



# The Potential Of Sustainable Development In Creating Green Jobs

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## ABSTRACT

This study aims to highlight the role that sustainable development plays in creating job opportunities, known as "green jobs." The study also addresses the concept of green jobs and the green economy, all within the framework of the initiative launched by the International Labour Organization, which aims to combine the goals of poverty reduction with those of reducing greenhouse gas emissions by creating decent job opportunities. This initiative forms a strategic response to the negative impacts of climate change on labor, while also aiming to reduce the environmental footprint of enterprises and economic sectors to ultimately reach sustainable levels or include jobs that preserve or rehabilitate the environment. The results of this study conclude that green jobs, in addition to creating job opportunities and reducing unemployment rates, particularly among the youth, will contribute to achieving sustainable development by protecting ecosystems and biodiversity, rationalizing energy and natural resource consumption, avoiding all forms of waste and pollution, and preserving biodiversity, as observed in many countries.

**Keywords:** Green jobs, sustainable development, unemployment, decent work.

## Introduction

The twenty-first century faces two fundamental challenges: the first is to avert the risks of climate change and the degradation of natural resources, which could threaten the quality of life for current and future generations; the second challenge is to provide social development and decent work for all. The recognition that these two challenges can no longer be addressed separately has led to increased awareness among international agencies, governments, business organizations, labor unions, environmental groups, and civil society organizations that the traditional strategy of "grow first, clean up later" is not economically, socially, or environmentally sustainable.

The green jobs initiative launched by the International Labour Organization aims to combine the goals of poverty reduction with those of reducing greenhouse gas emissions by creating decent job opportunities. This initiative forms a strategic response to the negative impacts of climate change on labor while also aiming to reduce the environmental footprint of enterprises and economic sectors to ultimately reach sustainable levels or include jobs that preserve or rehabilitate the environment. Examples of such jobs include those that protect ecosystems and biodiversity, reduce energy, material, and water consumption through highly efficient strategies, and those that achieve a carbon-neutral economy and minimize or avoid all forms of waste and pollution.

The green jobs program is currently active in several countries and sectors in Latin America, Africa, and Asia. Green jobs initiatives range from supporting these jobs in biofuel and social housing sectors in Brazil, sustainable agriculture and ecotourism in Costa Rica, generating green jobs in the construction sector in South Africa, and promoting green entrepreneurship among youth in Kenya, Tanzania, and Uganda, to supporting the creation of green jobs in the energy, heavy industry, and recycling sectors in China, and promoting local development and renewable energy in India. The International Labour Organization is conducting a global study using case studies from various countries to assess the skills needed for green jobs in different sectors and issue policy recommendations on skills development and training strategies.

Based on the above, the following problem statement can be proposed: How do green jobs contribute to achieving sustainable development and reducing unemployment rates? To answer this problem, the study is divided into the following sections:

- I. The conceptual framework for green jobs.
- II. Green jobs as a means to employ youth and achieve sustainable development.
- III. International experiences in creating green jobs.

## **1. The Conceptual Framework for Green Jobs:**

### **1.1. Definition of Green Jobs:**

Green jobs are defined as those that reduce the environmental impact of companies and economic sectors, bringing it down to sustainable levels. Examples of such jobs can be found in many sectors of the economy, including energy, waste recycling, agriculture, construction, and transportation. All these jobs contribute to reducing energy consumption, improving the efficient use of raw materials and water, and implementing strategies to decarbonize the economy, reduce greenhouse gas emissions, and minimize or eliminate all forms of waste and pollution, while protecting and restoring ecosystems and biodiversity (1).

Green jobs are considered one of the approaches to the green economy, which is based on restructuring and rectifying economic activities to be more supportive of the environment and social development, thereby forming a path towards achieving sustainable development (2). The International Labour Organization defines green jobs as "decent work that reduces the environmental impact of companies and economic sectors to sustainable levels (3), or work that involves jobs that preserve and rehabilitate the environment." Thus, green jobs focus on aspects of social responsibility, environmental protection, sustainability, alternative technologies, energy efficiency, and environmental awareness. Additionally, they include jobs that contribute to protecting ecosystems and biodiversity, reducing energy, resource, and water consumption through high-efficiency strategies, establishing a carbon-neutral economy, and avoiding all forms of waste and pollution permanently.

