

# Public Works Programs and Climate Change: What can we learn from the literature and from existing programs?

Suneha Seetahul

*January 2023*



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## I. Introduction

Public works programs (PWP) are increasingly being implemented as a social protection tool because of their potential to reap the double dividend of creating employment while fostering growth. These programs contribute to infrastructure development and the provision of public goods and services by providing low-wage labor-intensive employment to poor populations (Gherke and Hartwig, 2015). The widespread adoption of PWPs highlight the unique features of this policy instrument: they provide support while maintaining worker dignity and they empower the status of marginalized and vulnerable populations. They also benefit from strong public and political support because they are perceived as contributing to a productive economy and provide local community with management autonomy (Subbarao et al., 2013).

In the face of climate change, vulnerable populations face disproportionate challenges and social protection has an important role to play in allowing at-risk households to overcome climate shocks and become more resilient. Public works represent an interesting avenue to ensure economic inclusion while contributing to mitigation and resilience building. Indeed, these programs have the advantage to simultaneously mitigate covariate shocks and idiosyncratic shocks, create bridges to more permanent employment and provide poverty relief (Subbarao et al., 2013; Rosas and Sabarwal, 2016). Blending the objectives of social protection and climate resilience *via* public works requires to focus on the nature and intended outputs of the employment provided. This type of employment, often referred to as “green jobs”, can be defined as decent jobs that either produce environmental outputs or are involved in environmental processes (ILO, 2013). These jobs contribute to preserve or restore the environment, either in traditional sectors such as manufacturing and construction, or in emerging sectors such as renewable energy and energy efficiency<sup>1</sup>. Green jobs are part of a green transition rationale, aiming to create an economy that is more respectful of the environment. If green jobs can be both skilled or unskilled, the green transition implies a shift towards better jobs and better consideration of the environment (Bulmer and Rutowski, 2021). Governments have an important role to play in the transition to a greener economy *via* green jobs. In particular, they can invest to create Climate-related or Green PWPs that contribute simultaneously to climate resilience, reduction of poverty and unemployment and mitigating the impact of crises. Climate-related PWPs have the potential to contribute to climate resilience in a cohesive way by addressing three dimensions: reducing risk and vulnerability, ecosystem restoration and conservation, and promoting skills development and behavioral change. Climate-related PWPs can also efficiently tackle the issue of youth unemployment with a sustainability dimension. Providing youth with green jobs raises awareness on climate issues and allows youth to build skills that can be used to counter the effects of climate change and build resilience (Lieuw-Kie-Song, 2009). The aims of climate-related PWPs make them particularly relevant components of Economic Inclusion or Cash-plus programs.

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<sup>1</sup> For instance, green jobs can contribute to improving the efficiency of energy and raw materials, limiting greenhouse gas emissions, minimizing waste and pollution, protecting and restoring ecosystems, and supporting adaptation to the effects of climate change (ILO, 2016).

Integrating climate-related PWP in Social Safety Net programs requires considering both the socioeconomic and environmental challenges faced by the targeted area. The objective of this note is twofold. First, it aims to identify and document the features of selected public works programs in order to provide recommendations to policymakers on how to design PWPs that simultaneously tackle poverty and climate change. Second, it aims to provide specific recommendations for the government of Sierra Leone for the design of climate-related public work programs in urban and rural areas of the country. The rapid review will first draw on the existing literature to describe and map the main characteristics of green public work programs. It will then present selected PWP cases and identify their relevant features before providing program design and implementation recommendations.

## **II. Mapping the characteristics of green public works programs: insights from the literature**

### **1. The scope of Green Public Works Programs**

PWPs in general can take diverse forms. McCord (2008) provides a typology of four types of PWPs:

- Programs that offer a single short-term episode of employment.
- Large-scale government employment programs which may offer some form of employment guarantee.
- Programs that promote the labor intensification of government infrastructure spending.
- Programs that enhance employability.

In theory, all four types of PWPs can include climate relevant activities and it is likely that programs fall under multiple categories. For instance, infrastructure building or restoration following a climate disaster can take the form of short-term PWPs with one single short-term episode of employment or can be part of a longer-term program as described in the second or third type of PWP.

