League of Arab States
Arab Organization for Agricultural Development
جامعة الدول العربية
المنظمة العربية للتنمية الزراعية

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Sustainable Agriculture Development in Drylands in the Arab Region

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2. Sustainable Agriculture Development (SAD) in Drylands definition,
3. Consequences of non-sustainable Agriculture,
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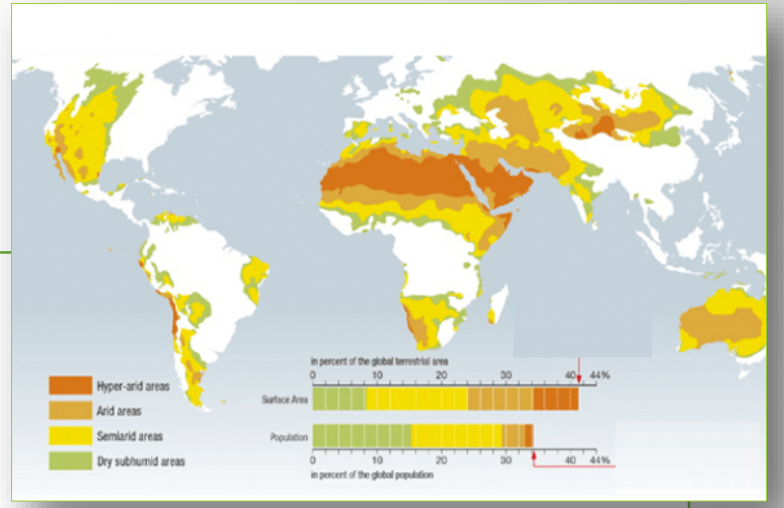
Drylands at a glance



- Drylands include dry sub-humid, semi-arid, arid or hyper-arid climates,
- They represent about **40% of the earth's land surface**,
- They are home to more than **2 billion people**.
- They contribute to **50 % of the livestock production,**
- Drylands are often characterised by **water scarcity**, **low vegetal cover**, **meagre soils**, lower productivity, higher population pressure and **land degradation**.

Ekaya, W.N. (2007). Strategies for Developing Dryland Agriculture: Role of Knowledge. CTA. http://knowledge.cta.int/en/content/view/full/4104)
Map: https://treeyopermaculturereedu.com/chapter-11-dryland-strategies/)

A brief on the Arab Nation (AN)

- 22 States, 10.3% of the global land area
- Drylands and deserts represent 80% of the region.
- Population of 440 million (2019), growth rate of 2.2% (global average 1.25%).
- Forests: 52 million hectares (4% compared to 30% worldwide in 2015)
- Rangelands: 397 million hectares (30%)
- Agriculture: 71 million hectares (6%), 14 million ha irrigated (20%),
- Livestock: 60 million heads of cattle, 276 million small ruminants and 17 Million camels.

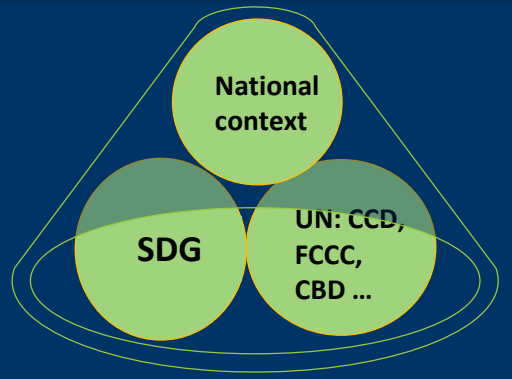
Sources: (AOAD Statistics 2016, FAO, FRA 2015, WB, 2014)

What is Sustainable Agriculture Development in Drylands (SADD)?

☛ Cope with Dry Environment:

- Water shortage & drought,
- Poor soils,
- Hot temperatures,
- Limited resources,
- Inflated population
- Relatively high rate of poverty,
- Lower technicity,
- Fragile environment,
- Land degradation

Produce food, feed and fiber, and assure Food Security for all (FS is when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life.)

