

Green Economy: In Pursuance of Sustainable Development

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We have reached a time where the understanding of development should not be pursued in isolation but should best be interfaced with nature for an improved and sustained quality of life. The pursuit of green economy requires a considerable change in our approach to development wherein the greening of the sectors needs to be planned at the very outset of the process. This paper, has conceptualized, and discusses strategic thrust, sectoral integration, management dynamism and institutional and policy regime as a basic embodiment in a green economic framework. It may involve mobilisation of additional resources but is worth an investment for all smiles in near future. Green Economy Framework is a critical stepping in leading to sustainable development which is indeed an ability to transform from one phase of the timeline to the other phase.

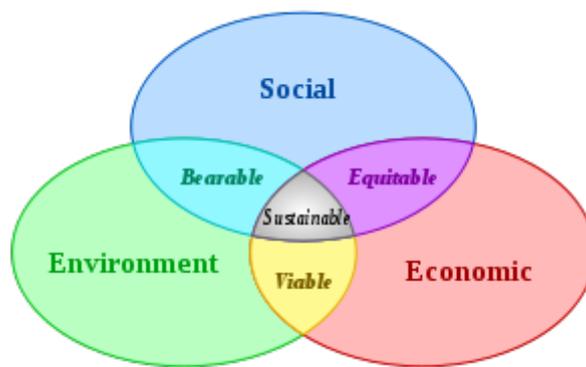
Concept

The growing concern on environment led to Rio 1992 which provided the vision towards the green economy. In the days of abundance of natural resources (in the past) economies were exploiting the eco system, now the economies need to interface with it. The regular economic growth model is focused on increasing GDP, however, the development is faced with irreversible social, environmental and economic costs. Green economy (GE) stands differently 'as it accounts natural capital and ecological services as having economics value with a full cost accounting regime in which costs externalized onto society via ecosystems are reliably traced back to, and accounted for as liabilities of, the entity that does the harm or neglects an asset' (Wikipedia,

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2012). Every country now faces the challenge of restructuring its economic model in an ecologically sustainable way.

Fig. 1: Dimensions of sustainable development



Source: Wikipedia (2012).

Danaher (n.d.) defines green economy in terms of a "triple bottom line," an economy concerned with sustaining and advancing economic, environmental and social well-being, that is to say:

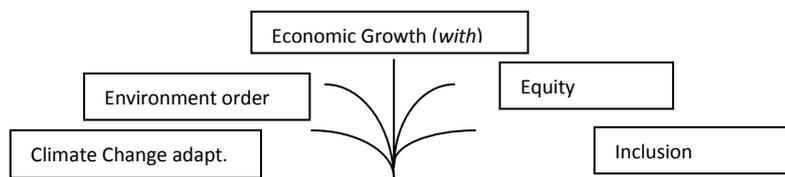
1. Environmentally sustainable, based on the belief that our biosphere is a closed system with finite resources and a limited capacity for self-regulation and self-renewal.
2. Socially just, based on the belief that culture and human dignity are precious resources that, like our natural resources, require responsible stewardship to avoid their depletion.
3. Locally rooted, based on the belief that an authentic connection to place is the essential pre-condition to sustainability and justice.

UNEP defines a green economy as one that results in “improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities”. Under this consideration ‘growth in income and employment are driven by investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services (UNEP, 2010). In essence, green economy is low-carbon, resource efficient, and socially inclusive.

Towards Development Alongside GE

Development refers to a change positively tuned or the state of wellbeing transferred to new heights. It construes improvement in economic and social conditions. From the locational perspective it signifies creation of wealth, improved living standard of the people, and growth of the economy (Adhikary, 2011). Development in the holistic term is multi-dimensional; as it gears to move on from the baseline (where we are) to upper level (where we want to be) it is orienting to better quality of life through:

Fig. 2: Dimensions of Development



The key elements leading to that (i.e. results sought) are essentially strategic thrust, sectoral integration, management dynamism, and institutional and policy regime. It is faced with constraints and limitations at the individual as well as national economic level. The basic is that the development hinges upon techno-human capability and ecological order and it is driven by the quality of governance. Furthermore, a development needs to be sustained otherwise the change would be painful. The sustainability is not about facing the current

challenges which everyone would do it is an ability to transform from the current phase to the future phase without losing the degree of efficiency and effectiveness (Adhikary, 2011 & 2012).

