

## Coupling Forest Protection with Food Security

The African Development Bank's (AfDB) Gazetted Forests Participatory Management Project for REDD+ aims to address two pressing developmental objectives in Burkina Faso: improving the carbon sequestration capacity of gazetted forests and reducing poverty in rural areas. The project is supported by the Climate Investment Funds' (CIF) Forest Investment Program (FIP), a financing mechanism to address the drivers of deforestation and forest degradation. In the context of scarce global resources, and the need for lower-income states to manage multiple urgent development challenges, projects such as this look at the feasibility of addressing climate and welfare challenges in tandem. The CIF is currently working with the World Bank's Development Impact Evaluation Group (DIME) to carry out an impact evaluation of the effectiveness, determinants, and replicability of such objectives.

### CLIMATE CHANGE AND SOCIAL PROTECTION

The global community has committed, through the Sustainable Development Goals (SDGs), to tackle the coexistent and pressing challenges of climate change, youth unemployment and food insecurity. By 2030, the international development community aims to eradicate poverty (SDG1), end hunger (SDG2), promote productive employment for all (SDG8), all while promoting climate change adaptation and mitigation (SDG13), amongst other goals.<sup>1</sup> With the 2030 deadline fast approaching, and faced with dwindling and increasingly



**COUNTRY** Burkina Faso

**PROJECT** Gazetted Forests Participatory Management Project for REDD+

**CIF FUNDING** USD 11.5 million from FIP

**MDB** African Development Bank

**PRODUCT TYPE** Development Impact Evaluation (DIME)

1. World Development Indicators, World Bank, 2016.

scarce resources, policymakers need more than ever to create synergies between the various sectors of development, and to maximize the reach of their investments.

**Climate Crisis and Forestry.** Efforts towards limiting the global temperature rise to 1.5–2°C have often included forest conservation and landscape restoration activities. Resulting from the 2015 Paris Agreement, initiatives such as REDD+, the Bonn Challenge and the African Forest Landscape Restoration Initiative (AFR100) have all put strong emphasis on restoring degraded landscapes while fighting poverty in developing countries. There is broad agreement that these efforts are valuable, but which policy tools best deliver the desired outcomes is still open for discussion.

**Human Development and Forestry** in the context of Burkina Faso, food insecurity and undernutrition have proven to be chronically difficult problems to tackle. This year alone, it is estimated that 3 percent of the entire population – approximately 687,000 people – will require urgent food assistance during the period June-August, the leanest time of the year in terms of food availability.<sup>2</sup> In a country with 48% forest cover, where forest-based economic activities contribute to over 25% percent of rural household incomes, and 5.6% percent of Gross Domestic Product (GDP)<sup>3</sup>, It is clear that tackling the interconnected problems of ecosystem degradation, poverty, food insecurity and climate change will require a synergistic, integrated approach.

## CAN PAYMENTS FOR ECOSYSTEM SERVICES (PES) DELIVER FOOD SECURITY OUTCOMES?

At the heart of this discussion is Payments for

Environmental – or Ecosystem – Services (PES). PES are formally defined as “...voluntary transactions between service users and service providers that are conditional on agreed rules of natural resource management for generating environmental services”<sup>4</sup>. While they vary substantially in their implementation, PES often entail offering monetary incentives to individuals or communities, conditional on the provision of well-defined environmental services. It is argued that PES schemes have the potential to also deliver socio-economic and welfare co-benefits, making it an ideal tool for tackling both climate change and poverty-related issues. In theory, as poor community members get involved in PES schemes, the monetary transfers received might serve a social protection role like that of Conditional Cash Transfer Programs (CCTs)<sup>5</sup>.

Within this frame, the ongoing DIME evaluation seeks to assess how well a project geared toward climate mitigation objectives also delivers welfare outcomes such as food security. As part of this program, the communities living around targeted gazetted forests were invited to participate in afforestation campaigns via PES schemes, wherein they received payments contingent on survival rates of trees planted.

The evaluation was based on a sample of 630 households in the vicinity of 11 gazetted forests, each randomly assigned to either PES scheme participation or a control group. Participants were almost exclusively farmers dependent on the forests for household inputs like fuelwood. Those in the PES treatment group were members of five-person teams, given a reforestation parcel, and collectively earning ~\$0.62 for every newly planted tree that was still alive a year later. The evaluation collected detailed primary data from both the treatment and control

groups, at baseline, before the PES contracts were signed, and at mid-line, four months after the payments were made.

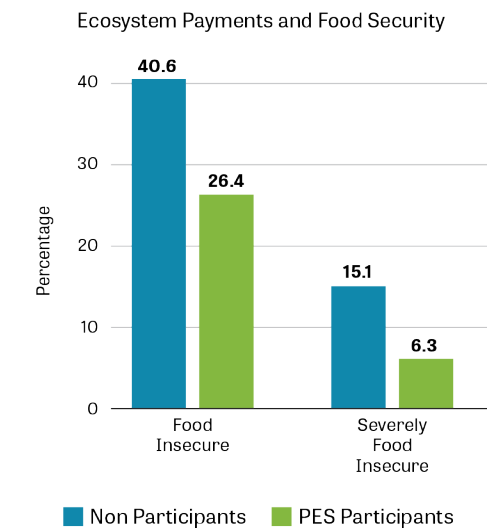
## EARLY EVIDENCE AND LOOKING FORWARD

The mid-line survey measured food insecurity via the Household Food Insecurity Experience Scale (FIES), dividing households into 4 categories based on severity: (i) the food secure, (ii) the mildly food insecure, (iii) the moderately food insecure, and (iv) the severely food insecure. The results are robust in comparison to alternative measures of food insecurity such as the household food consumption expenditures, and the Household Hunger Scale (HHS).

**Findings:** Results indicate that participants in the PES scheme experienced less food insecurity than non-participants at multiple levels of severity (see figure 1). Participation in the PES schemes was shown to have shielded farmers against food insecurity at a time when they were most vulnerable to it— receipt of incomes coincided with the pre-harvest period, when farmers had little food stocks remaining from the previous season, thereby aiding objectives for social protection during “hungry months”.

Results suggest that, in similar contexts, there is opportunity for PES schemes to work akin to traditional cash transfers, delivering welfare outcomes such as food security while contributing to ecosystem regen-

**FIGURE 1: FOOD INSECURITY EXPERIENCE SCALES, PES VS. CONTROL GROUPS**



eration and climate resilience.

In theory, such schemes could also leverage the “youth bulge” in Africa,<sup>6</sup> supporting climate action while providing temporary revenues and jobs for unemployed youth. Welfare outcomes could also apply to a range of other demographics currently out of access to traditional livelihood activities. While the evaluation tells the success of context-specific PES schemes, it also opens the door to a far wider array of social protection-climate action solutions, and a rethinking of the cost-benefit analyses of environmental interventions in lower-income and climate-vulnerable countries.

6. Filmer and Fox, 2014

The World Bank's Development Impact Evaluation (DIME) group generates high-quality and operationally-relevant data and research to transform development policy, help reduce extreme poverty, and secure shared prosperity. It develops customized data and evidence ecosystems to produce actionable information and recommend specific policy pathways to maximize impact.



For more information, please visit  
<http://www.worldbank.org/en/research/dime>  
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2. FAO 2019

3. Burkina Faso CIF Investment Plan, 2012, Page 10

4. Wunder, 2015

5. Pagiola et al., 2005