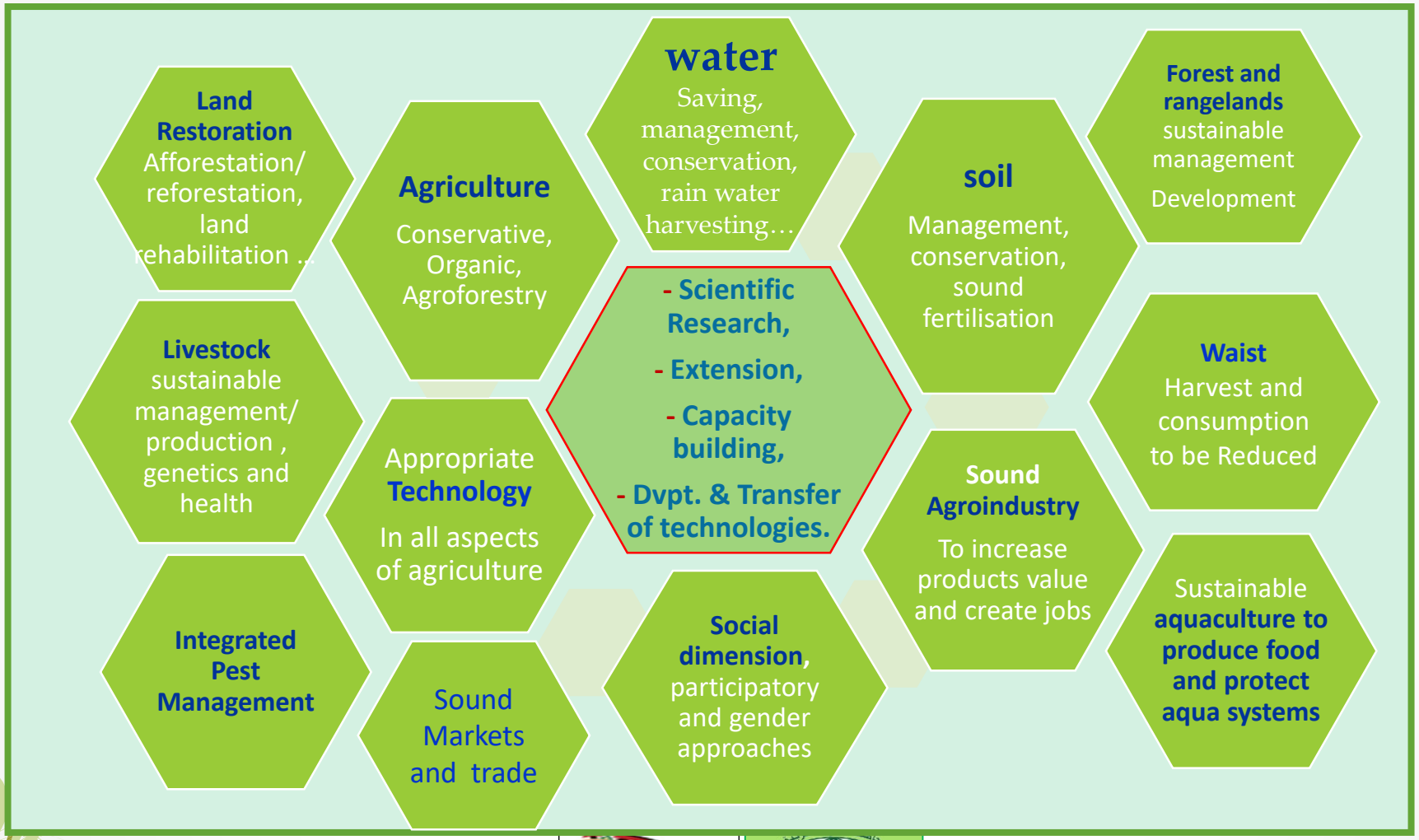


Assure Sustainability (Productivity, profitability, quality of life, and conservation and expansion of the resources and biodiversity),

Adopt

- integrated approaches at various scales (farm, ecosystem, community, national, regional and global levels
- Good practices

