

The challenge of Buddhist economics to contribute to sustainable development

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ABSTRACT

Acknowledging the claims by the ecologists that the natural environments cannot sustain the rapid economic growth experienced during the epoch of development and steadily increasing during the era of globalisation and acknowledging the technological optimists claiming that the ingenuity of man has always overcome the predictions of the doomsday pessimists, the paper advocates for defining sustainability by pursuing the 'Middle Way'. Buddhist economics should join hands with geography, dealing with the man-nature relationship, with a view to provide a moral supplement to the self-interest of the 'economic man', guiding the neoclassical environmental economics and alternatives to (over)consumption of utility values. Wise use of geographical space and natural resources could together with common values of solidarity; generosity and compassion create anthropocentric development with nature and not against it.

INTRODUCTION

Humanity is facing an enormous challenge caused by the rapid economic growth that is depleting the world's natural resources at an alarming speed at the same time as the waste accumulated in soil, water and air in the entire ecosystem and atmosphere seems to be beyond the assimilative capacity of nature. In ecological terms, according to the thermodynamic laws, the development is not sustainable because human activities are transforming low entropy resources into high entropy and because life supporting ecosystems are breaking down as critical thresholds for utilization are surpassed in an irreversible process [1][10][11] [12] [13]. Some ecologists have calculated that approximately two earths are required to sustain the present rate of consumption and utilization of natural resources and if the entire world's inhabitants should enjoy the living standard of an average American there would be a need of nine planets.

These doomsday predictions fare poorly under the present dominance of neo-liberal economics where environmental issues traditionally have been treated as endless externalities to the market economy. A number of environmental disasters following the rapid after war economic growth in the United States started the original concern of environmental consequences of economic growth¹, and subsequently started the academic exercise of conceptualizing the environment in relation to economic activities [3]. The international focus on environmental issues took off with the UN conference on environment and development in Stockholm in 1972. The World Commission for Environment and Development Report of 1987 [17] (the Brundtland Commission) and finally the

¹ Rachel Carson's famous book, the Silent Spring from 1962 [7], started the environmental awareness in the United States that had hitherto not considered environmental consequences of economic activities.

breakthrough conference on environment and development in Rio de Janeiro in 1992 made the concept 'sustainable' being added whenever the concept 'development' was mentioned. Sustainable development was perceived as the way out of the generally acknowledged threat of an ecological breakdown [16]. Environmental economics was subsequently developed as a specialisation of neoclassical economics with a view to incorporate environmental issues into the market economy and let the 'invisible hand of Adam Smith' regulate the concern for environmental issues.

Even though present days ecologists seem right in portraying a gloomy picture of the capacity of this planet to sustain the present economic growth [1], the economic optimists have so far been right in pointing to the fact that ever since Malthus in 1798 predicted ecological disasters due to food production not being able to cope with increase in population, the world population has doubled many times and the global food production has never been bigger and is fully capable of feeding the entire global population². That hunger and malnutrition still exist in large scale is only a question of distribution and entitlements to food. The optimists are right that technology has so far managed to cope with increasing economic demands. Hunger and malnutrition is due to lack of economic power and therefore considered a social problem, rather than a problem of production capacity. The big question is whether the environment is an externality to the economic system as claimed by conventional neoclassical economists or it can be incorporated and given a market value in the economic system as claimed by environmental economists, or whether the human economy is a sub-system under the entire ecological system, as claimed by ecological economists [10] [13]. As the ecological economist Robert Babe sharply puts it:

“Mainstream economics today, particularly the specialized school of thought known as *environmental economics*, is a harmful, destructive, anti-environmental discursive system that needs to be radically reformulated if we are to avoid the continued, accelerating deterioration of our life-support system”[1].

Ecological economics and the neoclassical environmental economics stand diametrically opposite each other in understanding how anthropocentric development can be sustained by the environment. The concept of sustainable development is essential to understand and possibly resolve that conflict. Unfortunately the concept is poorly defined and subsequently has been corrupted by politicians and economic growth protagonists in an effort to counteract critics of conventional economic growth. One reason why the concept has been misused is that the World Commission of Environment and Development (WCED) defined sustainable development as: 'a situation where the present generations can satisfy their needs without compromising future generations can satisfy theirs' [19], without defining what's the content of 'needs', especially concerning future generations. Interpretations of the concept have resulted in a weak and a strong definition of sustainable development, with the difference between the two reflecting the degree of trust that man-made capital can substitute natural capital in providing the 'needs'³.

