
Conceptual Milestones of Sustainable Development Policy in a Global World

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Environmental degradation is another issue that highlighted the drawbacks of the highly promoted economic relations in the last two centuries. In conceptual terms its solution was found in a variety of models out of which only sustainable development became a widespread support for policy making. The paper examines how the basic underpinning stands compared with the actual policies framed at global level and which are the prospects of success in a world that is more and more influenced by globalization. It was found that widening the scope of economy could bring in progress toward sustainability, but this also supposes a shift in the drivers of demand from global to local.

Keywords: *environmental degradation, sustainable development, globalization, natural capital, EKC*

Introduction

Sustainable development gave society the tranquility of a solved problem. The clash of increasing resources demand with the limits of nature was pictured four decades ago as unavoidable. Changing some of nature's laws is beyond human power, although there are countless attempts to do so. The most powerful example, which also served for the development of revolutionary concept, is the entropy law, which impacts on each transformation, regardless its human significance [1]. Therefore, the change

should be made in the patterns of resource demand. The twofold challenge of increasing population and economic growth are the ones allowed to occur within the framework of sustainable development. In other terms, society will not exceed the limits of nature, despite growth, if the way of using the resources is changed.

The last two decades witnessed a “sustainability” revolution, more and more governments and sectors reframing their policies in accordance with the perceived requirements of sustainable development. Although, proponents and supporters of sustainable development stress the profound and structural changes to be performed in order to respect sustainability’s conditions [2], [3], the above mentioned revolution occurred in a very small timeframe. Further, the wide variety of definitions and interpretations reported by the literature and encountered in official documents suggest sustainability is an attribute used on convenience. In other terms, policies were not reframed, but rephrased, with no significant change in terms of sustainability targets. Therefore, we consider that is worth to explore how genuine is the change in policy making. In doing so, current sustainable development policies will be compared with the significance of the concept. The analysis of current policy framework should also consider the changes that have little in common with environmental goals, but which had a great impact on the economic, social, and political landscape. From these we settled on globalization because it is comparable in scope with sustainable development and because its deployment is occurring at rates that challenge adaptation of many nations and a wide range of industries [4].

Economy-environment: from destructive to constructive interaction

In 1972, the Meadows model demonstrated the clash between economic and demographic growth and resources. The report in which it was delivered rang the bell: growth cannot go on for good; there are limits that could be foreseen within less than a century timeframe. Although the report considered five variables (population, food production, industry, pollution, and natural resources) the most powerful message was that environment is destroyed do to the economic growth that support development. The model was changed in several occasions and improved in

its technical and conceptual structure that delivered less pessimistic outcomes. Nevertheless the environmentally destructive economy discourse persisted.

The solution pool for the global challenge developed slowly, since the only fact supported alternative was to drop the conquests of technical progress and increasingly powerful economic relations that replaced at various degrees the dominance of political power. Amongst the earliest and also most controversial solutions, is to be found the zero economic growth, developed on the narrow logic derived from the meadows models variables. In this vision, governments would enforce policies that restrain economic growth and will improve the management of natural resources. Fact is it remained in the conceptual area with no infliction on policy making. The main counter argument was built on the huge development gaps recorded amongst nations. Other components of the solution pool are presented in Table 1.

Table 1: Visions on constructive economy-environment interaction

Crt. no.	Name of the model	Initiator	Philosophy	Characteristics
1	Human development	UNDP	Human rights: the right to development is an inalienable human right which represent one of the basic freedoms of man	Simultaneity of progress for productivity, equity, sustainability, and participation through national governance
2	Entropic approach of economy (Bioeconomy)	Nicolae Georgescu-Roegen	Any human transaction with nature leads inexorably to environmental degradation (pollution, disorder, resource depletion)	Using solar energy, cessation of weapon production, stabilizing population at the level that can be fed by organic agriculture, avoiding energy waste
3	Development in accordance with the national ecological	Wuppertal Ecological Research Institute	Resource consumption (measured by ecological footprint) should be correlated	Each country should build production and consumption models in correlation with the availability of natural

Crt. no.	Name of the model	Initiator	Philosophy	Characteristics
	space (ecological footprint)		with the supply of resources (expressed in biologically productive hectares)	resources, including agricultural land
4	Personalist philosophy	EU, UNDP	Man is the carrier of cultural and spiritual aspirations in a national space	The human feature of population increased from one generation to another with lower costs due to stronger solidarity

None of the above mentioned models are mirrored as widely as sustainable development in policy making. This concept was developed by considering the notions of need and of limit is defined very broadly leaving room for various interpretations. The definition (box 1) is constructed on the assumption that development could be achieved by “walking” on different routes and that one of these routes is featured by a constructive interaction between environment and economy.

Box 1: Sustainable development – definition

Development that meets the needs of current generation without compromising the change of future generation to meet their own needs [5].

