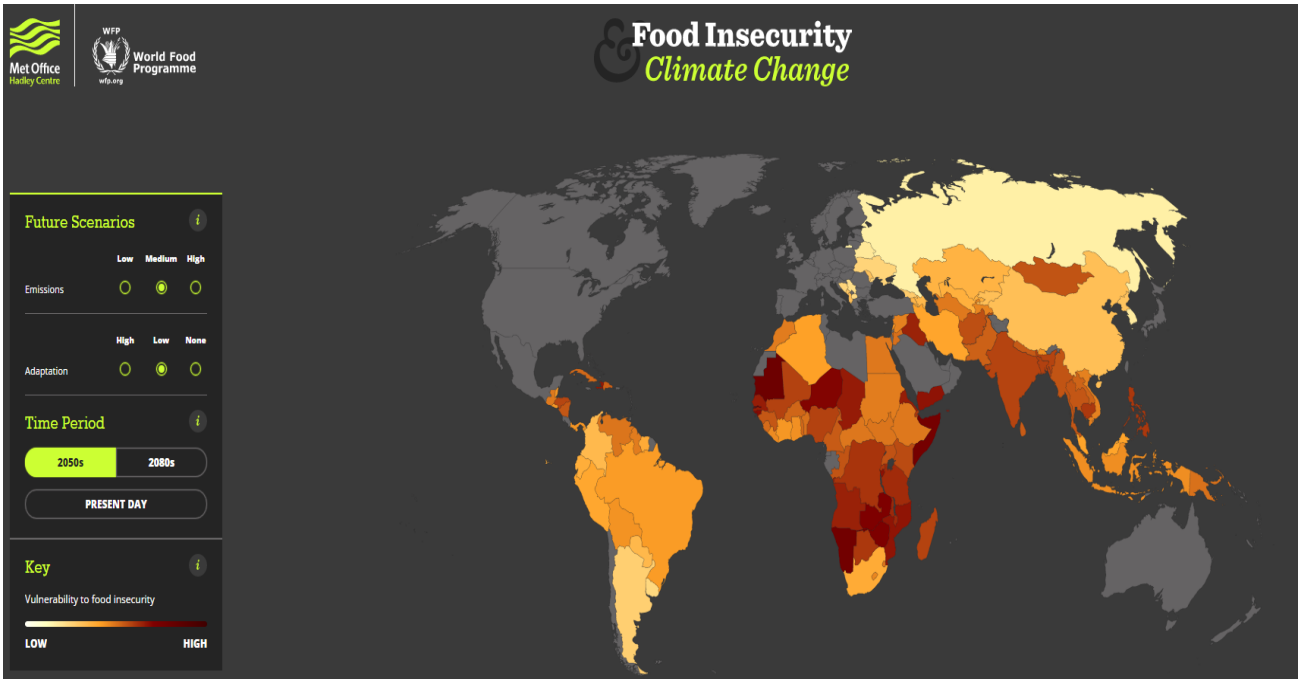
Climate Change and Food Security in East African Countries



The East African countries are group of states including Eritrea, Kenya, Tanzania, Djibouti, Uganda, Sudan, South Sudan, Burundi, Ethiopia, Rwanda, and Somalia which joined together to cooperate in social, political, and economic field. The topographical variations in East Africa, season association with Indian oceans and continental volcanoes are some important physical contributors of climate change in addition to greenhouse gas (GHG) emissions. The changes in land use systems are other important issues of climate change. Historically, the grazing on land was widely adopted land system in East African countries which was transformed to crop lands and urbanization. The studies analyzed the climate change impacts on food security of these countries and the results showed great vulnerability. The main contributors for this vulnerability is rainfed farming systems, high poverty rates, economic instability and internal conflicts. Some of sever climate change related issues include prolonged drought in Uganda in 1999-2000[1] and worsened climatic drought spells in South Sudan, Eastern Kenya, and Uganda[2]. The drought conditions badly destroyed the livestock and crop sector and ultimately reduced food availability and increased food prices in these countries. It was projected that median temperature and precipitation may change by 1.4–5.5°C and −2% to 20%, respectively in this region by end of century. It was concluded that future yield of grains and beans is likely to change by -45% to 27%. The maximum yield losses up to 72% was recorded in wheat[3]. It is deteriorated the natural

resources and environment; it was reported that 50% of national forest cover have been lost between 1993 to 2014[4].

