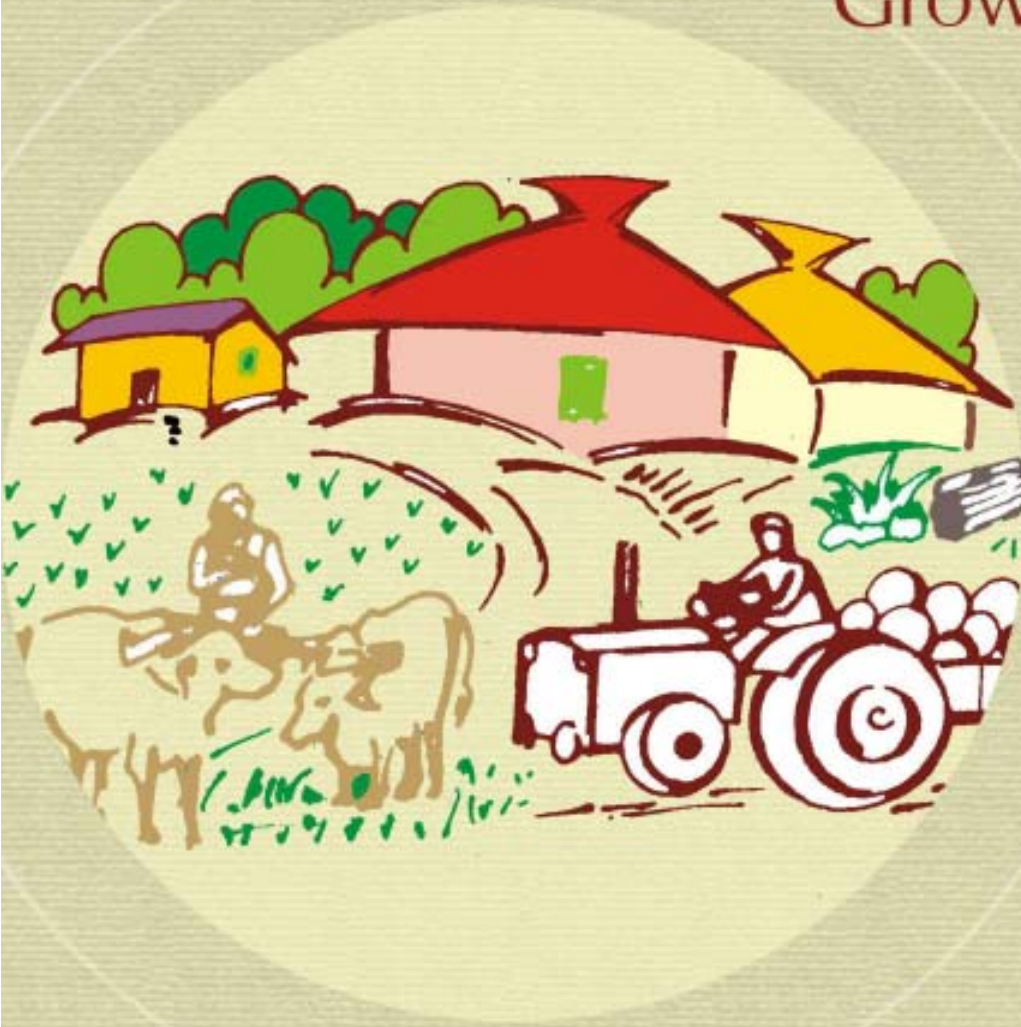


# Bharat Nirman Plus: Unlocking Rural India's Growth Potential

A Report



Confederation of Indian Industry

May 2007

Confederation of Indian Industry

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# Preface

The Bharat Nirman Programme is a significant milestone in India's journey of economic reforms. By building rural infrastructure, it aims to create an enabling environment for rural India to realise its true potential.

The Bharat Nirman Programme is in line with CII's focus on Inclusive Growth. The Report, "Bharat Nirman Plus – Unlocking Rural India's Growth Potential" is an effort by CII to determine how this significant initiative, and other rural development efforts, could be leveraged to foster and permeate economic growth into and for rural India. The study reveals that though infrastructure is the key for development, creation of it alone will not be sufficient. It needs to be supplemented with the development of "Employment Engines" that harness resident skills and assets in rural areas. Such a combined effort, Bharat Nirman Plus is imperative to move towards rural prosperity. I sincerely believe the insights and recommendations outlined in this Report have the potential to help unlock rural India's growth potential in an accelerated manner.

I would like to thank, most profusely, McKinsey & Company for conducting this study and for preparing this Report. Particularly, I would like to thank Adil Zainulbhai, Shirish Sankhe and Ireena Vittal for providing overall direction to the report. Amrita Dhar, Amit Khera, Vibhat Nair, Mrinalini Mirchandani, Siddharth Tata and Ambika Walia for providing expertise in specific areas and Manasi Matthai, Sunali Rohra and Jeanne Subramaniam for their editorial and external relations support.

I take this opportunity to also thank the officials in the Government of India and CII member companies who extended their support to this study and contributed to this effort.

Y C Deveshwar  
Past President, CII  
Chairman, ITC Ltd.