### **2. The Green Economy**

The term "green economy," like "sustainable development," encompasses a set of economic tools that can harness economic activity to support one or more sustainable development goals. Using these tools requires a precise understanding of the country's social, institutional, and political context, and a commitment to learning and adapting (4). The United Nations Environment Programme (UNEP) defines the green economy as "a system of economic activities that improves human well-being over the long term without exposing future generations to significant environmental risks or ecological scarcities (5)." UNEP has also provided a practical definition: "an economy that leads to improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities."(6)

## **Second: Green Jobs as a Means to Employ Youth and Achieve Sustainable Development**

### **2.1. The Role of Sustainable Development in Creating Job Opportunities**

Sustainable development plays a significant role in creating job opportunities, which can be presented as follows (6):

- Macroeconomic policies and sectoral development policies can encourage the emergence of new economic initiatives aligned with sustainable development through incentives that promote more sustainable consumption and production patterns nationally. Encouraging new, non-polluting sectors, especially services and products environmentally friendly, can steer economic activities towards creating jobs in environmentally sustainable sectors. A study conducted by the European Commission in 1998 on creating green jobs in the United Kingdom, for example, reflected new job opportunities in fields such as renewable energy, refining, and organic farming. Such initiatives are more promising in areas where social partners are active and supportive of sustainable behavior, especially where these partners are willing to invest time and money in new technologies and environmentally sound skills.
- For developing countries, profitable new projects in environmentally sustainable economic sectors may be less common. However, research and development in eco-technologies, ecotourism, natural resource management, organic agriculture, and infrastructure development and maintenance all offer real opportunities for decent work. Community-managed facilities supporting sustainable tourism are thriving in many countries. For example, in Ecuador, a survey conducted in 2003 across fifty-five local communities showed a significant increase in job numbers and incomes over four years. Countries like Costa Rica have developed successful tourism industries with a reputation for sustainability. Labor-intensive infrastructure development provides a viable economic means to create jobs that protect and restore the environment for countries at all development levels. Brazil succeeded early, back in the 1970s, in establishing a large program to replace oil with sugarcane ethanol and has recently launched a promising bio-diesel program. Currently, ethanol extracted from sugarcane cultivated on 1.8 million hectares represents more than 35% of the country's vehicle fuel. This potential shift from non-renewable to renewable energy sources, based on labor-intensive agricultural production, can have significant positive employment impacts, especially in rural areas, while ensuring a sustainable development path.

## **2.2. Green Jobs Aiming to Alleviate Poverty**

A green economy strategy can contribute to achieving green growth and benefit the environment by creating green jobs that renew and maintain natural capital, thus alleviating poverty. Several economic sectors are concerned with poverty alleviation and transitioning to a green economy.

Approximately three-quarters of the world's population, living on less than two dollars a day, rely on the environment for their livelihoods. At the same time, climate change exacerbates the unemployment crisis, which worsens among youth despite efforts by governments and social partners to mitigate this phenomenon. During the second decade of the twenty-first century, the number of young people entering the workforce will reach one billion (7).

Green jobs can act as a bridge linking the eradication of extreme poverty and hunger with achieving environmental sustainability according to the Millennium Development Goals (specifically, goals 1 and 7).

Research has found that greening enterprises by creating green jobs as part of this process will help reduce unemployment rates and achieve environmental sustainability simultaneously (8).

Experiments in some countries have shown that transitioning to green jobs can improve job quality, especially in waste management and recycling sectors, which already employ tens of millions of workers worldwide (1% of urban populations in developing countries, according to World Bank statistics) and are expected to grow (9). The green jobs initiative aims to combine poverty reduction goals with those of reducing greenhouse gas emissions by creating decent work opportunities. This initiative forms a strategic response to the negative impacts of climate change on labor while aiming to reduce the environmental footprint of enterprises and economic sectors to sustainable levels or include jobs that preserve or rehabilitate the environment, such as jobs that protect ecosystems and biodiversity, reduce energy, material, and water consumption through high-efficiency strategies, achieve a carbon-neutral economy, and minimize or eliminate all forms of waste and pollution (10).

The green jobs program is currently active in several countries and sectors in Latin America, Africa, and Asia, ranging from supporting green jobs in biofuel and social housing in Brazil to sustainable agriculture and ecotourism in Costa Rica, generating green jobs in the construction sector in South Africa, promoting green entrepreneurship among youth in Kenya, Tanzania, and Uganda, supporting green job creation in energy, forestry, heavy industry, and recycling in China, and promoting local development and renewable energy in India (11).

