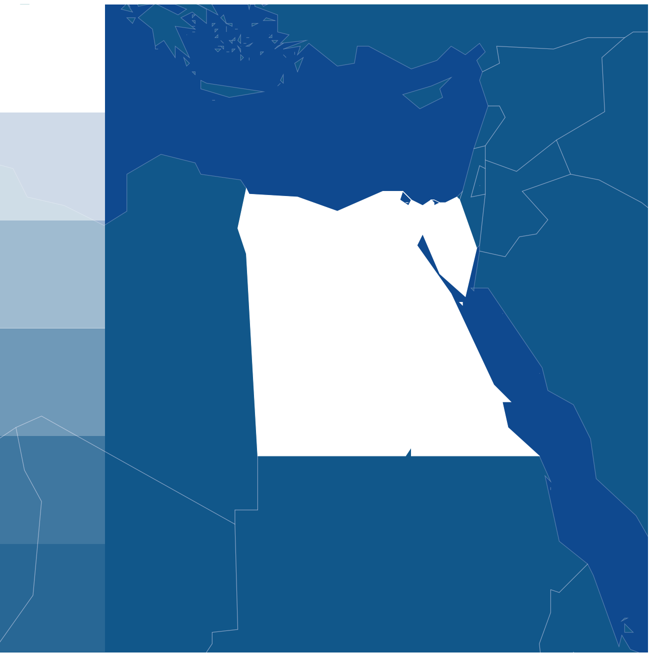
Egypt

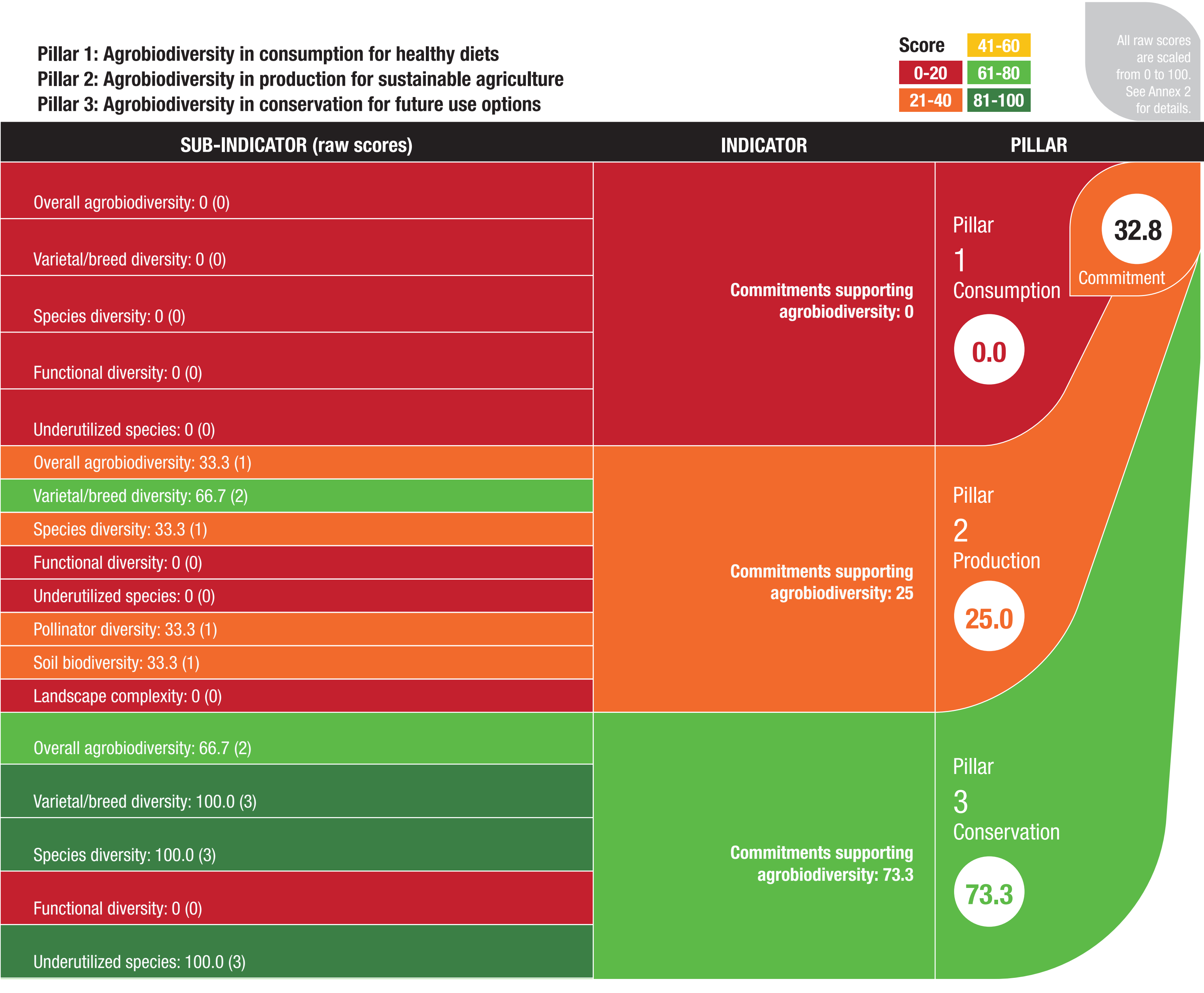
Country profile



AGROBIODIVERSITY INDEX

Key messages

- Egypt has an Agrobiodiversity Index status score of 47.6 reflecting a moderate to low integration of agrobiodiversity into the food system.
- In consumption, there is relatively high diversity in the food items available for consumption; nonetheless, the country experiences a moderate prevalence of diet-related diseases.
- In production, varietal and species diversity are high relative to other Mediterranean countries, yet there is potential to substantially integrate crop diversity and livestock in production, improve soil biodiversity, and increase the proportion of natural habitat in cropped landscapes.
- In conservation, varietal diversity in genebanks and crop wild relative occurrence diversity are relatively high compared to other countries, yet there is substantial room to improve *ex* and *in situ* conservation and species diversity, which are poorly represented in genebanks.
- There is potential for more diverse and stronger policies for integrating agrobiodiversity across the whole food system.



PILLAR	INDICATOR	SUB-INDICATOR (raw scores)
Status 47.6		
Pillar 1 Consumption 56.8	**Species diversity: 75.2**	Food diversity in supply (Shannon's Index): 75.2 (2.9)
	Functional diversity: 38.4	(Avoided) Disability Adjusted Life Years attributable to dietary risks per 100,000 adults: 38.4 (11,837)
	Underutilized species: 56.7	Energy from sources other than cereals, roots and tubers (%): 56.7 (34.0)
Pillar 2 Production 32.9	**Varietal/breed diversity: 67.5**	Livestock breed diversity (Shannon's Index): 67.5 (2.1)
	Species diversity: 50.5	Crop species richness in production (count): 61.0 (75.0)
		Crop species diversity in production (Shannon's Index): 51.4 (1.2)
