UNRISD
UNITED NATIONS RESEARCH INSTITUTE FOR SOCIAL DEVELOPMENT

The Green and the Social: How Far, How Close in Latin America?

Amalia Palma and Claudia Robles
Economic Commission for Latin America and the Caribbean

Paper presented at the UNRISD conference

Green Economy and Sustainable Development: Bringing Back the Social Dimension

10–11 October 2011 ▪ Geneva

The **United Nations Research Institute for Social Development** (**UNRISD**) was established in 1963 as an autonomous space within the UN system for the conduct of policy-relevant, cutting-edge research on social development that is pertinent to the work of the United Nations Secretariat; regional commissions and specialized agencies; and national institutions.

Our mission is to generate knowledge and articulate policy alternatives on contemporary development issues, thereby contributing to the broader goals of the UN system of reducing poverty and inequality, advancing well-being and rights, and creating more democratic and just societies.

UNRISD, Palais des Nations
1211 Geneva 10, Switzerland

Tel: (41 22) 9173020
Fax: (41 22) 9170650
Email: info@unrisd.org
Web: www.unrisd.org

Abstract

The paper examines the links between the social, economic and environmental dimensions of a green economy. It argues that at present, the main focus of a green economy is economic growth and that the social dimensions involved in the required transformations have not been carefully analysed in its original definition.

The evidence from Latin America illustrates that the elasticity of poverty to growth is mediated by a series of factors, among which the labour and redistributive structure, as well as the policy instruments implemented, are fundamental elements to consider. The current situation of Latin America shows that crucial household assets that are taken as a pre-requisite for a green economy to work, are weakly present within the region. In the absence of active labour, redistributive and social promotion policies, it is likely that greening the economy will not automatically lead to improving the living conditions of the poorest and most vulnerable population. After identifying the short and long term social effects of pursuing a green economy, the paper concludes by urging that we consider implementing green economy policies and programmes as an opportunity to rethink development in Latin America.

Introduction[1]

The concept of a green economy has gained prominence during the last several years, in the context of the multiple challenges that the climate change and environmental degradation places over ever-expanding economic growth.

The World's GDP has increased by almost 60 percent since the Rio Summit in 1992 (UN, 2010a), while only partial progress has been achieved on the three pillars of the sustainable development approach: social, economic and environmental. Poverty is still persistent and the recent economic crisis exhibited the weakness and risks of financial systems and the unsustainable relation between economic volatility and social development. Additionally, the impact of the climate change has increased the concern for the economic and social situation of the most vulnerable, rendering apparent the need for new approaches to development[2].

This context led to the organization of the United Nations Conference on Sustainable Development (Rio +20) in 2012 (UN, 2010a). One of the two themes of this conference is the green economy in the context of sustainable development and poverty eradication[3]. Prior to that, in 2008, the United Nations Environment Programme (UNEP) had launched the Green Economy Initiative, defining the green economy as "one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities" (UNEP, 2010).

There is no consensus in the policy literature on what a green economy means and whether this is the best way to tackle simultaneously poverty-reduction and the protection of the environment. This paper examines the links between the social, environmental and economic dimensions within the concept of a green economy. In particular, it questions what social impacts may arise from its implementation in developing countries and the extent to which this economic approach may lead to poverty-reduction. To do so, this paper examines the case of Latin America, looking at the opportunities and challenges that a green economy may bring along.

The paper is structured as it follows. After describing the main elements of a green economy and its social dimension in the next section, the paper goes on to analyse in section 3 the social situation that Latin America confronts to implement a green economy, while section 4 identifies the possible short and long-term effects of their implementation. Finally, section 5 closes with policy recommendations and general conclusions for this paper.

[1] The authors would like to thank the comments made to earlier versions of this paper to Daniela Huneeus, Sarah Gammage, Ricardo Infante, Carlos Maldonado, Oscar Melo, Nieves Rico, Daniela Trucco and Luis Hernán Vargas.

[2] It is projected that the impact of the climate change in Latin America's productive sectors will imply a 1.3 per cent reduction in the region's GDP for each increase of 2°C in global temperature (IPCC 2009). For example, in the case of agriculture, De la Torre et al (2009) estimates that the reduction of incomes due to the impact of the climate change on productivity will be around 18.2 per cent in current value at a discount rate of 5.5 per cent.

[3] The second theme is the institutional framework for sustainable development.

Disentangling the social dimension of a green economy

Following the UNEP definition, a green economy refers to an economy which is low carbon, resource efficient and socially inclusive. The key idea behind UNEP's report is that we are confronting a unique moment in the wake of the three most recent poles of crisis -financial, food and fuel- and have the opportunity to reconsider traditional growth paradigms at this juncture. While altering the type and composition production, a green economy would not require renouncing the idea of growth as a possible human endeavour. At the core of this approach is the notion that a transformation in economic approaches and across sectors would coincide with the pursuance of poverty eradication through a series of measures that these changes would involve.

The efforts to connect the social and the environmental dimensions of development are not exclusive to the concept of green economy. These formed a key part of the debates on sustainable development and the limits to infinite growth based on natural resources.

The United Nations Conference on the Human Environment (Stockholm 1972) and the subsequent Conference on Environment and Development (Rio 1992), both located at the core of their concerns the degradation of the environment and the question on how to combine the necessary regulations for economic growth with opportunities for less developed countries to develop and assure adequate conditions of life to their citizens. The concept of sustainable development that resulted from the Brundtland Commission (1987) is a powerful precedent to a notion of a green economy inspired by a deep commitment to its social dimension[4].

At the time, concerns emerged about the impact that the global reforms implemented in the pursuit of sustainable development would have on social indicators. On the one hand, this agenda recognized that there were households and economies within the developing world that are highly reliant on the extraction of natural resources and on the production of raw materials. It was argued that policies aiming to protect the environment ought to recognize this fact as fundamental in guaranteeing their right to development. On the other hand, it was acknowledged that pollution generated in developing countries was often connected to the lack of appropriate technology and the precarious means of production, that make technology and innovation transference a key action to be pursued in the context of a global path for action. Yet, the point has been made that the highest level of pollution is generated by developed countries, rather than developing ones, which are most affected by the adverse consequences of pollution and environmental degradation.

Under this understanding, sustainable development had to ensure the satisfaction of basic living conditions, particularly of the most vulnerable and poor, yet poverty itself contradicts every possibility towards its fulfilment. Hence, sustainable development was progressively understood as being comprised of a triple pillar: environmental, economic and social.

However, there has not been a firm conceptualization of how to effectively guarantee the three pillars of sustainable development, and the green economy approach is not an exception to this fact. The risk is that while taking only the economic dimensions in

[4] As it is well known, sustainable development was hence defined as a development that meets the need of the present –making explicit reference to the needs of the world's poor-, 'without compromising the ability of future generations to meet their own needs' –i.e, involving a intergenerational notion of justice.

account, this will not challenge the trickle-down assumption that economic growth leads automatically to poverty eradication and social development[5].

