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**GREENING RURAL DEVELOPMENT IN INDIA - A STUDY OF SPECIFIC  
GOVERNMENT SCHEMES**

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*Abstract*

*The economic growth of a country primarily depends on natural resources being managed on a sustainable basis. Greening rural development can stimulate rural economies, create jobs and help maintain critical ecosystem services and strengthen and strengthen climate resilience of the rural poor. Conversely, environmental challenges can limit the attainment of development goals. To regenerating natural resources and conserving ecosystems, the Ministry of Rural Development requested UNDP to assess the potential of these schemes to deliver green results. The paper indicates 'green' outcomes for major RD schemes, reviews the plan and confirmation from the field to highlight budding green results and recommends steps to improve green results.*

*In the context of this report, greening rural development refers to five broad green outcomes:*

- Improved natural resource conservation,*
- Increased efficiency of resource use,*
- Reduced negative environmental impacts,*
- Strengthened climate resilience of communities and contribution to climate change mitigation.*

*Key words: - Sustainable Development, Green Growth, Rural Development*

## **I. INTRODUCTION**

The term 'Sustainable Development' is a broad concept and there are a number of definitions available. The World Commission on Environment and Development (the Brundtland Commission, 1987) defines it as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". This definition is perhaps the easiest and most acceptable one. Sustainable development recognizes the interdependence of environmental, social and economic systems. It promotes equality and justice through people empowerment. In the political aspect it demands broad based participation and democratic processes. The answer to the question that why sustainable



development is important lies in the fact that by providing a new framework for decision-making, issues are considered from a multi-dimensional point of view. Success is measured not simply by the profit generated, but by the triple bottom line of economic prosperity, environmental stewardship and corporate social responsibility. Besides simply making good common sense, adhering to the principles of sustainable development fulfills compelling business needs as well, including reducing costs and liabilities, enhancing brand image and reputation, increasing customer loyalty, encouraging innovation and stimulating growth and strengthening with our communities (www.dow.com 1995-2004). The principles of sustainable development include fulfillment of human needs for peace, clean air and water, food, shelter, education and useful and satisfying employment. Environmental issues are important, such as ecological integrity through careful stewardship, reduction of wastes, and protection of diverse species and ecological systems. Sustainable development focuses on local people through public involvement in the definition and development of local solutions to environmental and development problems. Achievement of equity is attained through the fairest possible sharing of limited resources among contemporaries and between our generation and that of our descendants.

In the literature there are two concepts of sustainability: weak sustainability and strong sustainability. However, operationally it is the concept of weak sustainability that is used. It is not inconsistent with the experience of evolutionary process of human society. Sustainable development requires the maintenance of natural capital. By natural capital we mean natural resource stocks, land and ecosystem. If any pattern of development continues to deplete natural capital, then that development is not sustainable. The question that arises here is whether natural capital can be substituted by other forms of capital or not. The two conflicting views regarding the degree of substitutability between natural capital and other forms of capital are the weak and strong sustainability issues. Weak sustainability allows depletion of natural capital stock, so long as this depletion is offset by increase in the stock of other forms of capital. It assumes that all forms of capital are substitutes of one another strong sustainability, on the other hand, requires all forms of natural capital to be maintained independently of one another as it assumes that different forms of capital are complimentary to each other.

### **Sustainable Development in India**

India is home to almost one-fifth of the world's population, living on just over one fiftieth of its landmass. By 2025, it is forecast to be the world's third largest economy. Such growth should bring hundreds of millions out of poverty – certainly a cause for celebration. However, India also faces very practical environmental sustainability challenges in relation to its growth aspiration. For example, to meet forecast energy demand by 2030, India will need to expand its power generating capacity by 400 GW (equal to the current combined total power generation of Japan, South Korea and Australia), and ensure widespread access to cheap, clean energy. As the world's second largest producer of cotton, India will also need to ensure sustainable and improved livelihoods for its farmers (currently 58% of the population), whilst managing safe water withdrawals, which are currently 25% over sustainable recharge limits. These are just two



snapshots of some of India's environmental sustainability challenges, notwithstanding other urbanization, industrialization and transportation issues.