		Cropland with high crop species richness (%): 13.2 (13.2)
		Freshwater fish species richness (average count): 75.7 (62.8)
		Livestock diversity in production (Shannon's Index): 51.3 (0.8)
	Soil biodiversity: 9.8	Potential soil biodiversity (Index 0 to 2): 9.8 (0.2)
	Landscape complexity: 3.9	Cropland with >10% natural and semi-natural habitat at 1x1km scales (%): 3.9 (3.9)
Pillar 3 Conservation 53.2	**Varietal diversity: 72.6**	Varietal diversity in genebanks (Shannon's Index): 72.6 (4.1)
	Species diversity: 60.8	Species diversity in genebanks (Shannon's Index): 56.8 (3.6)
		Crop wild relative occurrence diversity (Shannon's Index): 64.8 (4.2)
	Underutilized species: 26.1	*In situ* conservation of useful wild species (%): 49.0 (49.0)
		Ex situ conservation of useful wild species (%): 3.2 (3.2)
Action 41.0		
Pillar 1 Consumption 50.0	**Management practices supporting agrobiodiversity: 50**	Published diet guidelines (Yes/No): 0.0 (0.0)
		Published food composition tables (Yes/No): 100.0 (1.0)
Pillar 2 Production 24.3	**Diversity-based practices: 8.7**	Crop-livestock integration (% agricultural land with cropland and pasture): 17.3 (17.3)
		Integrated landscape initiatives (count): 0.0 (0.0)
	Management practices supporting agrobiodiversity: 39.8	Nitrogen use efficiency (kg N output per kg N input): 33.2 (0.4)
		(Inverted) Sustainable Nitrogen Management Index (Index 0 to infinity): 33.3 (53.0)
		Organic agriculture (%): 3.0 (3.0)
		Tree cover on agricultural land (%): 35.7 (10.7)
		(Avoided) pesticide use (kg per ha): 93.9 (2.1)
Pillar 3 Conservation 48.8	**Management practices supporting agrobiodiversity: 48.8**	Indicators reported to the World Information and Early Warning System on Plant Genetic Resources for Food and Agriculture (%): 48.8 (48.8)