# Introduction

The fast pace of India's economic growth over the last few years has been noticed and commended by many all over the world. But satisfaction on this count is shadowed by the vast income disparities and continuing high levels of poverty in rural India. Although rural India accounts for 70 per cent of India's population, and about 50 per cent of its GDP<sup>1</sup>, rural average per capita income is 56 per cent lower than the urban average. Almost half of rural India lives in deprivation, with no access to essentials such as roads, power and water. Unemployment is rife.

Evidence suggests that at this stage in the growth cycle of a developing economy, equitable growth is the single most critical challenge it faces. Countries that have successfully resolved this problem have enjoyed sustainable growth over decades.

The Indian government's Bharat Nirman programme is one of several efforts to ensure equitable growth in this country. The programme's focus on building basic infrastructure in rural India will do much to reduce rural poverty. But it does not address some of the structural causes of rural poverty in India. We believe that supplementing Bharat Nirman by creating employment engines for the rural economy—or *Bharat Nirman Plus*—is essential to reducing rural poverty. This could create employment for about 30 million to 40 million people in rural areas and increase rural incomes by 1 per cent a year in the span of five years. This would amount to a 25 to 30 per cent increase in income growth over the current rate of less than 4 per cent annually. In summary:

- Overcoming the structural causes of rural poverty in India calls for:
  - A well executed Bharat Nirman programme to build essential infrastructure such as roads, power, irrigation, housing, telecommunications, and drinking water.

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<sup>1</sup> Agriculture contributes 20 per cent with rural manufacturing and services making up the remaining 30 per cent.

- The creation of employment engines—what we call *Bharat Nirman Plus*—since job creation in rural areas is another essential component of rural development.
- Making Bharat Nirman Plus succeed requires:
  - Creating a bedrock for success including (1) finding models that can be replicated across India’s vast and diverse rural sector and (2) ensuring the effectiveness and sustainability of these initiatives.
  - Concerted action by all key stakeholders to rejuvenate rural India and bridge India’s rural-urban divide. In particular, the active participation of rural communities will be crucial to achieving equitable and sustainable rural development.

The rest of this report describes the path to attaining this goal.

# Overcoming the structural causes of rural poverty in India

**B**harat Nirman, the rural infrastructure development programme led by the government of India, is a critical first step in poverty reduction as it will help build essential infrastructure such as roads, power, irrigation, housing, telecommunications, and drinking water. But rural poverty is caused by many factors, economic and social. The latter are beyond the scope of this report. To address the former more comprehensively, we need to recognise the different types of economic deprivation in rural India. In our analysis we identified at least four different Bharats, distinguished by the availability of basic infrastructure and level of economic activity.

At the top end of rural communities in India lie 67 “Urban Cousins” and 118 “Rural Economic Centres”, districts located close to major urban centres or with access to several urban economy-related pursuits (**Exhibit 1**).

These districts have an average per capita income of around Rs. 30,000 per annum (38 per cent more than the average national rural per capita income). At the other end is the “Deprived” segment, lacking basic infrastructure and earning just half the income of Urban Cousins and Rural Economic Centres. Clearly, adequate physical infrastructure is key to rural economic development.

A little, but not significantly, better off is 17 per cent of India’s rural population in the “Able” category, living in areas with power and roads. But the per capita income of this group is about Rs. 23,000 a year, i.e., about 22 per cent less than those of people living in a Rural Economic Centre. This analysis suggests that lifting rural India out of poverty requires a two-pronged approach: infrastructure building and job creation. A *well executed* Bharat Nirman can achieve the first, provided some issues in its execution are addressed. To address the second, we must create “employment engines” in rural India, that is, develop sectors with high employment potential and relatively low skill requirements.

## Exhibit 1

### STRONG CORRELATION BETWEEN INFRASTRUCTURE DEPRIVATION AND ECONOMIC DEPRIVATION



Source: Market Skyline 2006 – Indicus Analytics, Census of India 2001, pmgsy.gov.in, McKinsey analysis

## A WELL EXECUTED BHARAT NIRMAN







The Bharat Nirman programme focuses on six areas—roads, power, drinking water, housing, telecom and irrigation—and is expected to require investments of Rs. 174,000 crore by 2009 (**Exhibit 2**). Its objectives are laudable: once achieved, the programme will ensure basic infrastructure across Bharat.

But is the programme on track to achieving its objectives? We assessed all six areas covered by Bharat Nirman and did an in-depth study of two of the most challenging: power and irrigation (**Exhibit 3**). Our analysis suggests that in each, some major changes are essential for successful execution.

## Exhibit 2

### BHARAT NIRMAN IS AN AMBITIOUS INFRASTRUCTURE PROGRAMME

GOVT. OF INDIA PLAN

Infrastructure sector	Objective by 2009	Budget Rs. crores
1  Roads	<ul style="list-style-type: none"> <li>100% of habitations* to be connected by an all-weather road (1.5 lakh km of roads to be constructed; 1.9 lakh km of associated roads to be upgraded)</li> </ul>	48,000
2  Power	<ul style="list-style-type: none"> <li>Remaining 1.25 lakh villages to be electrified and 2.34 crore (Below Poverty Line) households to be connected</li> </ul>	16,255
3  Housing	<ul style="list-style-type: none"> <li>Construction of 60 lakh houses for the rural poor</li> </ul>	15,000
4  Telecom connectivity	<ul style="list-style-type: none"> <li>100% of villages (66,822 still pending) to get Village Public Telephones by November 2007</li> </ul>	450
5  Irrigation	<ul style="list-style-type: none"> <li>10 million hectares of irrigation potential to be created</li> </ul>	68,600
6  Drinking water supply	<ul style="list-style-type: none"> <li>100% habitations (55,067 still uncovered) to have a safe source of drinking water</li> <li>2.8 lakh habitations that have slipped back and 2.2 lakh habitations with water quality problems also to be addressed</li> </ul>	25,700







