



**World Day to Combat
Desertification and Drought 2018**
Smart Choices to Preserve our Land

Economic and Social Commission for Western Asia

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United Nations publication issued by ESCWA.

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The challenge

The World Day to Combat Desertification (WDCD) is celebrated every year on 17 June. It has been observed since 1995 to promote awareness and actions to combat land degradation and desertification and the effects of drought. The United Nations Convention to Combat Desertification (UNCCD) – the lead international organization on land degradation and desertification and the achievement of related Sustainable Development Goals – declared the 2018 WDCD theme as “Land has true value. Invest in it.” The theme aims at highlighting that “land is a tangible asset with measurable value beyond just cash. That value is lost through degradation”, as noted by the UNCCD Executive Secretary while unveiling the theme¹. The hope is to raise awareness on the importance of revitalizing livelihoods and communities through wise consumption by choosing products that promote land sustainability. The slogan draws attention to the fact that our choices and decisions on what we eat, drink or wear impact the land we depend on, either positively, i.e. promote conservation, or negatively, i.e. promote overuse and degradation.

The Arab region has limited land resources while it faces daunting challenges that include high population and urbanization growth rates, resource overexploitation, diminishing water resources, decreasing biodiversity, land degradation and desertification and global warming to name a few. These challenges are adding pressure on the region’s land resources declining the per capita share of arable land by almost half – from 0.31 to 0.17 ha – during the last three decades. It is anticipated that by 2030 and 2050, the per capita arable land availability will further drop to 0.13 and 0.10 ha respectively.² However, available land could decline further depending on the impact of climate change on temperatures and water resources, among other factors, which affect the productive capacity of soils.

Nexus between consumption and land resources

Prevailing consumption patterns in the Arab region have negative impacts on land and water resources as they lead to the rapid depletion and/or degradation of these already scarce resources.

For example, in many areas, groundwater levels have dropped significantly due to farming in less than optimal conditions and this is putting livelihoods in jeopardy. Unsustainable water use has lead Saudi Arabia to irremediably discontinue the production

Per capita ecological footprint and biocapacity (2014)³

Country	Biocapacity (gha)	Ecological footprint (gha)	Biocapacity Reserve(+) /Deficit(-)
GCC (weighted)	0.6	-7.3	-6.7
Bahrain	0.5	-8.1	-7.6
Kuwait	0.6	-7.6	-7.0
Oman	1.5	-6.3	-4.8
Qatar	1.2	-15.7	-14.5
Saudi Arabia	0.4	-6.0	-5.6
United Arab Emirates	0.6	-9.8	-9.2
Maghreb (weighted)	0.7	-2.3	-1.6
Algeria	0.6	-2.5	-1.9
Libya	0.7	-4.3	-3.6
Morocco	0.8	-1.7	-0.9
Tunisia	0.8	-2.2	-1.4
Mashreq (weighted)	0.4	-2.0	-1.6
Egypt	0.5	-2.0	-1.5
Iraq	0.3	-2.1	-1.8
Jordan	0.2	-2.1	-1.9
Lebanon	0.3	-3.4	-3.1
Palestine	---	---	---
Syria	0.5	-1.5	-1.0
Arab LDCs (weighted)	1.0	-1.2	-0.2
Comoros	0.3	-0.8	-0.5
Djibouti	0.8	-2.9	-2.1
Mauritania	4.4	-2.3	2.1
Somalia	1.2	-1.2	0.0
Sudan	1.1	-1.2	-0.1
Yemen	0.4	-1.0	-0.6
Arab (weighted)	0.4	-1.8	-1.3
Brazil	8.9	-3.1	5.8
Canada	15.2	-8.0	7.2
World	1.7	-2.8	-1.1