Context

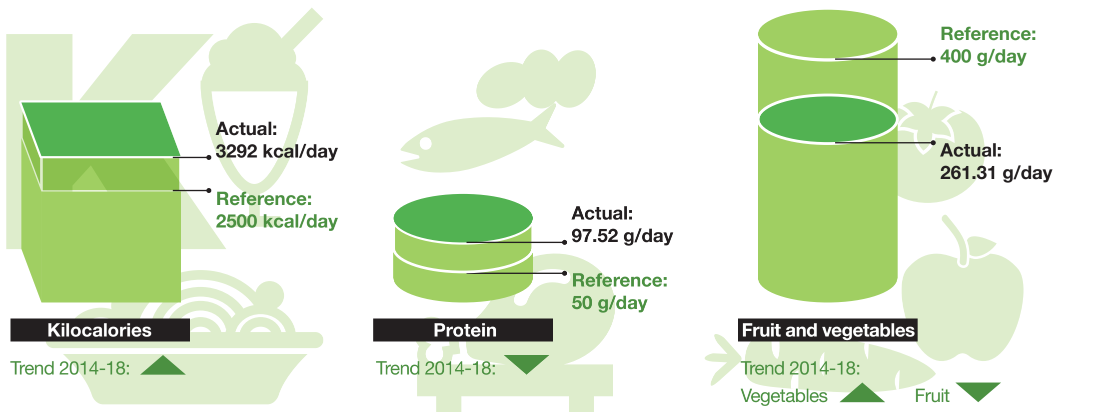
Egypt is a lower middle-income, developing country, with an annual GDP of about US$ 303.092 billion in 2019.[1] Egypt spans around one million km^2 of land area,[2] divided into agricultural land, barren land, urban areas, natural vegetation (aquatic and terrestrial), and water bodies.[3] Over 90% of Egyptian soils are desert; agricultural land represents only around 4% of the total area and it is mainly restricted to the Nile Valley and Delta.[4] Egypt counts above one hundred million inhabitants,[5] 43% of whom reside in urban areas.[6] Its population density is 99 people per km^2.[7] About 32.5% of the population were estimated to be living below the national poverty line in 2017,[8] and 6.1% of the population are vulnerable to multidimensional poverty[9] according to the latest survey data from 2014.[10]

Consumption for healthy diets

The Egyptian diet constitutes principally of cereals, fruit, legumes, vegetable, fish, meat, grains, and aromatic seeds and condiments (Figure 1).[11] Fava beans are the most widely consumed food, while dark green leafy vegetables and herbs are commonly used in various dishes. Bread made of wheat flour or wheat mixed with other ingredients is a key staple. Eggs, poultry, fish, and red meat are occasionally eaten. Fruit is consumed seasonally, and large quantities of nuts (along with peanuts) and dried fruit (including local dates) are traditionally eaten. The traditional diet is normally low in saturated fats and includes several traditional drinks and beverages based on natural products like fenugreek, as well as tea and unsweetened coffee.[12]

In Egypt, the average life expectancy of a healthy person is 72 years.[13] In 2018, 5% of the Egyptian population were undernourished[14] and in the period 2017–2019, 34.2% and 7.8% were facing moderate to severe food insecurity respectively.[15] Moreover, 2% of the population aged 20–79 suffered from diabetes[16] and, in 2016, 31% of reproductive women were anemic.[17] In 2014, the prevalence of stunting and wasting in children under five was 22.3% and 9.5% respectively.[18,19] An estimated 41.1% of adult women (aged 18 years and over) and 22.7% of adult men are living with obesity.[20]

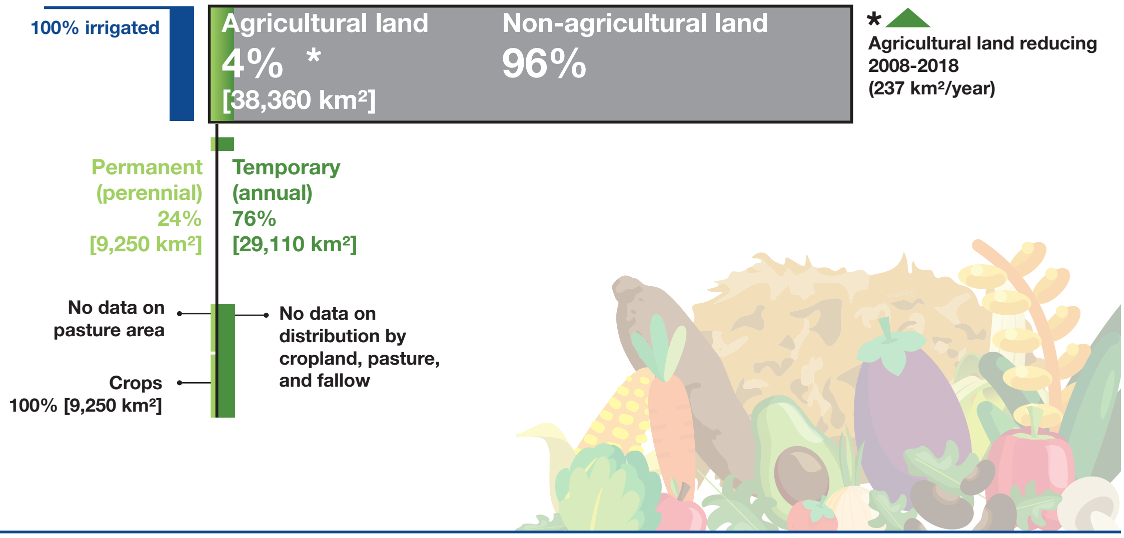
Figure 1: Kilocalorie, protein, fruit and vegetable supply



