

# Environmental Sustainability for Rural Development in India

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**Abstract**— Sustainable development is a debatable word today used in all development strategies and policy formulations.. The growth and development strategy must be people oriented, it must promote the living standard, reduce the gap between the rich and the poor and most importantly it should keep the environment intact otherwise the development is not going to sustain. The poor human life is more dependent on the environmental resources. Thus the development policy must keep strict eye on agriculture which is the mainstay of 75% people, human development and environment.

In the light of the above backdrop , this paper made an attempt to examine the potential of rural development programmes to provide environmental benefits and also to Review six major schemes of rural development to understand their environmental impacts and highlight their potential to bring about incremental green benefits

**Keywords**— Environment, Sustainability, Rural Development, Rural Natural Resources.

## I. INTRODUCTION

Planning Commission (2011): Faster, Sustainable and More Inclusive Growth, An Approach to the Twelfth Five Year Plan (2012-17), New Delhi, pg 10 3 United Nations Secretary-General’s High-level Panel on Global Sustainability (2012). Resilient People, Resilient Planet: A future worth choosing. New York: United Nations, pg 21 2 Greening Rural Development in India forest management, reduction of freshwater availability and an extreme biodiversity loss rate does not leave enough time to the environment for recovery and regeneration

‘Greening RD’ refers to conservation and regeneration of ecosystems and the natural resource base. ‘Greening’ can stimulate rural economies, create jobs and help maintain critical ecosystem services and strengthen climate resilience of the rural poor who are amongst the most vulnerable to the impacts of climate change and natural resources degradation. Ecosystem goods and services are crucial to ensuring viability of agriculture, livestock and non-timber forest based livelihoods. Besides, they are key to safe drinking water, health care, shelter and more. 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. programmes have significant potential for green results, both at the local and global levels

Relevance of Green Outcomes for India’s National Priorities The rationale for greening rural development emerges from the Twelfth Five-Year Plan (2012-17) strategy of ‘faster, sustainable and more inclusive growth’ for poverty alleviation and mandate to reduce rural poverty and ensure a better quality of life especially for the poor. There are four major ways in which greening rural development schemes can contribute to the 12th Plan priorities: Contributions to inclusive growth A critical element in meeting the planned target of nine percent annual GDP growth is to sustain an annual growth rate of four percent in the agricultural sector. This is important for ensuring that growth is more inclusive. Although agriculture contributes to only 14 percent of India’s GDP, it is the main source of income for 58 percent of the rural population<sup>19</sup> particularly small farmers with limited opportunities for migrating to the modern growth sectors.

Agriculture also has a strong influence on food security and the prices of food, and therefore, on monetary wages. Further, agriculture has a very strong multiplier effect because of its impact on rural incomes and demand, and its supply of raw materials to several industrial sectors.

While there has been a marked revival in agricultural growth in India since 2004, for the 11th Five-Year Plan as a whole, the growth rate is 3.6 percent. This is lower than the target for the 12th Plan. The year-to-year variability of agricultural growth has been declining, both on irrigated and rainfed land. Yet, the importance of climate-resilient domestic production of food grains has been highlighted by the recent spikes in global food grain prices. The impact of this variability goes further, with a one percent decline in agricultural growth pulling back industrial growth and GDP growth by 0.52 percent.<sup>20</sup> A vision document prepared by the Central Research Institute for Dryland Agriculture estimates that there is a large scope for improving productivity in rainfed agriculture ranging from 200 percent to 500 percent depending on the crop.<sup>21</sup> It is further estimated that rainfed agriculture requires an investment of only INR 2.7 billion for each additional million tons of food grain production. The comparative investment for an additional million tons of irrigated food grain production was estimated at INR 62.4 billion in 2010-2011. Rain fed agriculture's output is therefore essential for achieving higher and sustained overall growth in agriculture.

## **II. METHODS AND MATERIALS**

The paper is mainly a descriptive upshot based on several secondary data. Data sources include – various published articles on social and environmental in reputed journals, magazines, books and online information on research conducted on the social and environmental disclosure. It also evident that green growth strategies have been envisaged in Rural development policies and programmes in the country.

### **1 Environmental Approaches to Rural development**

There is a tremendous potential for greening across the six major rural development schemes and that many potential green activities also have positive development impacts, particularly on livelihoods. Some have a broad range of impacts across resources, geographies and communities

Rural development schemes such as MGREGS, IWDP and NRLM can contribute substantially to sustaining agricultural growth and reducing its variability in rainfed areas. Green activities in programmes such as MGNREGS, NRLM and IWDP target the private land holdings of the poor besides common lands. Small-scale

water and soil conservation techniques that are applicable at the field level are adopted more easily by poor households. The diversion of even a small amount of water, e.g., even the grey water from the kitchen for a small domestic kitchen garden can make a significant difference to household nutrition.<sup>23</sup> In rural areas, most people depend on their immediate environment for their daily survival - food water, fodder firewood and shelter. N. S. Jodha's pioneering research a few decades ago showed that the rural poor in particular were heavily dependent on common property resources.<sup>24</sup> This is true even today.<sup>25</sup> Rural development schemes aimed at regenerating and conserving the rural natural resource base improve the well-being of the rural poor in several ways. A major role that public investment plays in a backward economy is to stimulate growth by encouraging and "crowding in" more private investment. Rural development schemes have the potential to play this role Greening Rural Development in India in India. Greening rural development can stimulate local growth by providing opportunities for private investment in green businesses: renewable energy generation, organic input chains and advisory services, green product supply chains, production of environment-friendly construction materials (flyash and rice husk ash cement, flyash and limestone bricks, Ferro cement products and filler slabs for roofs). Rural development schemes can help widely disseminate information on green technologies and give an impetus to environment friendly innovations in agriculture, processing, housing and construction of rural roads. Rural development schemes such as the NRLM and IWDP could include 'new style' interventions to improve the productivity and competitiveness of selected 'green' enterprises.