\* Habitations with over 500 people in hilly or tribal areas and 1,000 in other areas

Source: Bharat Nirman website, press articles

## Exhibit 3

### ASSESSMENT OF CHALLENGES IN IMPLEMENTING BHARAT NIRMAN

● Low  
● High

	Degree of challenge	Challenges
1  Roads	●	<ul style="list-style-type: none"> <li>Difficulty attracting quality construction contractors in certain states (e.g., J&amp;K, HP, Northeast)</li> <li>Lack of budget for longer term maintenance of rural roads</li> </ul>
2  Power	●	<ul style="list-style-type: none"> <li>Power deficits that can cut off power to rural India despite distribution infrastructure</li> <li>Challenges of efficient distribution and collection in rural areas given reduced willingness to pay due to poor quality power supply</li> </ul>
3  Housing	●	<ul style="list-style-type: none"> <li>Insufficient monitoring to ensure appropriate use of funds especially in beneficiary selection</li> </ul>
4  Telecom	●	<ul style="list-style-type: none"> <li>Increased teledensity (and not just VPT connectivity) should be the real aspiration*</li> </ul>
5  Irrigation	●	<ul style="list-style-type: none"> <li>Poor track record in implementation of major and medium irrigation projects</li> <li>Insufficient focus on localised solutions such as rainwater harvesting</li> <li>Insufficient incentive for more efficient water use</li> <li>Severe financial crisis of state irrigation departments</li> </ul>
6  Drinking water	●	<ul style="list-style-type: none"> <li>Lack of funds for (frequent) repair of hand-pumps and tube-wells</li> </ul>

\* Recent move by the government to enhance scope of USO fund is a step towards increasing rural teledensity

Source: McKinsey analysis

Below we describe the changes required in the power and irrigation projects, two major Bharat Nirman programmes.

## Power – Not just grid extension but also distributed generation

Bharat Nirman aims primarily to (a) extend the grid to the remaining 125,000 villages still unconnected and (b) provide electricity to 23 million households below the poverty line. However, merely extending the grid is unlikely to resolve the rural power shortage (as the Ministry of Power agrees). With a national peak power deficit of 14,000 MW, rural areas get little to no power during peak hours and in some cases are without power for 15 to 20 hours a day. The urban grid itself is short of supply and large transmission and distribution losses are incurred in supplying power to rural areas. Compounding the problem is the ineffectiveness of traditional collection mechanisms in (rural) India—one reason for the chronic insolvency of the state electricity boards.

The many years it takes to develop large power plants and the typical urban focus of these projects make it important to think of alternative sources of power for rural India. Decentralised Distributed Generation (DDG) is a transitional solution (for the next 10-15 years). DDG has the potential to supply 40,000 MW of power from just biomass, wind and small hydro sources already identified. Further, the economics are feasible in most cases (**Exhibit 4**).

### Exhibit 4

#### DDG IS ECONOMICALLY FEASIBLE

■ DDG options  
ESTIMATES

	Grid extension	Small hydro	Biomass	Diesel	Wind	Solar	
<b>Capital expenditure* (Rs lakh)</b>	6	15-17	20-22	10-12	18-20	90	
<b>Cost (Rs per KWh)</b>	<b>Variable</b>	3.5	0.25	1.5-2	8-9	0.1	0.25
	<b>Lifecycle</b>	4	1.9-2.9	2.6-3.2	8.6-10	5.8-8.7	17
<b>Power availability (hours per day)</b>	No power during peak hours; limited supply during off-peak hours	Up to 24 Depends on nature of water source	Not constrained	Not constrained	5-8 Will vary with seasons	5-6 Depends on battery backup	
<b>Comments</b>	Suitable for villages close (<5km) to the grid in power surplus states	Cost-effective for regions with steady water sources	Requires source of biomass	Fuel availability can be an issue	Effective only with grid back-up	Expensive solution; should be used only in remote areas	

- Hydro, biomass have low variable costs of power generation with reasonable capital costs and are best suited for both basic lighting and livelihood usage
- Cost of generation from diesel is high and may be suitable only for livelihood usage (and not basic lighting)
- Solar and wind are expensive options and should be used depending on availability of alternatives

\* Demand of about 36 KW assumed per village (240 households with 150W demand each)  
Source: Comparison of options for distributed generation in India, Energy Policy, Rangan Banerjee; interviews, McKinsey analysis

