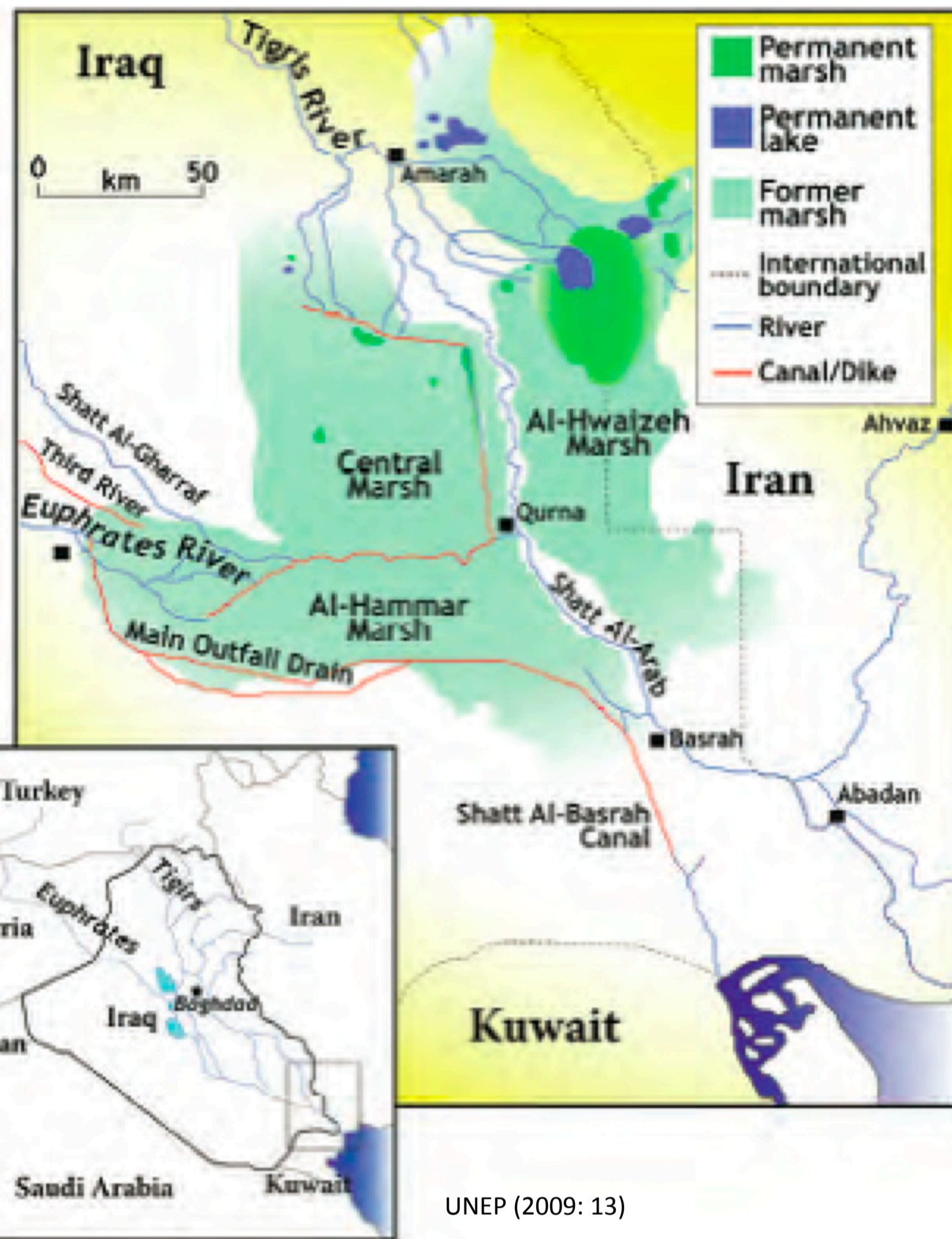


The Green Revolution and the impact on indigenous populations: “environmental refugees” in Iraqi marshlands

Eleonora Guadagno, Ph.D. Student

The green revolution and its related agricultural politics entailed a food production increasing worldwide. Nevertheless, those politics enhanced the biological resources extinction and the depletion of natural areas, creating a deep devastation in the local natural habitats, such as in the Iraqi Mesopotamian area; the indigenous population, the marsh Arabs, violently suffered the effects of these uncontrolled agricultural politics. The environmental depletion, related to ethnic strife motivations generated a progressive exodus from this area: 100.000 environmental refugees.

