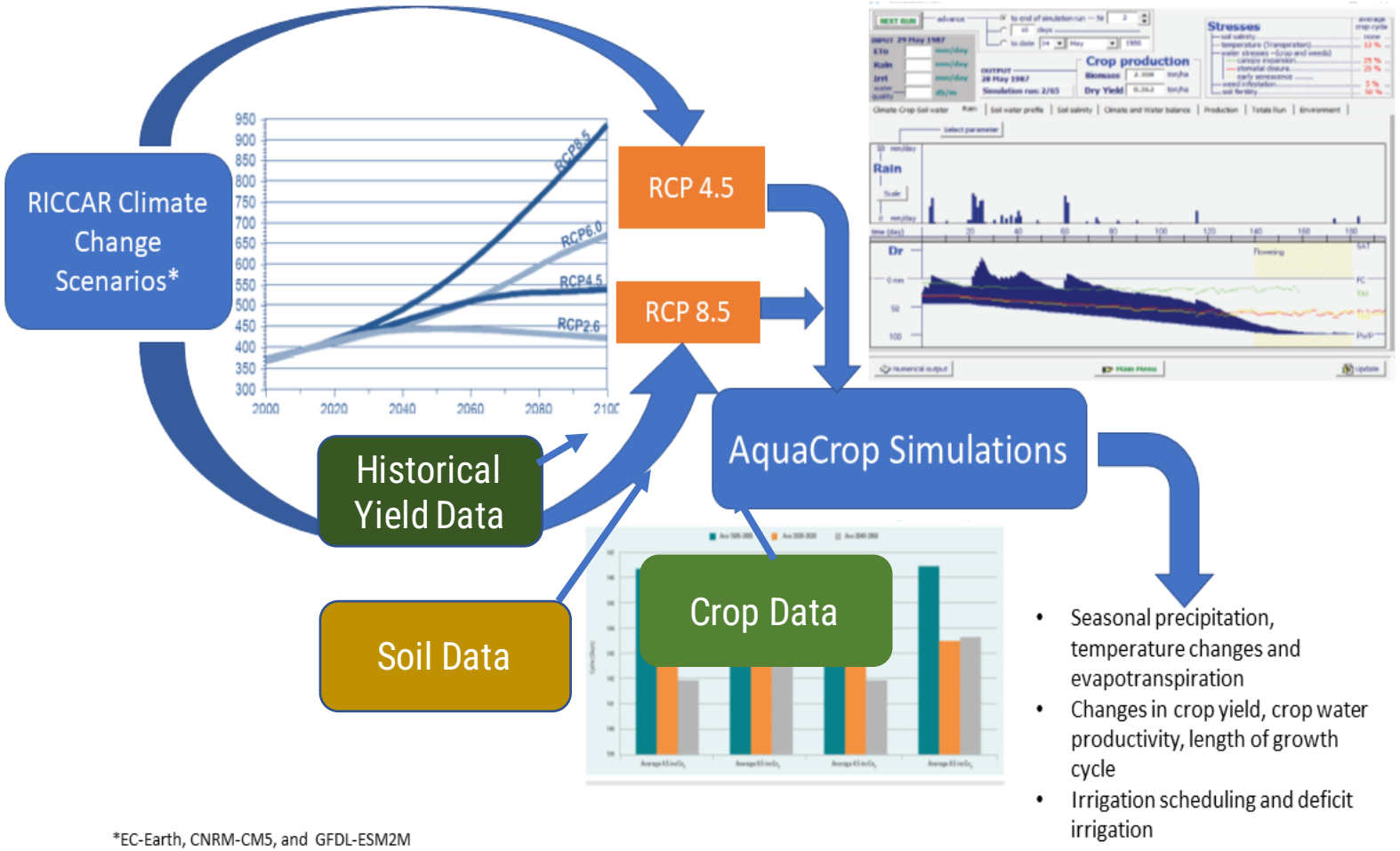
THE LEAGUE OF ARAB STATES
THE ARAB CENTRES FOR THE STUDIES OF ARID ZONES AND DRY LANDS
ACSAD 1968



*EC-Earth, CNRM-CM5, and GFDL-ESM2M

9 Case Studies for 9 Countries

Studies were conducted on the impacts of climate change on irrigated crops: **tomato**, **wheat** and **potato**.

Results from these studies informed on:

- Crop yields
- Sowing dates
- Length of growth cycle
- Irrigation depth and time including supplementary irrigation
- Crop varieties

Addressing Migration… through Enhancing Resiliency of Agriculture Sector, and Enhancing Food Security

Cross sectoral coordination (ministerial & technical levels), ensuring stakeholders engagement, & building solid partnerships to address climate change, migration and food security

Performing periodic risk assessments to evaluate short, medium &long-term decision-making

Improving data collection, reporting, and sharing

Promoting research on climate change adaptation measures and their impact on migration

Formulating adaptation measures with identified priority areas within displacement and migration (short and long terms ones)

Using innovative and improved agricultural technologies: affordable, adaptable to the region & improve crop & water productivity

Investing in nature-based solutions: use of drought-resistant varieties, efficient water storage methods & practice crop rotation

Promoting rainwater harvesting, application of supplementary irrigation for rainfed agriculture

Improving water allocation for agriculture amidst rising temperatures and increased water requirements

Mobilizing resources for investment in agriculture value chains

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Shared Prosperity Dignified Life

Thank you !