Production for sustainable agriculture

Only 3.9% of land area in Egypt (38,360 km^2) is under agricultural activities, with nearly 76% of that is used as arable land (Figure 2).[21,22] Agriculture is an important economic sector in Egypt, supporting the livelihoods of over half of the rural population and contributing to 23% of employment, of which 35% is female labor.[23,24] The agricultural sector has an annual contribution of 11% to the country's GDP.[25] Egypt's agricultural land is subdivided into the Oldlands, characterized as highly fertile areas that rely on the Nile Valley and Delta for irrigation, and the less fertile and more fragile Newlands, which are reclaimed desert lands.[26] The top three crops in terms of economic value contributing to GDP (in % of total contribution from agriculture) are wheat, maize, and rice.[27] Urban sprawl is a main cause of agricultural land loss, predicted to reach 18% by 2030 (~6,720 km^2).[26] Egypt produces about 1.5 million tonnes of fish and fishery products (mainly tilapia, catfish, grass carp, and mullet) through 25% of catch and 75% aquaculture.[28,29] Fish loss and waste is an important concern, driven by poor capacity in fish hygiene and basic fish technology.[29] Eggs, milk, and meat (chicken) are the three main animal-sourced food produced in Egypt, with an annual livestock production of approximately 16.3 million tonnes.[30]

Figure 2: Land used for agriculture

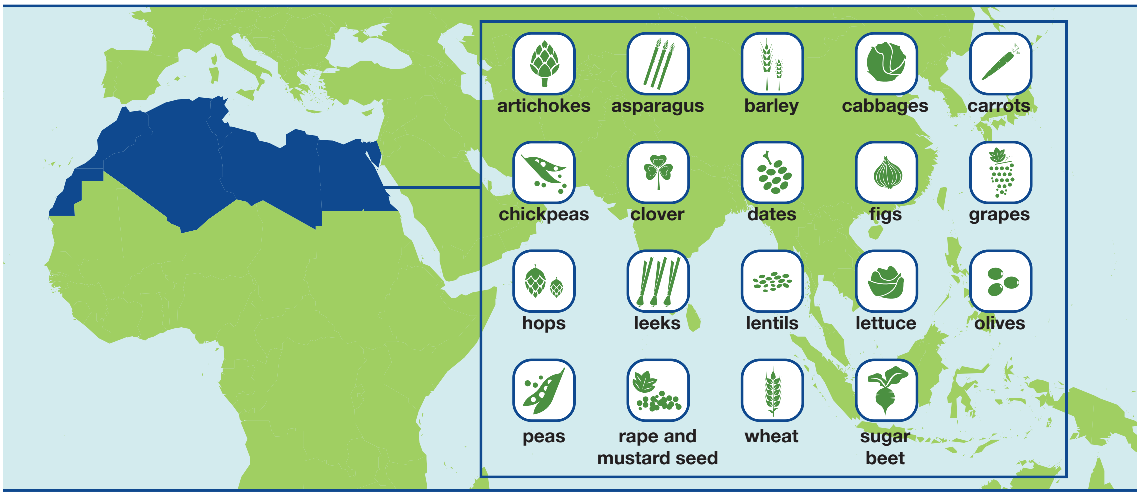


Conservation for future use options

In Egypt, 13.1% of terrestrial land (129,390 km²) and nearly 5% of marine areas (236,612 km²) are protected.[31] Egypt has rich flora and fauna diversity, with over 2,000 plants, 480 birds, above 1,000 fish species and 10,000–15,000 insects.[32] Most of these species can be found in the 30 designated protected areas, however over 300 species from different taxonomic groups have been assessed as threatened with extinction in Egypt.[33] The Nile river plains are one of the centers of origin for cultivated plants[34] (Figure 3). [31]

Biodiversity loss is mainly attributed to overhunting, overgrazing, overfishing, and impacts of invasive alien species, logging, and urban development. Loss of genetic diversity in agricultural crop lands on the other hand is associated with land-use changes, intensification of crop and livestock production, and abandonment of rural areas for urban ones. In 2000, only 0.16% of Egyptian's area (1,540 km²) was forested and between 2001 and 2020, Egypt lost 17.3 km² of forest cover, mainly owing to deforestation, wildfires, and shifts in agriculture.[35]

Figure 3: Crops originating from South and East Mediterranenan



Agrobiodiversity Index score

Egypt has an Agrobiodiversity Index status score of 47.6.