The International Labour Organization is conducting a global study using case studies from various countries to assess the skills needed for green jobs in different sectors and issue policy recommendations on skills development and training strategies. To support this path, the ILO Regional Office for Arab States has launched several green job initiatives at policy and final stages, contributing to job creation, environmental sustainability, and poverty reduction in these countries (12).

For example, in Syria, the Regional Office for Arab States collaborated with the United Nations Development Programme (UNDP) within the UN joint program for community development to achieve the Millennium Development Goals, aiming to support green jobs in the solar energy sector by developing youth skills in some of the country's poorest villages. In Gaza, the ILO has worked with the United Nations Relief and Works Agency (UNRWA) since 2009 to create green jobs by building safe and environmentally friendly housing, providing job opportunities for the poorest residents (13).

The ILO aims to leverage the knowledge and lessons learned from its ongoing projects to expand the green jobs program in the countries where it is being piloted and extend it to other countries in the region.

## **3. International Experiences in Creating Green Jobs**

### **3.1. The Spanish Experience in Green Employment**

The global economic crisis and the accompanying recession have led to the layoff of millions of workers in various jobs and unprecedentedly high unemployment rates worldwide. Despite signs of economic recovery, this issue remains pressing and has become a major concern for many rich, developing, and poor countries alike, necessitating a solution after the worst of the crisis has passed and the determination of the world, represented by the G20, to reach safety.

Green jobs have become an important principle for many governments, including the US government, but Spain is not only qualified and enthusiastic but also the most qualified, enthusiastic, and determined country to combine fighting recession and reducing greenhouse gas emissions. Spain is already one of the leading countries in renewable energy, having provided \$30 billion in government support for clean energy, and has been considered by the Obama administration as a model for creating a green economy. Spain generates about 24.5% of its electricity from renewable sources, compared to 7% in the United States. However, with an unemployment rate of 18.5%, the Spanish government has prepared to take a very important step. By issuing new laws and boosting public and private investment, officials believe they can create millions of green jobs over the next decade. The plan will increase domestic demand for alternative energy through government support while requiring millions of Spaniards to transition to green energy, whether voluntarily or not.

The Spanish government is moving forward with long-term plans to employ large numbers of engineers and technicians in wind farms and solar energy installations in Andalusia and Galicia. Spanish officials say renewable energy projects and retrofitting buildings and homes for green energy can re-employ 80% of the

millions of construction workers who lost their jobs in 2008. Although the Spanish government estimates that the renewable energy sector provides about 200,000 jobs in Spain, double the number in 2000, critics argue that this costs taxpayers too much money. In some cases, the government's good intentions have disrupted the energy market. For example, the recent solar energy bubble in Spain resulted from the government introducing attractive incentives for developing photovoltaic solar energy (a technology that uses sun-heated cells to generate electricity). Spanish energy companies, driven by promises of new and large subsidies, manufactured huge quantities of silver silicon panels, resulting in government subsidies for the sector jumping from \$321 million in 2007 to \$1.6 billion in 2008. When the government moved to cut production and reduce subsidies last year, the solar bubble burst, causing silicon panel prices to drop and consequently laying off thousands of workers, even if temporarily.

The new economic sustainability law in Spain is expected to increase demand for renewable fuels, undergoing final adjustments before being presented to Parliament next month. All new residential and commercial buildings will be required to meet higher standards for alternative energy, including solar energy, forcing property owners to adopt green habits. Additionally, government-backed loans provided to companies will encourage developers, owners, and buyers to install and use alternative energies. An example of Spain's new ambitions is a new solar thermal energy equipment factory costing \$300 million, located about 100 miles south of Madrid in a town called Puertollano in the Don Quixote region. The partnership between the utility company Iberdrola and a national energy agency employed 650 workers to build the factory over the past two years. This giant factory has served as a lifeline for many laid-off workers during the crisis.

### **3.2. The Lebanese Experience in Green Employment**

The International Labour Organization, in cooperation with the United Nations Development Programme, is conducting a study in Lebanon to assess the potential for creating green jobs in key economic sectors, such as energy, construction, agriculture, and waste management. The ILO Regional Office for Arab States, in cooperation with UNDP, has launched an assessment of green jobs in four key economic sectors in Lebanon. These sectoral assessments provide data on the current situation of these sectors and their potential for greening. They also determine the current number of green jobs in each sector and provide estimates of the potential number of green jobs that could be created or lost if relevant green policies are implemented in these sectors. The assessments identify both the professional skills and retraining needs required to create green jobs or green existing jobs. Additionally, they identify potential obstacles to implementing policies related to creating such job opportunities (14).