The UNDP (Lieuw-Kie-Song, 2009) provides a detailed overview of the types of jobs that can be part of green PWPs based on previous experiences such as the Mahatma Gandhi National Rural Employment Guarantee Act in India or the Working for Wetlands program in South Africa (see Appendix 1). These jobs are of various nature and include interventions aiming at enhancing water availability and supply, biodiversity conservation and reduction of CO<sub>2</sub> emissions, provision of ecosystem services or disaster risk management.

Green PWP activities contribute to broader climate objectives as described in the ILO's Employment-Intensive Investment Program for Green Works (ILO, 2020). First, these programs can contribute to *environmental restoration and conservation* by locally addressing issues related to water scarcity, desertification, deforestation and natural disasters. This objective can include green works that provide nature-based solutions and benefit from community-based expertise. Second, Green PWPs can also contribute to *climate change adaptation* by reducing the risk and vulnerability of local populations to climate shocks and providing sustainable employment opportunities. Third, Green PWPs play an

important role in *climate-proofing infrastructure* which can allow to increase agricultural productivity and food security. Finally, these programs contribute to *restoring and protecting the productive capacity of ecosystems* namely through soil and water conservation activities allowing to prevent further environmental degradation.

## **2. Skilling for and through green jobs**

If in general PWP tend to provide labor-intensive activities which are low-skilled, designing programs which include green jobs is an opportunity for human capital development and for workers to acquire “green skills” (i.e., skills required to perform green jobs). PWPs are sometimes included in broader social safety net programs labelled as “active labor market programs”, “cash-plus”, “poverty graduation” or “economic inclusion” programs (Andrews et al., 2021). These programs typically include a combination of interventions, including training.

The inclusion of training in PWPs allows to create pathways to more regular or longer-term employment or self-employment (Subbarao et al., 2013). These trainings can be provided in-classroom or on-the job and often include technical modules, numeracy and literacy modules, socio-emotional/non-cognitive and skill development modules and counselling (Morgandi and Santos, 2019). Providing skills that will allow the beneficiaries to fully reap the benefit of a climate-related PWP can be done by specific training for green jobs (e.g., technical skills required for climate-proofing infrastructures) or by enhancing socioemotional skills that are generally correlated with climate-responsible behavior. For instance, Kreft et al. (2021) show that perceived self-efficacy (i.e., confidence in abilities) and locus of control (i.e., belief of control over one’s life outcomes), which are two non-cognitive skills, are strongly and positively associated with the adoption of agricultural mitigation measures and behaviors for farmers.

## **3. Ensuring women’s inclusion in Green Public Works programs**

Considering the equitable inclusion of women in climate-related PWPs is not only essential to ensure the efficiency of the program but can also contribute to broader goals of gender equality. PWPs, especially when they are climate-related can create barriers of access for women because of the nature of the job (e.g., construction, energy) in contexts of gender labor market segmentation, different physical abilities, and constraining social norms. Moreover, additional constraints are posed to women because of care responsibilities which can limit their engagement in PWPs. Yet, the role of women in the green transition is not only essential on the equity front, but women are also considered as important agents of change and their inclusion has the potential to improve climate resilience. For instance, an evaluation of an NGO-leg program in Kenya shows that increased participation of women in decision-making led to large and positive effects on drought preparedness (Grillos, 2018). Similarly, Mavysakalyan and Tarvedi (2019) show that female representation in politics leads countries to adopt more stringent climate policies and also contributes to lower carbon dioxide emission.

Holmes and Jones (2011) analyze two large-scale PWPs (Mahatma Gandhi National Rural Employment Guarantee Act in India and Ethiopia Productive Social Safety Net) to provide a list of recommendations that apply to general PWPs in rural areas in order to ensure gender equality. These recommendations are summarized in Table 1. These considerations also apply to green PWPs.

**Table 1. Recommendation for gender inclusion in PWPs**

Household-level	Ensuring financial inclusion of women (e.g., bank account support; economic empowerment and control over resources support) Flexible working hours to account for domestic pressures like childcare. Greater recognition of different type of gender-vulnerabilities by type of household (female-headed; male-headed; polygamous)
Labor market	Ensure that women are not assigned “light” tasks because of cultural norms related to men and women’s work. Instead provide institutional linkage to other services such as skills training.
Community-level	Provide mechanisms for women to participate and have a voice in community decision making processes
Program governance	Intersectoral coordination and technical capacity building related to gender. Better monitoring and evaluation of data collection and reporting on gender-related program aims.