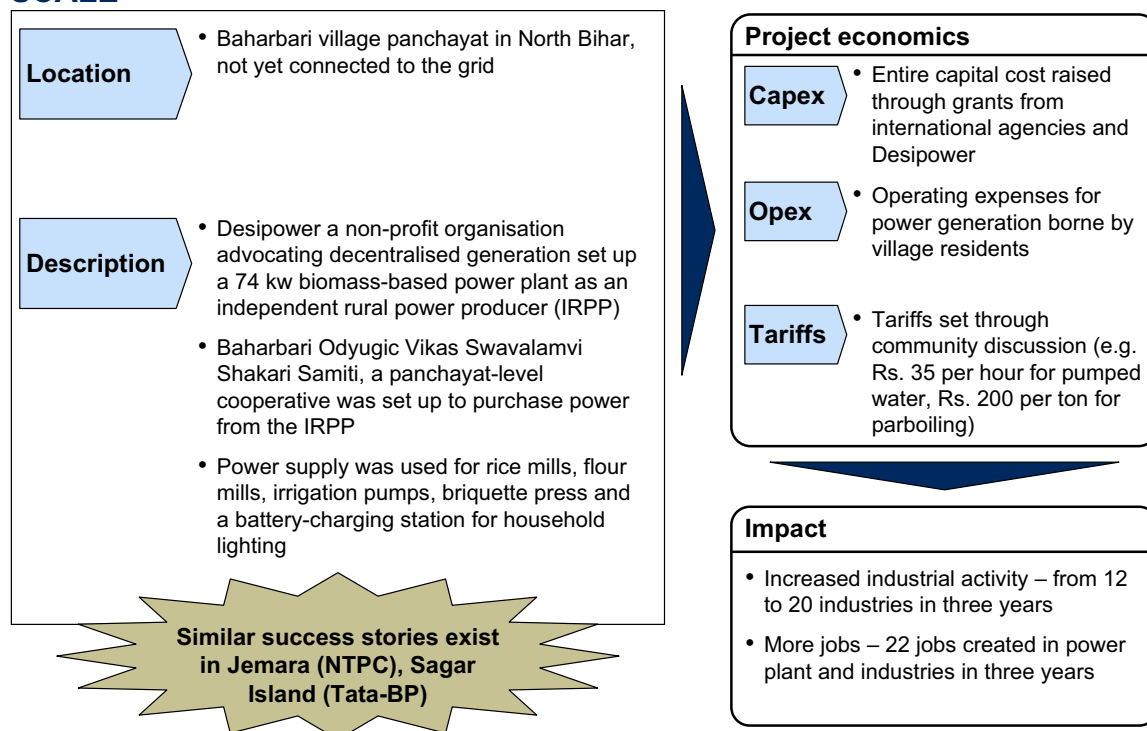
While there are many possible DDG models (including private ownership and maintenance), we believe that locally owned DDG projects have many advantages. A particular benefit is that rural communities take responsibility for pricing and collection, operations and maintenance of the plant. As a result, the DDG can operate as a self-sustaining unit, free from revenue subsidies.

Initially, however, capital subsidies are needed. The government will need to play a critical role in kick-starting DDG projects by providing capital subsidies, sometimes amounting to nearly 90 per cent of the initial cost<sup>2</sup>, as well as shaping regulation to support such efforts. Private players could offer innovation (low-cost plants, locally available fuel), technical and management support, and also help accelerate distributed generation by replicating successful models across the country. This will build a unique power business in rural India and could add up to 5000 MW of capacity in the next five years.

Examples of this approach are visible in the Desipower-led project in Baharbari, Bihar (**Exhibit 5**), and the NTPC-led project in Jemara, Chattisgarh, where the local community manages to sustain the operational cost of the plant.

## Exhibit 5

### PILOT DDG PROJECTS HAVE DEMONSTRATED SUCCESS ON A SMALL SCALE



Source: Desipower website and interviews

<sup>2</sup> As has been done in the Rajiv Gandhi Grameen Vidyutikaran Yojana for building the rural electricity distribution backbone.

The key is to develop three to four different versions of this model, depending upon local fuel availability, demand, and degree of organisation among villages in the area. The village would then sign up, the government provide subsidies, and the private player bring in the skills to build a workable model. This model could be quickly replicated in other areas.

Success will require a centralised organisation (e.g., Rural Electrification Corporation or REC) that will set up 5,000 MW of DDG capacity in the next five years, provide capital subsidies and frame supporting regulation (e.g., independent tariff setting by rural power producers, open access to the grid). State governments and panchayats will also need to create pull by demanding DDG units from REC in their districts/villages.

DDG capacity can be built in two ways. The first is top-down, where REC could identify DDG sites depending on potential (fuel availability), demand for power and degree of organisation of user or cooperative groups. These projects could then be auctioned on a minimum subsidy basis. The second approach is bottom-up: village groups demanding DDG units could be given capital subsidies, subject to certain criteria such as potential, demand, and degree of organisation. The REC could set aside 30 per cent of its funds to build DDG capacity. In this way, DDG could become an affordable and sustainable solution to rural India's power crisis.

## **Irrigation: Not just large and medium-sized dams but also local rain water harvesting and better water management**

Despite a healthy monsoon, an estimated 90 per cent of rain water in India makes its way to the seas. Our irrigation projects have not managed to harness this natural resource for several reasons, which could also impede the Bharat Nirman programme. The main problems with irrigation projects are: (a) poor record of on-time project completion within allocated budgets (b) poor utilisation of existing assets, e.g., incomplete or poorly maintained field channels and (c) wasteful use of water due to lack of incentives for efficient water use. Finally, many state irrigation departments are in a financial crisis and unable to recover even operating and maintenance costs, leave alone the capital cost of constructing projects.