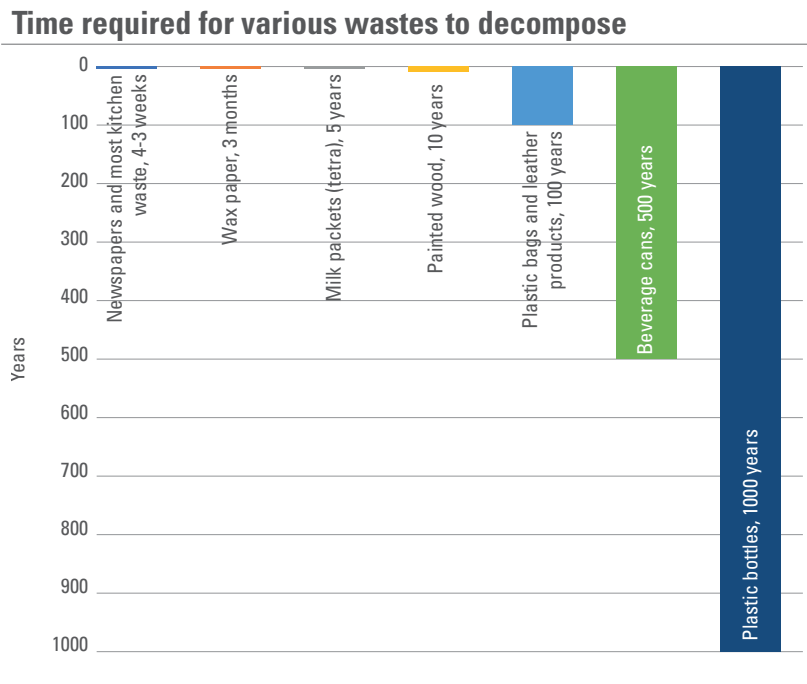


of wheat though farming the desert, yet it is still expanding in Algeria and Egypt. Data from the Global Footprint Network (table above) show that all Arab sub-regions are above their reserve in terms of biocapacity – ability to generate resources and absorb waste internally – expressed in per capita global hectares (gha), the measurement unit for ecological footprint and biocapacity and is equivalent to the average world biological production and human waste per hectare of biologically productive land. The biocapacity deficit stands at 6.7 gha for the Gulf Cooperation Council (GCC) countries, at 1.6 gha for both Maghreb and Mashreq countries, at 0.2 gha for the Arab Least Developed Countries (LDCs) and at 1.3 gha for the entire Arab region. The biocapacity deficit is even higher for selected countries, reaching 14.5 gha for Qatar for example, with Mauritania being the only Arab country showing a positive biocapacity reserve of 2.1 gha. For comparison, the biocapacity reserve of Brazil and Canada stand at 5.8 gha and 7.2 gha respectively while the World has an overall average deficit of 1.1 gha.

Any consumption entails resource exploitation and waste generation. Unsustainable consumption is a scourge of humanity, as it leads to rapid resource depletion and degradation including land and water resources. It is often highlighted that an animal-based diet for a single person requires on average an equivalent land of 2 football fields to produce whilst the same area could feed 14 people on a plant-based diet. On the other hand, it is reported that the time needed by waste to degrade, varies as shown in the graph below.

Development and economic growth, including in poor countries, have led to an increase in consumption and waste as people have been able to afford more food, clothing, electronics, energy or packaging. The higher level of affluence has made waste worthless in value terms, which has led to its increase in volume terms.

As a result, groceries are bought pre-packaged and taken home in plastic bags; electronic items are more prevalent and changed frequently even if not broken; forests are cleared for wood for farming; fossil fuels are more prevalent despite their potential to pollute and contribution to global warming; and cities and manufacturing are generating substantial amount of chemicals and other barely-degradable wastes. These unsustainable consumption patterns have a negative impact on land and water resources and ultimately on humans with women and children being among the most affected. Notably, as women provide most labor on land and within the household and are responsible for most domestic chores they play a significant role in waste generation, management and disposal which needs to be recognized and assessed while putting forward remedial actions.



Farming the Sahara in Algeria and Egypt

In Algeria and Egypt, there is an increasing trend of farming around oases deep in the Sahara Desert by digging wells for irrigation from non-renewable groundwater resources. In Algeria, 40 percent of the potatoes on the market is cultivated around El Oued, a Sahara Desert town, using over-crop sprinkler pivot irrigation, which help cool crops while leading to substantial water evaporation (<https://www.potatopro.com/algeria/potato-statistics>) and <https://www.ars.usda.gov/ARSEUserFiles/21563/Irrigation%20Technologies%20Comparisons.pdf>). In Egypt, irrigated agricultural production has increased around the Oases of Bahariya and Farafra where the aim is to reclaim 1.5 million feddans from the desert through irrigation by pumping groundwater resources from the Nubian Sandstone aquifer (<http://www.takepart.com/feature/2016/01/08/desert-farming-egypt>). In both cases, the water is being pumped from fossil aquifers, which are not replenished meaning that agricultural production will be possible only until the aquifers run dry. This will greatly impact life in neighboring Oases and towns, which depend on those aquifers for their water needs.