Sustainability differs from other sciences fields in terms of structure, method and content; thus, we may argue that it radically changed and challenged traditional theories and models and urged for new approaches. We may today discuss of a ‘sustainability’ science, which encompasses new paradigms and models, mainly linked to nonlinearity, complexity and discrepancies between socio-economic actions and their consequences [6]. In other sources, this approach is considered a new ‘paradigm’, envisaged as modernization [7]. Further, it worth to mention that “everything needs to be understood as both a necessity and a possibility of reordering social institutions and economic mechanisms data in a new logic” [8].

Since environmental degradation is not the only failure of the current economic model it is also assumed that sustainable development should improve the social outcomes too. Thus, the most widespread mind map represents sustainable development as a construct supported by three

pillars: economic, social, and environmental. The most important change brought in by the concept of sustainable development is to have simultaneous progress on all three pillars. This would be possible by enlarging the scope of the economic circle, which should incorporate both environmental and social costs. In other terms, economy's progress would slow down, part of the added value being absorbed by the supplementary costs.

Sustainable development policies

In the framework set by international organizations such as the programs and commissions of the United Nations governments could find the guidelines and technical support for policy making. The Bruntland report (1987), Agenda 21 (1992) and the recent Green Economy (2011) could be considered as milestones of sustainable development policy evolution. All three are UN documents and gather the outcomes of prolonged confrontations. The last one was issued for preparing the 2012 Earth Summit.

A glance on the content of these documents reveals the persistence of some issues (Table 2). For instance, poverty is not apparent in the first two reports, while in the last one it is addressed distinctly and also in terms of social equity.

Table 2: Sustainable development policy focus

Bruntland Report	Agenda 21	Green Economy
1987	1992	2012
A Threatened Future Towards Sustainable Development The Role of the International Economy Population and Human Resources Food Security:	1. International cooperation to accelerate sustainable development in developing countries Combating poverty Demographic dynamics and sustainability ...	1. From Crisis to Opportunity An Era of Capital Misallocation What is a Green Economy? How Far are we from a Green Economy?

<p>Sustaining the Potential Species and Ecosystems: Resources for Development Energy: Choices for Environment and Development Industry: Producing More with Less The Urban Challenge Managing The Commons Peace, Security, Development, and the Environment Towards Common Action: Proposals For institutional and Legal Change</p>	<p>Promoting sustainable human settlement development Integrating environment and development in decision-making 2. Protection of the atmosphere Integrated approach to the planning and management of land resources Combating deforestation Managing fragile ecosystems Conservation of biological diversity ... Safe and environmentally sound management of radioactive wastes 3. Global action for women towards sustainable and equitable development Children and youth in sustainable development ... Strengthening the role of farmers 4. Financial resources and mechanisms Transfer of environmentally sound technology, cooperation and capacity-building Promoting education, public awareness and training ... Information for decision-</p>	<p>How to Measure Progress towards a Green Economy 2. A green economy: recognizes the Value of, and Invests in, Natural Capital is Central to Poverty Alleviation Creates Jobs and Enhances Social Equity Substitutes Renewable Energy and Low-carbon Technologies for Fossil Fuels Promotes Enhanced Resource and Energy Efficiency Delivers More Sustainable Urban Living Grows Faster than a Brown Economy over Time, while Maintaining and Restoring Natural Capital 3. Enabling Conditions: Establish Sound Regulatory Frameworks. Prioritize Government Investment and Spending Employ Taxes and Market-based Instruments</p>
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	making	Invest in Capacity Building, Training and Education Strengthen International Governance 4. Financing the Green Economy Transition
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Efficiency, consumption patterns, energy are other issues that are transferred from one policy stage to another.

Environment, as the turntable of sustainable development policy, “experiences” a change in focus. In 1987, the most of weight is given to demonstrate the existence and magnitude of environmental degradation. An entire chapter debates the threatened environment, while others build up on the utility of nature for humanity mind map (Fig.1) (Species and Ecosystems: Resources for Development, Energy: Choices for Environment and Development).

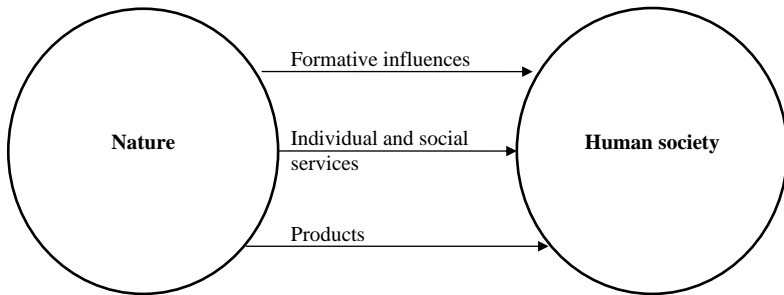


Figure 1: Nature for humanity (Source: [9])

At the Earth Summit in Rio 1992 we could talk about developing solution pools for numerous environmental aspects (protection of the atmosphere, combating deforestation, managing fragile ecosystems). Meanwhile, the social issue is treated separately in the same normative manner, but with more options. The latest report is a renewed recognition of the fact that economy’s scope should be expanded over various

environmental and social issues. Biodiversity and carbon markets, low-carbon energy, efficiency are central in this new economy and are expected to solve the problem of poverty too.