Figure 1: Iraqi Marshlands location map



1. The myth of the green revolution: modernisation without development

The intensification in the use of advanced industrialised techniques, promoted during the Green Revolution, which certainly increased exponentially the world cereal production (Pingali, Heise: 1999), did not coincide, however, with the economic improvement of small producers and vulnerable groups such as indigenous peoples and women (Jacobsen: 1992) who lost their primary source of livelihood: the agricultural land (Costato: 2008) and the biodiversity that composed their environment. In this way, their exposure to natural hazardous events increased as the level of unemployment, enhancing the dependence on international aids.

Iraqi agricultural growth has occurred in the years of Green revolution, during the Ba'ath regime (1968-2003) and particularly under the government of Saddam Hussein (1978-2006).

Agricultural policies pursued by the Iraqi government required massive structural works to the diversion of rivers to implement an extensive-irrigated agriculture through the reclamation of the Mesopotamian marshes. Those “development politics” joined with a specific attack against the Shiites southern Iraq caused not only the destruction of the marshes and the progressive salinisation of soils due to residues left by the drainage, but also the progressive abandonment of the area by the indigenous population. The Iraqi land management policies led to irreparable damages to the environment (UNEP: 2003) and have crossed a ruthless policy of marginalization and extermination of the indigenous population.

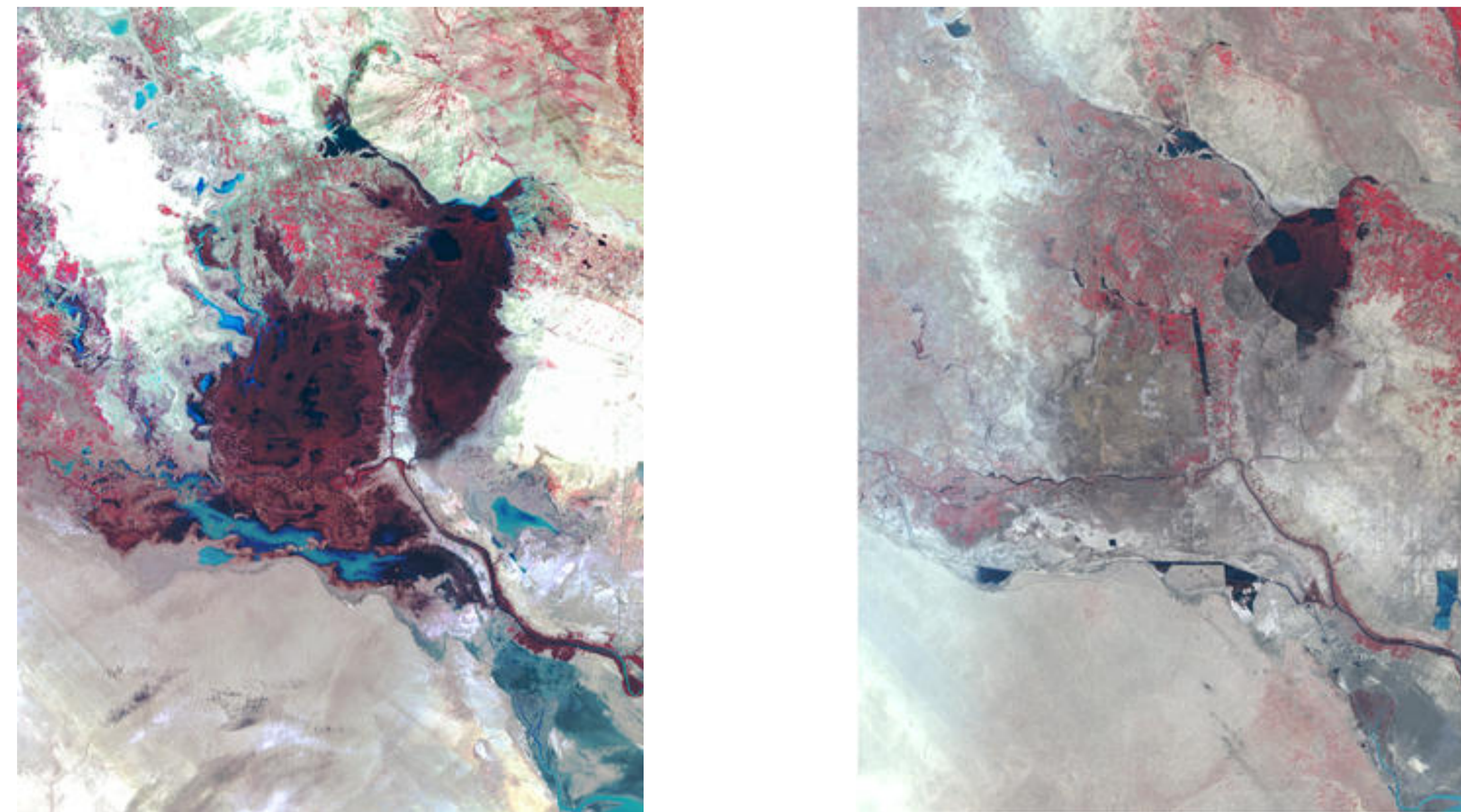
2. Environmental Refugees?