Status: What's driving the Agrobiodiversity Index score?

Egypt's status score reflects variable levels of agrobiodiversity in consumption, production, and conservation, with some high scores in each area. The lowest scores are in production.

Consumption

Species diversity: Food species diversity is high in Egypt relative to other countries in the world and compared to other Mediterranean countries. High consumption of vegetables stands out as a positive.

Functional diversity: Egypt's functional diversity score of 38 reflects a high number of avoided Disability Adjusted Life Years attributable to dietary risk factors, indicating that diets are not in balance with human health needs. While consumption of vegetables is relatively high in Egypt, consumption of fruits, nuts, and whole grains is lower than other countries in the region and could be increased to ensure a balanced diet and drive food system diversity. Also, consumption of sugar-sweetened beverages and red meat are very high in Egypt, which contributes to dietary health risks.

Underutilized species: Despite high species diversity, only 34% of energy in Egyptian diets is obtained from sources other than cereals, roots, and tubers, indicating that diets are heavily dominated by main staples and explaining the relatively low score for underutilized species (60% is the recommended threshold). Consumption of whole grains is low, indicating that cereals are mainly consumed as highly processed foods.[36]

There were no data available on varietal diversity in consumption.

Production

Varietal diversity: A relatively high diversity of livestock breeds are maintained in production in Egypt. Egypt has a livestock breed diversity of 2.1, which is high relative to other countries in the world (global maximum is 3.08, in Spain) and above average for the ten Mediterranean countries (average 1.5). Farmed livestock include 11 breeds of chicken, six of goat, four of dromedary, and three or fewer breeds each of cattle, sheep, buffalo, horse, and rabbits. Keeping multiple breeds in production should help farmers maintain livelihoods in times of pest and disease outbreaks or other production challenges, because different breeds have different resistance to pests and diseases.

Species diversity: Crop species richness in Egypt's production systems is moderate at 75 compared to the global maximum of 123 species (in China). However, there is a very low percentage (13%) of cropped land containing a high diversity of crop species at 10x10 km scales, which suggests that arable landscapes lack crop diversity. With 63 recorded freshwater fish species, fish richness is relatively low compared to other countries. Livestock species diversity is moderate at 0.8 compared to the global maximum of 1.62 (in Curaçao). Actions to maintain and boost crop, fish, and livestock diversity in areas of the country where these are low would help ensure that farmers in all regions rely on a wide species base, helping shield them against pests and diseases and other production challenges.

Soil biodiversity: Soil biodiversity is very low for most of the country, averaging 0.2 on a scale of 0.11 to 1.35 (representing the minimum and maximum global extremes). Integrated plant nutrient management to help maintain and restore soil health would be beneficial throughout the country, such as through increased use of cover crops, application of mulch, and intercropping with legumes.

Landscape complexity: Only 3.9% of Egypt's cropped landscapes have more than 10% natural vegetation at a 1x1 km scale, meaning that natural habitat is largely absent in cropped landscapes. Maintaining natural vegetation in and around cropland helps maintain habitat connectivity and ecosystem functioning to sustain nature's contributions to agriculture, including reducing the risk of pest and disease outbreaks, maintaining pollinators, and safeguarding crop wild relatives. Retaining at least 10% natural habitat at local (1x1 km) and landscape (10x10 km) scales could be achieved through on-farm practices such as live fences (trees, hedgerows), woodlots, flower strips and set aside, and off-farm by safeguarding portions of natural or semi-natural forests, wetlands, and grasslands around cultivated areas.

There were no data on functional diversity, underutilized species, or pollinator diversity in production.

Conservation

Varietal diversity: Egypt achieves a high score for varietal diversity in genebanks (72.6), indicating that a significant number of crop samples of Egyptian origin are conserved in genebanks.

Species diversity: The score for species diversity in conservation is high (60.8). This reflects that Egypt has conserved a moderate proportion of its cultivated and wild species in genebanks, and a high diversity of crop wild relative species have been identified growing in-country, relative to other countries in the world.

Underutilized species: Egypt has a low score (26.1) for conservation of underutilized species (useful wild species). While 49% of useful wild species are conserved *in situ*, their representativeness in *ex situ* repositories is very low (3.2%).

There were no data on functional diversity of genetic resources in conservation.

Credit: © IFAD/Marco Salustro

Actions: What actions are being taken to maintain and increase agrobiodiversity?

In consumption, Action scores are medium at 50. Egypt has food-based dietary guidelines in place but is lacking national food composition tables. This limits the potential to leverage the available rich species diversity to benefit diets and fill dietary gaps.

