



▶ Green works

Creating decent jobs through investments:
Promoting forest restoration, irrigation, soil
and water conservation, and flood protection

Employment-Intensive Investment Programme (EIIP)

Background

► Green works defined

Green works refer to the employment-intensive development, restoration and maintenance of public infrastructure, community assets, natural areas and landscapes to contribute to environmental goals such as adaptation to climate change and natural disasters, environmental rehabilitation and nature conservation.

Common examples of green works are soil and water conservation, afforestation and reforestation, irrigation, and flood protection.

Green jobs, on the other hand, refer, in general, to decent jobs, which contribute to preserving or restoring the environment. These jobs can be in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency.

ILO and the Employment-Intensive Investment Programme (EIIP)

The ILO's Guidelines for a just transition¹ towards environmentally sustainable economies and societies for all (the "Just Transition Guidelines") offer the ILO and its constituents a framework and a practical tool to ensure that national and global efforts to tackle climate change and other environmental challenges advance employment creation, social justice and a fair transition for workers altogether.

The ILO, through its EIIP, has played a vital and instrumental role since the 1970's in dealing with poverty reduction through employment generation. This has been done mainly through infrastructure investments in developing countries, not only in a developmental context but also in pre- and post-disaster environments. The EIIP promotes the application of local resource-based (LRB) approaches in the production of public assets in diverse sectors, including roads, soil and water conservation and water resource management, natural resource management and environment conservation. These environmental works have a great potential for employment creation as they are often labour-intensive. The ILO's experience has shown that labour intensities can be increased with up to 35% when applying the LRB approaches.

The EIIP approach carefully designs intervention modalities that will enhance the resilience of local communities to climate change and other environmental problems. Infrastructure assets that are developed

with a strong engagement of local communities, based on the LRB approaches, do not only serve as physical and resilient assets that enhance the productivity and livelihood of surrounding communities, but they also build the capacity and skills of local communities and institutions that will sustain the local economic development and environmental improvements.

Why green works?

The environment is deteriorating

1. Water is becoming scarcer

Rivers and lakes are drying up and water conservation is becoming increasingly difficult due to extreme weather and changing weather patterns, in addition to human activities. Climate change is also adversely affecting the complex water cycle on which our societies depend. With the existing climate change scenario, or "business as usual", water scarcity in some arid and semi-arid places will cause between 24 million and 700 million people to become displaced by 2030².

Today, nearly half of the global population are already living in potentially water scarce areas for at least one month per year and this could increase to some 4.8-5.7 billion by 2050³. 2.5 billion workers, or more than one-third of the world's population, engage in agricultural activities that require more water resources than any other sector. Of these, agricultural workers in developing countries are extremely vulnerable to the negative impacts of the water scarcity. It is estimated that by the

¹ A just transition encompasses directions to create decent work opportunities and protect workers in the transition to low-carbon economies. Demand for a just transition started in an early trade union movement that has now become a mainstream policy tool applied by international institutions and treaties.

² United Nations, 2009. "World Water Development Report, Water in a Changing World"

³ Burek et al, 2016. "Water Futures and Solution – Fast Track Initiative - Final Report"



2080's, land unsuitable for agriculture in sub-Saharan Africa, where most of the population depend on rain-fed agriculture, may increase from 30 to 60 million hectares⁴. This impact on the environment and water to provide food disproportionately affects the vulnerable people in poverty, particularly those in rural areas.

2. Desertification and biodiversity loss are accelerating

Desertification has occurred throughout history, however, arable land degradation has accelerated in recent decades at 30 to 35 times the historical rate as the human population expanded⁵. Today, 2 billion people in the world depend on the ecosystem of drylands, most of whom are in developing countries. When land is desertified, it is no longer able to support its inhabitants (either human or animal). It can become impossible to grow food crops and drought become a serious risk, making people susceptible to hunger and displacement.

Desertification is also associated with biodiversity loss. A rich biodiversity and healthy ecosystems are essential for human societies to function properly, as they provide essential ecosystem services such as clean water and healthy soil. They also play a key role in adapting to the impacts of climate change. However, human activities are accelerating the destruction of such natural life-support systems at an unprecedented speed as a result of overgrazing, excessive felling, and other unmanaged alterations in natural ecosystems.

