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**The Weight of the Harvest: Strengthening Agriculture in Niger**

It is still early in the day, and it is cold outside when a farmer steps out toward his field. He walks slowly along the same narrow path he has known since childhood. It should have rained by now, but the farmer's feet feel nothing but dried and parched ground. When he reaches his field, he bends down to pick up a handful of soil that slips like dust between his fingers. Around him, there are rows and rows of millet trying hard to survive in the blazing sun. Some have survived, but most have wilted away before even growing. In the field, there are dead skeletons of trees cut down decades ago, forgotten and unrecognizable. He stands silently, looking at his field which provides both food for his family and the income they depend on. A poor harvest would leave his family with less food to eat, less grain to sell, and fewer resources for the months ahead. For families like his, the success or failure of a single growing season can shape an entire year. But this farmer's story is not his alone. Across the dry plains of Niger, rural families wake up every morning to the same uncertainty. They depend on land that is becoming hotter, drier, and harder to cultivate with every passing year.

**Background**




The Republic of Niger, located in West Africa, is a country in the Sahel region with over 28 million people. Most of the population lives in rural villages, where daily life is very connected to agriculture and seasonal farming. Niger operates under a semi-presidential system with shared power between the president and prime minister. The country is also broken down into regional and local subdivisions. Despite this structure, the government services are spread unevenly across the country, because there are fewer government services available in the rural areas.

Niger is home to several ethnic groups including the Hausa, Zarma-Songhai, Tuareg, and Fulani. These communities contribute to the country's cultural diversity. Their ways of life are often

influenced by whether families live in agricultural southern regions or more arid northern areas. With 83% of the population living in rural villages, around 2.4 million people suffer from acute food insecurity (CIA World Factbook; World Food Programme). Agriculture is the main source of income for many Nigeriens and farming production depends heavily on seasonal rainfall. The southern part of the country experiences a Sahelian climate, in which there is only one short rainy season. This makes farming dependent on limited and unpredictable rainfall (Encyclopaedia Britannica, "Niger"). Because of this, over 80 percent of the population relies on farming for food and income. Most households work on small farms that are affected by droughts and flooding (FAO, "IPPM Projects in Niger"). Families often grow their own food and sell any extra in local markets when possible. Their essential staples include grains, such as millet, sorghum, and rice, as well as beans; while meat, dairy, and fresh fruits are less frequently available due to their high cost and limited accessibility (World Food Programme).

The challenges surrounding agriculture also affect other aspects of life. In some areas, children's education is interrupted because of household or agricultural responsibilities, especially when schooling opportunities are limited (UNICEF). When harvests are poor and household incomes decline, families may have fewer resources to support their children's education. Their children are also expected to help with farming and household responsibilities. Outside of agriculture, job opportunities are scarce and many people rely on informal work, or small-scale trade to support their income (World Bank). As a result, wages are low and unstable for Nigeriens.

**Challenge & Impact**

Since agriculture provides over 80 percent of Niger's population with food and income, these pressures not only affect individual farmers but entire families and communities (Agriculture in Niger: Challenges & Opportunities). As desertification and land degradation continue, more of the land becomes unusable. Without irrigation systems, farming depends entirely on rainfall. In many rural areas, access to improved seeds, fertilizers, storage facilities, and new technology are also lacking, which makes the struggle with low yields and adverse environmental change very tough. Because many households depend on agriculture, a poor growing season can reduce family earnings and make nutritious food even harder to afford. Since the average yields of each household parcel of land will be smaller, the household may consume less food (i.e. will lower its nutrition levels) and will sell smaller amounts of food (i.e. lower family income). Poor storage has a huge impact on what is left after the crops are harvested, with pests and poor conditions removing a large percentage of food each year, which means farmers' profits will also fall (Farmonaut). Future pressures on Nigerien agriculture are expected to increase with climate change, along with continued high population growth that further increases pressure on food and farmland resources. However, without sustainable agricultural practices, these challenges will become harder to manage.

**Exploring Solutions**

While Niger faces many agricultural challenges, it also has important strengths that can support a more sustainable future for food security. Farmers in Niger already have generations of experience in coping with the harsh climate of the Sahel. Today, farmers, government agencies, and NGOs are working together to strengthen agricultural systems. Many of the programs currently implemented focus on improving farming practices, restoring degraded land, and helping communities become more resilient to climate change.