In practice most of the attention has been captured by the macroeconomic measures that may be implemented by countries within this approach and that aim to boost economies, while preventing environmental degradation. According to UNEP (2010), a green economy focuses on 11 key productive sectors that will be involved in its operation. Four of them directly involve deploying natural resources - agriculture, fisheries, water and forests, whereas seven sectors require investing in energy and resource efficiencies, so as to reduce the impact on the environment: energy, manufacturing, waste, buildings, transportation, tourism and cities. It is expected that a green economy will bring along green investment, diversification and innovation in technologies, and as a result of this, employment rates will be increased and poverty will decline.

The social dimension of green economies is mostly acknowledged by the creation of green jobs[6] or through an easier access to public goods for all. It is mentioned, for example, that implementing renewable energies might expand the access to electricity to the poor and that lowering the impact of climate change will automatically improve their situation[7]. However, there is not yet a precise idea on what employment policies could be implemented to ensure the preferential access of the poor to any new employment and how these benefits may lead to poverty reduction, as part of a coherent policy strategy. Moreover, there is no mention of how a green economy will deal with the social conditions present in the context where it is implemented and what special consideration may need to be taken on board.

Considering that one premise of a green economy is that through increasing economic growth, poverty may be reduced, it is relevant to analyse a case for a green economy applied to the Latin American reality, exploring the extent to which economic growth has led to poverty-reduction in the most unequal region of the world.

The tale of growth and poverty-reduction: evidence from Latin America

There is no better place to observe the redistributive shortcomings of economic growth than Latin America. On the one hand, there seems to be a clear connection between economic growth and poverty reduction. GDP per capita grew persistently above the 3 per cent rate between 2004 and 2008 (ECLAC, 2009). During the same years, poverty was reduced 9 per cent, which implied a significant rate of reduction, considering that between 2000 and 2004 poverty had not experienced any reduction at all (ECLAC).

Conversely, in the context of the crisis, the variation rate of the GDP per capita in 2009 resulted in a negative rate (-2.9 per cent, equal to a negative growth in total GDP of -1.8 per cent). Poverty and extreme poverty also increased, although quite moderately (by

[5] Alternatively to a green economy, there are other approaches that do not aim at increasing GDP, but keeping it stable, while halving emissions and prioritising domestic-based economics and consumption that are sustainable in the long run (IDS, 2009; Skea and Nishioka, 2008).
[6] Appendix 2 reviews in greater detail the economic implications of a green economy for the productive sectors in Latin America, as well what green jobs are expected to be created through this process.
[7] See [online]:
<www.unep.org/greeneconomy/AboutGEI/FrequentlyAskedQuestions/tabid/29786/Default.aspx>

0.1 per cent, in the case of poverty, and 0.4 per cent, in the case of extreme poverty, compared to the previous year.

On the other hand, in spite of economic growth, this is still the most unequal region in the world, in spite of inequality decreasing in the majority of the countries between 2002 and 2009. Inequality conspires against the equal access to assets and opportunities among the population. It also plays an important role, beyond growth, in explaining the differentiated rate in poverty-reduction among developing countries[8].

These data have to be interpreted carefully, considering three main elements for the analysis of a green economy and their impact on poverty-reduction: (1) the context in which a green economy will be implemented; (2) the contribution of growth and distribution to this goal, and the role of social protection and labour market in poverty-reduction; and, (3) the heterogeneity of the necessities or deficits that the poverty-gaps show.

In the first place, it is important to note that a green economy emerges in a context of high volatility, when expectations of economic growth are much more moderate than in previous years and growth itself seems a precarious force subjected to financial cycles. It is important to reflect upon the effects that a reduction in GDP per capita has on poverty and extreme poverty rates. This should also be considered if it is expected that, at the early transition to a green economy, GDP may decrease as a consequence of the adjustments made to the economy.

In the second place, it is also relevant to acknowledge that both growth and redistribution are crucial for poverty reduction[9]. The results for 2009 show that in those countries that reduced poverty by more than seven points, both growth of average income and the resulting income distribution play an important role – growth may be more successful in reducing poverty and securing economic spillovers that maximize poverty reduction in contexts where inequality is low.

Also, the different types of earnings, including labour wages and public transfers, play a crucial role in poverty reduction. The evidence shows that in 2009, in most Latin American countries, average labour incomes increased in real terms as a result of policies implemented to secure these increases and that this had a greater impact on incomes received by poorest households when compared with other factors (ECLAC, 2009). In second place, social protection and public transfers were also critical factors explaining the variations in most of the countries under analysis—those countries with more effective social protection and transfers were better able to mitigate poverty and secure consumption, thereby reducing the impact of the downturn.

The labour structure – which points out to the type and composition of employment, the segmentation of the labour market and the degree of informality, among other features- is particularly important for poverty reduction. Incomes from labour represent 79 per cent of total household incomes in Latin America (ECLAC, 2008). However, as ECLAC (2010) has shown, the type and composition of employment reflects the high

[8] It has been found that higher initial levels of inequality imply a slower rate in poverty-reduction and also that a better income distribution would accelerate this trend (Kwasi Fosu, 2011). There is also evidence concerning the fact that the income of the poor might not increase proportionally equal to the rate of growth (McKay and Sumner, 2008).

[9] This exercise has already been modeled by ECLAC following the Datt and Ravallion (1992) poverty indicator (ECLAC, 2010: 48).

structural heterogeneity and productive gaps[10] in the region and determine the unequal access to employment and good jobs or decent work. Employment in the high productive sectors may be depicted as similar to those of developed countries both in terms of productivity and labour remuneration, whereas those originated in the low productive sectors correspond to activities that have very little access to recent technology and capital (both financial and physical), very low productivity –thus reducing the bargaining power of workers-, and that is characterized by informal employment, jobs that lack access to social security, that may be fleeting or transient, and that have low wages[11].

Around 2008, only 8.1 per cent of total employment was generated by high-productivity sectors, whereas employment in the low-productivity sectors represented more than 70 per cent of the total employment in Latin America, and in the medium-productivity sectors, only 20 per cent (ECLAC, 2010: 94).

These figures illustrate the magnitude of both the opportunities and challenges that implementing a green economy will imply for Latin America. Both mining and energy sectors, today are highly productive in the region, have a very low presence in the total employment breakdowns. This will probably improve once a green economy is set in motion, requiring skilled and trained workers in many sectors. In the case of construction and agriculture, the participation in employment may vary at a first stage, as a result of the reforms implemented in both sectors. In any case, new skills will be required from workers, elevating their productivity, and hopefully, in the case of agriculture, their participation in the total GDP generated by a country, as we will review in the next section.

The regional data confirms the widespread persistence of informal employment in the region (see table 1), More than a quarter of the region's workers, lived in poverty around 2008, and the incidence of extreme poverty affected 11.3 per cent of all workers. Both figures have fallen since 1990, but they are still quite high overall. The occupational employment rate, the informality rate and the ratio of wages among women and men show important gaps that the region needs to tackle. Informality affects half of the employed population and only 51.5 per cent among the employed have access to social security programs[12].