With India's growing economic power, Indian business leaders now also have great potential to influence sustainability in the global market. For example, India is the world's biggest importer of palm oil, used in food preparation both for domestic consumption and export. Ninety-eight per cent of Indian palm oil imports come from Indonesia and Malaysia, where palm oil farming is a major factor in deforestation. If Indian businesses were to promote sustainable palm oil sourcing, we can expect significant environmental implications at a global level. The business entrepreneurialism and social innovation that has driven the last decade of India's economic expansion is a rich resource. Could these energies be applied in new ways to help drive a step change in resource-use efficiency for economic growth? As the world's largest democracy, and a well-recognized centre for business innovation and social entrepreneurialism, Indian insight on how to deliver practical models for environmentally-sustainable economic growth at scale, could prove to be its most valuable export yet. With the Rio+20 meeting in 2012 set to decide goals for sustainable development for the coming decades, now is the time for Indian green business innovation and experiences to be shared on a global basis.

Each year until 2030, at least 70 million people will be entering the middle class (in purchasing power parity terms). If this projection plays out, almost two billion people will have joined the global middle class by 2030, bringing almost 80% of the world's population into a middle income bracket. Short term volatility of key commodity prices remains high. In July 2011 cotton prices were the highest they have been in around 300 years, at 290% higher than those of the March 2009 mid-recession low. This volatility presents uncertainty and rising costs for companies and governments alike.

## II. REVIEW OF LITERATURE

**Soni and Kakade (1999)** have described indicators of sustainable rural development which are protection and development of village commons, sale of productive animals and percentage of underprivileged people involved in the development program to monitor ecological, economic and social dimensions.

**Wickramasingh(1999)** introduced a measure of sustainability of rural development termed as index of habitat security based on farmers self analysis in Kelegama district of Sri Lanka. He has also studied in the context of Sri Lanka that literacy level and life expectancy have increased and level of infant and maternal mortality has decreased.

**World Economic Forum report (2011)** of sustainable growth summit states that how businesses can play a critical role in sustainability and how, with the dynamism and vitality of businesses in India, it is possible to achieve it. However, it needs to be clear why sustainability is important, and how businesses need to function hand-in-hand with civil society and government if it is to become a reality. The panel agreed that the government is often not quick enough to react to challenges, and that there is a new role for business to play in India.



**Ministry of Environment and Forests, Government of India report (2011)** highlights some innovative approaches that play an important role in India's efforts at achieving sustainable development. These include the use of economic instruments and eco-labeling to influence improved environmental behavior and clean energy change.

**UNDP India report (2012)** highlights that the Ministry of Rural Development's Schemes have an immense potential to contribute to the goal of sustainable poverty reduction and efficient use of natural resources, including improved land use planning and management practices. The report recommends measures needed to achieve green, including measuring and tracking, the use incentives and the building of capacities. It also contains a number of case studies showing how green results can be achieved.<sup>2</sup>

### **III. OBJECTIVE OF STUDY**

The main objective of the study is to examine the potential of rural development programs to provide environmental benefits that further their developmental goals and recommend specific and generic changes in their guidelines to achieve them.

#### **Data Collection**

The analysis has been done with the help Secondary data (from internet site and journals). The data is collected mainly from websites, annual reports, UNDP reports, Ministry of Environment and Forests, Government of India report.

#### **Rural Development Schemes in India**

The Ministry of Rural Development (MRD) spearheads the country's efforts to reduce poverty in the rural areas. Until recently, its work was divided among three departments: (i) Department of Rural Development (ii) Department of Land Resources (iii) Department of Drinking Water & Sanitation. In July 2011, the Department of Drinking & Sanitation was converted into a separate ministry, the Ministry of Drinking Water & Sanitation. The MRD website states, "This Ministry's main objective is to alleviate rural poverty and ensure improved quality of life for the rural population especially those below the poverty line."<sup>3</sup>Towards this end, it sponsors scores of development programs, big and small, influencing 'various spheres of rural life and activities, from income generation to environmental replenishment.' A small number of programs of the two ministries - MRD and MDWS, however, account for a substantial share of the expenditure on rural development. Primarily, these include the following:

#### **Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)**

MGNREGS is the largest rural development program in the country in terms of its reach and budget. A vast majority of MGNREGS works are 'green' in nature given their focus on the regeneration and conservation of natural resources and ecosystems and their main emphasis being on land (farmlands, forests, pastures and waste lands) and water resources. In fact, since



the initiation of MGNREGS more than 50 percent projects are related to water through implementation of water conservation works, flood control, irrigation, drought proofing, renovation of traditional water bodies and micro-irrigation. Their main developmental consequences are higher crop productivities and production. Drought proofing activities, floods management works and vegetation belts planted in the coastal areas also reduce the potential damage due to extreme weather events.

There is ample evidence that even basic MGNREGS works have led to the regeneration of degraded soil, land (farms, forests and pastures) and water resources and the conservation of the assets created. Their green outcomes include reducing soil erosion, improving soil fertility, increasing biodiversity, augmentation of surface and ground water resources for irrigation and household use and increasing carbon sequestration. A number of such outcomes have been highlighted in many states like Karnataka, Madhya Pradesh, Andhra Pradesh, Rajasthan, Kerala and Maharashtra.