Key elements of Green Economy

Dahal (2012) points out the key elements of green economy as follows:

Generation and use of renewable energy: Refers to any source of usable and renewable energy intended to replace fossil fuel sources without the undesired consequences of greenhouse gas emissions and other pollutants derived from fossil fuel combustion

Energy efficiency: seeks to adopt means and a more efficient technology that uses less energy to provide the same level of energy service

Waste minimization and management: Considers different approaches from prevention, minimization, reduction, reuse, recycling, waste conversion and disposal in order to ensure that the use of materials and waste generation remains within the regenerative and absorptive capacities of the Planet

Sustainable use of existing natural resources: Recognizes the importance and economic value of natural resources, such as freshwaters, forests, soils, coral reefs and ecosystem services provided by functional and healthy ecosystems.

Green job creation: Promotes decent jobs that offer adequate wages, safe working conditions, job security, reasonable career prospects and workers' rights

Strategic thrust

'Transitioning to a Green Economy will require a fundamental shift in thinking about growth and development, production of goods and services, and consumer habits (UNEP, 2011). This transition will not happen on its own. The critical requirements as per UNEP, 2011 are:

- Increase public awareness and the case for change.
- Promote new indicators that complement GDP.
- Open up government decision-making processes to the public and civil society.
- Identify and take advantage of political leadership

Several countries are demonstrating leadership by adopting national “green growth” or “low carbon” economic strategies. The Republic of Korea has implemented a national strategy and a five-year plan (2009–2013) for green growth, allocating 2 percent of its gross domestic product to investment in several green sectors such as renewable energy, energy efficiency, clean technology and water. Significant public investment in the Bus Rapid Transit (BRT) has reduced commuting times and air pollution and improved access to public transit for those less able to afford private cars in Mexico City. China is investing more than any other country in renewable energy ‘driven by a national policy that sees clean energy as a major market in the near future, and one in which China wants to gain a competitive edge’. Namibia has granted local communities across the country the right to use and capitalize on the benefits of using wildlife and other natural resources within the boundaries of ‘communal conservancies’ (Bapna & Talberth, 2011).

The transition to green economy will come through the course of initiations, time and resources. Without a strategic move greening of specific sectors (within it the focused projects) and the economy in general will not happen through rhetoric. The cost, the process, the technology on the one hand and the benefits, the stakeholders, the quality of life, on the other, need to be evaluated per strategic thrust. The plan, its implementation and the sharing has to be framed accordingly in a way that it gets sustained over the time. It needs to be unified into a business plan (combination of strategies and operational schemes) with a management point and oversight mechanism.

Republic of Korea has launched the Global Green Growth Institute to help countries develop green growth strategies and supports from the institute should be forthcoming to needy developing countries (Bapna & Talberth, 2011).

Sectoral Integration

Burkart (2009) sees a green economy as based on six main sectors: renewable energy, green buildings, clean transportation, water management, waste management, and land management. UNEP (2011) puts focus on 10 key sectors considered to be driving the defining trends of the transition to a green economy that include increasing human well-being and social equity, and reducing environmental risks and ecological scarcities. It argues that greening the economy can generate consistent and positive outcomes for increased wealth, growth in economic output, decent employment and reduced poverty.

Agriculture needs to green on through intercropping, pest management, and bio-pesticides. It should be focused against competing demand from food, bio-fuel, limited arable land and water, with due consideration provided to post harvest spoilage, and rural out migration that affect agriculture.