Action scores in production are low (24.3) indicating that there is low adoption of diversity-based practices and of agrobiodiversity-supporting management practices. The main findings are as follows:

- **Diversity-based practices:** Available data indicate that diversity-based practices are not widespread in Egypt. Only 17.3% of its agricultural landscapes (10x10 km areas) have both cropland and pasture facilitating crop–livestock integration. Based on an Africa-wide assessment in 2014,[37] no integrated landscape initiatives actively promote agrobiodiversity in Egypt.
- **Production management practices supporting agrobiodiversity:** Current data indicate nitrogen use efficiency is moderate, with Egypt scoring 33.2 (based on 0.4 kg nitrogen output per kg nitrogen input) putting Egypt among the bottom third of countries for nitrogen use efficiency levels recorded globally. Land use efficiency is also moderate, as indicated by a low score (33.3) on the Sustainable Nitrogen Management Index. Nitrogen and land use efficiency could be made more sustainable through following best management practices for applying fertilizers, replacing chemical fertilizers with integrated plant nutrient management, and using other agroecological practices to boost yields. The very high score for the sub-indicator on avoided pesticide use (93.9) reflects a very low use of pesticides, estimated at 2.1kg per hectare. This is likely to be having a strong positive impact on soil biodiversity, pollinators, and natural enemies of pests. Based on national statistics, organic agriculture is practiced on 3% of arable land in Egypt while there are no data available on the adoption of conservation agriculture. Trees are integrated into 10.7% of agricultural land in Egypt. Evidence suggests tree coverage on farm can be increased to up to 30% with limited impacts on yield,[38] while providing valuable carbon sequestration services and helping maintain tree, soil, and animal biodiversity in agricultural landscapes. Drought-resistant and native tree varieties could be prioritized to minimize water consumption while providing other benefits to farmers.

Conservation: Egypt has reported on 48.8% of the indicators which monitor progress on the implementation of the second Global Plan of Action of the UN Food and Agriculture Organization of the United Nations. An analysis of conservation actions reveals that Egypt has effectively carried

out surveys and inventories of its plant genetic resources for food and agriculture, established conservation sites with management plans for *in situ* conservation of crop wild relatives and wild plants. It has also carried out significant collecting missions for long-term conservation of its plant genetic resources for food and agriculture in its genebank.

The national documentation system for plant genetic resources for food and agriculture in the country, for both *ex situ* and *in situ* conservation, is poorly developed and there is no national system to systematically monitor and safeguard genetic diversity, which undermines efforts to effectively conserve and use genetic resources and reduce genetic erosion in the country.

Commitments: How supportive of agrobiodiversity are national policies?

The Commitments analysis for Egypt was based on their *National Biodiversity Strategy and Action Plan for 2015-2030*.[39]

Consumption: No commitments to agrobiodiversity in consumption were identified. However, this is based only on an analysis of the national biodiversity strategy and action plan (NBSAP); other national documents may exist that include commitments to promoting the use of plant diversity for healthy and sustainable diets. Nonetheless, it highlights a potential gap in agrobiodiversity policy.

Production: Egypt has a low (25) score for commitments to enhancing agrobiodiversity in production. The country recognizes the importance of agrobiodiversity (aquatic and terrestrial) for sustainable production and ecosystem service provisioning (e.g. pollination, soil formation, culture). Multiple, complex threats are driving the erosion of local agrobiodiversity at a rapid pace. Hence, the NBSAP mentions focusing more attention on using and reintroducing agrobiodiversity in production systems. One key target indicates the development of a “national agrobiodiversity conservation program” to increase knowledge, capacity, and agrobiodiversity use across public organizations. Additionally, preserving and valuing wild relatives and cultivars, given the current key role they play in farming systems, is also mentioned.

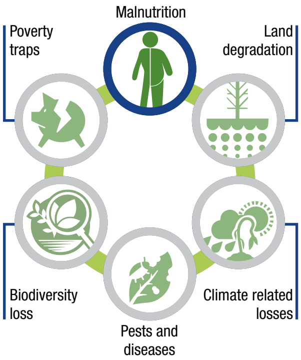
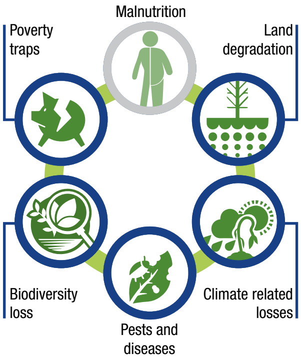
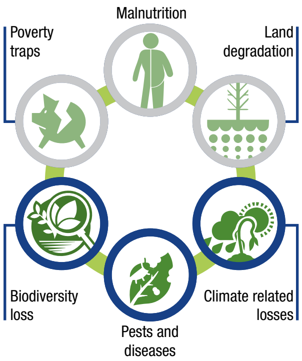
Conservation: Egypt has a high score (73.3) for commitments to conservation of agrobiodiversity. The country set conservation targets to protect and safeguard varietal diversity (i.e. cultivars and wild relatives) through *ex situ* conservation efforts and genebanks by 2020, and to give priority to native and near-native rare and endangered species.