Source: adapted from Holmes and Jones (2011)

### III. Case studies

This section analyzes two types of selected PWPs: (1) Climate-related PWPs in Social Safety Nets and (2) Recent innovative PWPs that can inform the design of future climate-related PWPs.

For the first category, we identify relevant programs based on the following criteria:

- PWPs that can be categorized as social safety net projects
- PWPs with an environmental focus or impact
- Programs which had sufficient publicly available documentation

For the second category, we adopted the following criteria:

- PWPs with an innovative approach
- Programs which had a sufficient publicly available documentation.

For each case, we conducted a desk review of the program documentation to identify the general characteristics and interesting features of the programs. Four cases were selected in the first category and a pilot implemented in four countries was selected in the second. The cases analyzed are presented in Table 2.

**Table 2. Selected case studies**

A. Climate-related PWPs with a Social Safety Net approach	The Rural Productive Safety Net Program (Ethiopia, 2005-2022) <sup>2</sup>
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<sup>2</sup> Labelled Productive Safety Net Program before 2017.

	The Urban Productive Safety Net and Jobs (Ethiopia, 2020-2025)
	The MGNREGA (India, 2005-ongoing)
	The Niger Adaptive Safety Net Project 2 (2019-2024)
B. Building resilience through innovative targeted PWP in a post-COVID-19 context	The Digital Works Program for African Youth: pilot conducted in Kenya, Tanzania, Zanzibar and Mali.

Source: Authors.

A. Climate-related PWPs with a Social Safety Net approach

The PWPs analyzed in this section adopt a Social Safety Net approach. The main features of these four PWPs are summarized in Table 3 and a more detailed description of these programs is presented in Appendix 2. 3 of the programs are implemented by governments with donor support: the Rural Productive Safety Net Program (RPNP) in Ethiopia, the Urban Productive Safety Net and Jobs (UPSNJ) and the Niger Adaptive Safety Net Project 2 (ANSP2). One of them is implemented only by the government (the India MGNREGA). These PWPs fall under multiple categories of the typology developed by McCord (2008)<sup>3</sup>. The India MGNREGA is a large-scale government employment guarantee program while the Ethiopia RPNP and UPSNJ programs lie in between labor intensification promotion and large-scale employment programs. The Niger ANSP2 provide a single short-term episode of employment. It can be argued that the Niger and Ethiopia programs also enhance employability because they all offer a form of human capital development such as capacity building or skills training.

If all four projects are implemented in areas that are prone to climate change incurred crises (e.g., droughts and floods), the programs in Ethiopia and Niger have integrated climate change considerations as part of the program objectives and design while the MGNREGA focuses on poverty alleviation. However, because of the nature of the vulnerabilities of targeted households (e.g., dependence on agriculture and vulnerability to droughts) and the nature of the jobs provided, the program *de facto* can be considered as a climate-related PWP.

These programs all contribute to building community infrastructure and assets, but the cost-effectiveness of these programs and sustainable climate resilience are conditional on durability and quality. Some programs such as the Ethiopia RPNP specifically take the sustainability of community

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<sup>3</sup> As presented in Section 2.1., McCord (2008) proposes to classify PWPs in 4 different categories: (1) programs that offer a single short-term episode of employment, (2) large-scale government employment programs which may offer some form of employment guarantee, (3) programs that promote the labor intensification of government infrastructure spending, and (4) programs that enhance employability.

assets into consideration by ensuring support from front-line staff and a dedicated monitoring and evaluation unit which will be charged of quality control (World Bank, 2017). However, without robust evaluations it is difficult to gauge the effectiveness of these measures in ensuring the durability and quality of created infrastructure and assets. Such evidence is scarce, and the limited number of studies provide mixed evidence (Gehrke and Hartwig, 2015).