The aim of this paper is to argue how a workable definition of sustainable development must explore ways to define needs where it can benefit from Buddhist economics and at the same time explore ways to make wise use of space that can enhance man-made capital to substitute natural capital in providing the 'needs'. Buddhist economics and geography (in the meaning of studying

² However, there are signs that the conventional, high input agriculture has peaked.

³ Herman E. Daly defines natural capital as the capacity of the ecosystem to yield both a flow of natural resources and a flux of natural services [8][9].

man-nature relationship) can join hands and help solving the contradictions between ecological economics and environmental economics and show the way forward for an anthropocentric development with nature and not against it.

WHAT IS SUSTAINABLE DEVELOPMENT?

Sustainable has become a positive catchword, poorly defined, and therefore often without meaning [13][16]. It is like beauty; it depends on the eyes that see it. However, in reconciling between the dominant neo-liberal or neoclassical school of economic thoughts trying to integrate environmental issues in the market economy and thereby attaching a price on environmental services (resources and flows) and ecological economics, seeing the market economy as a subsystem of ecosystems, the concept of sustainable development is crucial.

The WCED Report, Our Common Future, of 1987 gave us the challenge to define what we mean by needs in both an intra generational as well as an intergenerational meaning. Securing intra generational equity is what we normally are concerned with in the endeavour of international development where the inequality between the average consumption of physical resources and global environmental services (e.g. sequestration and storage of carbon dioxide in the atmosphere, use of fresh water, etc.) in the rich industrial countries - with USA as an extreme - and the poor developing countries, is enormous. Even considering the past successes of the technological optimists, it's hard to believe that the planet can sustain that the entire global population (that according to most estimates will double before 2050) can use natural resources at the scale of the average American presently does. One problem of course is that needs in neo-liberal economics are defined as utility. Sustainable development subsequently is defined in terms of the ability to sustain the ecological throughput⁴ that will provide that utility.

Environmental economics now acknowledge that environmental resources are not externalities to the economic system as was the conviction inherited from conventional neoclassical economics. Environmental economics make an effort to ascribe a market value or price (as noted by Robert Babe, neo-classicists don't distinguish between value and price, as only the market determines the value [1, p. 106]) to the services of the environment, including the resources and ecosystem services used for production and consumption to the assimilation of the waste generated. This is sometimes called 'from cradle to grave costs'. However, many of these costs have so far been impossible to calculate as most of the ecological functions of the resources and services can't be ascribed a market value. Take for example tropical hardwood that is attached a market price according to supply (legally and illegally cut trees) and demand. The ecological functions of the tree providing the hardwood in terms of soil and water conservation, carbon sequestration, habitat for biodiversity, livelihood for indigenous people or landscape beauty, can hardly be ascribed a market value, as the market doesn't exist⁵. Environmental issues (or problem depending on the perception [6]) have to be seen in their totality as part of the societal development at different scales [5].

⁴ The physical intermediary connecting the natural and man-made capital [13]

⁵ Environmental economists are working hard to develop methods for ascribing a price to environmental resources, such as contingent valuations methods. The Payment for Environmental Services is a somehow promising venture of environmental economics if sellers and buyers can be identified and demarcated and concrete contracts specifying services and payments can be established. Similarly a carbon market under the auspices of the Kyoto Protocol and the Clean Development Mechanism is being established. The developing world desperately needing economic resources for development that can eradicate poverty can't afford neglecting such initiatives, although they don't solve the fundamental problems of ecological sustainability.

“In this world which is so respectful of economic necessities, no one really knows the real costs of anything which is produced. In fact the major part of the real cost is never calculated; and the rest is kept secret” [14]

There are two issues in the neoclassical economics (including environmental economics) interpretation of sustainable development where Buddhist Economics should contribute. One is that needs are considered as utility in material form or as commodities. Needs in terms of belongingness, love, compassion and other spiritual and non-material intrinsic values are completely disregarded.

The other issue is that neo-liberal or neoclassical economics in pursuing optimal allocation of resources for production of utility is founded on the purported beneficence of self-interest and thereby obscures moral norms, communal values, empathy and generosity [1]. Buddhist Economics can help promoting these communal values and counteract the dominant ideology of egoism and self-interest as the only existing and relevant value. This is clearly not an easy task as it involves an ideological confrontation with powerful political systems and multinational corporations that are benefiting politically and economically from increasing production and consumption (including warfare) and thereby increasing the ecological throughput

The other half of the Brundtland definition of sustainable development is the intergenerational equity. Satisfying the needs of the present generations should not compromise future generations' ability to satisfy their needs. But what do we know about the needs of future generations? Our grandparents probably couldn't foresee their grandchildren's 'need' of advanced laptops, cell phones and ipods and possibly our grandchildren will value intrinsic and spiritual values in opposition to what is mainstream for the present generations. Or they will possibly venture even deeper into cyberspace?