Before the planned destruction (Human Rights Watch Briefing Paper, 2003) occurred in the last 30 years, the marshlands had covered an area of up to 20,000 sq. Km in the plain between the Tigris and Euphrates in southern Iraq. In that area lives a very old population, namely the Marsh Arabs, predominantly Shiites, intermarried with the Persians to the east and the Arab Bedouins to the west, which way of life (as mentioned by Thesiger, 1964) had no consistent changes since Sumerian times and was based on a self-sufficient economy (Human Rights Watch Briefing Paper: 2003): in 1988 the Marsh Arabs were 500,000 (Coast, 2002), in 1993 the statistics record about 200,000 individuals in that area (Human Rights Watch Report, March 1993), where in 1997 the indigenous population counted 190,000 individuals (OIM: 2008).

Because in majority Shiites, they were suppressed by Saddam Hussein internal policy and then were forced to migrate because of the environmental disaster caused by the agricultural policy of the Ba'ath regime. According the definition proposed by El-Hinnawi en 1985, “environmental refugees” are “those people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardised their existence and/or seriously affected the quality of their life.

For the case of the Marsh Arabs, even there is no agreement on its meaning and its implication in international community, the label of “environmental refugees” could be applied with no wavering. This population, in fact, suffered a crossed attack: one under racial and political pretence and one under environmental one. On the one hand, the racial policies against this minority have compounded the environmental problems (UNEP: 2001). On the other, the necessity to increase food production caused irreparable damages to the environment and to the population, forced to flee from an environment became inhospitable and hostile (Adriansen, 2004).

Figure 2: Soil degradation, images of the year 1973 and 2000



The Landsat satellite images (UNEP: 2001) reveals that in the last 10 years, wetlands that once covered as much as 20,000 square km in parts of Iraq and Iran have been reduced to about 15 percent of their original size, and even for the 1,270 sq. km of marshlands that still remain, quality of life has been adversely impacted by a decline in water quantity and quality (UNEP and NASA, 2001). This wicked agricultural policy created a biotic decompensation in resources for the natural habitat of the indigenous population in term of flora and fauna.

Facts: Marsh Arabs exodus

Marsh Arabs	Destination (1988- 2008)
75.000	Southern Iran (traditional refugees)
50.000	Iraq (Internally displaced)

IOM: 2008; Nicholson and Clark: 2002

3. Conclusion

Agricultural policies and related reforms implemented during the years of green revolution have caused damages to many natural ecosystems. The Iraqi is a representative case-study to understand how such agricultural policies have not only caused environmental problems, but they also have affected the lives of the indigenous population.

Nevertheless, the category of “environmental refugees” has not yet been taken into consideration by the conventions that protect vulnerable populations, displaced persons and refugees. Anyhow, the Arabs of the Mesopotamian marshes, which have been displaced in other areas of Iraq, or were refugees in other countries (principally to Iran) are still living in total poverty, lacking of political and environmental rights.

Thus, this case could should be taken as a warning to understand how human activities and especially policies of overexploitation of natural resources are connected with negatives effects on natural environment and how they may impact entire populations, depriving them of their livelihoods and their traditional way of life.

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