One approach that has already been used in Niger is climate-smart agriculture. Unlike emergency food aid, which helps people during a time of crisis, climate-smart agriculture focuses on helping people increase their food production. Through initiatives such as the World Bank's programs and Niger's 3N (Nigeriens Nourishing Nigeriens) strategy, farmers are receiving improved seeds, training, livestock assistance, and support for sustainable practices. These approaches not only make communities more prepared in the face of drought, but they also help them increase their crop productivity and reinforce their households' food security ("This Is How Niger Is Battling Climate Change").

Land restoration is another important strategy that is currently being used in Niger. Years of drought, erosion, and desertification have degraded farmland and made it much more challenging for families to grow enough food. Land restoration works to reverse this damage by improving soil health, preventing further erosion, and increasing the land's ability to support crops.

One of the most effective methods of land restoration is Farmer Managed Natural Regeneration (FMNR). FMNR is a land-restoration practice in which farmers protect and manage naturally regenerating trees and shrubs on their farmland instead of removing them. This method is low cost and easy for farming communities. However, simply growing crops is not enough for farmers to successfully store, protect, and sell their products. Access to farming infrastructure and education is just as important for creating a sustainable food system.

In many rural areas, limited water management systems, poor storage facilities, and lack of farming technology lead to higher crop losses and reduced income. Programs that improve water conservation, storage methods, and agricultural education can give families the tools they need to reduce waste and better preserve their harvests.

**Recommendation**

Food insecurity in Niger is caused by several interconnected factors, including climate variability, land degradation, and declining agricultural productivity (World Bank; Farmonaut). Addressing food insecurity in Niger can't be treated solely by the isolated implementation of these specific factors.

Therefore, this paper recommends the Niger Climate-Resilient Agriculture and Food Security Framework (N-CRAFS): A Community-Based FMNR Expansion Program.

1. Expanding Community-Based FMNR Through N-CRAFS

For a farmer facing dry, degraded land, restoring the soil is just as important as protecting the crops that grow on it. N-CRAFS would address this challenge by expanding Farmer Managed Natural Regeneration (FMNR) across rural farming communities in Niger. FMNR allows farmers to protect and manage naturally occurring trees and shrubs on their farmland instead of removing them (FAO). As these trees grow, they can improve soil fertility, reduce erosion, and help the soil retain more water (FAO).

Under N-CRAFS, farmers would receive practical training on how to identify, protect, prune, and maintain naturally occurring vegetation. Instead of clearing these plants before planting crops, farmers would manage selected trees alongside their crops. The program would focus on communities where drought, erosion, and desertification have severely reduced farmland productivity (World Bank). Because FMNR relies on vegetation that is already present, it can provide a low-cost approach for farmers with limited access to expensive agricultural resources.

N-CRAFS would expand FMNR through local demonstration plots and farmer-to-farmer training. Farmers could observe successful FMNR practices and share their knowledge with other members of their communities. This would allow the practice to spread beyond individual farms and gradually restore larger areas of degraded land. This approach is supported by Niger's previous experience with FMNR. In the regions of Maradi and Zinder, FMNR has already restored millions of hectares of degraded farmland, demonstrating that the practice can be expanded beyond individual farms when farmers, communities, and institutions work together (FAO).

2. Implementing and Funding N-CRAFS

Expanding FMNR across Niger will require more than simply teaching farmers how to manage trees. N-CRAFS would be implemented through a partnership between the Government of Niger, local farmer organizations, development organizations, and international financing institutions. The Government of Niger would coordinate the national program and work through agricultural extension services to identify priority communities, establish training standards, and monitor implementation. Local farmer associations and community leaders would organize farmers, select demonstration plots, and coordinate farmer-to-farmer training. NGOs and development organizations would provide technical assistance and help train local agricultural advisers.

Rather than immediately expanding N-CRAFS across the entire country, implementation would begin in selected communities where land degradation and climate-related agricultural losses are severe. Maradi and Zinder would provide strong starting points because FMNR has already been successfully practiced and expanded in these regions.