Globalization – sustainability engine or blocking circle

Despite the increased concern in environmental protection, which was approached on a global manner and then adapted to local and regional patterns [10], there are other processes in deployment that are considered important in terms of their impact on the shape, size and sustainability of future society. Considering its potential in this respect, but also its high path that challenge both theory builders and policy makers, we selected globalization as the one that deserve a special focus. Meanwhile, all the policy setting documents cited above (table 2) consider the international dimension as important (by reserving special chapters or subchapters), although the core idea is nuanced. Thus, the Bruntland report gives details on the *role of international economy*, which in the Agenda 21 becomes *international cooperation* aiming to help developing nations, while the last report stresses the need for *international governance*.

Thus, the underlying question is whether globalization will help humankind in achieving a sustainable pattern of functioning, corresponding with the limits inflicting on it at different stages of development. Going further with the analysis, we reach a highly debated subject on the literature, which is what the environmental consequences of the globalization are. By applying the co-integrated analysis on time-series of 50 countries for 50 years it was found that increasing trade and income is likely to improve environmental quality in developed countries, but have adverse environmental effects in developing countries. This pattern of the relation is explained by referring to the environmental Kuznets curve (EKC) (Fig.2), being in fact an empirical confirmation of it [11].

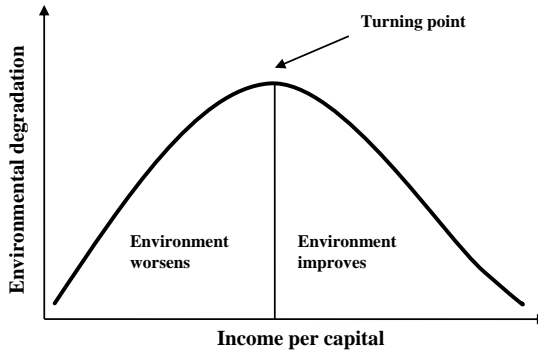


Figure 2: The Environmental Kuznets Curve (EKC)

The turning point is a constant subject for enquiry, since there is little consensus on its actual size in terms of income per capita. The differences are determined by methodological settings, depending on the indicators chosen for measuring environmental degradation, but also on countries. One of the recent assessments found that for sulphur dioxide emissions reached their turning points at 17501 USD/capita in USA (1969); 11391 USD in Japan (1970) and 15182 USD in France (1973) [11]. Meanwhile, greenhouse gas emissions and energy consumption are environmental indicators for which the turning point was not yet determined [1]. Globalization's impact on environment is in fact intermediated by its contribution to economic growth. Thus, even though globalization could contribute to higher income rates, its actual effects on environmental quality will depend on the position held by a certain country on the development curve.

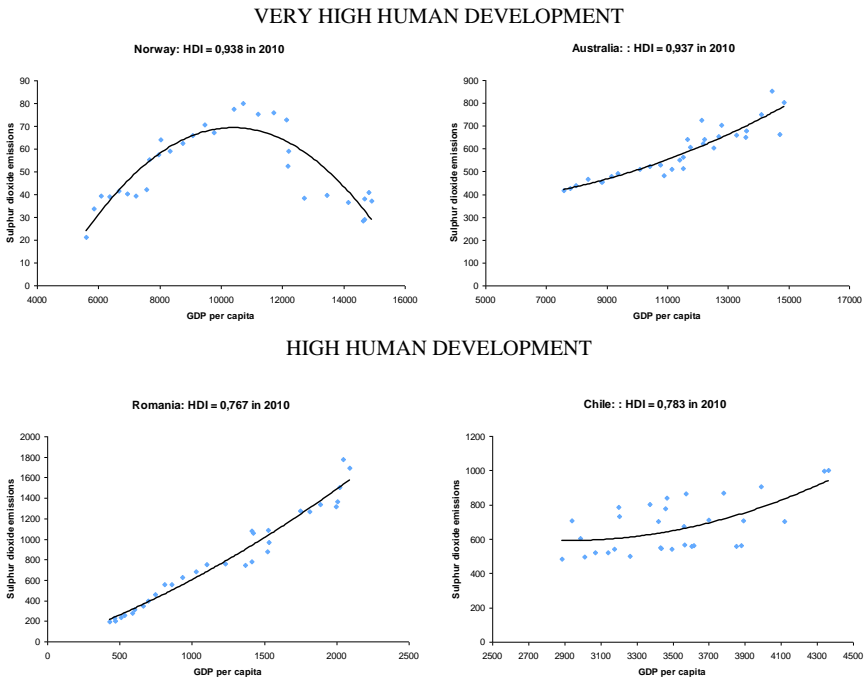
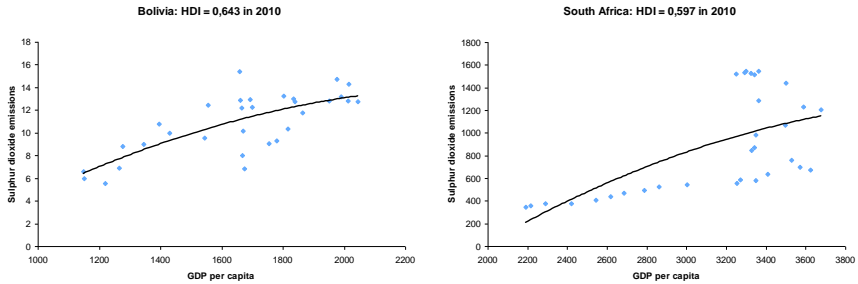