Sustainable Development Agriculture in Drylands: Options and Practices



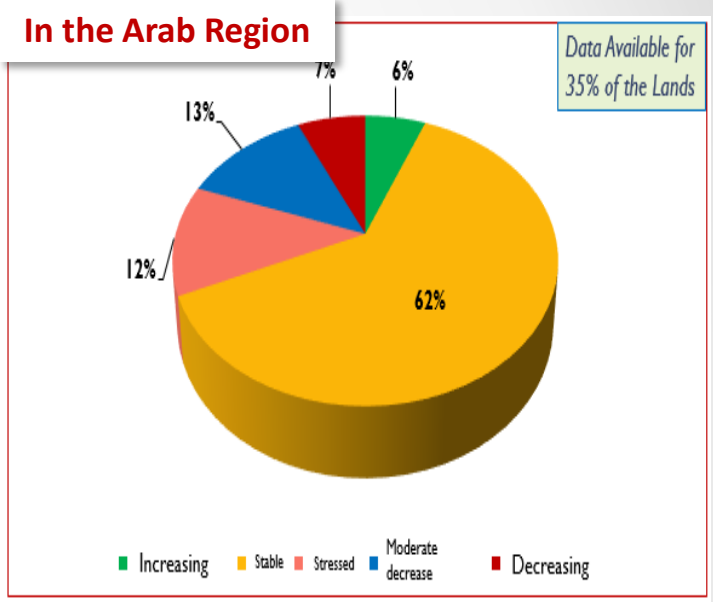
Consequences of non-sustainable Agriculture in the Arab Region and in the World

- Expansion of intensive agriculture aiming at maximizing the production of food and fiber at the expense of the natural resources and environment, led to land degradation and desertification of about 19.2% of the global land surface and reaching up to 73% in some countries in the Arab Region. Degradation takes diver forms *(UNCCD)*:
  - Change in land cover, deforestation,
  - Loss of Biodiversity,
  - Drop in productivity,
  - Soil deterioration, desertification, sand and dust storms.
  - Poverty, Hunger and Migration,
  - Drop in resilience to droughts and to CC…

Land Productivity Trend 2000-2015

Globally	Declining		Stressed		Stable or increasing		No data	
(Area in km2 1000s)	Area	%	Area	%	Area	%	Area	%
Tree-covered areas	1 296.3	4.8	1 989.9	7.3	23 862.7	87.6	94.2	0.3
Grassland	2 748.1	14.8	2 248.6	12.1	12 314.2	66.2	1 288.6	6.9
Cropland	1 440.3	10.5	1 433.5	10.4	10 814.8	78.6	64.6	0.5
Wetland	95.3	2.8	125.9	3.7	834.6	24.2	2 387.1	69.3
Total	5 580.0	8.9	5 797.9	9.2	47 826.3	75.9	3 834.5	6.1