Credit: ©Pixabay/Nadine Doerlé

Recommendations

This section suggests concrete actions that can be taken to improve the use and conservation of agrobiodiversity for more sustainable food systems (Table 1). The list of actions is by no means exhaustive or prescriptive. It is intended for review, discussion, and improvement by in-country policy specialists.

Table 1: Recommended actions to enhance agrobiodiversity in the national food system

		Contributing to:	
Food system pillar in the Agrobiodiversity Index	**Recommendations**	**Risk and resilience**	**Global policy**
Consumption for healthy diets	Develop national food composition tables to demonstrate and increase awareness of the nutritional function of the available agrobiodiversity and support uptake of this in national nutrition programs. Reduce dependency on major staple crops.		SDG2 Zero Hunger SDG12 Responsible Consumption and Production WHO Decade of nutrition – reducing overweight, obesity and anemia
Production for sustainable agriculture	Incentivize farmers to grow a wider range of crop species and varieties, particularly in regions that have a low crop species richness, to help increase crop diversity and enable shorter food supply chains while improving pest control and soil health. Policies, training, and incentives to promote integrated plant nutrient management, including use of organic fertilizers and intercropping complementary plants, would help improve Egypt's nitrogen use efficiency for economic and environmental benefits.		Convention on Biological Diversity (CBD) Post-2020 Goal 1[1] No Net Loss SDG 1 No Poverty 2 Zero Hunger 14 Life Below Water 15 Life on Land
Conservation for future use options	Greater efforts are needed to ensure that underutilized and crop wild relative species in the country are adequately sampled and conserved in the national genebank The national information system on plant genetic resources for food and agriculture should be improved. In this respect a national information-sharing mechanism should be set up for monitoring the conservation and use status of agrobiodiversity in the country. More efforts should be made to promote the use of diversity conserved in genebanks by breeders in the country. It is recommended that a National Strategy and Action Plan for agrobiodiversity be developed to position Egypt towards implementing the post 2020 Global Biodiversity Framework.		CBD Post-2020 Goal 3 Genetic Diversity & 4 Nature's benefits SDG 15 Life on Land FAO second Global Plan of Action on Plant Genetic Resources for Food and Agriculture

Agrobiodiversity highlight

The Egyptian honeybee

The Egyptian honeybee (*Apis mellifera lamarckii*) is considered a 'primary race' of bees, from which all yellow honeybee races of Africa, the Orient and Italian honeybees (*A. m. ligustica*) descend. It is a very small, slender bee, characteristic of sub-Saharan bees. It is short-tongued, short-winged, and short-legged. The drones are smaller than in any other race.

Drawings dated from 2600 BC tell us that this was the first bee managed by humankind, using a technique that is still practiced in Egypt today. Originally from the Nile valley, colonies of this bee were shipped to Germany, England, and North America as early as the 1860s. The reason for this zeal in the apicultural world was the bee's good behavior and its conspicuous color pattern: shining white, 'silvery' hair on the thorax and abdomen, and bright copper-yellow bands with shining black margins on the abdomen.

Over the years, however, the population of the Egyptian honeybee has dwindled. While about 96,000 colonies were counted in 1995, ten years later the population was reduced to just 15,500, mainly in the Assiut region of central Egypt. It has been displaced in much of its native range through the deliberate importation and propagation of European subspecies (especially Carniolan honeybees) in modern beekeeping and the corresponding elimination of traditional mud-tube hives. The Carniolan honeybee is tolerant to Egyptian conditions, but susceptible to the parasitic mite, *Varroa destructor*. As a result, there has been widespread use of chemical pesticides in beehives.

Recently, there has been increased interest in revitalizing the use of the native Egyptian honeybee, both for its adaptation to climatic conditions and the possibility that it, like other African subspecies, may be tolerant to parasitic mites.

Sources: [40]