Figure 3: Sulphur dioxide emissions and income per capital in very high and high human development level countries (source of data: Undata, David Stern's datasite)

MEDIUM HUMAN DEVELOPMENT



LOW HUMAN DEVELOPMENT

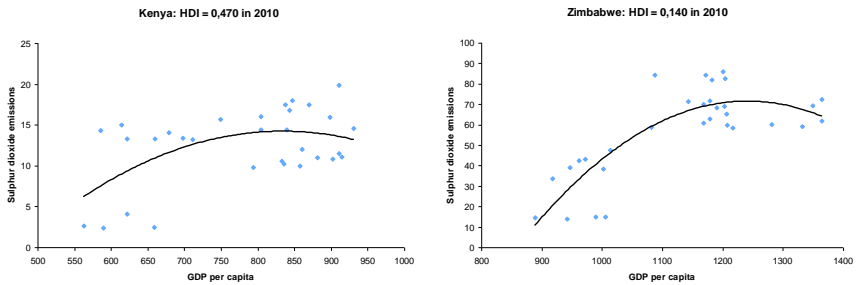


Figure 4: Sulphur dioxide emissions and income per capital in medium and low human development level countries (source of data: Undata, David Stern’s datasite)

By examining the relation between sulphur dioxide emissions and income per capita in randomly selected countries from four Human Development Index clusters (very high; high; medium and low human development) it results that the turning point is already achieved in developing countries and that its value is much below the one recorded in the above mentioned developed countries (Fig.3, Fig.4). This means, that the level of income in absolute terms could not provide any indication on the likeliness of turning point to occur or that there are country specific factors that influence the level of the turning point.

Moreover, all these stand in case that globalization-income relation is a positive one. But the opponents of globalization argue that this premise is not true for many developing nations [2], [3]. For instance, in case of

financial globalization, it is difficult to establish a strong causal relationship, since there is no clear and robust empirical proof that the effect is quantitatively significant [12].

Finally, it worth to consider some aspects such as [13]:

- What it is considered normal (continuous economic growth mirrored by constant increase of material expectations) in fact is a historical anomaly. Humankind records this pattern only in the last two centuries, while for the rest of it the stable steady-state economy is the one that holds;
- The expansion of human capital and social capital should compensate the degradation of natural capital. Thus, the sense of community should act as a guardian against the over-exploitation of the natural capital for the sake of increasing private consumption;
- Sustainable economies are the ones that rely on local resources, which motivate them to invest in their preservation and protection;
- Since trade is unavoidable for resource poor nations, it should subject only essential and true ecological surpluses.

In the light of these observations, sustainability is a product of something that is opposite of globalization: local or regional governance. Global sustainability could be achieved by policies that encourages dependence on local resources, investments in natural capital, and favors the development of strong and diversified local economies.

Conclusions

Sustainable development is widely accepted frame for the future of humankind. The vision came to be real several decades ago and although researchers still debate its content and significance, policy making is no almost unthinkable without referring to sustainability criteria. We examined at what extent the conceptual underpinning is still represented in sustainable development policies by referring to the framework set at UN level. It resulted that in order to slow down economy at the progress path of social and environmental issues it is necessary to monetize nature and other capital elements which otherwise were outside the economic systems. In a globalizing world sustainability is hardly a realistic outcome since it increases the distance and time lag between cause and effects. This trend is

in contradiction with the requirements of sustainability because the need to preserve manifests itself then the benefits of return relatively fast to the ones who invest in perseveration or then the effects of depletion or degradation affects the consumer. The sense of community, which demolish the ideal of ever increasing material wealth, should gain more interest in terms of policy making, but also as subject of empirical research.

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