#### **National Rural Livelihoods Mission (NRLM)**

The basic objective of the National Rural Livelihood Mission is to create efficient and effective institutional platforms of the rural poor that enable them to increase their household incomes through sustainable livelihood enhancements and improved access to financial services. It plans to cover 70 million households living below the poverty line (BPL) in rural India. (Budgetary allocation in 2012-13: INR 3,563 billion) The NRLM promotes the formation of self-help institutions of the poor - SHGs and their federations and builds their capacities to improve their livelihoods on a sustainable basis. The Mission has a strong sustainability orientation as reflected in the Mission Framework: (i) institutional sustainability by providing resources for reducing the financial vulnerabilities of the livelihoods institutions of the poor and (ii) environmental sustainability through a specific sub component program, the Mahila Kisan Sashaktikaran Pariyojana (MKSP) and a sustainable livelihoods innovations fund that reaches out to tribal communities, forest produce collectors, coastal communities, ecologically fragile areas and the commons.

#### **Integrated Watershed Development Programme (IWDP)**

The main objectives of the IWDP are to restore ecological balance in a watershed by harnessing, conserving and developing degraded natural resources such as soil, water and vegetative cover, and thereby, help provide sustainable livelihoods to the local people. (Budgetary allocation in 2012-13: INR 2,744 billion) The IWDP is inherently a green rural development scheme. The activities proposed by its guidelines are very comprehensive and environment-friendly, though in practice the focus remains largely on regenerating land and water resources. Greater attention is paid to enhancing productivities, though often without adequate concern for sustainability. Fortunately, in most cases, resources are first regenerated or augmented before their exploitation in the project. Hence, the challenge of greening IWDP is to make the scheme greener. A shift is required in the scheme's emphasis from quantitative to qualitative aspects - from regenerating or augmenting resources to their sustainable use. Thus, the scheme activities



must shift focus from soil conservation to soil fertility enhancement, from augmenting water resources to their conservation and sustainable use, from merely planting saplings to their survival rates and species diversity and from unsustainable high external input agriculture to low external inputs sustainable agriculture. Key aspects of a sustainable production system include a nutrient/pest management approach that increases the use of organic or biological inputs, cultivation practices such as minimum tillage, soil mulching, ploughing back crop residue, crop rotation and companion cropping, seed banks, integration of livestock husbandry with agriculture, and post harvest storage and processing. These shifts will make the farms more productive, will sustain the natural resource base, increase biodiversity on the commons and the farms, and reduce ecological vulnerabilities and pollution due to agricultural chemicals. All of this entails a revision of the scheme objectives, activities and desired results. As also redesigning the capacity building processes for stakeholders' groups to include greener watershed approaches that are reflected in the new project plans or detailed project reports. The new green results for IWDP will need to include (i) ecological and economic aspects (ii) quality of life for the watershed communities (iii) institutions and their capabilities (iv) planning and implementation and (v) convergence of resources.<sup>4</sup>

#### **Indira Awaas Yojana (IAY)**

This scheme provides financial grants to rural BPL families and the next of- kin of defence personnel killed in action for construction of houses and up gradation of existing unserviceable kutcha houses. (Budgetary allocation in 2012-13: INR 9,966 billion)

#### **National Rural Drinking Water Programme (NRDWP)**

The goal of this scheme is to provide adequate safe water for domestic uses on a sustainable basis. (Budgetary allocation in 2012-13: INR 10,500 billion) Most rural development water supply systems depend on ground water sources at a time when there are heavy competing demands from industry and agriculture. Despite impressive figures of coverage of habitations with water supply systems, slippages continue to dog the sector due to drying up of sources, reduction in discharge or contamination. At the same time, the Working Group on Drinking Water and Sanitation for the 12th Plan has recommended piped water supply, preferably with house connections to 55 percent rural households up from 35 percent at present.<sup>5</sup>

#### **Nirmal Bharat Abhiyan (NBA)**

The Nirmal Bharat Abhiyan is an inherently green scheme as its activities improve the quality of the rural environment. Like rural water supply, however, rural sanitation has been implemented largely as an engineering exercise aimed at improving rural sanitation and hygiene conditions through the end of open defecation. Relatively very little attention has been paid to other aspects, especially solid and liquid waste management. In the green context, the time has come to accord a higher priority to the latter. A campaign for greening of the NBA is required to change public perceptions, attitude and behavior for rural sanitation. So far, IEC materials have focused on the intangible benefits of sanitation, i.e., the dignity and status of



women. New IEC materials must also promote tangible benefits by highlighting the impact of sanitation on health and livelihoods, e.g., how improved sanitation and hygienic drastically reduce the number of lost livelihood days. The campaign must aim to demystify the value of feces and urine as replacements for chemical fertilizers and the resultant cost savings. In fact, toilets can be projected as a way to harvest nutrients from human excreta and urine with a known payback period.