Watering the Sahara desert, Algeria @shutterstock_1081145243

SEKEM: Producing food sustainably – organic agriculture

Organic agriculture is an alternative form of agriculture production which emphasizes the use of natural substances and practices including fertilizing with manure or compost, controlling pests with substances of biological origins, controlling weed through mechanical processes or maintaining soil health through crop rotation to name a few. It forbids the use of most manufactured or synthetic products as well as the use of genetically modified organisms. As such, organic agriculture promotes sustainability and food safety among others. Many related initiatives have been launched in the Arab region in this regard but, probably, one of the well-known schemes is the Sekem in Egypt, which has been operating for the last 40 years. It relies on biodynamic agriculture, which is a form of organic agriculture that strives to be self-contained in self-sustaining ecosystem. Among others, Sekem reclaims desert land and turns it into living and healthy soils through organic means including composting and use of resilient crops and natural predators. Sekem products are certified organic based on international norms.



(See also: <http://www.sekem.com/en/ecology/sekem-agriculture/slr/>)

Moving towards smart choices

Adopting responsible consumption patterns could help support the maintenance and improvement of the region's fast depleting and degrading natural resources. Through smart consumption, smart shopping and smart decisions, it is possible to help improve land resources both through increased efficiency – more persons fed per unit of land – and through low and easily degradable waste generation. Enhanced land sustainability constitutes an indirect non-monetary investment in land. Given the important role of women in the household, as main supporter and organizer of family life, greater outreach should be devoted to them while considering the below initiatives:

FAVOR organic produces whenever possible since these are produced with minimal impact on the environment. With little use of synthetic chemicals, there is reduced risk of land and underground water resources contamination compared to conventional agriculture (see box Sekem in Egypt). The adoption of Good Agricultural Practices (GAPs) could provide an intermediate option to the more stringent organic agriculture system as it advocates for the use of less inputs and less waste generation;

CHOOSE items that were produced through sustainable means or which support sustainability. Smart choices might include avoiding produces that involve substantial deforestation such as those containing palm oil. Farming in harsh desert environment where mining non-renewable water resources is the only option needs to be discouraged (see above box on farming the desert in Egypt and Algeria) in favor of more sustainable production systems relying on the use of renewable water sources supported by advanced management methods (e.g., drip irrigation, precision systems, improved tillage practices, cover crops use, etc.). Choosing products that enhance resilience to different environmental stresses is recommended. These include products which are certified to comply with certain sustainability criteria such as green, animal welfare, forest and water stewardship, sustainable seafood, organic, bio-based or GAPs (Good Agricultural Practices);

Food by the scoop

In many supermarkets and specialized stores around the world, it has become increasingly possible to find self-serve food items which minimize packaging. Customers are encouraged to bring their own containers for a refill, which could be bags but also pots, jugs, bottles or whatever they feel comfortable using. Though most products sold unpackaged are dried, e.g. grains, beans, pulses, legumes, rice, seed, nuts, flours, sugars, seaweed or dried fruits, new items are being added. It is becoming increasingly common to find frozen items as well, which are sold in single portion that allow customers to buy the amount needed for cooking in a bid to reduce potential waste.



<http://www.grubstreet.com/2017/08/zero-waste-supermarket-doesnt-sell-anything-in-packages.html>

REMEMBER the 3Rs: Reduce, Reuse, Recycle:

REDUCE waste and ecological footprint as much as possible through a reduction of purchases, packaging and waste generated. Options include making a list of items to buy as spontaneous decisions result in superfluous purchases, opting for repairing rather than buying new, swapping napkin paper for cloth, making an inventory of items owned, buying good quality items to be used longer, reducing buying temptations, allowing decision time before purchases, buying

Recycling

Rates of waste output in the UAE are among the world's highest and the UAE's landfills contain a large percentage of materials that could be recycled. This has led to the Government of the UAE taking a more proactive approach to recycling. Including the introduction of a zero waste to landfill strategy by Abu Dhabi, Dubai, and Sharjah and the opening of several new recycling centres in the country. The Government of the UAE is also looking at waste to energy projects whereby energy (such as electricity or heat) is generated from the incineration of waste.

<http://www.nortonrosefulbright.com/knowledge/publications/125011/10-things-to-know-about-sustainability-in-the-uae#section9>

unpackaged products or products in bulk to reduce packaging waste (see box), considering sharing single- or infrequently-used items, as well as considering carpooling or the use of public transportation systems, etc.;

REUSE items for which this could be done safely. Ideas could include using reusable water bottles, mugs, lunch boxes, snack bags or pots; using reusable shopping bags, also known as bag-for-life, in lieu of single-use paper or plastic bags; cleaning used jars to be used as containers or using old or stained t-shirts for cleaning spills, as well as promoting the use of irrigation water drainage or gray wastewater;

RECYCLE whenever possible to give products a second life while reducing waste. This would include sorting paper, plastics, tin cans and glasses from food and hazardous waste such as chemicals among others for recycling, using plastic bottles for drip irrigation of plants, as well as composting safe biodegradable waste or reusing treated wastewater for certain purposes.