Program	Main objective	Environment-related objectives	Targeted group	Public Works Component	Other program components <sup>4</sup>	Interesting feature
The Rural Productive Safety Net Program (Ethiopia, 2005-2022)	Respond to chronic food insecurity and short-term shocks such as droughts	Dual consideration of poverty and climate needs: (1) target climate-vulnerable households, (2) create productive and sustainable community assets to rehabilitate severely degraded areas, build resilience and increase productivity.	Climate-vulnerable households	Labor intensive public works for soil and water conservation activities. Work conducted for 6 months outside of agricultural season. Beneficiaries receive food or cash payments in exchange for labor.	Capacity-building and skills upgrading; unconditional transfers; livelihood services (including on-farm extension, mentoring and coaching in business and technical skills training for diversification into off-farm activities, links to employment services, voluntary savings promotion, and referring households to micro-level financial institutions).	Strong gender focus: specific measures (maternity leave, flexible working hours, equal pay for women and men and community crèches) to account for vulnerabilities related to family composition, socio-cultural gender roles and lifecycle factors.
The Urban Productive Safety Net and Jobs (Ethiopia, 2020-2025)	Provide an integrated development pathway for livelihoods	Contributes to adaptation and mitigation through climate public works that reduces land degradation due to climate change and increase resilience	Vulnerable urban households from refugee and host communities	Climate public works include (1) urban greenery and beautification, (2) urban integrated solid waste management, (3) urban integrated watershed management, (4) social infrastructure and (5) creating a conducive environment for urban agriculture. Wage set at market rate for unskilled labor.	Transfers; support for business development and livelihood grants through technical, financial, and behavior change; shared activities and communication to foster social cohesion and integration of refugees; apprenticeship for youth combined with soft skill training, basic digital literacy training, job search support.	“Do no harm” principle: activities not directly related to climate change mitigation and adaptation will aim to not further deteriorate the environment. Use of “climate-smart, energy efficient technologies, including efficient water, lighting and climate smart design (e.g. passive cooling) as much as possible”.
The MGNREGA (India, 2005-ongoing)	Provide a safety net for poor rural workers by providing employment opportunities.	Program aims do not explicitly mention climate but its origins are based on willingness to provide support to households facing drought. Many features of the program allow pro-poor	Poor rural households	100 days of guaranteed wage employment for any rural household who applies (demand-driven). Labor aimed to generate public assets e.g., water harvesting structures, irrigation facilities and other	Multiple skill development projects have been implemented to target MGNREGA beneficiaries. The latest pilot is Project Unnati which has benefitted 25,000	Involvement of local communities: decentralized program with central role of local communities in designing and implementing small-scale climate mitigation projects. Community-based

<sup>4</sup> This column describes the programs in general and beneficiaries of the various components may not be the same as the PWP beneficiaries.

		climate support: provision of minimum wage labor; development of small-scale natural-resource-focused infrastructure and decentralized community-based planning.		livelihoods infrastructure intended to benefit communities. Wages set at State-level minimum wage rate for unskilled labor.	individuals between 2020 and 2022.	adaptation strategies build on incorporation of local knowledge, skills and lived experiences of climate shocks and can allow better tailored environmentally relevant projects.
The Niger Adaptive Safety Net Project 2 (2019-2024)	Improve the capacity of the preexisting Safety Net Program to respond to shocks and increase the coverage and access for poor and vulnerable people.	The Cash for Work targets individuals residing in areas affected by shocks and the activities that are part of the program will produce or maintain public goods which have an impact on community resilience. The goal of the project is to enhance community resilience through soil restoration or socioeconomic infrastructures.	Individuals residing in areas affected by shocks	Cash for Work includes activities aimed at increasing water security, reducing soil erosion and diversifying livelihoods. Village-level accompanying measures have been designed to ensure longer-term climate resilience, including the introduction of a community-based participatory approach to the design, management and maintenance of microprojects. The PW component provides beneficiaries with 60 days of work at a daily wage rate of CFAF 1,300 (2.05 USD).	Unconditional cash transfers; cash transfer for shock response; gender-related interventions (training modules on maternal health and birth spacing, productive inclusion package which includes a life skills training); children's human capital related interventions focusing on parenting behavior, early childhood development and nutrition.	Sophisticated targeting mechanism: selection of based on experiences of shocks and fragility over the recent past. Interested individuals invited to apply via a self-targeting mechanism and information on applications will be collected based on a social registry questionnaire. If there are more people interested than what is allowed by the microproject, a PMT will be applied, and the final list of beneficiaries will be validated by the community.