Orthodox or deep ecologists advocate the conservation of all non-renewable natural resources and ecosystems in an effort to secure future generations bequeath the same opportunities for satisfying their needs as the present generations. This strong version of sustainability, however, hardly reconciles with the goal of satisfying the present generations' needs keeping the history of the development epoch in mind [17]. While preserving all non-renewable natural resources can be seen as an extreme ecological orthodoxy, by some termed 'eco-fascism', the principle of precaution is essential in an effort to avoid that irreversible ecological processes are destroying life supporting ecosystems. It's the complex combination and interdependencies between the various species, the diversity of species and the ecological processes – in all, the biodiversity present in the natural capital – that underpins the life-supporting function of ecosystems [13].

Contrary to the deep ecologists' definition of strong sustainability as avoiding using non-renewable natural resources, the ecological economist, Herman E. Daly defines strong sustainability allowing for some flexibility by 'keeping the capacity of the ecosystem to yield both a flow of natural resources and a flux of natural (environmental) services constant' [9, p 53]. But, 'how much natural capital is required to ensure the ecological sustainability objective is not recklessly put at risk?' [13, p.17]

In opposition to the strong version, weak sustainability is signifying that the sum of natural capital and man-made capital is constant. This implies that natural capital can be substituted by man-made capital in providing the 'needs'. The huge challenge in this is to design how wise use of natural resources and wise use of geographical space can enhance sustainable development.

HOW CAN SPACE CONTRIBUTE TO SUSTAINABLE DEVELOPMENT?

The economic growth (provision of utility) and development of society depends on the utilisation and transformation of natural resources which generate waste that is either recycled or deposited in soil, water and air. The waste will eventually be assimilated by nature and as such re-emerge as a natural resource. The process of extraction and transformation of natural resources, their consumption and the subsequent waste generation, which is either recycled or deposited, is a circular