Credit: Pixabay

References

1. World Bank. GDP (current US$). (2020).
2. World Bank. Land area (sq. km). (2020).
3. Bakr, N. & Bahnassy, M. H. Land Use/Land Cover and Vegetation Status. in *The soils of Egypt* (eds. El-Ramady, H., Alshaal, T., Elbana, T., Mohamed, E. & Belal, AA.) 51–67 (Springer, Cham, 2019). doi:10.1007/978-3-319-95516-2_4.
4. Hamza, W. *Land use and coastal management in the third countries: Egypt as a case*. (2003).
5. World Bank. Population, total. (2020).
6. World Bank. Urban population (% of total population). (2020).
7. World Bank. Population density (people per sq. km of land area). (2020).
8. World Bank. Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population). (2020).
9. UNDP & OPHI. Global Multidimensional Poverty Index 2020. Charting Pathways out of Multidimensional Poverty: Achieving the SDGs. (2020).
10. Alkire, S., Kanagaratnam, U. & Suppa, N. *The Global Multidimensional Poverty Index (MPI) 2020.* (2020).
11. Hassan-Wassef, H. *Food habits of the Egyptians: newly emerging trends. Eastern Mediterranean Health Journal* vol. 10 (2004).
13. World Bank. Life expectancy at birth, total (years). (2020).
14. World Bank. Prevalence of undernourishment (% of population). (2020).
15. FAO, IFAD, UNICEF, WFP & WHO. *The State of Food Security and Nutrition in the World 2020. Transforming food systems for affordable healthy diets.* (2020).
16. World Bank. Diabetes prevalence (% of population ages 20 to 79). (2020).
17. World Bank. Prevalence of anemia among women of reproductive age (% of women ages 15-49). (2020).
18. World Bank. Prevalence of stunting, height for age (% of children under 5). (2020).
19. World Bank. Prevalence of wasting, weight for height (% of children under 5). (2020).
20. Global Nutrition Report Egypt country profile 2020. (2020).
21. World Bank. Agricultural land (sq. km). (2020).
22. World Bank. Agricultural land (% of land area). (2020).
23. World Bank. Employment in agriculture (% of total employment) (modeled ILO estimate) (2020). (2020).
24. World Bank. Employment in agriculture, female (% of female employment) (modeled ILO estimate) (2020). (2020).
25. World Bank. Agriculture, forestry, and fishing, value added (% of GDP). (2020).
26. Bakr, N. & Bahnassy, M. H. Land Use/Land Cover and Vegetation Status. in *The soils of Egypt* (eds. El-Ramady, H., Alshaal, T., Elbana, T., Mohamed, E. & Belal, AA.) 51–67 (Springer, Cham, 2019). doi:10.1007/978-3-319-95516-2_4.
27. FAO. Value of Agricultural Production. http://www.fao.org/faostat/en/#data/QV (2018).
28. World Bank. Capture fisheries production (metric tons). https://data.worldbank.org/indicator/ER.FSH.CAPT.MT (2020).
29. FAO. *FAO Yearbook. Fishery and Aquaculture Statistics 2018/FAO annuaire. Statistiques des pêches et de l'aquaculture 2018/FAO anuario. Estadísticas de pesca y acuicultura 2018.* (2020).
30. FAO. Annual livestock production (tonnes) (2018). (2020).
31. UNEP-WCMC. Protected Area Profiles from the World Database of Protected Areas. www.protectedplanet.net (2020).
32. Magd, I. A. *State of the environment 2017, Arab Republic of Egypt, Summary for policymakers*. (2017).
34. Vavilov, N. I. *Five continents*. (International Plant Genetics Resources Institute, Rome, 1997).
35. Global Forest Watch. Tree cover loss from 2001 to 2019 (kha). (2020).
36. Global Nutrition Report: Action on equity to end malnutrition. (2020).
37. Milder, J. C., Hart, A. K., Dobie, P., Minai, J. & Zaleski, C. Integrated Landscape Initiatives for African Agriculture, Development, and Conservation: A Region-Wide Assessment. *World Development* 54, 68–80 (2014).
38. Blaser, W. J. *et al*. Climate-smart sustainable agriculture in low-to-intermediate shade agroforests. *Nature Sustainability* 1, 234–239 (2018).
39. *Egypt's National Biodiversity Strategies and Action Plans* (NBSAPs). (2015).
40. Ark of Taste - Slow Food Foundation. Egyptian honeybee . https://www.fondazioneslowfood.com/en/ark-of-taste-slow-food/egyptian-honeybee/.

End notes

I. The Convention on Biological Diversity is an international treaty for the sustainable use and conservation of biological diversity. In 2010 it launched a strategic plan, running from 2011 to 2020, with 20 ambitious targets known as the Aichi Targets from the city in which they were signed. The international community has developed new targets, but their signature has been delayed due to the COVID-19 crisis.

Credit: © IFAD/Marco Salustro

THIS COUNTRY PROFILE IS A CHAPTER OF THE "AGROBIODIVERSITY INDEX REPORT 2021: ASSESSING MEDITERRANEAN FOOD SYSTEMS", DOWNLOADABLE HERE: https://cgspace.cgiar.org/handle/10568/118471

Alianza

The Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT) delivers research-based solutions that harness agricultural biodiversity and sustainably transform food systems to improve people's lives.

Bioversity International and CIAT are CGIAR Research Centres.

https://alliancebioversityciat.org

978-92-9255-263-3

https://alliancebioversityciat.org/tools-innovations/agrobiodiversity-index