## B. Building resilience through innovative targeted PWPs

Green PWPs can increase their ability to reach their dual goals of social safety nets and climate resilience by leveraging innovative solutions that are currently being implemented in other forms of PWPs. One such innovation is Digital works. The Global Facility for Disaster Reduction and Recovery implemented a study to assess the feasibility of seven Digital Works Pilots (World Bank, 2021). The pilots recruited a total of 1300 young workers across four different countries (Kenya, Tanzania, Zanzibar, Mali). These programs involve innovative, open and dynamic data collection processes to provide tools that can support real-time decision-making. The seven pilots encompassed a range of areas of data collection: (1) Built-up area tagging with task mate by Google; (2) Geolocating informal settlement infrastructure with Native; (3) Object detection from street-level imagery spatial collective mapillary; (4) Building height validation with Mindearth; (5) Identifying solid waste from imagery with Mapswipe; (6) Remote canopy mapping with Azavea; (7) Building conflation spatial collective – Facebook ESRI.

Digital Works aim to provide detailed, up-to-date geographic data of the urban environment to address cities' needs related to managing growth while ensuring resilience to natural hazards and climate change. The aims of digital works programs are threefold: (i) creating high quality geographic data for future urban planning, disaster risk reduction and emergency response, (ii) creating a social safety net and (iii) providing opportunity of learning digital skills and geospatial technology that can lead to medium-term employment. In terms of program design, digital works involve:

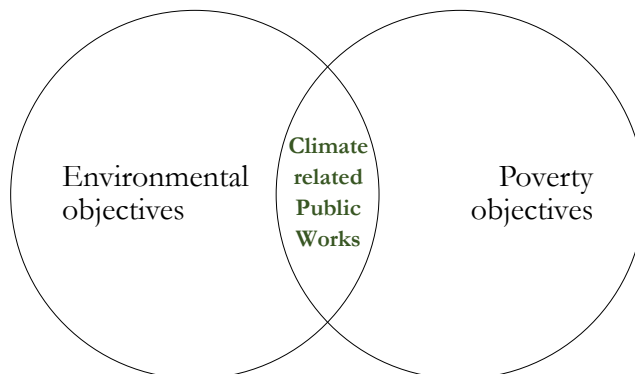
- Digital tasking: a digital task contains a bundle of activities (micro-tasks) that can be low-skill remote (mobile-app based work such as helping classify a street view image into different categories), high-skill remote (desktop computer based work such as data analysis), low-skill field based (mobile app-based work such as collecting new street view imagery data) or high-skill field based (tasks that require training and experience such as collecting detailed information about geographic features).
- Engagement Management for outreaching, ensuring quality and payment: the program worked with technical partners and intermediary firms. The latter were tasked with ensuring the interface between the technical partners and the workers (e.g., recruitment, payment, training, monitoring, quality checks).
- Skill Development: the program provided opportunities to develop basic digital skills (e.g., app installation, data entry, communication), geospatial skills (e.g., imagery interpretation, GPS), specific skills on broader concepts (e.g., urban planning, solid waste management) and soft skills (e.g., time management) (World Bank, 2021).

## IV. Lessons from practice and for climate-related Public Works Programs in Sierra Leone

The objective of this review is to provide general recommendations for the design of climate-related PWPs in specific insights for Sierra Leone.

### 1. Blending environmental and poverty objectives in climate-related PWPs

Figure 2. Climate related PWPs



Source: Author

Table 3. General policy insights

	Environmental considerations	Poverty considerations
<b>Objectives</b>	The environmental objectives can be classified into four categories: <b>1.Do no harm:</b> Climate-related PWPs should not further contribute to climate change in any of its dimensions. <b>2.Mitigation:</b> Climate-related PWPs should allow to mitigate the effects of climate change by providing work opportunities in areas that limit climate change such as activities that reduce CO2 emissions <b>3.Adaptation:</b> Climate-related PWPs should contribute to adaptation to climate change for instance by climate-proofing existing infrastructures and disaster-risk reduction. <b>4.Protection:</b> Climate-related PWPs should contribute to protecting and strengthening ecosystems.	Provision of employment opportunities along a range of skill requirements to ensure short-term livelihood support and longer-term transitions to more regular employment or self-employment.
<b>Target population</b>	Vulnerable populations to climate shocks such as drought and floods.	Poverty affected populations and vulnerable groups among these populations such as women, persons with disabilities. Particular emphasis on youth.
<b>Forms of employment</b>	Green works	Activities that allow to support consumption and livelihoods.
<b>Key opportunities for innovation</b>	Digital works and crisis mitigation through climate-related PWPs	Economic inclusion programs which work better by combining support with training.