A joint workshop was held between the ILO, UNDP, and the Economic and Social Commission for Western Asia (ESCWA) at the United Nations House in Beirut, Lebanon (July 28-29, 2011). The workshop aimed to introduce the green jobs program, raise awareness about it, validate the sectoral assessments, and identify starting points to support youth employment in green sectors, as well as develop a follow-up activities plan (15). The workshop objectives were (16):

- Introducing green jobs and raising awareness about them, focusing on the ILO green jobs program and presenting the basic concepts. Additionally, it aimed to present green jobs programs, activities, and initiatives at the regional and global levels.
- Presenting the sectoral assessments of green job potentials at the technical level, validating them with the three organizations and stakeholders, disseminating preliminary results, and discussing the need for further research.
- Launching policy discussions and identifying areas of cooperation with potential partners in supporting green jobs in Lebanon and the Arab region, focusing on youth employment.
- Developing plans for follow-up activities, proposing other projects and initiatives within the studied sectors.

### **3.3. The Indian Experience in Green Employment**

Increasing investment in natural assets that the poor use for their livelihoods makes the shift towards a green economy improve living conditions in many regions, especially low-income areas. In India, for example, the "National Rural Employment Guarantee Act" of 2006 serves as a social protection system and livelihood security for the rural poor, investing in the preservation and renewal of natural capital. This law takes the form of a public works program, guaranteeing at least 100 days of paid work per year for each household with an adult volunteer in this program. Its size has quadrupled since its inception, with investments amounting to about 8 billion USD in 2010 (17). It has created 3 billion workdays, benefiting 59 million households, with approximately 84% of these investments dedicated to water conservation (18), land development, and irrigation systems. Despite some challenges in implementing this program, it proves effective and scalable. Green job initiatives continue and have included other countries such as China, Brazil, Egypt, Jordan, and Mexico.

## **Conclusion**

In conclusion, creating job opportunities should ensure that green jobs are decent, integrating environmental benefits with traditional work concerns, such as wages, job safety, social protection, health, and workers' rights,



and establishing policies that promote this type of job. These reforms require creating a new development model that is more inclusive, equitable, just, and environmentally sustainable.

Moreover, sustainable development is a global goal aimed at meeting the needs of the current generations without compromising the ability of future generations to meet their own needs. Therefore, the green jobs strategy focuses on integrating environmental concerns into the main sectors of economic development, considering the social and cultural dimensions of community members appropriately. Development cannot be sustainable unless unsustainable practices that harm essential national resources are halted, and these resources are protected. Including green investments in economic stimulus packages aims to create job opportunities in response to global economic downturns. Transitioning to new energy sources is indispensable given the need for countries to urbanize towards a green economy while simultaneously reducing unemployment rates, especially among young people and the working population, by creating green jobs that protect the environment from all forms of pollution and resource wastage and contribute to achieving economic and social dimensions sustainably.

Based on the above, we can present a set of recommendations:

- Given Algeria's limited petroleum capabilities and current reserves, and the consumption required for economic and social development, it is necessary to replace a significant portion of traditional energy with renewable and environmentally friendly energy. Adopting a green strategy based on sustainable standards that everyone, including the government, institutions, companies, and individuals, adheres to will achieve long-term benefits for Algeria's economy (reducing unemployment rates and increasing economic efficiency) and the environment alike.
- Strengthening Algeria's renewable energy sources and making them more profitable.
- The state should provide some assistance to develop the renewable energy market, given Algeria's potential in this field compared to Maghreb countries, which have made significant progress.
- Emphasizing the vital importance of human resources through their training.
- Supporting technology and scientific research, especially in finding energy alternatives and developing renewable energy.
- Enforcing laws and regulations to encourage the use of renewable and clean energy and rationalize energy use.
- Drawing the attention of decision-makers in Algeria and researchers in the economic, social, and environmental fields to the importance of the green jobs initiative and its positive impacts on all aspects, which necessitates adopting this initiative within the state's development priorities and benefiting from the experiences of other leading countries in this field to reduce high unemployment rates, especially among university graduates, and employing them in fields that ensure the protection of environmental resources and the transition towards a green economy.

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