This evidence demonstrates that, beyond growth, labour regulation is fundamental in order to improve the situation of workers in the region and achieve the principles of decent work[13]. Protection at times of unemployment is also crucial, considering that employment rates are quite sensible to a decrease in GDP[14].

---

[10] The productive heterogeneity refers to the large productivity differences among sectors and to the fact that a small part of the population gets an important portion of the gains produced in the high productivity sector. In Latin America, the high-productivity sector covers the mining, energy and finance sectors; the medium-productivity sector includes industry and transportation; and the low-productivity sector involves agriculture, construction, commerce, community and personal services. Productivity is estimated from the value added from workers in each sector (ECLAC, 2010).

[11] This is the case of micro-entrepreneurial ventures, with less than five workers; domestic employment or independent non-qualified workers.

[12] Pensions and health contributory systems

[13] For more details review ILO

[14] Between 2004 and 2008, years between which GDP increased, unemployment did fall by 3 percentage points (from 10.3 per cent to 7.3 per cent). However, in 2009, this rate was 0.9 per cent higher than in 2008, as a result of the crisis. According to data published by ECLAC [online]: < http://websie.eclac.cl/infest/ajax/cepalstat.asp?carpeta=estadisticas>

It must also be considered that these differences in productivity reflect significant gaps in human capital and social investment. For example, the percentage of underweight children (<5 years old) in LAC was 6.3 per cent in 2004. Stunting, lower height for age, affected 14 per cent of children in 2006 (CEPALSTAT). Furthermore, due to the food crisis and ongoing natural disasters, vulnerability of population and food insecurity has increased (FAO 2010, 2009).

Table 1: Employment and access to social protection indicators, Latin America, 1990, 2002 and 2008 (in percentages)

Latin America [a]		1990	2002	2008
Poverty incidence among the occupied.	Total	39.9	35.6	26.3
Extreme poverty incidence among the occupied	Total	17.8	14.9	11.3
Occupational employment rate	Both (15 years and over)	57.4	59.0	61.4
	Women (15 years and over)	38.1	44.7	48.1
	Men (15 years and over)	78.3	74.6	75.8
	Youth (both sexes, 15-29 years old)	54.3	52.6	54.9
Informality rates [b]	Both	54.6	53.9	49.8
	Women	60.2	57.7	55.5
	Men	51.9	50.6	45.9
Occupied inhabitants who contribute to a social security system [c]	Both	52.4	49.5	51.5
	Women	52.7	49.5	51.8
	Men	52.2	48.8	51.2
Ratio between women's and men's wages [c]		77.8	78.4	79.1

Source: CEPAL-OEA-OIT (2011)
[a] Weighted average for 18 countries.
[b] Includes non-remunerated family workers and the self-employed, not including those who have a professional or technical qualification; workers in the low-productivity sector, including domestic labour and workers of micro-entrepreneurships.
[c] 15 years old and over inhabitants occupied that declared receiving labour income (does not include non-remunerated workers)

In the case of education, inequality persistently affects children and young people, reflecting the enduring income gaps as well as the educational household environment restrictions, which affect severely their educational attainments and returns (ECLAC, 2010: 82)[15]. Educational assets are a crucial factor in future labour returns and the rates of return of education rise along years of schooling. Achieving a higher level of education attainment is inversely related to being employed in the informal sector and directly linked to access to social security systems, as well as to increasing earnings in life (Ibid). These assets will therefore determine to a great extent the possibilities that people have in Latin America to access the opportunities of new employment of a green economy.

[15] The completion rate among children in primary education, aged 9 to 11, is 94 per cent for females, and 92 per cent for males. In the case of secondary education, the situation is more dramatic: among people aged 20-24, only 49 per cent of men and 55 per cent of women completed this level. (ECLAC, 2011: 86-87).

Conscious of these inequalities, Latin American governments have increasingly implemented social protection policies. These instruments have evolved from safety nets, aimed at mitigating the acute effects of falling incomes within households due to economic crisis and adjustment policies, to integrated social protection systems. On average, public social transfers represent 10.3 per cent of average per capita household income, almost duplicating the disposable income among the poorest households (ECLAC, 2010)[16].

Hence, as various institutions have shown (ECLAC, 2009; UNRISD, 2010) a vigorous combination of labour market incentives and social protection and promotion policies are central to reduce vulnerability and poverty, as well as to improving the redistributive effects of growth. These measures are particularly important at times of economic crisis, but also at periods of economic growth so as to expand the structure of opportunities for all citizens[17].

Finally, of particular relevance for a green economy and the expected transformations in the agriculture sector, is the situation in rural areas of Latin America, where poverty traps are disproportionately present. Hence, if looked at territorially, poverty indicators in the region show that poverty decreases more consistently in rural, rather than urban areas, but that rural areas experienced the greatest increase in poverty in 2009 as a result of the crisis. Important poverty gaps remain between the two areas and never fall below a 20 percentage-point difference (see Appendix 1). Also, in rural areas, poverty among indigenous people almost triples that of non-indigenous people, indicating a serious ethnic poverty gap. It should be noted that agriculture is the main source of employment, and that poverty is over-represented among households whose main income derives from this agriculture[18].

Some reports emphasise that less developed countries have more possibilities to pursue a green economy strategy, based upon their availability of natural assets (UNCTAD, 2011). However, it is important to observe that similar to the case of income, the distribution of natural assets is grossly unequal among the population. According to the last Agriculture Census (1990), the Gini index of land tenure for 28 countries within the region ranges from 0.55 to 0.93, approximately (Martinez et al, 2009). Often, poor people have access to land that is already depleted, lacking access to clean water and sanitation infrastructure. This situation will be furthered by the climate change (ECLAC, 2010; UNEP 2006).

It is important to analyse the dynamics of poverty and inequality reduction and their potential connections to a green economy from various perspectives. In the first place, these outcomes show that there is a direct relationship between growth and well-being

[16] According to the OECD, cash transfers and income taxes reduces inequality by one third and has an impact on poverty reduction of about 60 per cent in its member countries (OECD, 2010). For Latin American countries, the amounts considered by conditional cash transfers (CCT) represent on average, as a minimum, 12 per cent of the extreme poverty line and 7 per cent of the poverty line among rural areas, and 11 per cent and 5 per cent, correspondingly, among urban areas (ECLAC, 2010: 124-125)

[17] This approach coincides with the increase in the social spending that Latin America has shown during the past decades: from 12.3 per cent to 18.4 per cent of total GDP between 1990-1991 and 2007-2008, representing 65 per cent of the total public spending in 2008 (ECLAC, 2011: 140). However, this increase has not even been among countries within the region and it is possible to observe a pro-cyclical trend, by which social spending is reduced at times when GDP falls at greater rates of reduction than those affecting GDP. Thus, a key message in order to achieve poverty-reduction is to build counter-cyclical policies capable of protecting the poorest and most vulnerable at a time of crisis (ibid)

[18] Data for Guatemala, Bolivia and Honduras shows that poverty incidence among these households is above 75 per cent (Rodriguez y Meses, 2010 in ECLAC, 2011: 9)

in societies. In the absence of redistributive policies, evidence has shown that it is unlikely that the benefits of economic development will be made available to all. In the second place, it is also important to note the central role that employment plays in reducing poverty and ameliorating inequality, as this is a crucial element of projected green economy reforms. In the third place, both poverty and inequality have impacts on a household´s exposure to risks, and fundamentally, on their means to confront these risks. Hence, understanding the dynamics of household vulnerability, which are in turn determined by the availability of assets and household capital will be essential if we are to facilitate a shift towards a green economy that also guarantees poverty reduction. Two assets that are of particular relevance for a green economy: natural or physical capital and human capital will need to be critically examined as we develop policy recommendations to mitigate poverty and promote greener economies. Finally, dealing with inequality and not just the level of poverty will also be unavoidable if we are to simultaneously achieve the social and environmental goals of green economy.