The climate is changing

The effects of the changing climate are being felt around the world and are posing an increasing threat to people's prosperity, economies and ecosystems. Millions of people are already experiencing higher temperatures and extreme weather events, such as heat waves, drought, intense storms and increased flooding, which are putting food security and water supply at risk. Climate change is already having a large impact, especially in developing countries where local and community infrastructure is damaged or threatened and people's livelihoods are increasingly jeopardized. In addition, increasing temperatures have an impact on labour-intensive industries, such as agriculture, construction and infrastructure development – where most of the world's poor are employed. Climate change could erase decades of international efforts to achieve sustainable development, leaving people facing its life-threatening consequences.

Many of the climate-related events and their impacts are unprecedented. For example, the World Bank estimates that as many as 143 million people in sub-Saharan Africa, Southeast Asia, and Latin America could be displaced within their own countries by 2050, due to climate change impacts. In East Asia and the Pacific, for instance, 9.6 million people were displaced due to natural disasters in 2019 alone.

The Fifth Assessment Report by IPCC (Intergovernmental Panel on Climate Change) has confirmed that the rate and scale of climate change will accelerate at all levels of development around the globe while imposing irreversible adverse effects on individuals and societies.

The poor will suffer the most

The environmental degradation and climate change will severely and disproportionately affect the poor in developing countries, and they often face increasingly high levels of food insecurity. This is due not only to the fact that they are invariably more exposed and more vulnerable to climate and environment-related impacts but also because they have less access to information, resources and social and financial support, including income and food security, for their survival. The poor have been the least responsible for these changes in climate as confirmed by the Common but Differentiated Responsibilities (CBDR) within the UN Framework Convention on Climate Change (UNFCCC). The principle that establishes that all states are responsible for addressing environmental degradation, yet they are not equally responsible was already introduced in the 1960's, but formalized in 1992 at the Earth Summit in Rio de Janeiro.

Green objectives and the EIIIP's approach

Environmental restoration and conservation

The ILO has been strengthening its collaboration with leading agencies in each environmental field to adapt its programmes and projects to apply the most effective intervention modalities suitable to address varying problems at the local level, posed by environmental issues such as water scarcity, desertification, deforestation, as well as natural disasters. One of the emerging areas includes "nature-based solutions."⁶

4 FAO. "Climate change, water and food security", accessed on May 26, 2020

5 UNCCD, 2011. "Land and soil in the context of a green economy for sustainable development, food security and poverty eradication"

6 IUCN (2016). "Nature-based Solutions to address global societal challenges"

Experience has shown that employment creation schemes can assist with ecosystem restoration, or reverse environmental degradation in general. Activities that protect or restore ecosystems can apply solutions that make use of local or natural resources and/or local



► **Green works in agriculture and forestry in Jordan**

Jordan is one of the countries that are affected the most by the process of desertification. The process has been accelerated by unsupervised management and land use practices of excessive grazing, soil cultivation, as well as forest removal in the high rainfall zones. As a result, the amount of water available for each person per year in Jordan dramatically decreased from 3600 m³ /year in 1946 to 135 m³ /year in 2017. Agriculture, in which 25% of Jordan's poor are engaged, consumes the largest amount of water resources in the country, followed by domestic consumption.

In 2016, the ILO started a project, one of the components of which was to support the country to combat desertification by way of increasing vegetation cover through planting native trees, removing invasive species, afforestation and reforestation, and building structures that reduce erosion and landslide around road projects. The project also incorporated soil protection works, terracing, and the installation of irrigation systems. The benefits of these interventions will in time be amassed by poor and local communities, and the income yielded by such beneficial environmental activities will in turn ease the need to exploit the environment.

technologies, and employ local community members to help reverse or adapt to the changes in their surrounding environments. Such activities could include reforestation, forest protection, slope protection, soil and water conservation, construction of dykes, sluices and footbridges, and lining of rivers and creeks, among others.