Bharat Nirman aims to create 10 million hectares of irrigation capacity by 2009 through major, medium and minor projects complemented by groundwater development. For these initiatives to succeed, at least three major reforms are needed:

1. Setting up an independent Rural Water Authority (RWA) in each state that sets water prices without political interference and enforces legislation on water rights
2. Increasing participatory irrigation management through water-user associations
3. Creating financially independent irrigation agencies in each state with greater autonomy to implement projects.

These initiatives will need to be supplemented with a much higher emphasis on rainwater harvesting. Encouragingly, all states are beginning to recognise this. A lot of the work stemming from the recent National Rural Employment Guarantee Act was in the form of building ponds and water collecting bodies under various watershed development schemes. What needs to be added is a systematic approach to building local water resources in which: (a) village panchayats successfully identify and get access to land to create a water body (b) joint village-government partnerships are established to construct the water body and to formulate simple, transparent pricing policies for managing water usage.

Here too, given the multiple organisations involved in water development, a centralised agency, e.g., a National Water Corporation (NWC)<sup>3</sup> along the lines of Rural Electrification Corporation might accelerate this effort. The agency should be responsible for developing rainwater harvesting in India, with financial grants from the central government. The agency could also be a coordinating body among ministries controlling land in rural areas and have the power to allocate land for rainwater harvesting projects. Additionally, the NWC should administer the funding of irrigation projects. A centralised body that funds and monitors state irrigation projects will be the first step in ensuring fiscal and operational discipline, and tying water harvesting targets to irrigation funding.

Infrastructure projects will set the foundation for rural development; initiatives to boost rural per capita incomes will propel the growth needed to vitalise rural India.

## **BHARAT NIRMAN PLUS – EMPLOYMENT ENGINES FOR RURAL INDIA**

Stimulating the growth of the rural economy by focusing on a few areas that capitalise on resident skills and assets will expand rural incomes much faster than providing infrastructure alone. Two initiatives are required: (1) rejuvenating agri-business by creating a second green revolution; (2) creating non-farm employment engines including services for rural India.

### **A second green revolution: Expanding farming to more grains, “dollar” crops and livestock, and to wastelands**

There is a significant opportunity to increase rural incomes by augmenting total output (i.e., growing more of today’s main crops as well as “newer” crops and livestock) and enhancing the share of value to the farmer. In addition, farmers will garner more value from their crops over time as organised retail in urban India catalyses agri-chains.

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<sup>3</sup> The government has announced the creation of a National Rainfed Areas Authority, an expert body with the role of providing knowledge for the systematic upgrade and management of dry lands and rainfed agriculture. While this is a step in the right direction, we believe that there is a need for an NWC with a more wide-ranging set of roles and responsibilities (e.g., funding irrigation projects, scaling up rain-water harvesting).

Developmental leaps can also be made where rural land, especially India's vast wastelands amounting to 25 to 30 per cent of current land under cultivation, is used for "global" plays in areas such as bio-diesel and pulpwood.<sup>4</sup>

**More grains: Expanding the food bowl beyond Punjab and Haryana; more of rice and wheat and of "new" crops too:** The fact that India needs far more grain than it produces today is not well recognised. Grain supply needs to be increased for three reasons. One, demand is growing. This is true for basic grains such as wheat and rice that continue to grow at about 2 per cent per annum in line with population growth. It is also true for "new" grains (e.g., maize, soya and barley), demand for which is growing faster as better-off Indians eat more non-carbohydrate foods such as poultry and spend on newer food items such as beer. Two, India needs food security: there isn't enough global surplus (even in crops such as rice and maize) to meet the needs of India's large population. It would be expensive and risky to import food, particularly since port infrastructure is poor. Finally, recent years have seen little increase in local output due to the failure of the public extension network as well as the lack of innovation in inputs such as seeds.

That we might need to produce more grain is good news for Indian farmers. Not only have grains been the most important crop, many more farmers stand to benefit by increasing yields and output. This is especially true as the Punjab and Haryana lands need to be rested. These two states have supported the needs of Indian consumers exceedingly well since the first green revolution in the 1960s. While output there could potentially be doubled, several other states could do their share in creating grain surplus for India. These include Bihar, Uttar Pradesh, West Bengal, Madhya Pradesh and Jharkhand. It is a win-win approach: firstly, the newly contributing states will see farmers prosper as their output grows three to five times, and the long-term value of fertile land in Punjab and Haryana is protected by easing the "pressure" to produce for India. Secondly, farmers and individual states will also prosper as land can be "switched" over time to horticulture and other lucrative pursuits.

Success will require: (1) a National Grain Mission (signalling the importance given to increasing grain output); (2) an effective (public-private) extension service converting agricultural knowledge into insights and ensuring selective investment in grain yield-related research; (3) a national grain market with similar taxes and regulations that will encourage the entry of large grain players into the sector and (4) reducing risk for farmers by introducing transparent pricing and risk mitigation measures. The last could include, but should not be restricted to, a revamp of the support pricing mechanism that has played a key role in eliminating risk for the grain farmer. But support pricing is not really effective beyond Punjab, Haryana and Andhra Pradesh, i.e., areas where the Food Corporation of India has traditionally been strong.