Fisheries against over exploitation, and subsidies needs to go green 1) recognizing the limits to what the oceans can provide; 2) rebuilding overfished and depleted fish populations to maximise sustainable yield, 3) protecting and preserving essential habitats for living marine and 4) fishing and other activities organised in a way to minimise the release of greenhouse gases.

Water is yet to reach to all, people lack access to clean drinking water and to improved sanitation services. Considerable investments need to be made in sanitation and drinking water supply; smaller, local water-supply systems; accessing new (non-traditional) sources of water; and producing more food and energy with less water. There is an imperative to follow on to green water i.e. rainwater stored in the soil or on vegetation, which cannot be diverted to a different use, and blue water i.e. surface and groundwater, which can be stored and diverted for a specific purpose.

Forestry needs to be protected through REDD+ regime and thereby ensure their contribution to a green economy. Investments in natural forests and plantations can deliver economic benefits, sustain more than 50 per cent of

terrestrial species, and play a vital role in protecting watersheds and regulating climate (ecosystem services).

Expanding access to energy is a central challenge for developing countries, besides there needs to be increased share of renewable energy generated from solar, wind, biomass, geothermal, hydropower and ocean resources, and biofuels and hydrogen derived from renewable resources towards mitigating climate change. The cost of renewable energy is increasingly competitive with that derived from fossil fuels. Renewable energy technologies are not without impacts and careful planning to address possible environmental and social impacts is essential.

Manufacturing should best pursue life-cycle approaches and introduce resource efficiency and productivity improvements. These include remanufacturing – for example of vehicle components – and the recycling of heat waste through combined heat and power installations.

Waste management is another critical front as decay of the organic proportion of solid waste is contributing to about 5 percent of global Greenhouse Gas (GHG) emissions with increasing waste from electrical and electronic equipment containing hazardous substances. Efforts are needed to minimise material use and waste generation. The options are any unavoidable waste is recycled or remanufactured, and any remaining waste is treated in a manner least harmful to the environment and human health, or even in a way which generates new value such as energy recovered from waste.

The buildings sector with approximately one-third of global energy end use is lead cause of greenhouse gas emissions. Constructing new green buildings and retrofitting existing energy- and resource intensive buildings stock can achieve significant savings. An integrated design methodology of green buildings combines environmental principles and technological inputs at various design stages.

The transportation – based mainly on petrol and diesel-fuelled motor vehicles – generate serious social, environmental and economic damage and are highly unsustainable. This sector could be transformed with such options as:

promote access instead of mobility; shift to less harmful modes of transportation; and improve vehicles towards lower carbon intensity and pollution.

Tourism requires transformation as well. The rapid growth in both international and domestic travel, the trends to travel farther and over shorter periods of time, and the preference given to energy-intensive transportation are increasing the non-renewable energy dependency of tourism. More than a third of travelers are found to favour environmentally-friendly tourism and be willing to pay between 2 and 40 percent more for this experience.

Furthermore, UNEP (2011) states that the urban development will have to fundamentally change to facilitate the transition towards a green economy. Urban areas are now home to 50 per cent of the world's population but they account for 60-80 percent of energy consumption and a roughly equal share of carbon emissions. Green cities combine greater productivity and innovation capacity with lower costs and reduced environmental impact (UNEP, 2011).

