Food and Agriculture Organization of the United Nations

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POLICY ANALYSIS

Sustaining restoration of the Great Green Wall through sustainable livelihoods in Nigeria

The Great Green Wall for the Sahara and the Sahel Initiative (GGW) is the pan-African flagship response to increasing land degradation, climate change, and poverty in the Sahel region. Spanning from Senegal to Djibouti, the GGW aims to restore 100 million hectares of land and capture 250 million tons of carbon, while also creating 10 million new jobs for an increasingly young population.

The aims of the GGW are achieved through a myriad of projects implemented by a variety of international organizations in conjunction with local governments. From 2014 until 2020, the Action Against Desertification (AAD) programme supported the ambitions of the GGW in six countries of the Sahel, including in Northern Nigeria. AAD combined large-scale, mechanized land restoration, with livelihoods training and value chain support to incentive and engage local communities. Built on a bottom-up approach, AAD engaged communities from the beginning in the planning, restoration and associated activities.

This brief presents FAO's evaluation of AAD's socioeconomic impacts in Nigeria. To address the lack of baseline information, a counterfactual scenario was built based on *ex ante* spatial program information and a combination of machine learning and quasi-experimental impact evaluation techniques.

Restoration amidst instability

Northern Nigeria's economy is centred around rain-fed agriculture and livestock rearing. Two-thirds of land use in the states that received AAD restoration is croplands and between 2007 and 2015, these same states experienced a 50 percent decrease in forest cover, with nearly all of it converted to croplands. The aggressive deforestation of land in the region is exacerbated by the effects of climate change. Estimated temperature increases between 3–6 °C by 2100 and an extreme decrease in rainfall, are further degrading the land and making natural regeneration less possible.

Existing conflict between crop farmers and herders is also attributed, in part, to a dwindling supply of natural resources. As croplands expand into historic grazing routes and lands, combined with a shortening rainy season, herders are forced to find new grazing lands, which makes crop farmers evermore protective of limited water resources. It is within this context that AAD undertook largescale restoration from 2017 to 2020 in three frontline states of Northern Nigeria.

KEY MESSAGES

- Large-scale, bottom-up-led, land restoration in Northern Nigeria led to adoption of more climate-resilient options.
- Households increased the commercialization of livestock by-products and non-timber forest products (NTFPs) as promoted activities targeted local market opportunities.
- Changes in livelihoods did not result in food insecurity, and to the contrary, they improved it.

Learning and engagement in restoration

AAD's participatory approach worked with community members to build knowledge on the different steps of restoration activities and to increase their engagement with communal lands, both in terms of working on the land and benefitting from the land. The evaluation found that AAD households were 16.3 percentage points more likely to receive agroforestry related information than the comparison group, and on a wider range of topics (see Figure 1). Transmitting this information to groups that are usually underserved by extension programmes, specifically women and youth, was an important aspect of AAD's design. And in this area, these groups were 7.5 percentage points more likely than their counterparts to receive this information.

In terms of engagement in restoration activities and use of communal restored land, households in AAD communities were 14.4 percentage points more likely to work on communal lands in the previous three years than their non-AAD counterparts (Figure 1). Those same households were also more likely to use

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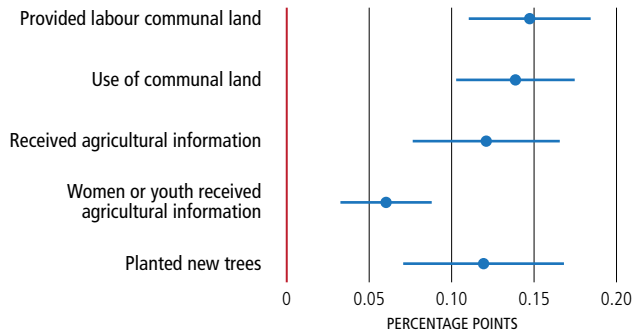
communal lands for a variety of activities, including the collection of non-timber forest products (NTFP), particularly high-value products such as Balanites, and decrease fuelwood and use of communal pastures for grazing animals. Households were also 12 percentage points more likely to plant new trees in their individual lands.

FIGURE 1. Mid-term impacts of Action Against Desertification



Source: Authors' elaboration based on De La O Campos, A.P., Petracco, C., Valli, E., Sitko, N. & D'Aietti, L. 2023. *Greening for the greater good – The case of Action Against Desertification in Northern Nigeria*. FAO Agricultural Development Economics Working Paper 23-06. Rome, FAO. https://doi.org/10.4060/cc7307en

Towards a more climate resilient pathway

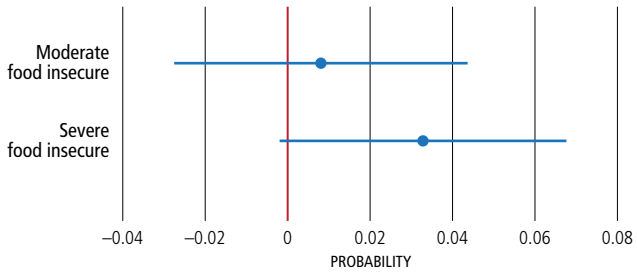
New knowledge and skills gained from land restoration activities, together with enabling markets for livestock by-products and NTFPs, incentivized AAD households to increase their livelihood portfolio. These households decreased their reliance on rainfed crop cultivation for sales, towards other commercialization options including of small and medium livestock sales, livestock by-products (hides and skins) and NTFP such as Balanites for the processing of oil. The model accounted for ethnicity, specifically considering that Fulani households have historically been more involved in pastoralism, but no significant differences between groups was observed.

Food security unaffected and improved

A decrease of crop agriculture activities, including sales, and restrictions to restored areas could be suspected to negatively impact food security, while AAD's development of restored lands and NTFP could also be theorized to positively impact food security. The evaluation found that AAD did not have a negative effect on food security as measured by the Food Insecurity Experience Scale (FIES) (see Figure 2). This is an important finding for a context where food insecurity affects most households and any changes in their livelihood strategies by projects deserve close attention.

In addition, the evaluation found that small but positive effects were also found in certain aspects of food security, with AAD households worrying less about not having enough to eat, skipping less meals,

FIGURE 2. Long-term impacts (food security) of Action Against Desertification



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and running less out of food. While these findings offer reassurance that changes in livelihood diversification fostered by AAD's land restoration did not harm the food security of households; the lack of more conclusive results is also a point of reflection. Possible explanations for the lack of a higher positive impact include insufficient time for the long-term effects of AAD's restoration to accrue, or that AAD's interventions were too focused on restoration activities and not on livelihoods development based on the opportunities brought by restored land. Indeed, the expansion of ADD's model under a new project has emphasized the strengthening of livelihood support through value chain development.

Can restoration happen with welfare impact?

Land restoration activities combined with income generation support seek to achieve the dual benefits of positive biophysical and socioeconomic impact. To date, the evidence of this possibility has been limited at best. The analysis of AAD in Northern Nigeria adds to the evidence pool that restoration activities, when implemented with community participation and market information, can have positive socioeconomic outcomes, including on more climate resilient livelihoods and incentivize household diversification.

The outcomes identified in Northern Nigeria highlight the need for future restoration activities to focus both on the land and livelihoods of those living in the Sahel. The findings call for new restoration programmes to be more integrated with market opportunities, including potential for value chain development, to both increase household income as well as help sustain investments in restoration. Beyond community microgardens, which could enable access to more nutritious foods, if households in the Sahel cannot derive sustainable livelihoods from the natural resources available to them, increasing their incomes and access to food, it is likely that big investments to build the Great Green Wall will dwindle once projects end.

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