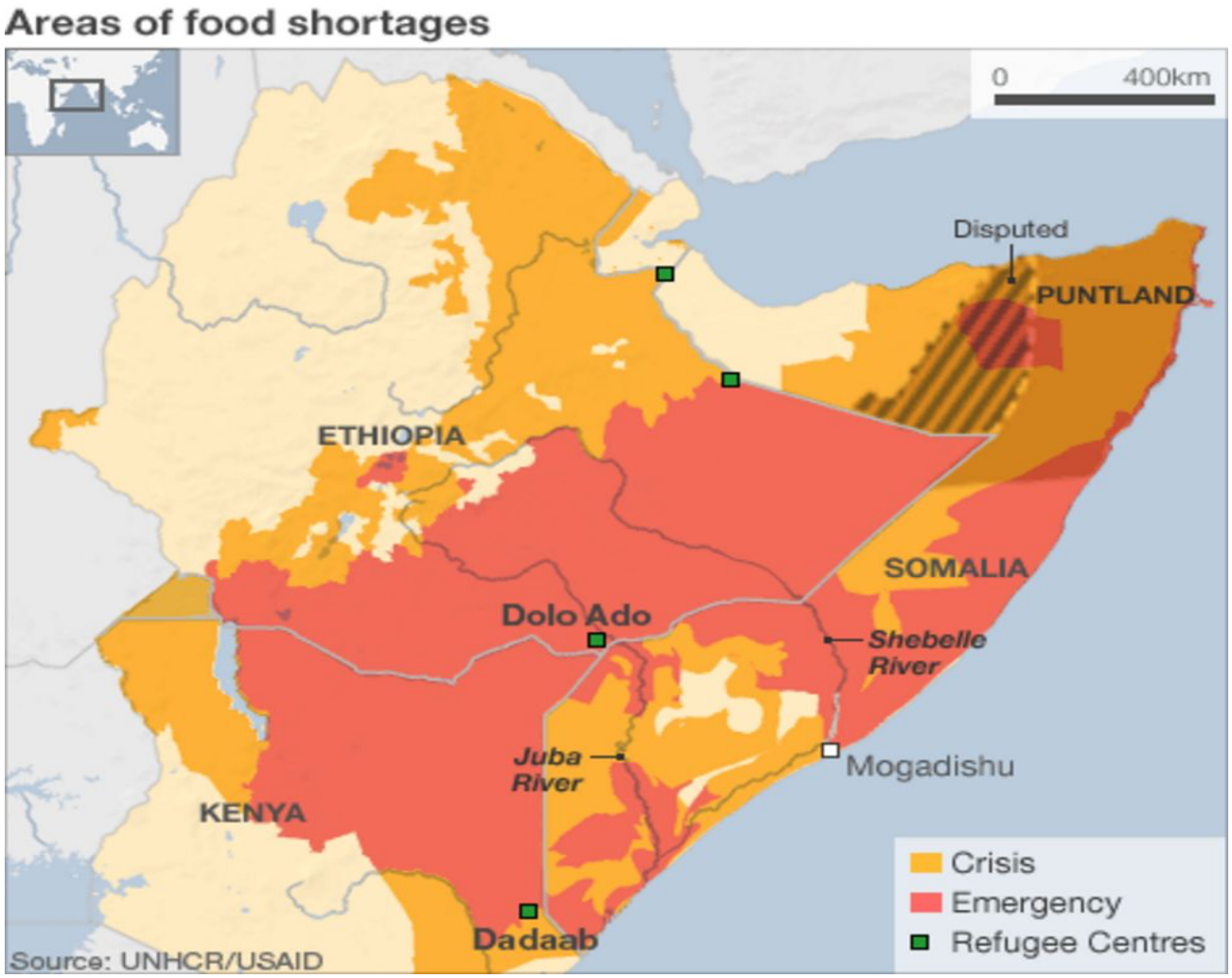
The region contains largest food insecure people worldwide. The recent report on food crises, jointly published by global network against food crisis and food security information network revealed that three out of ten worst food crisis in the world were from IGAD (Intergovernmental Authority on Development) which mainly include East African Countries. The acute food shortage crisis was reported in South Sudan, Ethiopia, Kenya, Somalia and the Sudan with 61%, 27%, 22%, 17% and 14%, respectively. The weather extremes during 2019 were identified as primary drivers for food insecurity and malnutrition. The sizeable population of 13.2 million from Somalia, Ethiopia and Kenya required urgent need for food assistance, following these extremes. In the same way, the bad governance and economic shock push another 8.5 and 5.9 million people of this region into category of food insecure population. The floods in 2019 in East Africa, as a result of excessive rainfall also increased the proportion of food insecure people. The floods destroy cropland (over 702 km) and affected 1.3 million people. The great losses were reported in Ethiopia, Uganda, Somalia, Kenya and Djibouti. The floods through river and torrential rains adversely affected about 29 districts in Somalia[5,6].