Article 18 of the United Nations Convention to Combat Desertification (UNCCD) urges its adherents to “protect, promote, in particular, to use relevant traditional and local technology, knowledge, know-how and practices.” EIIP's LRB approaches, in line with the Convention, also value local technologies and local know-how that could be leveraged to achieve poverty reduction and sustainable development in areas sensitive to desertification, land degradation and drought. The ILO has been supporting the G5 Sahel (Mali, Niger, Burkina Faso, Chad, and Mauritania) to mainstream the decent work agenda in its Priority Investment Plan⁷. EIIP interventions includes the identification of local/traditional technologies, knowledge, and practices originating from surrounding areas. The identified anti-desertification technologies have a great potential to be widely promoted in the affected regions, with an emphasis on encouraging local communities to take ownership of actions to combat desertification.

Climate change adaptation

Adaptation involves reducing the risk of and the vulnerability to climate change while seeking opportunities and building the capacity of affected communities and people to cope with the effects. Climate change adaptation should not be just about disaster relief - it should provide immediate relief and employment for the affected communities and improve their access to future employment and livelihoods. The ILO has for a long time promoted a sustainable employment-intensive approach that helps communities and local governments to adapt to changes in local weather patterns and generates income, along with other direct and indirect benefits for the poor and vulnerable, thereby also ensuring their food security.

The EIIP provides an opportunity for change and innovation. It helps to reduce future impact of climate change on people, economies and the environment by promoting local-resource based methods for constructing and maintaining assets, while providing employment opportunities and enhancing the productive capacity of ecosystems. Key areas of the EIIP's adaptation measures include:

⁷ The Priority Investment Plan aims to contribute to the development and security of the member states, ensuring the socio-economic inclusion of women, girls and young people by improving their economic status, protection and access to basic services, promoting their involvement in taking decisions that affect them and reducing their vulnerability.

- ▶ Irrigation, water and land resource management in rural areas to address the variability and intensity of water supply and improve the quality of existing land.
- ▶ Flood control, drainage and water conservation structures both in rural and urban areas to deal with the variability and frequency of water availability.
- ▶ Rural transport improvement and maintenance to ensure that transport networks can withstand the increased level of rainfall and flooding.
- ▶ Reforestation and afforestation activities to restore ecosystems and so improve the resilience of restored areas.



Climate proofing infrastructure

Investments in physical and natural capital have significant potential to contribute to building climate resilience and disaster-risk management. Employment-intensive programmes can build climate resilient infrastructure more capable of withstanding natural disasters and, at the same time, improve livelihood and income security for the most vulnerable. Improving rural infrastructure through the development of irrigation schemes, flood prevention measures, soil stabilization, reforestation works, and rural transport maintenance can enhance the productivity of both agricultural land and labour and contribute to food security. Climate smart investments in different sectors have the potential to create jobs and sustain livelihoods for many of those who will be the most affected in the informal sector, especially women and youth. Also, in some countries, public works have been key to the extension of social protection where informal economic activity is the greatest, thus

supporting local economic, social and environmental development in both rural and urban areas.



▶ Building resilient infrastructure in Timor-Leste

The ILO has supported Timor-Leste's largest rural roads initiative "The Roads for Development Program (R4D) since 2012. The program's objective is to drive social and economic benefits for women and men in rural areas through improved road access. Phase I (2012-2017) of the Program rehabilitated 313 km of rural roads, providing a series of training for 882 staff of contractors and 345 government staff, generating 611,000 workdays in total.

Landslides and erosion are some of the most common negative environmental impacts from road projects, resulting from interactions between water flow and soil, both of which can be disturbed by road construction. Timor-Leste, an island country, is geologically young with steep and unstable slopes and deep valleys, prone to flash floods. When roads are built in geologically unstable areas with steep slopes, excavation works and necessary clearing of vegetation could potentially induce erosion and landslide, especially if drainage of the road section is poorly designed. The ILO has provided technical support to the Program, ensuring that the road works are designed in conjunction with necessary consideration for slope stabilization to construct resilient rural road infrastructure.

Building back better: Restoring and protecting the productive capacity of ecosystems

While the focus of much of the disaster recovery efforts is on rebuilding damaged infrastructure, another key approach is to design and support balanced development initiatives that would spur local economic growth while protecting the environment. This approach entails a number of soil and water conservation measures: vegetative measures (e.g. mulching, vegetation), soil management measures (e.g. soil improvement) and

physical measures (e.g. contour banks). A combination of all these measures is used to prevent land degradation (soil erosion, landslides) and reduce and guide runoff flow. Soil and water conservation measures will not only bring agricultural benefits to local farmers but also reduce the risk of future disasters such as flooding, thus ensuring the preparedness of local governments and communities to quickly recover people's livelihoods when disaster strikes.