**Beyond grains to "dollar" crops and livestock:** In addition to grains, Indian farmers have an opportunity to supply other products that Indian consumers are now

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<sup>4</sup> The study did not focus on fruits and vegetables since a large number of retailers have recently started building supply chains in this area.

demanding, including fruits and vegetables<sup>5</sup> and proteins such as poultry and dairy.<sup>6</sup> In line with global trends, as incomes rise in India, food habits are changing, with a shift from basic grains (i.e., carbohydrates) to first proteins and then value-added foods such as fruits and vegetables.

There is an additional opportunity to cultivate globally priced crops such as wine grapes, orchids and medicinal herbs. This could increase farmer incomes two to five times. There is growing recognition worldwide that India has large tracts of fertile land, low-cost farm labour and multiple seasons, and can be the future supply (and demand) centre for several agricultural sectors. For example, the global wine community believes that the next emerging-market wine “destination” (after South Africa, Australia, Chile) is likely to be India.

That moving to such crops and products is feasible is proved by the success of Sula Vineyards in Maharashtra and of poultry integrators in South India (see box ‘Scale is possible in non-grain crops’), to name just two cases. Sula Vineyards has demonstrated the potential impact of the wine industry by building a business directly employing 400 people, reaching Rs. 18 crore in sales in 2004-05. Wine grape farmers are now earning Rs. 100,000 per acre a year, 40 per cent more than farmers growing table grapes. Ancillary industries such as vat and carton manufacturing have grown from a Rs. 1.2 crore to a Rs. 9 crore industry.

Currently, wine grapes are grown on less than 4,000 acres, amounting to a mere 3 per cent of land under grape crops. Extending wine grape cultivation to 35,000 to 40,000 acres could create an incremental Rs. 1,000 crore a year in rural income and over 50,000 jobs directly related to the wine industry over the next five years. In addition, significant tourism opportunities can be tapped as in most wine-growing areas of the world.

### Scale is possible in non-grain crops

The remarkable success story of poultry integrators in south India needs to be celebrated. Today, per capita poultry consumption of south India, at 5 kg, is well above the India average of 2 kg per annum, although it was at the same level 10 years ago. A main factor in the 11-fold increase in consumption in south India between 1995 and 2005 was a roughly 30 per cent decline in real prices in the region (**Exhibit**). This was the result of production and supply chain efficiencies achieved by poultry “integrators” such as Suguna, Godrej Poultry and Singh Poultry. Several steps were involved:

1. Players ensured they had the right “breed” of bird and right feed by investing in “parent farms” where poultry is grown and scale hatcheries where eggs are hatched

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<sup>5</sup> Demand for these products is growing at over 15 per cent every year versus 2 per cent for grains.

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<sup>6</sup> Again, demand is growing at over 10 per cent a year.

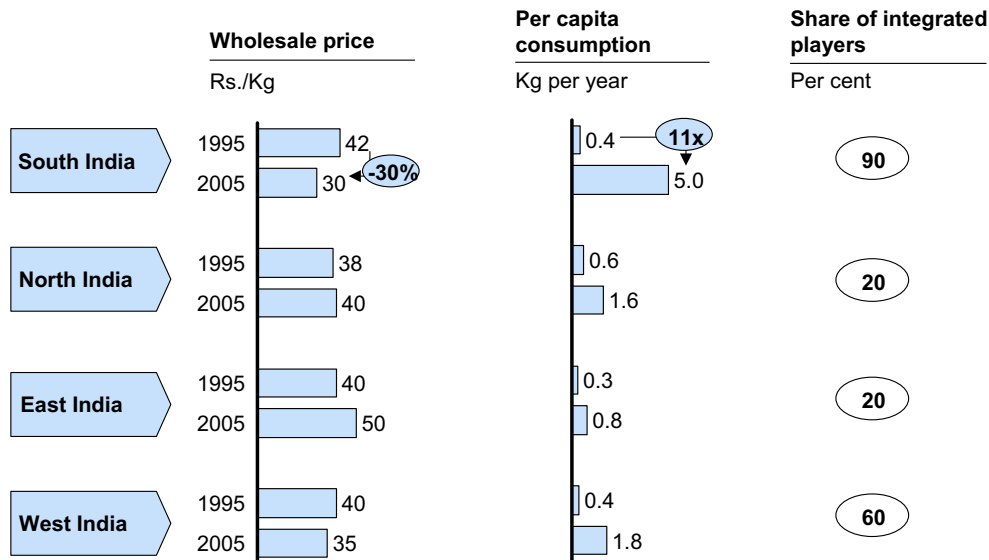
under care. They secured the right feed “recipe”, ensuring a high food conversion ratio, a critical step since feed amounts to 60 per cent of the cost of the bird.

2. Players optimised the costs of production by getting traditional poultry farmers to grow the birds. For example, the largest integrator in the south, Suguna, has contractual agreements with 24,000 farmers.
3. With a good understanding of market demand, players produced just-in-time, reducing price fluctuations. Local farmers no longer bore market price risk as they were paid “conversion fees” for every kilogramme of bird they produced.