Management Dynamism

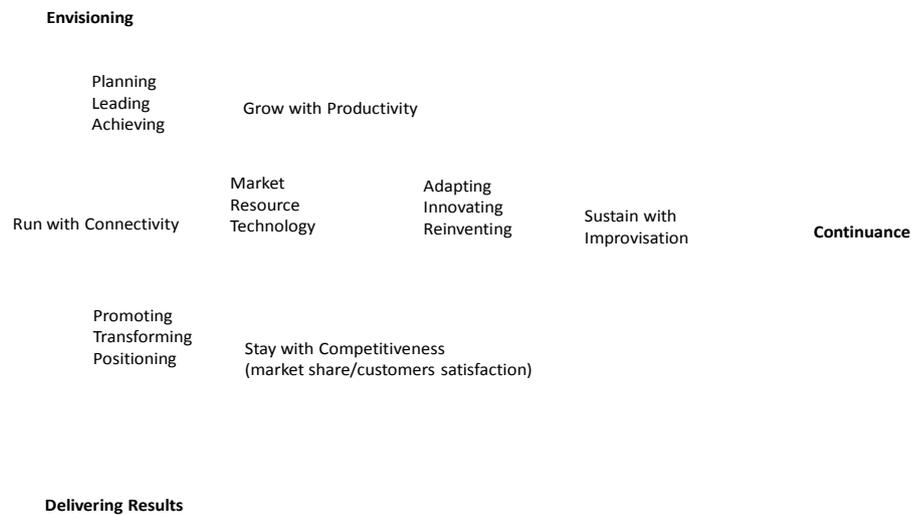
The management consideration has to extend from activity front to sectoral domains and to holistic green-economy strategy. It means three independent but interlinked tiers of project management, sector/programme management and policy management (at the upper end). UN promoted the concept of programme approach to development in early 1990's but developing countries have not properly adopted it and we are yet to go the level of policy approach to development.

The challenges for management are leading to development, sustaining the same, and moving forward. The achievement would/could come through innovation, connectivity and value addition on a system mode. The system mode is the baseline of managing the basics, managing the results and managing the change (progression on to the renewable state). The dynamics are portrayed in the following figure:

Fig. 3: Development Management

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Dynamics of Management
(flexible/systemic/relational)



The enterprise centred management is simply insufficient to face the crack in the interwoven web of business highway. The problem lies not at the management which has every exigency to evolve, but at the limitation of the managers to see beyond. The organizations trying to manage the internalities without managing the external linkage will fail. It is different from the traditional caring or interlinking approach. Managing the frontiers and retuning the interior management system (accommodating change by way of strategy, restructuring and resetting the procedures along with human and technological interface) is basic to what could be rightfully stated as reinventing management. What is required is to extend the organization based continuous improvement approach in management to outside the organization interrelationship front as well.

Institutional & Policy Regime

Green Economy can grow faster, promote pro-poor growth, and achieve energy and resource efficiency as well. The evidences are there that the greening of economies inhibits neither wealth creation nor employment opportunities. However, enabling conditions are required in the transition to a green economy away from the conditions weighted to brown economy relying on fossil fuels, resource depletion and environmental degradation. The enabling conditions would emerge through 'national regulations, policies, subsidies and incentives, as well as international market and legal infrastructure, trade and technical assistance.

UNEP (2011) states five arguments on the need of green economy. First, employing strong environmental policies can drive inefficiencies out of the economy by removing those firms and industries that only exist because of implicit subsidies in under-priced resources. Second, resource pricing is important not just for the pricing of natural capital and services, but also for pricing of all the other inputs within an economy as under-priced resources result in unbalanced economies. Third, employing resource pricing drives investments into R&D and innovation. It does so because avoiding costly resources can be accomplished by researching and finding new production methods. Fourth, these investments may then generate innovation rents. Policies that reflect scarcities that are prevalent in the local economy can also reflect scarcities prevalent more widely. Fifth, aggressive environmental regulation may anticipate future widely-experienced scarcities and provide a template for other jurisdictions to follow. Such policy leadership can be the first step in the process of innovation, investment, regulation and resource pricing described above.

Institutions need to be present to monitor and regulate enforcement of green economy strategies in a dynamic setting.