Implications of a green economy for social development in Latin America: short and long term effects

Not much is known concerning the expected micro-economic and social effects that a green economy may have within the Latin American region and other regions in the world[19]. Efforts have been made by institutions such as UNEP (2011) and the OECD (2011) to model the impacts, particularly on the global economy and the productive sectors, of the transformations involved, identifying the level of public and private spending that will be necessary to launch these reforms. These analyses, however, have focused mostly on the macro-economic dimensions involved in a green economy.

It is forecast that as a result of the reforms planned to secure a green economy, the world's GDP will increase by 0.5 per cent of GDP, in comparison to the counterfactual of "business as usual" (UNEP, 2011). The forecast annual GDP growth rates show that in the short term there will be a decrease in this rate of growth as a result of the transformation required for the implementation of green practices, compared to business as usual. Nevertheless, in the long run the implementation of greening practices will generate an increase in production and incentivize the creation of new sectors in the economy that will generate a higher rate of growth, reaching about a 0.5 percentage point difference in 2050.

As a result of the change in the type and composition of production, employment levels may be reduced at first, with a higher risk of an increase in poverty-rates. However, in the long run, these models are optimistic about the creation of new employment and improvements in economic productivity achieved by the sectors involved in a green economy. This variation sets a time-frame for the analysis of the social impacts of a green economy, and is important to bear in mind, particularly in light of the experience of developing regions confronting the 2008 economic and financial crisis.

On the other hand, changing the way in which economic growth occurs, shifting production away from activities that cause severe environmental stress to those based on a low-carbon function, will have a positive spillover within societies in terms of the

[19] The cost of inaction should be also considered in this exercise. It may be assumed, however, that the impacts of climate change, which have been reviewed in detail around the world (ECLAC, 2011b, 2011c, IPPC), may be taken as an indication of the costs of not implementing severe reforms to the economy in the short run.

reduction of the risks of climate change. This may include stopping current desertification and degradation processes in rural areas, as well as improving health outcomes by reducing pollution (UNEP, 2011).

There are three main social dimensions where the effects of shifting to a green economy become apparent (see figure 1): a) impacts that are located within the labour market; b) impacts on rural livelihoods that require the implementation of social policy to prevent adverse effects; and, c) other risks and opportunities that may emerge from the operation of a green economy on social spending and access to public goods.

In the first place, it may be expected that employment will be affected in two ways: in the short-term, measures introduced to prevent highly polluting activities may lead to cuts in wages and jobs. This process may be reinforced, not only as the result of the creation of national taxes and new regulations to internalize externalities and shift production to greener activities, but also as the result of international barriers (tariffs, taxes and quotas) for products with a high-carbon footprint. As we show in table 2, this is likely to occur in the fishing, forestry and manufacturing sectors, and as an indirect effect, of the reforms introduced to the transportation, mining and quarrying sectors.

In both the short and long term, it can be expected that new employment will be created in agriculture, construction, tourism, renewable energy and recycling. The question is more about the quality of these jobs and whether they will guarantee that decent work conditions are upheld. This is particularly the case in the construction and agriculture sectors, where current indicators show a high prevalence of precarious and informal employment, coinciding with their status of low-productivity sectors (see section 3). In the absence of incentives, it is likely that these jobs will retain the terms and conditions of employment that characterize the current labour structure in Latin America: low wages, high gender and ethnic exclusion, lack of access to social security, as a result reproducing and perpetuating poverty and inequality.

In the case of agriculture, a great challenge will emerge from the reforms, as this sector is directly linked to natural resource use and has a higher incidence of poverty associated with it—particularly in rural areas. There are concerns regarding the diversification of household activities, a message that has been promoted within sustainable livelihood approaches, and the extent to which organic agriculture is sustainable at all in highly eroded areas. Land inequality is a persistent feature in rural areas in Latin American, reducing the productive potential of the farm yields particularly for the poor. Access to technology and physical capital to implement new harvest techniques should also be considered, when projecting poverty-reduction impacts from the new employment and business opportunities generated.

Besides land, training and education are fundamental assets that will also determine access to highly qualified employment. As reviewed in section 3, higher quality human capital is essential to secure higher returns from employment. It may be expected that the new jobs –green jobs- that will be created, will demand higher educated and trained workers. These are precisely the workers that the Latin American region will struggle to provide, if current conditions prevail. This element, again, may prevent inequality from being eliminated and reproducing poverty throughout the region.

Finally, risks remain that a green economy will reproduce territorial inequalities among areas where assets are more concentrated, in terms of both quality of land and of workers.