All this brought down costs, reduced risks and lowered prices. Traditional farmers have prospered, earning a 20 to 25 per cent return on investment. The resulting prosperity is visible in the ubiquitous dish antennae and motorcycles in parts of south India.

Replicating this model across the country can create at least 2 lakh jobs in the next five years and, with 50 per cent higher consumption, can increase farm incomes by at least Rs. 1,500 crore a year.

### INTEGRATION IN SOUTH INDIA HAS LOWERED PRICES, INCREASED CONSUMPTION AND EXPANDED THE MARKET



Source: Interviews, websites, Livestock and Poultry World Markets and Trade 2006, McKinsey analysis

Replicating such models all over rural India will require: (1) catalysing growth in areas such as fruits and vegetables, poultry and the wine industry through selective infrastructure building and tax incentives (the wine industry in Maharashtra blossomed through favourable state policy); (2) creating market linkages (using farmer groups such as Maha Grapes or Maha Mango) and (3) encouraging private investment in scaleable, replicable models that can work with fragmented farms.

**Bringing wastelands under cultivation to expand agricultural land by 15 to 20 per cent:** India has 35 million to 40 million hectares of unused wasteland that can be used

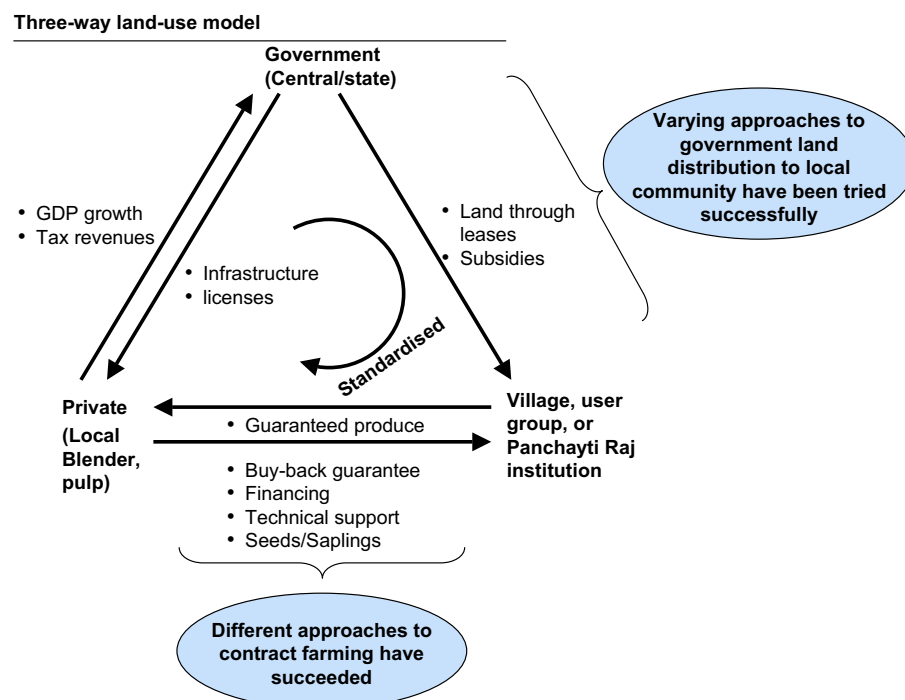
to grow “dollar” priced crops. Crops in demand globally include jatropha and eucalyptus trees that are economical to raise on relatively degraded land and can generate income of Rs. 40,000 crore to Rs. 45,000 crore and direct employment for around 12 million to 15 million people in the next five years. Bio-fuels and pulpwood have the potential to generate an income of about Rs. 2,500 to Rs. 5,000 per acre (net of costs) depending upon the crop. In fact, at current global prices for crude and pulpwood, no subsidies are needed for either of these crops. (But subsidy schemes will need to be designed for lower crude and pulpwood prices.)

States such as Madhya Pradesh, Gujarat, and Andhra Pradesh have taken steps to demarcate land for the cultivation of bio-fuel crops. Private entrepreneurs such as Nandan Biomatrix, and D1 Oils are actively pursuing pilots while companies such as ITC and BILT have succeeded with new high-growth, disease-resistant varieties of pulpwood trees that can be cultivated on degraded forest land. Thus the basic technologies, the economics, the entrepreneurs, and the land required are present. The challenge is to scale up wasteland usage dramatically over the next five to 10 years.

This will require clarity on land demarcation and land ownership. Government and community-owned wastelands could be released for cultivation through tri-partite agreements that benefit the government, private players and rural communities (**Exhibit 6**). We recognise that this is a challenging task given the lack of clear land records in India. But the potentially enormous impact makes a solution imperative.

## Exhibit 6

### A THREE-WAY AGREEMENT BETWEEN STAKEHOLDERS CAN UNLOCK WASTELAND POTENTIAL



Source: Interviews, World Bank

Success will hinge on: (1) providing tax holidays for private players involved in developing wastelands; (2) instituting a central agency, e.g., the National Wasteland Development Board, strengthened by budgetary support and mandated to convert wastelands into agricultural land. Further, local governments should propose plans for cultivating high value crops on common lands or local wastelands and seek private partnerships (if desired) for the purchase of output. Such plans could be approved by the National Wastelands Development Board.