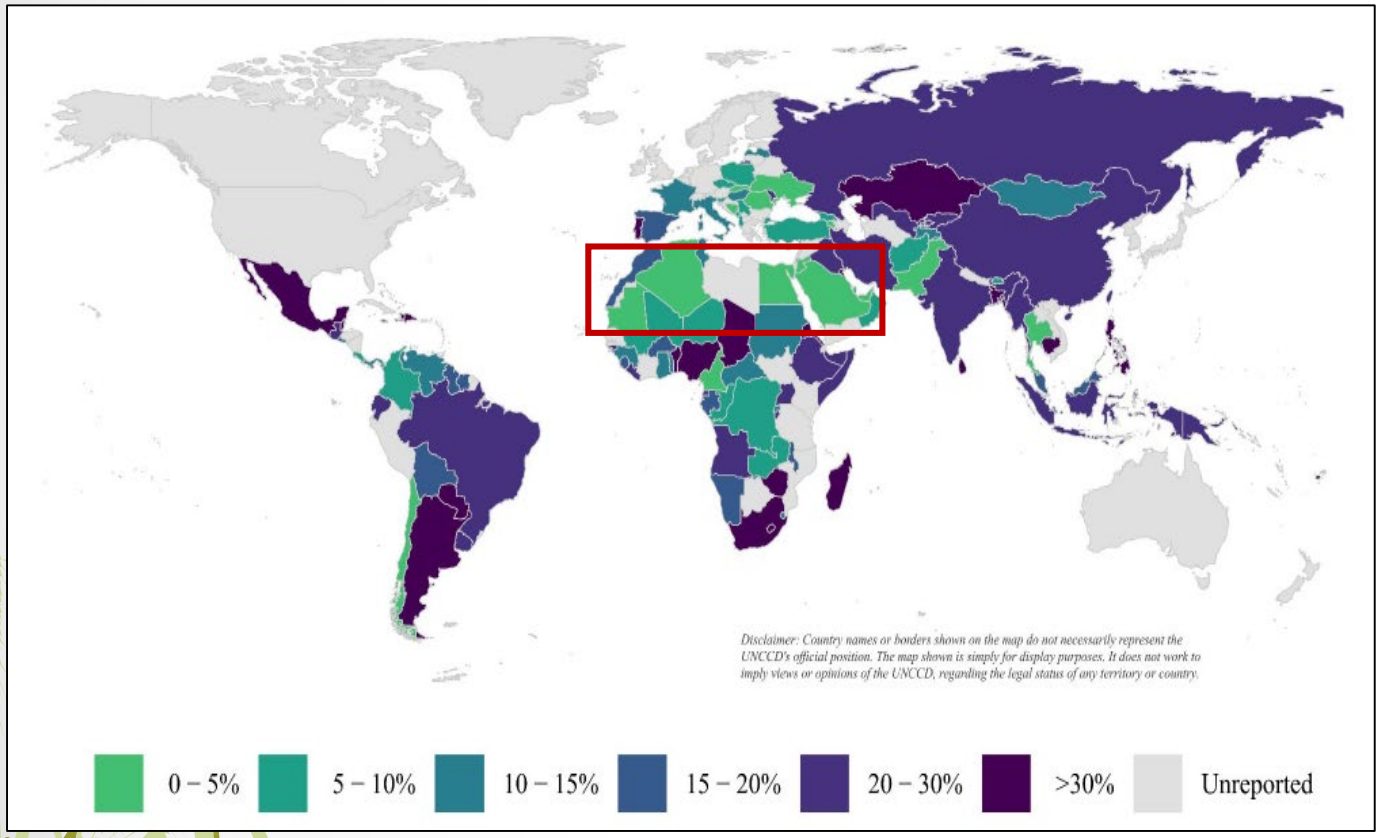
In the Arab Region



- Globally, 76% stable/increasing, & 18.1% of land productivity is declining/stressed
- The greatest decline in grasslands and croplands,
- In the Arab Region: stable in 62% of the lands, increased in 6% and declined/stressed in 32%,
- There is greater loss in productivity in the Arab Region

Sources: UNCCD. 2019. ICCD/CRIC(17)/2 And AOAD.2019. First Arab Report on LDN.*

Proportion of degraded land relative to total land area (SDG indicator 15.3.1) as reported by UNCCD parties



- Land degradation globally ranged between 0 and 73%, with 19.2% avg.
- It was more intense in Asia (24%), South America and certain African countries (17%).
- In the Arab Region avg. 7.3% (1-73%) (A report by ACSAD in 2003 estimated the LDD in the AR at 60%) .
- The default data provided by the UNCCD and utilised by Arab countries seems to underestimated the phenomenon and proves the need for adapted approaches, methods and techniques for dry lands.

*Sources: UNCCD. 2019. ICCD/CRIC(17)/2**

Causes of land Degradation in the AR

Direct causes:

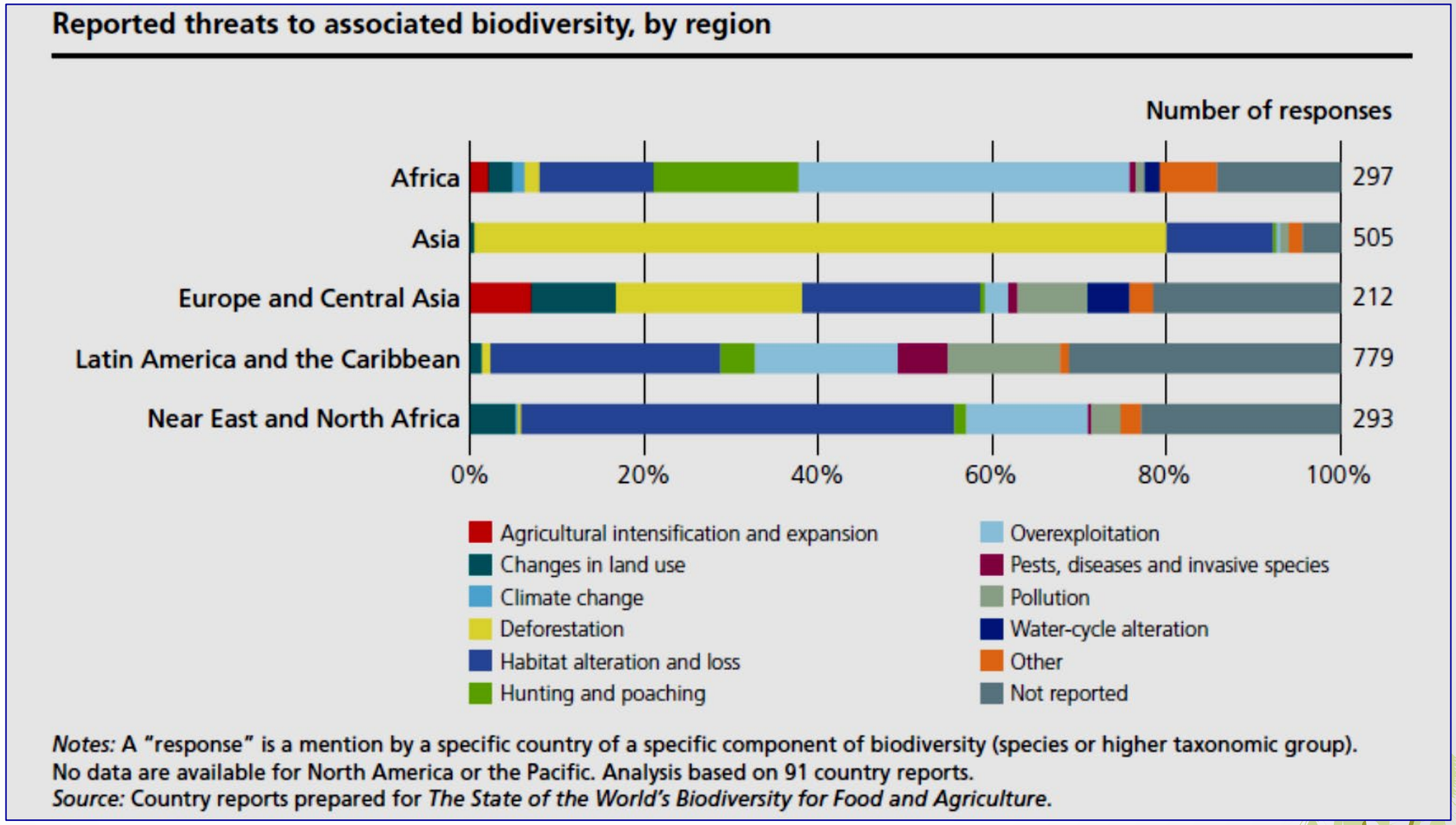
- Improper management
- Overexploitation of land resources
- Disturbance of the hydraulic cycle
- Deforestation
- High livestock stocking rates and overgrazing
- Urban and industrial activities
- Pollution by industrial and agricultural chemicals

Indirect causes

- Population pressure
- Wars and conflicts
- Poverty
- Land tenure
- Shortage in labour force
- Poor governance, policies,
- Low level of education,
- Lack of efficiency.

Threats to Biodiversity for Food & Agriculture

- The main threats in the AR are from loss of habitats, overexploitation and changes in land use.
- In Asia, mainly deforestation and habitat loss
- In Africa, Overexploitation and habitat loss .



FAO. 2019. *The State of the World's Biodiversity for Food and Agriculture*

Reported levels of adoption of selected management practices and approaches, all production systems aggregated

	Africa		Asia		Europe and Central Asia		Latin America and the Caribbean		Near East and North Africa		North America		Pacific		Non-OECD		OECD		World	
Number of reporting countries	**19**		**9**		**23**		**16**		**13**		**1**		**10**		**72**		**19**		**91**	
Practices and approaches	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Management practices and production approaches																				
Organic agriculture	7	37	6	67	18	78	8	50	4	31	1	100	3	30	31	43	16	84	47	52
Low external input agriculture	7	37	5	56	11	48	5	31	4	31	0	0	1	10	24	33	9	47	33	36
Sustainable soil management	9	47	5	56	11	48	9	56	3	23	1	100	1	10	27	38	12	63	39	43
Management of micro-organisms	8	42	5	56	6	26	4	25	3	23	0	0	1	10	22	31	5	26	27	30
Conservation agriculture	9	47	4	44	9	39	9	56	4	31	0	0	1	10	28	39	8	42	36	40
Integrated plant nutrient management	8	42	5	56	15	65	8	50	3	23	1	100	2	20	28	39	14	74	42	46
Integrated pest management	7	37	6	67	15	65	8	50	5	38	1	100	3	30	30	42	15	79	45	49
Pollination management	5	26	3	33	12	52	7	44	3	23	1	100	0	0	19	26	12	63	31	34
Enrichment planting	7	37	5	56	8	35	6	38	4	31	0	0	1	10	24	33	7	37	31	34
Reduced impact logging	7	37	3	33	10	43	4	25	1	8	0	0	1	10	18	25	8	42	26	29
Genetic improvement																				
Domestication	7	37	6	67	10	57	4	25	2	15	0	0	1	10	20	28	10	53	30	33
Base broadening	6	32	6	67	10	43	5	31	3	23	0	0	2	20	22	31	10	53	32	35