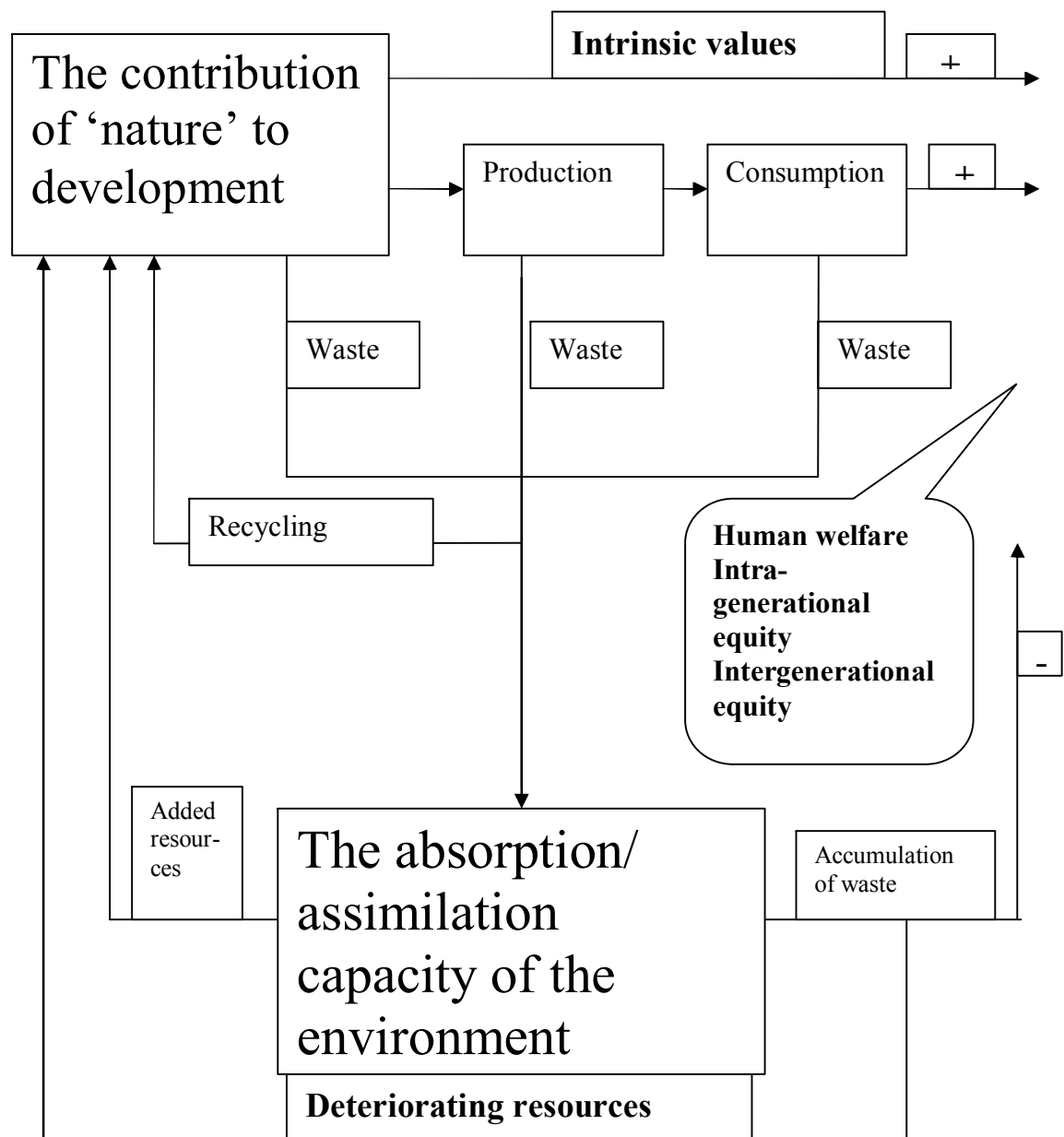


Fig. 1: The circular process of resources, production, consumption and waste process (see Fig. 1) that can be repeated over shorter or longer periods, depending on its complexity. Biological degradable waste in the tropics can be transformed into nutrients in the soil in a few months while nuclear waste will pose a danger for the environment for millennia.

Each single component of the circular process, shown in Fig. 1, is bound to a physical location, apart from the waste diluted in water and air⁶. The natural resources are extracted in localities in

⁶ Considering a landscape where activities in the high altitudes impact on the potential for production and consumption downstream, it's important to analyse and understand the environmental implications of the activities in the physical context of a watershed [4].

space as well as the transformation of the resources take place in localities. Similarly the consumption of the commodities is space bound as well as the waste when deposited in the soil is bound to a locality. Waste deposited in the water and the waste deposited in the air will spread locally and regionally and eventually globally creating the problem of pollution knowing no borders.

Through the societal development process, new knowledge is created about resource extraction and its transformation that is embedded as man-made experience in space. Through this process, natural resources, or natural capital, are transformed into man-made capital that is inherited through generations adding new knowledge about the utilisation of resources and their transformation in the production process. This accumulated experience is embedded as a physical structure (the territorial structure) and a network of knowledge that might turn into a growth pole or become an obstacle for further development, depending on its progressive nature in the contemporary society. The technological, economic, social and political aspects of development have physical manifestations in space that themselves become integrated and dynamic parts of further technological, economic, social and political development. The territorial structure and the network of accumulated knowledge imbedded in it, is essential in the strive for sustainable development.

HOW CAN BUDDHIST ECONOMICS CONTRIBUTE TO SUSTAINABLE DEVELOPMENT?

Acknowledging that anthropocentric development is concerned with creation of utility values for improving the material conditions of human life, wise use of space could ensure that improved material welfare for one generation not necessarily would be at the expense of future generations as well as wise use of space could enhance intra-generational equity. Figure 1 shows that although production and consumption contribute positively to human welfare, the waste that cannot be assimilated will contribute negatively. Over consumption will lead to extra mining of natural resources, pressure on ecosystems and unnecessary waste generation that in the shorter or longer run will contribute negatively to welfare. The Buddhist ethics of not being dependent on material goods and promote spiritual and intrinsic values can contribute to enhanced welfare without increasing production and consumption.

Intergenerational equity is an important part of sustainable development but future generations have no one to lobby for their rights to meet their needs. It is, therefore, essential that life supporting ecosystems have not been destroyed in the effort to securing the material needs of the present generations.