► **Post-calamity response: The Philippines experience**



People in the Philippines, the third riskiest country in the world when it comes to natural calamities, regularly experiences strong typhoons that cause death and destruction. Since the year 2000, more than 20 million people have been affected by a series of calamities, namely Typhoons Ondoy, Pablo and Haiyan. Through the EIIP local resource-based approach, the ILO facilitated the rehabilitation of affected communities by using local resources and manpower in order to provide decent work and generate immediate income for affected residents. It also helped in the recovery of basic services and the reconstruction of climate-resilient infrastructure, stimulating the local economy and restoring sustainable livelihoods.



Recommendations

Infrastructure plays a major role in addressing environmental challenges and adapting to climate change impacts. The EIIP's LRB approach to infrastructure development links poverty reduction and employment creation with climate change adaptation and/or environmental restoration/conservation, thereby achieving multiple objectives for sustainable development altogether. These interventions are designed to build the capacity of vulnerable communities and institutions in order for them to take ownership of initiatives for a just transition: the modality to reverse the environmental and climate challenges to boost job creation, which can also be used as an emergency response against natural disasters in order to build back better in fragile contexts. The most common schemes of green works are found in soil and water conservation, afforestation and reforestation, irrigation, and flood protection, among others. The other areas of green works, such as nature-based solutions and locally appropriate technologies to combat desertification and restore biodiversity, present an increasing potential to add to the "multiple objectives" of the green work initiatives.

In order for partner countries and development agencies to effectively design and implement green works initiatives to transition to a greener and more resilient society, the EIIP recommends the following actions:

► Take actions against climate change and environmental problems through the world of work

Action against climate change and environmental issues is central to the 2030 Agenda for Sustainable Development as addressed under Sustainable Development Goal (SDG) 13 and other SDGs, including Goal 15 on life on land. Goal 8 on decent work and economic growth has many crosscutting issues to be addressed together with Goal 13 and 15. Economic sectors most impacted by climate change and environmental degradation include agriculture, forestry, energy, transport, manufacturing, and building and construction. Limiting the impact of climate change and environmental degradation is a prerequisite to achieving economic growth, sustainable development and poverty eradication. As outlined in its guidelines¹, the ILO encourages its constituents to advance environmental actions with decent job creation - a just transition for all. The ILO's Recommendation No. 205 on Employment and Decent Work for Peace and Resilience, which was adopted at the International Labour Conference (ILC) in 2017, recognizes the importance of promoting a just transition to build environmental resilience in fragile contexts to support the most vulnerable people. Following these instruments, the ILO's Centenary Declaration for the Future of Work was adopted at the ILC in 2019. The Declaration reaffirms the commitments of the ILO and its constituent to ensuring a just transition to contribute to sustainable development in all the economic, social and environmental dimensions.

Recovery and reconstruction from the devastating impacts of the COVID-19 pandemic requires both developing and developed countries to go back to a "new normal." In doing so, countries should choose a new and just path - of climate and environmental action, well-being for people and planet, as well as people's jobs, health, and opportunities and future - to build a "better normal."

► Help the vulnerable adapt to climate change

Vulnerability to climate change is socially differentiated and those identified as most at risk are those already economically and socially vulnerable. A just transition for all towards an environmentally sustainable economy needs to be well managed and contribute to the goals of decent work for all, social inclusion and the eradication of poverty. A just transition is not only about the transition of the workforce, for example from fossil fuels industry to renewable energy, it is equally about supporting developing countries and the most vulnerable (e.g. the rural poor, indigenous populations, and others) to help them adapt their economies, livelihoods and infrastructure to the effects of climate change and environmental problems. It is also about using local tradition and knowledge, and introducing the right policies to ensure that communities and their priorities are voiced and heard. This will ensure that the transition to greener economies can yield positive

¹ ILO (2015), Guidelines for a just transition towards environmentally sustainable economies and societies for all

economic, social and environmental outcomes, thus acting as a strong driver for job creation, social justice and poverty eradication.

