

## “Market gardens, managed by women, have improved dietary diversity”

**Interview with Priscilla Duboz,** Anthropologist, research engineer at the French National Centre for Scientific Research (CNRS), Institute for Ecology and Environment (INEE), Co-director of the Téssékéré International Observatory on Humans and the Environment.

### KEY POINTS

► **The Great Green Wall of Africa is a project that aims to restore a strip of land stretching from Senegal to Djibouti in order to boost food security and improve the health and living standards of local communities. The work of the Téssékéré International Observatory on Humans and the Environment documents the patchwork of actions carried out in the interest of the environment but also the local people. In Senegal, the Fulani population of the Ferlo region is a case in point.**

*La Santé en action: What is the Great Green Wall project, launched in 2007 under the aegis of the eleven African countries bordering the Sahara?*

*Priscilla Duboz:* This project consists of a reforestation, soil protection and environmental revitalisation component aimed at slowing down the process of desertification in the Saharan strip, which is damaging the natural environment and the living conditions of local populations. The aim is to replant where there are no trees left, or to fence off areas where nature can regenerate without human intervention. It also includes a local development component aimed at stimulating new socio-economic

activities. The task of the Téssékéré International Observatory – which I co-direct with Papa Ibnou Ndiaye, professor of animal biology at the Cheikh Anta Diop University in Dakar (Senegal) – is to study the impacts of the Great Green Wall (GGW) on ecosystems and societies, i.e. on human, animal and plant populations and on the biotope. We began our observation work in 2009 in Senegal, in the Ferlo region. Along the GGW route in Senegal, almost 50,000 hectares were reforested with eight tree species planted between 2008 and 2019, and almost 20,000 hectares of land have been fenced off to restrict access, combining reforestation with natural regeneration. The nine nurseries produce more than a million plants per year. Between August and September every year, many national and international associations take part in reforestation campaigns during the rainy season.

*S.A.: How have interventions to revitalise the land had an impact on the health of the people?*

*P.D.:* Starting in 2010, multi-purpose market gardens were developed, managed by women’s groups. For the inhabitants of the Ferlo, this has led to greater dietary diversity, which is good for their health. Fruit and vegetables that had not previously been grown or bought by families due to their low incomes (less than one euro a day) were introduced into the diet. Given the very low rainfall in the region, these crops are grown using drip irrigation systems that save water. In addition,

the women’s activities have improved their standards of living, which has a number of benefits, including better access to healthcare. Today, another project is taking over from these gardens, which were crippled by the drought and the COVID-19 pandemic. This focuses on integrated community farms, featuring market gardens managed by women alongside feed production for livestock farmers.

*S.A.: Does action on biodiversity have an impact on people’s living conditions?*

*P.D.:* The Senegal National Agency for the Great Green Wall created a nature reserve in 2012, which has also had an impact on the living standards and health of local residents. For example, reintroducing wildlife like the dorcas gazelle into this reserve required the installation of a water point, which the local population uses at times. The agency has also authorised local people to harvest some of the straw from this protected reserve; the fodder is used by livestock farmers to feed their herds during the lean season, a very difficult period just before the rainy season returns bringing fresh grass. As a result, there are greater opportunities for livestock rearing, with direct repercussions on feed for the herds. Farmers can also increase their financial resources through selling products from this activity. In addition, the plant species chosen by scientists for the GGW are not only capable of surviving with very low rainfall; they are also useful to the population for food, energy, construction, handicrafts and herbal



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medicine. Herbal medicine is used extensively in the region as a first line of treatment and there are many traditional practitioners.

**S.A.: *Has your work revealed any unexpected benefits?***

*P.D.:* The Great Green Wall project has helped to open up the Ferlo region. Some of the staff in charge of implementing the project have moved there, while others flock to it during the rainy season to plant the trees. As people from different regions of Senegal and different socio-economic categories intermingle, ideas can circulate and this may have contributed to changes in how local people view their health. In particular, part of the remit of the Tèssékéré observatory involves collecting anthropometric, biological and social data from the population through surveys and free consultations provided by Senegalese doctors and epidemiologists. We have realised that these consultations help to improve the level of knowledge about health, particularly when it comes to hypertension. We discovered that the Fulani populations of the Ferlo have an extremely high prevalence of hypertension: in this dry region, the only water resource for three-quarters of the year consists of boreholes drawing water from a depth of 300 metres, and this underground water is very high in salt. We were able to show a link between the consumption of this very salty water and the high incidence

of hypertension. Of course, the men and women who have this condition don't always have the financial resources to buy anti-hypertensive treatments, so they turn instead to herbal medicine. However, if they are given information, they are more likely to visit the clinic very quickly if they experience symptoms associated with complications.

**S.A.: *How do you view the criticisms of this project, which have argued that it has little impact in terms of reforestation and benefits for the local population, given the funding?***

*P.D.:* Expectations were probably too high. This project can be seen as a patchwork of actions that take time to roll out. It makes no sense to measure their success solely by the number of hectares planted, as has been done in the past. It's not simply a question of restoring vegetation in a desert – we're talking about inhabited areas: you have to cross villages and places where it's complicated to operate because of conflicts or other factors. European and international auditors are far removed from the field and do not take into account the reality of initiatives that are carried out in the interest of both the people and the environment. The success of the GGW will depend on an in-depth reform of the way people live in the environment and the effects of this reform on future generations. While local people were initially wary of the

Great Green Wall, the local development aspect has won them over in terms of the benefits it has brought them. In Senegal, the government has invested heavily in this. There's a real energy here, with a wide range of initiatives and people doing an enormous amount of work to maintain the plantation plots. The results are positive in terms of improving human health through direct and indirect factors, but also in terms of scientific knowledge. We have built up a solid track record in understanding the complexity of the ecosystem. The major challenge today is understanding that health must be approached in a systemic way, with human health intimately linked to the health of the environment and animal health. These determinants interact with each other and our results apply to Africa as much as to any other continent or country. ■

Interview by Joëlle Maraschin, journalist.

**For more information**

- Read more about the work of the Tèssékéré observatory online: <https://ohmi-tessekere.in2p3.fr/>
- The report "Great Green Wall Implementation Status and Way Ahead to 2030" published in 2020, assesses what has been achieved and identifies the difficulties. Online: [https://www.unccd.int/sites/default/files/2024-08/1551\\_GGW\\_Report\\_ENG\\_Final\\_040920.pdf](https://www.unccd.int/sites/default/files/2024-08/1551_GGW_Report_ENG_Final_040920.pdf)

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