Another indirect effect of the excessive rains appeared in form of locust breakthrough in the end of 2019 and early 2020. It damaged the crops near coastal areas of many East African countries including South Somalia[5]. The stressed food production and supply as consequence of Covid-19

prevalence was further stressed with locust outbreak. The preventive measures taken against Covid-19 disrupted the food system through declining remittance flows, household income, trade and increased food prices. The combine effects of both the contributors resulted food insecurity.

The Somalia is being effected by the climate change especially during last three decades[7]. The agriculture is main livelihood for the people of Somalia and threats imposed by climate change reduced the food availability through low production and poor economic access. The temperature in the Somalia is already high and projected rise may hinder the food production. The most common threat included drought, cyclones, sandstorms, winds and flash flood[8]. About 80% of Somalian landscape falls in arid and semi-arid climate which is already characterized with low precipitation (50-100 mm/year) and high evapotranspiration. The Juba and the Shabelle, are two main rivers being the source of irrigation water and both originates in Ethiopian highlands. Therefore, water supply through rivers totally depends on the amount of rainfall received in catchment areas in Ethiopia. The shortage of river water supply is great threat of climate change in Somalia. Ultimately, it reduced the land available for food production and increased price of local food. These two aspects are highly important for regional food security. The prevailing drought for two consecutive years in South Somalia result lowest cereal harvest since 1995. The number of internally displaced persons (IDPs) due to drought and security issues reaches 2.6 million in Somalia[9]. The future projected rainfall in the Somalia is likely to reduce from 2016 to 2045 and linear increase in annual mean temperature was expected 2020 to 2078[10].

The people of Somalia are vulnerable to food insecurity through environmental, socio-economic and conflict and political vulnerabilities. The Somalia has poor transport and food distribution network which further enhance the food insecurity, particularly with low food supply from local resources. The peoples of the Somalia are food insecure, particularly due to poverty and lack of local food production. It is becoming more sever due to internal socio-political constrains. For instances, the Al-shabab seized many green parts of the country in wake of drought of 2000s and displaced the local communities[11]. In the light of above discussion, the climate change is likely to affect the physical, social and economic access of local communities in Somalia and other Eastern parts of Africa to food. Moreover, these people have also issues of food instability and poor utilization. It is suggested that people of the East African countries must be help in a way to improve their adaptive capacities to make them food secure in the future.



Citations

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