### **2 Sustainability of Rural Natural Resources**

Environmental sustainability of economic growth The Planning Commission notes in its Approach Paper to the 12th Five-year Plan that "economic development will be sustainable only if it is pursued in a manner which protects the environment. With acceleration of economic growth, these pressures are expected to intensify, and we therefore, need to pay greater attention to the management of water, forests and land<sup>27</sup>. The State of India's Environment Report India 2009 supports this by observing that "Land degradation is taking place through natural and man-made processes, resulting in the loss of invaluable nutrients and lower food grain production. Loss of biodiversity is of great concern since many plant and animal species are being threatened. The issue of availability of water, which is going to be one of the critical problems in the coming decades, needs to be addressed on priority basis".<sup>28</sup> The 2005 Millennium Ecosystem Assessment estimated that 15 out of 24 of major global ecosystem services have already

been degraded. If current environmental challenges intensify, the global Human Development Index in 2050 is likely to be 8 percent lower than in the base case and 12 percent lower for south Asia and subSaharan Africa.<sup>29</sup> The risks include impact on production in the agriculture and allied sectors, stress induced by rising water scarcity and deteriorating resource quality. Rural development schemes can contribute significantly to conserving water resources, soil quality and biodiversity.

The Report of the Working Group on Sustainable Groundwater Management submitted to the Planning Commission for the 12th Plan quoting the Report of the Expert Group on Groundwater Management and Ownership of the Planning Commission (2007), states that, “in 2004, 28% of India’s blocks were showing alarmingly high levels of groundwater use. A recent assessment by NASA showed that during 2002 to 2008, India lost about 109 km<sup>3</sup> of water leading to a decline in water table to the extent of 0.33 metres per annum.” With 80 percent of drinking water for rural India and 60 percent of irrigation water sourced from groundwater aquifers, this depletion is alarming. Rural development schemes such as MGNREGS, IWDP and the source sustainability component of NRDWP can help arrest and even reverse the decline in groundwater levels in critical regions. This is particularly useful for hard-rock regions where groundwater depletion is at its most acute. Soil is a primary resource for generation of most renewable natural raw materials for production systems. But a study conducted by the Central Soil Water Conservation Research and Training Institute (CSWCRTI) in Dehradun estimates that India loses about one millimeter of top soil every year due to soil erosion.<sup>30</sup> This amounts to an annual loss of 16.4 tons/ha or a total loss of 5,334 million tons annually. Soil contains enormous quantities of carbon in the form of organic matter. Soil carbon provides nutrients for plant growth. There is an estimated gap of about 10 million tons of nutrients (NPK), to begin with, between the absorption of nutrients by crops. Greening Rural Development in India addition through fertilizers.<sup>31</sup> Soil erosion depletes soil fertility and adds to global warming. Soil conservation works are a large part of MGNREGS and IWDP activities. Soil fertility enhancement is a key objective of the MKSP and sustainable agriculture components of NRLM. Together, these schemes can contribute substantially to addressing the issue of land degradation. Biodiversity is essential for the sustenance of all living systems, i.e., it is essential for nature itself. India’s phenomenal biodiversity is a store house of biological resources on which several hundred million people depend on for health care, scarcity food,

supplementary nutrition, fodder, bio-pesticides, fuel, housing and other uses. MGNREGS,

**Integrated Watershed Development Programme (IWDP)** Specify environmentally sustainable resource management and production systems in the work plan, with convergent support from other schemes, and develop capacities of community institutions to adopt the systems.

**National Rural Drinking Water Programme (NRDP)** which Ensure source sustainability is built into the Resource Development Proposals from Gram Panchayats while sanctioning projects and also Institutionalize participatory water quality monitoring and reporting by gram panchayats

Indira Awas Yojana Supports district level Building Resource Centres to promote green technologies and designs; link financial support to quantity and efficacy of green services provided. A region-specific Handbooks of Green Building Designs including green construction materials that cover the life cycle of an IAY Indira Awas Yojana house have been implemented There is a Provision additional subsidy (20 percent) to families building housing units that score above threshold on the green index.

**Nirmal Bharat Abhiyan (NBA)** under this programme Preparation of inventory of solid and liquid waste management technologies and disseminate widely. Launch a campaign for highlighting the tangible benefits of rural sanitation on health and livelihoods

### III. SUMMING UP

It is concluded that various strategies for inclusive rural development embodying the principles of environmental sustainability have been proved beneficial as **region, area and target group specific** there is a need to take up measures to achieve green, including measuring and tracking, the use incentives and the building of capacities. A few case studies proved that how green results can be achieved. Further it also believed that, Natural resources is an important factor to escape chronic poverty. In the present context poor may be seen a kind of continuum rather than strictly a separate category. Uncertainly asset less ness and adverse incorporation of government funds for schemes and rural development programmes pressurized for poverty enhancement. Further approaches, policy formulation to combat rural poverty must focus on systematic approaches to build interlink ages across the natural resources management and rural development programmes in the planning agenda.

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