The success of policies depends on ensuring that the transition to inclusive green economies is just and fair, and maximizes economic opportunities for vulnerable workers; thus leaving no one behind.

▶ **Build local capacities to take ownership of green works**

Support for countries should be designed and implemented in collaboration with national government agencies, local governments, the private sector, non-governmental organizations (NGOs), and community-based organizations. Such a participatory approach orients infrastructure development and maintenance and environment works towards the creation of immediate employment for the affected communities to improve their living conditions and give them better access to basic goods, services and facilities.

A participatory approach also allows for the identification and prioritization of the specific needs of different groups at the local level. The approach values locally available knowledge, technologies and organizational structures and creates ownership and empowerment. The process of community development also strengthens social dialogue and inclusion.

▶ **Restore environment through nature-based solutions**

A new way of thinking may be required to widen the notion of what infrastructure assets entail. Actions that protect or restore ecosystems can also address social challenges simultaneously². “Nature-based solutions” expand the scope of intervention modalities to restore natural ecosystems, build resilience and reduce disaster risk, while at the same time creating job opportunities at the local community level. An example of such can be found in tree plantation as part of reforestation or mangrove plantation for coastal protection and flood damage reduction through stabilized slopes against rainfalls. Infrastructure development schemes can therefore incorporate alternative and innovative approaches to improve livelihoods and at the same time protect ecosystems by bioengineering (intervention) designs.

▶ **Consider local technologies to create jobs**

Local technologies and traditional knowledge have various advantages and benefits to tackle environmental challenges: they are often cost-effective in the long term. Leveraging local traditions enhances motivation of partner countries facing a multitude of development challenges, thereby promoting country ownership for green works initiatives. In addition, local technologies are mostly labour-intensive, and therefore affordable for many developing countries and their populations. These technologies also allow an optimal use of local resources by nature, which promotes local participation and experiences, and builds the capacity of local institutions.

For any technology to be locally applied, it must perpetuate itself and aim to stimulate the innovative processes of affected communities so they could endeavor continuous progress locally. For this reason, obtaining the support of the local community is key to ensuring sustainable outcomes from green works initiatives. Introduction of technological systems can therefore succeed at a local level when particular attention is paid to the question of whether it guarantees the standard of living, the community control of resources, and the preservation of the ecological equilibrium of the areas.

In particular, there is a growing global recognition that local knowledge and technologies can be the basis of solutions in combating desertification in the dryland areas. As recognized by the UNCCD, upscaling of local technologies and wisdom for pro-employment initiatives has a great potential especially in the areas most affected by land degradation and desertification, which coincide with many of the least developed countries (LDCs) where unemployment and underdevelopment rates are high.

² IUCN (2016). “Nature-based Solutions to address global societal challenges”



► **Innovate green Public Employment Programmes (PEPs) for the vulnerable**

The long-term human cost of unemployment is visible through loss of income, reduced life expectancy and children's lower educational attainment. PEPs can provide employment to the unemployed and underemployed, particularly in rural areas. Such programmes can be scaled up (or down) seasonally and as economic conditions and labour markets change. In particular, innovations in PEPs to create green works in water management, forestry and other infrastructure-related works have demonstrated that they are efficient in promoting climate-resilient and sustainable development, but are also essential in providing employment and additional income opportunities to the most affected and most vulnerable. As such, the cycle of environmental degradation and loss of income can be reversed into a system of job creation and ecosystem restoration through institutionalized national programmes. As such, PEPs can be designed either in response to a crisis, as part of longer term counter-cyclical employment policy, or as part of structural transformation, which also addresses future work challenges where sufficient jobs may not be available.





Key ILO resources and publications

ILO. 2011. *Local investments for climate change adaptation – green jobs through green works. A guide for identifying, designing and implementing interventions in support of climate change adaptation at the local level.*

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► Employment Intensive Investment Programme (EIIP)

- Employment impact assessments
- Public employment programmes (PEPs)
- Public and Private Sector Development
- Green works
- Local resource-based approaches and community infrastructure
- Emergency employment

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