Source: Author

## **2. Design considerations for the Sierra Leone PSSNYE**

Sierra Leone has a previous successful experience of a labor-intensive PWP. In 2010, the government implemented the Youth Employment Support Project with the support of the World Bank with a cash for work component targeted at youth from poor and vulnerable households. An impact evaluation showed that the program had important welfare impacts in the short term because it increased household economic activity beyond the works proposed in the scheme. Female labor market participation also increased and households were able to invest in new and existing businesses. The program however also had a few negative impacts such as consumption of temptation goods (e.g., tobacco products) and higher school absenteeism (Rosas and Sabarwal, 2016).

If the positive experience of the country demonstrates potential to implement a climate-related PWP as part of the PSSNYE project, it is necessary to consider a number of factors when designing the programs.

First, it is essential to locally identify the different rural and urban environmental risks and areas of possible intervention via the PWPs. The type of work provided might vary substantially across geographical zones. For instance, rural activities can include climate-proofing agricultural irrigation systems while urban programs can include urban solid waste management. If identification of the risks itself is difficult, this may be an indication that data collection would be an interesting avenue for Public Works activities. As such digital works represent an interesting avenue for public works along a variety of skill levels.

Second, the program must ensure equitable inclusion of women. There is a risk of deepening preexisting gender inequalities by proposing green works that are best suited for men such as jobs involving heavy lifting. These jobs can either be perceived as more adapted to men because of different physical capacities or because of gender norms. Including women in the program design and ensuring generalized gender-mainstreaming processes in the program design can allow for adequate choices of works to be provided. Accompanying measures such as childcare and flexible working hours are also essential to ensure women's inclusion.

Third, involvement of local communities can allow for a smoother detection of relevant PW activities and climate risks. Training local communities and decision-makers on climate change and how it relates to climate shocks and disasters may also be necessary to fully reap the benefits of the program in the long-term. This can for instance allow for more sustainable and less carbon-intensive strategies of maintenance of infrastructures that can be built under the program.

## **V. Conclusion**

This rapid review provides insights for policymakers on the characteristics and features of climate-related PWPs from the literature and from selected case studies. It highlights the various considerations that should be accounted in the selection of activities and during program implementation. Although many PWPs have been implemented in the recent years, evaluation efforts should be maintained in the field of PWPs which have climate components. This will allow to better

identify the features that should be emphasized and the areas that require further policy innovations to prevent issues such as inefficiency of maladaptation.

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## Appendix 1. Type of jobs in green public work programs

Intervention	Main Benefit	Labor-intensive work activities
Combating soil erosion (ePWP Land care, NREGA)	Maintained productivity of the land	Construction of earth structures, planting of (native) vegetation
Water harvesting (NREGA)	Increased availability of (ground) water	Construction of weirs and other structures such as underground tanks, ponds, and cisterns in urban areas, renovation of traditional water bodies, desilting of tanks
Removal of invasive alien species (Working for Water)	Increased availability of water, increased productivity of land	Physical removal of aliens, applications of chemicals where appropriate
Removal of waste and litter (Working for the coast)	Reduced pressure on storm and waste water infrastructure, aesthetics, public health	Collection and transport of waste and litter
Guarding of reserves and protected areas (People & Parks)	Conservation of biodiversity, in particular endangered species, tourism	Patrolling of parks and park perimeters
Sustainable harvesting of forest products	Income through sale of products/ benefits from use	Collection and harvesting of products such as rubber, honey, firewood etc.
Rehabilitation of degraded land (Working for Wetlands, Working for Woodlands, NREGA)	Restores ability of the land to provide ecosystem services such as water harvesting, purification, carbon sequestration and providing habitat to endangered species	Planting native vegetation, removal of alien vegetation and other man introduced structures, restoring streams and wetlands
Recycling	Income through the sale of recycled products, reduced landfill requirements	Collection, separation and transport of recyclable material
Composting	Income through sale of compost, inputs for agricultural and horticultural activities, reduced landfill requirements	Collection and separation of organic materials, construction and maintenance of composting facilities, packaging and sale of composted material