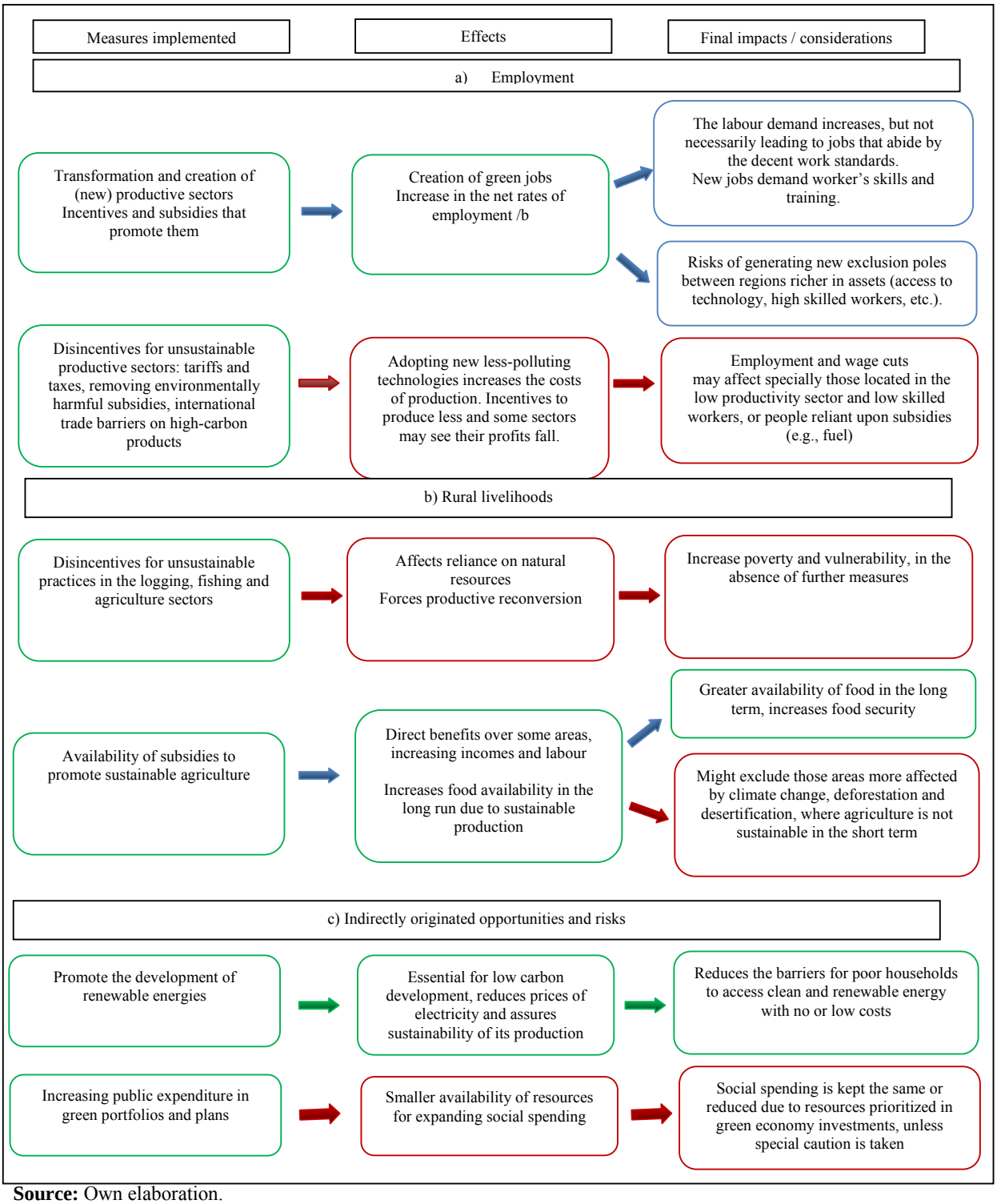
Concerning rural livelihoods, according to the model a beneficial aspect of increasing agricultural activity might be the greater availability of food, thus potentially mitigating the risks for continued food crises, such as the one recently experienced world-wide. A higher production of food may also result in lower prices for food products, which being more accessible for the poor can have beneficial effects for poverty reduction. However, this also requires that concrete measures be taken to ensure food security within the region, a concern which has not been adequately dealt with in discussions of a green economy.

Furthermore, poor households located in rural areas are sometimes engaged in environmentally unsustainable practices, due to the difficulties they confront in diversifying their productive activities and sources of income. This is the case with intensive logging or fishing, among others. If rigid regulations are set in place concerning these activities, this may have a severe impact on the poor's livelihood, an aspect that should be carefully analysed when planning the introduction of reforms.

Finally, there are two areas where impacts may be expected as an indirect effect of the reforms. In the first place, a positive result may occur from the increasing availability of renewable energy, lowering costs and making it accessible for all people, including the poor. A similar result may be generated from the introduction of technology to treat water, hence making potable water available to more excluded groups.

However, there are also economic risks that may arise from implementing these reforms. Large amounts of investment will be clearly needed to be set in place. Part of these resources will have a private origin, but the responsibility of the state in promoting a green economy seems unavoidable. Two cautions are required at this stage. On the one hand, public expenditures for promoting green investments should not be made at the cost of reducing social spending, if poverty-reduction remains a central part of the definition of a green economy. On the other hand, a potential reduction in total GDP during the transition to a green economy should be anticipated. Anti-cyclical policies and social spending should be implemented to mitigate poverty and sustain growth, as the recent experience of Latin America with the financial crisis has demonstrated.

Figure 1: An analysis of the potential social shortcomings of the reforms implemented in the context of a green economy, with a special focus on the poor and most vulnerable population /a



Source: Own elaboration.

/a Colours symbolize a situation of risk (red)/ neutral effect (blue)/ positive effect (green); /b In comparison to a situation where no transformations have occurred.

Table 2: Latin America – main expected effects in employment sectors from green economy reforms

Sector	%GDP	Expected variation /c	Employment /d	Green jobs /c
Agriculture, hunting, forestry and fishing	4.9	↑productive in agriculture sector ↓Fishery ↓ forestry (to decrease deforestation process)	High	↑ jobs in agriculture sector (packaging and processing, organic agriculture) ↓ Fishing ↓ Forestry in short term
Construction	5.3	↑ productivity because of ↑ efficiencies	High	↑ Number of jobs. unknown → decent work
Wholesale and retail trade, repair of goods, hotels and restaurants	13.8	↑ tourism	-	↑new jobs
Transportion, storage and communications	9.6	Indirect impact → reduce pollution	Medium (transport)	↓ slight decrease
Manufacturing	14.6	↑ productive through efficiency	Medium	↓ number of jobs
Mining and quarrying	3.9	-	Low	Indirect impact → energy use.
Electricity, gas and water supply	2.1	Unknown impact on production, indirect impact on productivity	Low (energy)	↑ in renewable energy
Financial intermediation, real estate, renting and business activities	17.7	-	Low	-
Public administration, defense, compulsory social security, education, health and social work, and other community, social and personal service activities /a	17.9	↑ recycling	High	↑ in recycling as a new sector
Others/b	10.2	-		-

Source: Own elaboration upon data from CEPALSTAT, UNEP (2011) and OECD (2011)
a/ The social services sector includes waste recollection, in most countries. Recycling is included as a new economic sector.
b/ Included financial intermediation services indirectly measured (FISIM) and Taxes on products – subsidies on products.
c/ Variation as a result of implementing a green economy
d/ Corresponds to the incidence that each sector has in total employment according to the distinction between high, medium and low-productivity sectors. High productivity sectors offer a reduced number of jobs that equate to less than 10 per cent of total employment within the region; medium-productivity sectors represent a percentage below the 25 per cent of total employment, whereas low-productivity sectors account for more than 70 per cent of total employment (see table 2, section 3).

Policy coherence in the 21st century: an agenda for change

This article has analysed the social dimension of a green economy, discussing the extent to which this approach may lead to poverty-reduction and sustainable development in developing countries. We argue, that as it is currently formulated, a green economy has prioritizes the implementation of productive reforms that are environmentally friendly and that lead to economic growth, and thus, it relies heavily on the forces of the economy and the market to reduce poverty. Green jobs are often advocated as a key social dimension of a green economy. However, there are few guidelines for how these can be promoted within countries so that they meet decent work standards, thus sustainably eradicating poverty. Furthermore, little mention has been made about how to alleviate any poverty and inequality that may be generated as part of the reforms of a green economy, reviewed in section 4.