During the first year, agricultural extension workers and local organizations would identify participating communities, establish demonstration plots, and train an initial group of farmers. During years two and three, trained farmers would teach neighboring farmers through farmer-to-farmer training, allowing FMNR to expand without requiring outside organizations to train every farmer directly. Funding would come through existing agricultural and climate-financing

mechanisms rather than requiring an entirely new funding system. One potential source is the World Bank's Livestock and Agriculture Modernization Project (LAMP), which has a $350 million first-phase financing envelope through 2029 and supports climate-smart technologies, irrigation, and improved agricultural practices in Niger. N-CRAFS could seek support through existing programs such as LAMP for farmer training, agricultural extension, and climate-resilient agricultural activities (World Bank).

Additional financing could come through climate funds such as the Green Climate Fund (GCF). The GCF already supports a climate-resilient agriculture project in Niger through the West African Development Bank (BOAD). The project strengthens farmer groups and cooperatives, improves access to agricultural finance, and supports climate-resilient agricultural production, providing an existing model for financing N-CRAFS (Green Climate Fund).

Funding for N-CRAFS would be used primarily for farmer training, agricultural extension workers, demonstration plots, educational materials, transportation for trainers, and monitoring. Because FMNR relies on the management of naturally regenerating vegetation rather than large-scale tree planting, funding could focus on training, coordination, and long-term monitoring. FMNR has been identified by FAO as an inexpensive approach to improving rural livelihoods in Niger.

Responsibility for these resources would be divided among the participating organizations. International financing institutions would provide funding through established programs, while the Government of Niger would oversee national implementation. Regional agricultural services would coordinate technical assistance and training, while farmer associations and community leaders would organize local activities and help determine community needs. Farmers would remain responsible for managing FMNR on their own farmland.

After three years, participating communities would be evaluated before N-CRAFS expands into additional areas. Program success would be measured using indicators such as the number of farmers trained, hectares managed through FMNR, changes in vegetation cover, crop yields, and household food security. Communities showing strong results could then serve as demonstration communities for the next stage of expansion.

3. Strengthening N-CRAFS for Lasting Change

Restoring farmland is not enough if those improvements cannot be maintained. Farmers would continue receiving guidance as their restored land develops, while local organizations and farmer associations would help communities maintain and expand FMNR practices.

The program could also provide farmers with access to additional resources that strengthen the benefits of FMNR. Water-efficient farming techniques, drought-resistant crops, and improved agricultural tools could be introduced where they are needed (Adaptation Fund; UNOPS).

N-CRAFS would track changes in restored farmland to determine whether the program is improving soil health, crop production, and household food security. The program would measure the number of farmers trained, the number of farms adopting FMNR, the hectares of land managed through FMNR, changes in vegetation cover, crop yields, and household food security. These measurements would be collected before implementation and reviewed after one, three, and five years to determine whether conditions are improving. If a community shows strong improvements and continued farmer participation, it could become a demonstration community and help neighboring communities adopt FMNR. If results are limited, program leaders could identify the cause and adjust training or resources before expanding the program.

By combining long-term community involvement with continued support and expansion, N-CRAFS could turn FMNR from an individual farming practice into a broader community-based approach to restoring Niger's agricultural land. The goal is not simply to restore farmland today, but to give future generations of farmers healthier land and a stronger foundation for food security.

**Conclusion**

Food insecurity in Niger is not just a statistic. It is a farmer looking for hope in the sky instead of his crops, hoping the rain will come at the right time. N-CRAFS offers a practical path toward changing this reality by expanding Farmer Managed Natural Regeneration across rural communities in Niger. By restoring degraded farmland and strengthening farmers' ability to manage their own land, the program addresses both the environmental and agricultural challenges contributing to food insecurity. Its community-based approach builds on knowledge and practices that already exist in Niger while providing farmers with the training and support needed to expand them. The goal is not simply to improve one harvest, but to restore farmland and strengthen food security for future generations. When these systems are strengthened, the farmer is no longer dependent on uncertainty—he stands on fertile soil, no longer watching the sky in fear, but trusting the land beneath him to feed his family.

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