Installation of solar water heaters for poor households and government buildings	Reduced CO2 emissions, reduced energy costs for the poor and for government	Production and installation of solar water heaters
Weatherizing homes and government buildings	Reduced CO2 emissions, reduced energy costs for the poor and for government	Insulating of ceilings, doors and windows
Fire prevention and firefighting (Working on Fire)	Reduce the impact of and frequency of fires, in particular forest fires	Cutting and maintenance of firebreaks, removal of flammable material
Drought Proofing, Greening/ tree planting (Greening the nation, watershed development NREGA)	Drought Proofing Production of fruits/ shade, carbon sequestration, reduced soil erosion, increased value of land	Planting of trees and other vegetation, watering and maintenance of saplings; micro watershed development

Source: Adapted from UNDP (2009)

## Appendix 2. Description of climate-related PWP case studies

### *Climate-related PWPs with a Social Safety Net approach: The Productive Safety Net Program (Ethiopia, 2005-2022)*

#### *General program description*

This program is implemented by the Government of Ethiopia with the support of multiple international organizations. The program aims to respond to chronic food insecurity and short-term shocks mainly related to droughts. The program components include public works activities and a risk-financing facility to cope with transitory shocks.

#### *Environment-related objective and characteristics*

This program merges the dual consideration of poverty and climate needs in multiple ways. First, the targets of the programs are climate-vulnerable households. 80 percent of the population is dependent on rain-fed agriculture and has been impacted by the country's increased drought risk, exacerbated by environmental degradation and poor natural resource management. Second, the program aims to create "productive and sustainable community assets that contribute to the rehabilitation of severely degraded areas, build resilience to climate-related impacts, and increase household productivity. The program also contributes to improved access to social services, such as education and health" (World Bank, 2013). The program provided support to 8 million individuals. An evaluation of the program has shown that it contributed to increased tree coverage from 192 districts in 2005 to 300 in 2019 and increased tree coverage by 3.8 percent.

#### *PW component description*

Program beneficiaries receive food or cash payments in return for labor-intensive public works carried out over a six-month period outside of the main agricultural season, while a small share of households with limited labor capacity (e.g., pregnant and lactating women, elderly individuals) receive unconditional transfers. 60 percent of the program's public works are engaged in soil and water conservation activities which simultaneously strengthen livelihoods and resistance to impacts of variable rainfall. Specific resources are dedicated to ensuring the quality and sustainability of the public works. Experts at multiple geographical levels carry out technical supervision and an overall project supervisor makes weekly visits to all work sites. Moreover, a part of the program is also dedicated to capacity building for skills upgrading and training.

#### *Interesting feature: A strong gender focus*

In order to ensure that women are able to enter the public works program, specific measures are taken to account for the vulnerabilities that they face because of family composition, socio-cultural gender roles and lifecycle factors. These measures include maternity leave, flexible working hours, equal pay for women and men and community crèches. The 2017 Gender Action Plan identified multiple areas of opportunity to further ensure the equal inclusion of women in the program. These include: awareness and sensitization; behavioral change communication with a focus on gender norms that shape household dynamics; capacity development for officials and experts to ensure awareness of the rationale for women's participation for all actors; setting standards for the implementation of gender-specific provisions of the program; system strengthening to incorporate learning.

Sources: World Bank (2013, 2017); Hirvonen et al. (2022)

## *Climate-related PWPs with a Social Safety Net approach: The Urban Productive Safety Net and Jobs (Ethiopia, 2020-2025)*

### *General program description*

This scale-up of Ethiopia's Urban Productive Safety Net project (2016) aims to enhance the income of households living in the urban areas of Ethiopia by reducing poverty and vulnerability. Since Ethiopian cities host a large number of refugees, the program provides support to vulnerable urban households from refugee and host communities. The program follows a 'graduation' approach, providing an integrated development pathway for livelihoods.

### *Environment-related objective and characteristics*

The program aims to contribute to both adaptation and mitigation against climate change induced risks mainly through its public works component. The program supports households with at least one able-bodied person to engage in climate public works.