The case of Latin America is used as an example of the complex relationship between growth and poverty-reduction. It has been argued that a direct link between the two variables has to be taken with caution: the regional experience demonstrates that they are mediated by a series of factors, including the labour and redistributive structure, and the policy measures (references?). We question the conditions that need to be fulfilled in order for a green economy to succeed in eradicating poverty. The region´s situation is not auspicious in this regard: informality within the labour force is high, and there is a widespread lack of education and access to social security, training opportunities and decent wages. These deficits are more acute within rural areas, and particularly, among households that have agriculture as their main occupation. At the core of these dilemmas, inequality emerges as a fundamental problem to tackle though development policy.

This section reviews those potential impacts that could be brought about by implementing a green economy and identifies both positive and negative outcomes in terms of employment and income distribution. It is clear that social policies and measures should be introduced so as to mitigate the potentially negative effects of changing the type and composition of economic activity and protect households, particularly the poorest and most vulnerable ones.

In conclusion, we identify four main issues that emerge from this analysis that describe different policy actions that governments may pursue when planning green economy reforms in Latin America.

Tackling redistribution and income inequality

While the creation of new jobs has the potential to reduce poverty, it does not ensure poverty-reduction as the Latin American experience indicates. Inequality conspires against opportunities to benefit from development, and thus, mitigating and reducing inequality should be a central element of a transformative approach to development through green economy.

Different steps may be taken to improve the redistributive structure of the economy. In the first place, making growth pro-poor implies developing subsidies and taxes that are progressive by nature, as well as introducing incentives to include the poorer and most vulnerable in the new opportunities that emerge as part of the green economy. This may be applied, for example, to the case of renewable energy, by introducing policy

subsidies that make renewable energy available for these households. Also, it is crucial to compensate households located in sectors where regulations are laid in place to prevent unsustainable activities from being pursued. Generating revenues from new taxes to fund subsidies and transfers may form part of the new development strategy.

In the second place, creating green jobs is not enough. Specific measures should be taken so these jobs can benefit people located in poorer households. Among these measures training may prove essential. In parallel, labour regulation will be needed to progressively increase real wages over time to be coincident with the status of these jobs as high productivity employment.

The speed of change

The speed of the reforms to be implemented then becomes a crucial variable in the poverty outcomes and the opportunities to reduce poverty (references?). Measures and regulations can be designed so as to impact least on those whose incomes depend in their entirety on the productive activities that will be replaced, or to introduce immediate/mediate economic alternatives. Vulnerability may be directly tackled in a way that allows reforms to be put in place, while preventing living conditions from declining through a combination of social protection policies –including non-contributory monetary transfers and subsidies- and policies that fund new economic ventures (sustainable entrepreneurship). For example, combining non-contributory cash transfers that promote access to green jobs or to training schemes, accomplishes both a mitigation and promotion effect. Funding for these measures may be linked to new tax schemes for high carbon-footprint activities, and in the long term, be generated from increments in general revenues from taxes on the net profits of the green economy's sectors.

These actions require the accurate identification of those that will be disproportionately affected by the reforms in the short-term, which also demands implementing impact-evaluations that combine attention to both macro and micro dimensions of the green economy. Special attention should be paid to those groups particularly affected by past and new forms of exclusion, such as women and indigenous people. This attention requires designing effective mechanisms for social participation and political inclusion in the process of decision-making about local and national reforms.

Regulations and incentives for decent work

If poverty eradication and sustainable development remains at the core of the pursuit of a green economy, the regulations affecting the production of goods that include only environmental criteria will be insufficient. Regulations should also target employment conditions, including the whole set of elements included within the economic rights recognized by the international declarations (UN, 1948, 1966): safe working conditions, decent wages, equal opportunities and treatment, access to social security and training, and the right to form trade-unions and demand better conditions at work.

Once more, the evidence from Latin America shows that growth, on its own, does not automatically improve the conditions for workers particularly given the high proportion of workers in the informal sector. Substantial incentives and regulations are required in order for a new development pact to be established so that poverty can be fully eradicated and access to comprehensive social protection is guaranteed for all.

Long-term investment

The Latin American experience shows a direct connection between years of schooling and training, and the returns from employment (ECLAC, 2009). Investing in social assets becomes a crucial factor for poverty eradication in the long run (references?). However, there is no guarantee that social spending will be kept equal and will rise among Latin American countries, particularly at times when GDP decreases.

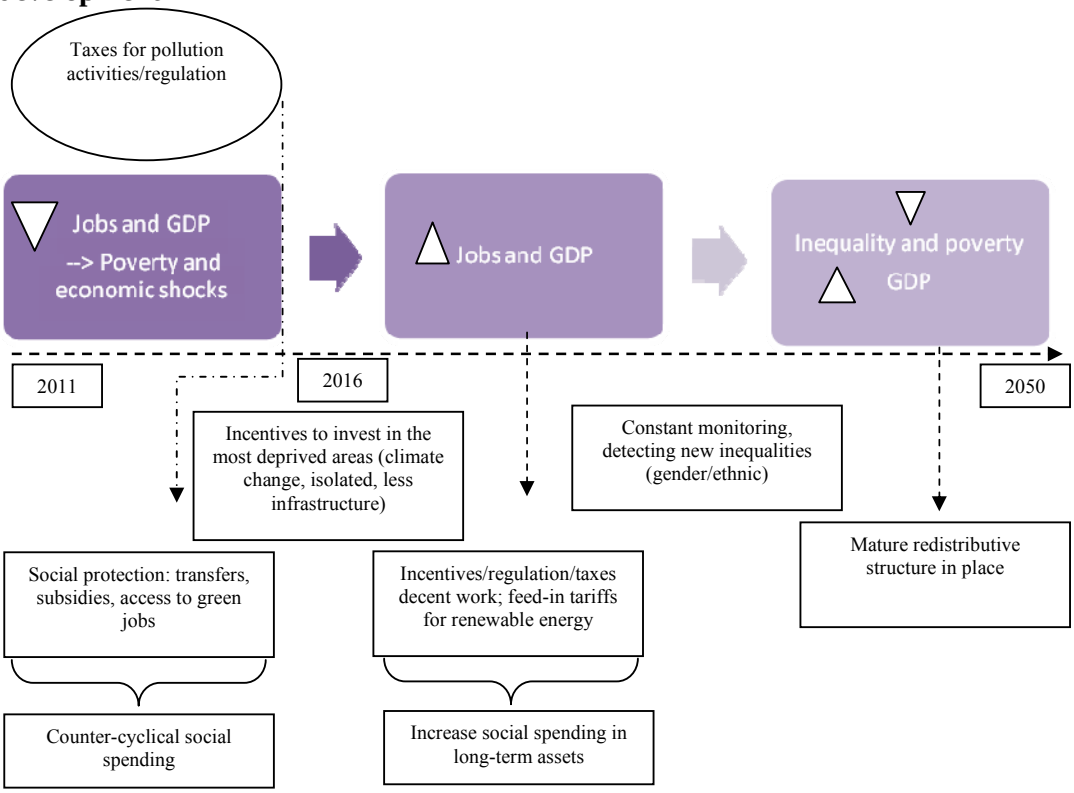
A green economy has to be thought of within this larger framework of asset accumulation, redistribution and investment. It is fundamental to ensure that the public investment necessary for green economy to be implemented will not be undertaken at the detriment of social spending. Also, committing to a higher rate of social investment as part of the profits generated from a green economy will prove essential for economies to keep on growing and expanding development opportunities.