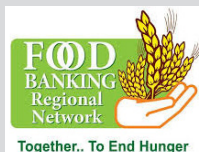
Within the moving towards smart choices framework, emphasis should be put on:

1. **RAISING AWARENESS** on how to invest in land by making smart daily choices. The outreach would be extended to all levels, nation-wide

and local, rural and urban, in school and on the job, and targeting all age groups with appropriate messages using a wide range of media including, among others, organizing dedicated events (educational, fundraising, farm/nature visits, etc.), organizing contests (video, pictures, essays, etc.), infographics and pamphlets including logos on stickers, t-shirts or mugs, etc. Additionally, go green by saving on energy and water, eating smart (e.g. less meat for example as highlighted above), skipping bottled drinks, etc.

2. **EMPOWERING** women, as prime handlers of domestic waste and educator of children. Improved practices will be rapidly assimilated for a more direct and sustainable outcome as it pertains to smart consumption, smart choices and wise decisions. In addition, women are usually eager and willing to learn new things and to share practical experiences both formally and informally, an opportunity that might be lost if they are not actively involved.

Food waste reduction, an effective approach to reduce pressure on agricultural land and feed the needy – Establishing food banks in the Arab region



Food loss and waste in the Near East and North Africa region (NENA) are estimated at up to 250kg per person and over \$60 billion USD annually. The region loses and wastes up to 20 percent of cereals, 50 percent of fruits and vegetables, 16 percent of meat and 27 percent of fish and seafood. In contrast with other regions, where much food is wasted during consumption; in the Arab region, 44% of food loss occurs during pre/post-harvesting and 34% at the consumption stage.

The Regional Food Banking Network in Dubai was established to unify regional food banks operating in the field of alleviating hunger, fighting malnutrition and managing food waste. Egyptian Food Bank (EFB), created in 2006 and used as a model for other national initiatives, is a food bank that is showing significant results in feeding hungry Egyptian families while simultaneously reducing the quantity of wasted food within the country. The EFB started its “Saving Wasted Food” awareness program

in cooperation with the Egyptian Hotels Association, distributing unused food from participating hotels to feed insecure people living within the surrounding regions of the hotels. The 2010-founded Jordanian Food Bank (JFB) fights hunger through innovation and diversity aiming to contribute to ending hunger in Jordan by 2020. Projects include the hunger relief initiative that has created an outreach programme through its 20 distribution points in Jordan. When distributing the food aid, particular focus is placed on the elderly, children and infants who are the most vulnerable to food deficiency and malnutrition, as well as pregnant and breastfeeding women. The Lebanese Food bank, established in 2012 provides food on a daily basis to families and individuals in need mainly through the collection of surplus food from partner restaurants, hotels, caterers, supermarkets, and food exporters/importers. The Saudi Food Bank (Etaam) was established in 2012, collects quality meals with the help of regular employees and volunteers, and delivers them to beneficiaries recommended by charities in the utmost of privacy. In 2017, in partnership with the private sector, Etaam established a pilot educational programme at schools to increase awareness of the importance of food waste reduction, food preservation and healthy eating, and to promote the use of healthier products and to reduce obesity.



<http://www.fao.org/save-food/regional/northafrica/en/>

<http://www.foodbankingregionalnetwork.com/about-fbrn/>

<https://www.egyptianfoodbank.com/en>

http://www.princessbasma.jo/index.php?page_type=pages&page_id=505

<http://lebanesefoodbank.org/about/>

<http://saudifoodbank.com/>

References and other useful sites:

<http://www.recyclebeirut.com/>
<https://www.onegreenplanet.org/lifestyle/home-items-you-can-reuse-over-and-over-again/>
http://www.worldwatch.org/resources/go_green_save_green
<https://gogreeninitiative.org/>
<https://www.epa.gov/recycle>
<http://time.com/money/3070984/overspending-overconsumption-stuff/>
<http://www.gdrc.info/docs/waste/012.pdf>
<https://www.ars.usda.gov/ARSTUserFiles/21563/Irrigation%20Technologies%20Comparisons.pdf>
<https://www.youcaring.com/blog/2017/how-to-raise-awareness-for-a-cause>
<https://www.pinterest.com/pin/164944405080721419/>
<https://resources.plantricianproject.org/recipes1/content/286383fe6bf8411435d3655a40033a50/standard-american-diet-plant-based-diet>

Endnotes

1. <http://africasciencenews.org/unccd-to-focus-on-consumers-making-smart-investments-in-the-land#>
2. Computed from FAOSTAT data. Last accessed February 2018 (<http://www.fao.org/faostat/en/#home>)
3. <http://data.footprintnetwork.org/#>