Case of Nepal

Nepal is an extremely low carbon economy contributing only 0.025 percent of the global green house emission. Nepal has some proven

environmental conservation models that have potential for expansion and replication. There has been improvements in forestry through conservation efforts, and user groups management of the forests, at the same time, Chure forests and Terai forests are falling apart through encroachment and illegal loggings. Given the abundant clean and renewable energy sources available within the country, however, Nepal has not been able to harness it (GoN, 2011).

Nepal lies in one of the most fragile eco-regions of the world and is prone to natural and human-induced disasters. The poor and mountainous country has witnessed climate change and erratic weather patterns. It established a Climate Change Council in 2009 and prepared a policy for tackling climate change and approved the National Adaptation Programme of Action (NAPA). Climate-resilient planning (2010/11-2012/13) focuses on community participation, resource sharing, sustainable resource use, good governance and transparency (Ministry of Environment, 2010).

Nepal, Indonesia and Ghana have the highest ratio of decent jobs per million dollars of investment with labour intensive economies benefiting from green investments, as per International Trade Union Confederation that has urged governments to drive investment of at least two per cent of gross domestic product (GDP) in the green economy in the wake of independent economic analysis forecasting the potential for the growth of green jobs (Himalayan Times, April 20, 2012). Nepal has introduced eco-tourism to provide full and effective participation and viable income-generating opportunities and employment for local people.

Despite opportunities the degree and direction of penetrations have been limited and the efforts have failed to deliver or so to say the results are less than significance. The problem lies somewhere in the planning process which is a bit outside the management frame and which has made the management non-existing or non-responsive at the policy and programme levels and projects are somewhat detached. Given such a setting, international collaboration is indeed important, but does it go beyond the support boundaries and get internalized in the process. To illustrate: 1) Committed to improve the sustainable livelihoods of mountain peoples in the extended Himalayan region international independent

mountain learning and knowledge centre known as International Centre for Integrated Mountain Development (ICIMOD) is in operation since 1983. The knowledge transformation and building of the same in the planning and implementation process in Nepal is rather limited. 2) Born out of Paris Declaration 2005 as one of the measure of aid effectiveness Managing for development results (MfDR) has been spearheaded in five ministries (Ministry of Education, Ministry of Physical Planning and Works, Ministry of Local Development, Ministry of Agriculture and Cooperatives and Ministry of Energy) spanning six Departments and three agencies through ADB technical assistance GoN to internalize the process. The project is over but the concept is still short of getting internalized across government functioning (NPC, Training Manual on MfDR).

Way Forward

In isolation every economy has been doing something, including Nepal. There is much to be done within the sectors and beyond across policy, programme, and activity fronts on results based mode. Green economy should not limit to the green sector, it is about greening all the sectors. As such the holistic consideration in respect of strategic thrust, sectoral integration, management dynamism and institutional and policy regime need to be appropriately embodied in a green economic framework. Much needs to be defined, put to shape, planned and made responsive for the defined outcomes. Equally important are oversight mechanisms, monitoring, and issue based deliberations. There are three important questions. Have we internalized the concept? Should we not start defining the outcomes (time specific and objectively) from now? Are we set to act upon in a systemic approach?

National Conference on Green Economy and Its impact on Local Infrastructure Development held on June 5, 212 at Kathmandu adopted the following resolutions:

- Need to adopt “Planning and design with nature principles /sustainable development/green economy and climate response strategy”
- Prioritize Government investment in areas that promote natural capital.

- Provide adequate and quality rural infrastructures by promoting frequent and reliable services
- Increase investment in the maintenance and upgrading of local infrastructure development to develop more sustainable development
- Further improve the integration of economic, social and environmental concerns in planning and implementation of local infrastructure development policies.
- Need to adopt ten principal of Green economy in local infrastructure development
- Priority should be given in more sustainable solid waste management in local level
- More sustainable development is possible only considering social, cultural, environment and effective economic development.
- Application of prevailing rules and regulation is less used so it is highly essential to apply effectively
- Environmental Impact assessment (EIA/IEE) need to implement strictly as per Environment Protection Act (EPA)

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