Notes: The figures indicate the number (and percentage) of countries reporting the respective practice or approach in one or more production-system categories. Blue-coloured cells indicate cases in which 50 percent or more of the countries report the practice or approach. Analysis based on 91 country reports.
Source: Country reports prepared for *The State of the World's Biodiversity for Food and Agriculture*.

FAO. 2019. The State of the World's Biodiversity for Food and Agriculture

Food Security and Sustainable Agriculture Strategies in the Arab Region

FOOD BALANCE FOR MAJOR FOOD COMMODITY GROUPS IN THE ARAB REGION, 2009-2016

		RED MEAT	POULTRY MEAT	FISH	FRUITS	DATES	SUGAR
Self Satisfaction Rate (%)	Average 2009-2013	82.0	66.8	104.8	97.5	98.1	38.1
	2016	84.4	67.4	106.6	99.8	115.3	50.3
Progress 2009-2016		2.5	0.5	1.8	2.3	**17.2**	**12.2**

		CEREALS	POTATOES	PULSES	VEGETABLES	FATS & OILS	EGGS	MILK & Dairy PRODUCTS
Self Satisfaction Rate (%)	Average 2009-2013	46.4	100.0	73.7	100.7	44.5	96.2	88.1
	2016	37.7	92.3	48.4	100.2	40.4	91.3	80.6
Progress 2009-2016		**-8.7**	**-7.7**	**-25.3**	-0.5	-4.1	-4.8	**-7.5**

AOAD. 2017. Arab Agricultural Statistics Yearbooks. Vol 37. Khartoum

The Strategy for Sustainable Arab Agricultural Development 2007-2025…

- In 2007, the Riyadh Arab Summit approved the Strategy and Called on the States and AOAD to embark on implementing it in coordination with all the concerned parties.
- **Objectives:**

1. Strengthen food security,
2. Assure the sustainability of the Arab agricultural resources,
3. Strengthen the holistic approach in the Arab agricultural systems,
4. Achieve a common Arab agricultural policy,
5. Assure stability and increase resilience of the Arab rural communities.

- AOAD and the Arab countries collaborate to implement this strategy with FAO and the other national, regional and international organisations and Funds and the private sector.

Progress in the implementation of the strategy in Arab States

For the 2017-2021 period:

	Projects which are implemented or under implementation				Total Number of Projects	Projects prepared lacking funding	
	Projects with known budgets		Projects with un known budgets			Number	Cost in BUS$
	Number	Cost in B$	Number	Cost in B$			
Total	1881	**31.93**	108	-	**1989**	150	15.13

For the 2017-2021 period: The budget required to implement the Strategy's programmes and projects during this period is: 20.846 Billion US$ (B$)

investment costs	Operating costs	vegetal production	livestock sector	Public funding	Private sector
17.086 B$	3.760 B$	66.62 B$	33.38 B$	44.8%	55.2%

Other Arab strategies aimed towards Sustainable Dryland Agricultural Development

At the Regional Level

• Arab Strategy for Aquaculture	2017 - 2037
• Arab Strategy for Water Security	2010 - 2030
• Arab Rangeland Strategy	2020 - 2040
• Arab plan to support countries to achieve LDN	2018 – 2030

At the National Level

- National Sectorial Strategies and Action plans concerning all Agricultural Sector.
- National Action Plans, voluntary goals and commitments to major Environmental UN Conventions, including UNCCD, UNFCCC, CBD, …and the UN SDG.

Conclusions and recommendations

1. SAD in drylands offers solutions to overcome water scarcity, produce enough food and fiber, achieve LDN, SDG, conserve biodiversity and face CC.
2. Dryland areas are lagging behind in terms of adoption of the Sustainable agriculture development practices,
3. The G20 can and are called upon to provide the assistance to drylands' countries, farmers and livestock producers, communities and organisations, operating in these areas, in terms of:
   - Funds,
   - Scientific and technical assistance,
   - Capacity building,
   - Information management and extension.


Thank you
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