#### **IV. RECOMMENDATIONS**

##### **Green Guidelines**

The green orientation of the schemes will entail specifying green principles, goals, actions, processes, desired outputs and outcomes, monitoring and evaluation procedures and systems in the scheme guidelines. Unless the green commitment and content are specified in the guidelines, implementation is likely to depend on individual initiative rather than be systemic. Hence, the Ministry may consider initiating a process of (i) identifying a set of key green outcomes that are most likely to succeed and will have the broadest impacts and then (ii) adding an annexure on Green Guidelines to the Scheme Guidelines which will detail the procedure and propose supporting actions towards the desired results and outcomes. The hallmark of the Green Guidelines will be (i) a set of non-negotiable principles and goals that must be met in each state (ii) flexibility beyond the non-negotiable so that people and institutions are encouraged to adopt creative and innovative activities that will later expand the Green Guidelines.<sup>6</sup>

##### **Innovations Portal**

An Innovations Portal for greening rural development may be established with the objective to (i) encourage people and institutions to develop and publicize innovative ideas, activities, technologies and processes adopted to promote and expand the greening activities and (ii) provide information and news about the progress of the Green Guidelines. The Innovations Portal will register demand for green solutions to specific problems; invite technology developers and social processes innovators to develop solutions; serve as a national data bank for green technologies and processes and publicize success stories that have been verified and reported by the support organizations.

##### **Green Innovation Fund**

A Green Innovation Fund may be established to promote and incentivize the development and extension of green technologies and social processes. Priority may be given to fund action research proposals that seek to experiment with or replicate innovative ideas in response to demands for solutions to problems emerging in the field.

##### **Green Cell at the Ministry of Rural Development**

A dedicated Green Cell, adequately empowered, should be set up within the Ministry for guiding the greening agenda and for the implementation of Green Guidelines in the country. It will submit an annual Green Report to the Minister for Rural Development summarizing the



major green achievements and their outcomes during the year. Its specific functions will include:

- Finalization of the Green Guidelines for each scheme.<sup>7</sup>
- Formation of a network of support organizations dedicated to facilitating the achievement of the Green Guidelines.
- Managing the Innovations Portal and the Green Innovations Fund.
- Developing a capacity development programme for local communities, panchayats and field staff at state and district levels to implement and monitor green results.
- Establishing indicators for monitoring and evaluation of the different schemes and their projects and evolving green indices for measuring the impact of the scheme/projects on the environment. Further, discussion on the green indices is provided in annexure 2 along with the identification of measurable indicators of green impacts and initial methods for calculating green indices for MGNREGS, NBA and IAY which can be used as a basis for developing the indices for various schemes. Facilitating evaluation of the greening results across the schemes by commissioning select institutions for conducting monitoring and evaluation exercises.
- Recommending activities and procedures to states from time-to-time based on emerging experiences.
- Establishing a suitable Green Awards scheme to recognize the outstanding performance in achieving green results across the schemes.
- Production of the Annual Green Report.

## V. CONCLUSION

Sustainable use of environmental resources can contribute to growth and stability. Global debates on green growth draw attention to the contribution of environmental resources to increasing the productivity of investment and to the effectiveness and longevity of infrastructural investment. The elasticity of substitution between natural capital and other inputs is found to be low, which implies that it may be possible to compensate for the loss of natural capital with other capital inputs in the short run but not in the long run. Moreover, while direct economic benefits from environmental policies will accrue mainly over the long term, green policies can also contribute to short-term economic growth. This strengthens the case for paying attention to environmental sustainability.

In India, the Ministry of Rural Development (MORD) has been implementing a wide spectrum of programmes which are aimed at poverty alleviation, employment generation, infrastructure development and social security. MoRD programmes have significant potential for green results, both at the local and global levels. In this light, this Report on "Greening Rural Development in India" is an attempt to support the systematic internalization of "greening objectives" across the various rural development programmes in India. The Report aims to enhance the understanding of the concept of greening specific to each of the major Rural Development schemes, document good practices where incremental green results have been





achieved, and provide recommendations on what the schemes need to do differently to achieve incremental green results.

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