### *PW component description*

Five types of public works are included in the project: urban greenery and beautification, urban integrated solid waste management, urban integrated watershed management, social infrastructure (as part of a larger plan such as environmental, disaster prevention, and human development enhancing initiatives), and creating a conducive environment for urban agriculture. These public work activities contribute to reducing land degradation due to climate change and increase resilience, for instance by preventing potential contamination and run-offs during precipitations by implementing activities related to solid waste management. Beneficiaries receive monthly payments based on a daily wage rate calculated considering the market wage rate for similar or comparable unskilled labor. This form of wage determination ensures that no negative externalities on the labor market are created. Maximum monthly support for a household of four individuals is USD 55 for 20 hours of work per week. Local communities play a central role in the identification and planning of the public works activities since local governments involve them in a participatory process. These processes build on the previous program that this project aims to scale-up. In the Urban Productive Safety Net project, a menu of activities customized to specific environments was provided as guidance to participating cities.

### *Interesting feature: "Do no harm"*

One interesting feature of this program is that the public works activities which are not directly related to climate change mitigation and adaptation will aim to not further deteriorate the environment. The social infrastructure activities (e.g. class rooms, school walls, playgrounds, public toilets, etc.) will use "climate-smart, energy efficient technologies, including efficient water, lighting and climate smart design (e.g. passive cooling) as much as possible" (World Bank, 2020).

Sources: World Bank (2020b, 2022)

***Climate-related PWPs with a Social Safety Net approach: The Mahatma Gandhi National Rural Employment Guarantee Act - MGNREGA (India, 2005-ongoing)***

*General program description*

This demand-driven program is rolled out nationally and proposes 100 days of guaranteed wage employment (unskilled manual work) per year for any rural household who applies. This labor is intended to generate public assets such as water harvesting structures, irrigation facilities and other livelihoods infrastructure intended to benefit communities.

*Environment-related objective*

Although the MGNREGA is not designed to focus on climate change, the roots of the program are based on a willingness to provide support to households facing drought. Moreover, the program has many features allowing to provide pro-poor climate support: provision of minimum wage labor; development of small-scale natural-resource-focused infrastructure and decentralized community-based planning.

*PW component description*

The Public Works activities implemented under the MGNREGA are small-scale infrastructure development projects in the beneficiaries' own villages. These jobs can provide "important, locally-relevant, and often cost-effective means to confront certain kinds of climate risks" (Fischer, 2019). These climate change mitigation activities include micro-irrigation projects, dam maintenance, water recharge pits, retention walls, drainage canals, wells.

*Interesting feature: involvement of local communities*

The decentralized nature of the MGNREGA program emphasized the central role of local communities in designing and implementing small-scale climate mitigation projects. Community-based adaptation strategies build on the incorporation of local knowledge, skills and lived experiences of climate shocks and can allow better tailored environmentally relevant projects.

Source: Fisher (2019); Godfrey-Wood and Flower (2017)

## *Climate-related PWPs with a Social Safety Net approach: The Niger Adaptive Safety Net Project 2 (2019-2024)*

### *General program description*

This project is led by the Government of Niger with the support of the World Bank. It aims to expand the preexisting Safety Net Program of the country.

### *Environment-related objective*

Niger is one of the most vulnerable countries concerning the impact of climate change. The country faces multiple climate risks and shocks such as droughts impact livelihoods of Nigerians. For this reason, the project aims to improve the capacity of the preexisting Safety Net Program to respond to shocks and increase the coverage and access for poor and vulnerable people. The Cash for Work targets individuals residing in areas affected by shocks and the activities that are part of the program will produce or maintain public good which have an impact on community resilience. The initial cohort of 4,400 beneficiaries has completed 38 community microprojects designed to support poor people in areas that have been affected by persistent or recurrent weather and climate change-related shocks several times over the past few years.

### *PW component description*

The projects that are part of the Cash for Work for Resilience component are centered on climate change adaptation and resilience building at the community level. These include increasing water security, reducing soil erosion and diversifying livelihoods. The goal of the project is to enhance community resilience through soil restoration or socioeconomic infrastructures. Village-level accompanying measures have been designed to ensure longer-term climate resilience, including the introduction of a community-based participatory approach to the design, management and maintenance of microprojects. The PW component provides beneficiaries with 60 days of work at a daily wage rate of CFAF 1,300 (2.05 USD).

### *Interesting feature: A sophisticated targeting mechanism*

The annual selection of the areas for the Cash for Work interventions is based on experiences of shocks and fragility over the recent past. Interested individuals will be invited to apply via a self-targeting mechanism and information on applications will be collected based on a social registry questionnaire. If there are more people interested than what is allowed by the microproject, a PMT will be applied and the final list of beneficiaries will be validated by the community.

Source: World Bank (2018)