When the production of utility is guided by neoclassical economics, even in the environmental versions of neoclassical economics, the sum of environmental degradation in terms of resource depletion, breaking down of ecosystems and waste generation from producing marginal utility is not calculated. There is no way the market can embrace all the environmental resources affected by production and consumption, and neoclassical economics, guided by its moral of self-interests, can subsequently not secure an optimal allocation of resources that can safeguard life supporting ecosystems. Only through applying the principle of precaution in pursuing wise use of space and resources can the present generations ensure the continuing function of the life supporting ecosystems for future generations. There is after all no substitute for fresh water and oxygen. But the principle of precaution can't be reconciled with self-interests and must subsequently be guided by moral norms such as solidarity with future generations, compassion and empathy. Such norms

must be further developed by Buddhist Economics as they do not tally with the guiding principles of neoclassical economics, even in its environmental version.

CRITICAL ISSUES IN SUSTAINABLE DEVELOPMENT: A WAY FORWARD

According to the laws of thermodynamics, human activities in pursuing utility, transform low entropy matters to high entropy matters and development is subsequently not ecologically sustainable in the long run. The past 200 years of economic development has been dependent on using non-renewable natural resources at an ever increasing scale. Pursuing anthropocentric development, as we so far know it, hardly reconcile with strong sustainability, even in Herman Daly's flexible definition. The question is how weak can we allow sustainability to be to allow present generations meet their needs without compromising future generations can meet theirs. In answering that crucial question, Buddhist economics and geography (dealing with planning, space and resources in the man-nature relationship) can contribute together with ecological economics in creating the transdisciplinary science of sustainability that can guide the survival of the planet. Some of the issues at hand to be resolved are - at least - the following:

Reasonable consumption: Explore the Buddhist concept of the Middle Way in striking a balance between extravagance and frugality in consumption of material resources and subsequent generation of waste. I subscribe to Herman Daly's definition of frugality as 'non-wasteful sufficiency rather than meagre scantiness' [9, p.49]

Intrinsic values: Advocacy for spiritual values and the enjoyment of 'free' values of nature to supplement and eventually substitute self-actualisation needs met by over consumption (e.g. motocross racing and the like). This is not to mention peace, tolerance and conflict resolution to replace wars that are economically, socially and environmentally destructive and a human disgrace.

The economic man: Substitute the belief in self-interest and individual optimum of economic gains as the only guiding principle for human behaviour by common values of shared interests, solidarity, generosity and empathy. The 'economic man' optimising self-interests that is powerfully spread to all economy students and coming leaders of the world must be supplemented by the 'generous, all-embracing, compassionate, life giving woman'.

Critical resources and substitutability: Accepting that man-made capital in terms of technological progress imbedded in the territorial structure and in innovation- and knowledge networks, to a certain degree can substitute natural capital, it's essential to identify and determine the critical natural resources and ecosystems that cannot be substituted by man-made capital. Safe minimum standards, thresholds for irreversible ecological processes and other critical ecological issues must be established. It's essential to determine to what extent the famous ecological economists Georgescu-Roegen and Herman Daly are right in claiming that natural capital and man-made capital are complementary and not substitutes [13, p. 42]

Man-made capital: Reduce and replace the use of non-renewable resources with renewable resources and reduce on waste through recycling.

Payment for environmental services: Identify, describe and delimit environmental services, their safeguards and their users. Establish contractual relationships between buyers and sellers for their maintenance and sustainable utilisation.

CONCLUSION

I have in this paper advocated for the Buddhist concept of the 'Middle Way' by, at the one hand acknowledging the concerns of the ecologists that the planet simply can't sustain the present rate of utilisation of natural resources and destruction of life supporting ecosystems and, at the other hand acknowledging the ingenuity of the human society in overcoming threatening ecological disasters. The paper advocates that this is still possible, but not by pursuing further economic growth guided by neoclassical or neo-liberal economics based in the moral of self-interest of the 'economic man'.

Instead the weak version of sustainable development must be properly defined by providing a trustworthy alternative to the self-interest of the 'economic man' as the guiding principle for pursuing anthropocentric development. Why has 'the other half' of humanity been neglected? Women are the other half of the world's population and moral norms of solidarity, generosity and compassion might be at least the other half of the human nature. Buddhist economics can play a vital role in developing and advocating these concepts together with spiritual and intrinsic values to supplement utility values in providing human welfare.

Wise use of geographical space and natural resources is a vital part of the weak version of sustainable development where man-made capital to a certain extent can substitute natural capital in providing utility for anthropocentric development. It is, however, essential to determine the critical natural resources that cannot be substituted and to establish thresholds for utilisation of life supporting ecosystems to avoid their destruction by irreversible ecological processes.

If the ingenuity of mankind can be directed to pursue these issues and pursue anthropocentric development with nature and not against it, there might be hope also for future generations.

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