At the same time, the involvement of the state in investing and promoting the adoption of technology within the emerging productive sectors is crucial in order to overcome the historical exclusion that developing regions have confronted. This idea was already present in the 1960's, as the early work of ECLAC demonstrates (Prebisch,1962, 1950) and gives birth to the structural heterogeneity thesis that explains the gaps in productivity among sectors and the employment they generate, with high and negative social impacts. Avoiding the emergence of new excluded areas as a result of their lack of key assets for green economies to develop becomes a central condition for developing countries to take on the opportunities that this approach may generate. International cooperation in matters of technology transference is a relevant element to include in debates of a green economy. This is also the case of national planning that defines areas and territories where reforms may be implemented.

These four issues, and the policy measures they call for, have been summarised in diagram 2. They represent an effort to consider a green economy as an opportunity for rethinking development strategies within developing countries, combining short and long term approaches that allow both redistributive and poverty-eradication goals to be achieved.

As discussed earlier in this article, the most recent economic crisis allowed us to test social protection instruments and counter-cyclical social spending against a decline in total GDP. The results for Latin America indicated that, although poverty increased, it did so less than expected, to a great extent, thanks to the measures implemented. A green economy comprises both expansive and inward economic cycles. Hence, a similar principle may be applied, which would include transformative policy measures, such as comprehensive tax reforms and regulations that prioritize decent work and environmental sustainability.

Diagram 2: Measures and stages involved in a green economy: an opportunity for development



Source: Own elaboration.

It should be noted that these issues represent efforts to adjust economic reforms to the potential social impacts that may arise in the process of their implementation. A different scheme may be drawn if we take an initial departing step, not economic growth, but poverty eradication and the reduction of inequalities. In other words, it is not that social policies have to remediate for a green economy's wrongs or only partial achievements in improving living conditions. Rather it is about rethinking development strategies: taking as the most relevant goal poverty-reduction, and fundamentally, people's well-being, and building from there the economic model to be pursued. As Stiglitz, Sen and Fitoussi (2009) have already shown concerning well-being and progress, these notions ought to include both an economic and environmental dimension, in order to be fully realized. This analytical exercise is pending but it is imperative that we take up the challenge.

References

Altés C. 2006. *El turismo en América Latina y el Caribe y la experiencia del BID*. Serie de informes técnicos del Departamento de Desarrollo Sostenible. Banco Interamericano de Desarrollo Washington, DC.

Banuri T. 2010. *Green economy and sustainable development.* Presentation at the ad hoc expert meeting on *The Green Economy: Trade and sustainable Development implications*, 7-8 October.

Bentacor A. and F. Modrego. 2011. *Estrategias de sustento de los hogares rurales y su evolución. Análisis de cuatro países.* Work document No. 94. RIMISP – Latin American Centre for Rural Development.

CEPAL/BID. 2010. *Cambio climático una perspectiva regional.* Cumbre de la Unidad de America Latina y el Caribe. Publicación de las Naciones Unidas, LC/L.3207.

CEPAL-OEA-OIT. 2011. *Protección social y generación de empleo: análisis de experiencias derivadas de programas de transferencias con corresponsabilidad*. Documento de proyecto, LC/W.398.

Cordero D. 2011. *Los bosques en América Latina*. Friedrich Ebert Stiftung – ILDIS.

De la Torre, A., P. Fajnzylber and J. Nash. 2009. *Desarrollo con menos carbono: respuesta Latinoamericanas al desafío del cambio climático.* Banco Mundial. http://siteresources.worldbank.org/INTLACINSPANISH/Resources/17920_LowCarbonHighGrowth_Spanish.pdf.

ECLAC. 2010. *Social Panorama of Latin America 2010*.

ECLAC. 2009. *Social Panorama of Latin America 2009.*

ECLAC. 2008. *Social Panorama of Latin America 2008.*

FAO (2011) Situación de los Bosques del Mundo. ISBN 978-92-5-306750-3.

FAO (UN Food and Agriculture Organisation). 2010. *The State of Food Insecurity in the World 2010: Addressing Food Insecurity in Protracted Crises*. FAO, Rome.

FAO (UN Food and Agriculture Organisation). 2009. *The State of Food Insecurity in the World 2009: Economic crises – impacts and lessons learned.* FAO, Rome.

Galindo, L.M. and J. Samaniego. 2010. *La economía del cambio climático en America latina y el Caribe: algunos hechos estilizados*. Revista CEPAL, No. 100.

IDS. 2007. "Connecting social protection and climate change adaptation." In *Connecting social protection and climate change adaptation*, IDS in Focus, Policy Briefing, No. 02.3.

IDS. 2009. "After 2015: Pro-Poor Low Carbon Development." In *After 2015: Promoting pro-Poor policy after MDGs*, IDS in Focus, Policy Briefing, No. 09.4

IPCC. 2007. *Climate Change 2007: Working Group II: Impacts, Adaption and Vulnerability.* IPCC fourth assessment report on climate change.

Kanbur R. 2009. "What Determines Poverty Reduction?" In David Hulme, David Lawson, Imran Matin and Karen Moore (eds.) *What Works for the Poorest?*

Kwasi Fosu, A. 2011. *Growth, inequality and poverty reduction in developing countries: Recent global evidence.* UNU-WIDER, Working paper No. 2011/01, United Nations University, Geneva.

Mancilla A. and S. Carrillo. 2011. *La economía verde desde la perspectiva latinoamericana ("The green economy from the latinamerican perspective").* Friedrich Ebert Foundation, FES-ILDIS.

McKay, A. and A. Sumner. 2008. "Economic growth, inequality and poverty reduction: does pro-poor growth matter?" *IDS In Focus*, Issue 3, March 2008. Institute for Development Studies, Brighton.

Martínez, R., A. Palma, A. Pinheiro and E. Atalah. 2009a. I*nseguridad alimentaria y nutricional en América Latina y el Caribe.* ECLAC project document, No. LC/W274.

OECD. 2011. *Towards green growth. A summary for policy makers.*

Skea and Nishioka. 2008. "Policies and practices for a low-carbon society." Editorial in *Climate Policy*, Vol. 8, No. S5–S16

Stiglitz, J., A. Sen and J.P. Fitoussi. 2009. *Report by the Commission on the Measurement of Economic Performance and Social Progress.* www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf

United Nations. 2011. *Millenium Development Goals: 2011 Progress chart*. Statistics Division, Department of Economic and Social Affairs, United Nations, New York.

United Nations 2010a. Resolution adopted by the general assembly, 64th session, A/RES/64/236.

United Nations. 2010b. Preparatory Committee for the United Nations Conference on Sustainable Development, 2nd session, A/CONF.216/PC/7.

UNEP (United Nations Environment Programme). 2011. *Towards a green economy. Pathways to sustainable development and poverty eradication.* www.unep.org/greeneconomy

UNEP (United Nations Environment Programme). 2006. *El cambio climático en América Latina y el Caribe, 2006*. www.oei.es/decada/ElcambioClimatico_r.pdf.

UNRISD (United Nations Research Institute for Social Development). 2010. *Combating Poverty and Inequality: Structural Change, Social Policy and Politics*. UNRISD, Geneva.

APPENDIX 1

Table 1: Latin America – GDP per capita variation and poverty rates (2000-2009)

	Annual variation rate of GDP per capita /a	Poverty						Urban unemployment /d
		Total urban	Variation /b	Total rural	Variation /b	Total	Poverty difference /c	
2000	2.5	35.9		62.5		42.5	26.6	10.4
2001	-1	37,0	1,1	62,3	-0,2	43,2	25,3	10,2
2002	-1,7	38,4	1,4	61,8	-0,5	44	23,4	11,1
2003	0,9	39,0	0,6	61,1	-0,7	44,2	22,1	11
2004	4,7	36,9	-2,1	58,7	-2,4	42	21,8	10,3
2005	3,7	34,1	-2,8	58,8	0,1	39,8	24,7	9,1
2006	4,6	31,1	-3	54	-4,8	36,5	22,9	8,6
2007	4,5	28,9	-2,2	52,1	-1,9	34,1	23,2	7,9
2008	3	27,6	-1,3	52,2	0,1	33	24,6	7,4
2009	-2,8	27,8	0,2	52,8	0,6	33,1	25	8,2
2010	4.8							7,6
2004/2008			-9.3		-6.5			

Source: Economic Commission for Latin America and the Caribbean, CEPALSTAT.
/a In 2000 dollars; /b Compared to previous year; /c Between rural and urban poverty rates; /d Includes adjustment for Argentina and Brazil reflecting the chances in the national methodologies to measure unemployment in 2003 and 2002, accordingly.

APPENDIX 2

Magnitude of the projected changes in the context of a green economy

When describing a green economy, the report by UNEP (2011) focuses on 11 key productive sectors that will be involved in its operation. Four of them directly involve deploying natural resources - agriculture, fisheries, water and forests, whereas seven sectors require investing in energy and resource efficiencies, so as to reduce the impact on the environment: energy, manufacturing, waste, buildings, transportation, tourism and cities.

UNEP estimates that $1.347 billion dollars is required to greening the 11 key sectors that were identified. This amount will be distributed among the different sectors. It is expected that as a result of the reforms planned in a context of a green economy, The World's GDP will increase by 0.5 per cent of GDP in 2050, in comparison to what would happen if business as usual was continued (UNEP, 2011). The estimation of annual GDP growth rates show that in the short term there will be a decrease in this rate as a result of the transformation required for the implementation of green practices, compared to BAU.

The three sectors where natural resources are the core production factor: forest, agriculture, and fisheries represented 5 per cent of total GDP for Latin America in 2009. In the case of forestry, the process of deforestation and the competition of this sector with agriculture have led to negative impacts in terms of biodiversity losses and climate

change[20]. Nearly 22 per cent of the world's forests are located in Latin America (Cordero 2011). In 2010, around 14 per cent of these forests were dedicated to production, and it is estimated that in 2005, the returns generated from the extractions of forest resources added up to 6.8 billion dollars. In the case of fisheries, the main problem seems to be located in the extinction of species and hence a significant reduction in extracting activities needs to occur for a recovery of the system. UNEP's estimations show that $108 billion dollars is required for this process to take place.

The second group of sectors has as core elements of production; the use of energy, fossil fuels and water, causing severe impacts on the environment. Building is a key sector in economies that generate large amounts of waste. Plus, it is one of the main producers of GHG, and many construction projects lack measures for efficient use of water and energy. This sector represented around 5 per cent of the region's GDP in 2009. According to UNEP (2011), projections indicate that if investments are made around US$134 billion per year until 2050, it is possible to achieve savings of about one-third in energy consumption in buildings at the world level, thus contributing to the reduction of CO2 emissions.

Transportation is the principle reason for air pollution in cities, plus congestion and noise. The transformation of this sector implies altering the infrastructure and investment in better technologies for vehicles, with an estimated cost of $190 billion dollars according to UNEP. Transportation, storage and communications accounted for 10 per cent of GDP in 2009, and the growth rate in this sector within the region was 57 per cent between 2000 and 2009.

Tourism is a productive sector that takes advantage of natural richness (sightseeing, water and other sports). The problems that may arise from this sector are related to the misuse of resources and GHG emissions in services provided such as hotels and transportation. According to UNEP, the global investment in this sector has been around 9 per cent of total world investment for the last 20 years. In 2003 tourism generated around $32 billion dollars in Latin America, representing 7 per cent of total exportation and nearly 1.8 per cent of GDP for that year (Altés 2006).

As we have mentioned earlier, a green economy will affect employment and in many sectors, the number of jobs available in the economy will increase. UNEP defines green jobs as "positions in agriculture, manufacturing, construction, installation, and maintenance, as well as scientific and technical, administrative, and service-related activities that contribute substantially to preserving or restoring environmental quality" (UNEP, 2008: 35). Besides the commitment to sustainable development, green jobs are also good jobs in terms of labour conditions, wages, safe working conditions and workers' rights.

For the main sectors of a green economy, the impact on employment will differ according to the features of each sector. In the case of agriculture, new opportunities will emerge from the processing of agriculture products, for example food packaging in rural areas. Additionally, employment will be created in the production of organic food that will offer a sustainable pattern of production.

For example, concerning the building sector, it is expected that jobs will be created in the areas of green buildings, retrofitting, and building components. It is expected that

[20] The IPCC estimated than deforestation is responsible of 20 per cent of global emission of GHG.

renewable energies will generate more jobs per average megawatt of power manufactured and installed than fossil fuels power plants (Kammen, Kapadia and Fripp cited by UNEP 2008). It is necessary to point out that "the distinct occupational profiles imply a substantial employment shift, and thus implies a need for transition measures to assist those affected" (UNEP, 2008: 102). Additionally, it is necessary to be aware of the conditions of each market. In the case of bio fuels, this is quite labour intensive compared with conventional fuels.

As it was stated earlier, it is not only the quantity of jobs that may be created, it is also relevant the quality of them. Thus, ILO identified a framework to analyze green jobs under five points:

1. The realization of workers' rights, as the right to freely associate and organize with other workers.
2. Decent work, which means "under conditions of freedom, equity, security and dignity, in which rights are protected and adequate remuneration and social" (ILO)
3. Counting on social protection policies
4. Social dialogue, which means that policies are implemented with the participation of who they affect.
5. Sustainable business, which reinforces the importance of sustainable development.

Cagala and Scaglioni (2011) analyzed the impact of green jobs on the region. They concluded that this offers a great opportunity for many Latin American countries. They agree that the main issue is to generate labor regulation policies and increase the participation of workers in the green sector. They also highlight the importance of not focusing only on green jobs aimed at reducing the impacts of climate change, but on the working conditions of all sectors.