**Non-farm employment engines—creating a services economy:** Rural India has several assets and skills that remain underutilised. These include large, relatively untouched tracts of land filled with historical wonders and natural beauty as well as skilled artisans and workers with dexterity in handicrafts handed down over generations. Each of these offers a unique opportunity to create large employment engines. A labour-intensive sector such as tourism could create as many as 25 million jobs in the next five years by attracting an additional 20 million foreign tourists and 400 million domestic tourists, as compared to the present inflow of 4.4 million foreign and 418 million domestic tourists. This requires improving infrastructure and creating mechanisms to preserve the country's historical and natural wealth.

India has at least 13 identified tourism circuits including religious destinations such as Bodh Gaya and Nalanda, cultural monuments such as Khajuraho and Fatehpur Sikri, and nature and wildlife locations ranging from Kaziranga to Gir. All are in rural areas and all have the potential to become world class tourism destinations (**Exhibit 7**). Transforming them will require support from the government as well as an effective public-private partnership, through the creation of Special Tourism Zones or STZs in states with heritage sites and monuments or natural attractions such as forests and beaches.

The STZs can be set up along the same lines as manufacturing SEZs, but without large-scale land acquisition. An area of 100 to 300 sq km should be demarcated for each STZ. A vision and an integrated master plan should be developed for each. The vision should include the targeted number of tourists, among other things, and also identify the infrastructure required, e.g., hotels, airports, railway connections and road transport. Public-private investment, tax incentives and viability gap funding will help make the integrated plan a reality in five to six years.

Demarcating such areas and providing them with the required tax benefits is likely to attract significant private investment and create millions of jobs, directly and indirectly.

There are other opportunities that were not explored in the study including (a) rural manufacturing especially in the handicrafts sector and (b) rural services in areas such as banking, education, healthcare and retailing. Each of these is a growth opportunity for innovative entrepreneurs.

## Exhibit 7

### RURAL AREAS IN INDIA HAVE IMMENSE TOURISM POTENTIAL

	Indian destination	Number of tourists ('000s)	International destination	Number of tourists ('000s)	EXPANDED Expansion potential
<b>Spiritual</b>	 Bodh Gaya	350-400	 Borobudur Temple	2,500-3,000	7x-8x
<b>Wildlife</b>	 Kaziranga	50-100	 Kruger National Park	1,300-1,400	14x-25x
<b>Mountain</b>	 Kullu Valley	50-100	 Pokhara valley	200-250	3x-4x
<b>Beach</b>	 Lakshadweep	5-10	 Mauritius	700-720	70x-140x
<b>Architectural heritage</b>	 Khajuraho	200-300	 Angkor wat	550-600	2x-3x

Source: Press search, Ministry of Tourism, McKinsey analysis

Clearly, creating the right infrastructure and employment engines will bring prosperity to rural India. Our estimates suggest that this would increase rural incomes by roughly 1 per cent a year over a five-year period— a 25-30 per cent increase in income growth over the current rate of less than 4 per cent annually. The next chapter describes the actions required by the different stakeholders to make Bharat Nirman Plus succeed.



# Making Bharat Nirman Plus succeed

The success of Bharat Nirman Plus will hinge on an implementation approach that accounts for:

- The unique features of rural India—creating a bedrock for success by finding replicable, tailored solutions
- The key factors in running large public programmes of this kind—accountability and concerted action.

## CREATING A BEDROCK FOR SUCCESS

Implementing Bharat Nirman Plus will require creative responses to three key challenges: the need for: (1) replicability in view of the diversity of rural India and of its problems; (2) tailored solutions to ensure effectiveness and sustainability and (3) strict accountability for outcomes.

### Replicable solutions

As stated earlier, existing “winning” approaches need to be replicated across a Bharat that has more than 600,000 villages differing vastly in geography, assets, skills, market linkages and political/social equations.

The solution is to *let a thousand flowers bloom*: create small-scale replicable models and not just one big solution for each issue. A do-it, fix-it approach is critical for Bharat Nirman Plus. This will encourage village communities and governments to try different solutions to the same problem. This approach also tests what is working and what is not, makes the modifications needed and then accelerates roll out. It implies leaving room for

failure. At the core of this approach are “local” models that work. For example, distributed generation and community-participated rainwater harvesting projects can resolve, at least partially, the power and irrigation deficits respectively.

### Tailored solutions to ensure effectiveness and sustainability

Supplementing the traditional top-down approach to rural development with a bottom-up model, one that encourages collective participation and ownership by all stakeholders, is the only sure way to ensure effectiveness and sustainability. Also, given the scale of the markets involved, it is critical that efforts are driven and owned by local communities.

What is needed is a *pull-based approach* in addition to development mandated from the top—development that local citizens ask for and participate in creating. Bharat Nirman Plus must encourage communities to actively demand what they want rather than accept what they are given. Local government bodies should be empowered to choose developmental projects and demand resources rather than work with top-down, allocation-based disbursements. Local institutions such as panchayats could propose projects that are then budgeted for under a government scheme. For example, in rural electrification, Rs. 6,750 crore (i.e., 30 per cent of the Rs. 25,000 crore required to install 5000 MW of capacity) can be allocated to villages that demand their own source of power, make their own contributions (labour, part of capital) and then get the remaining subsidy from the government.

### Strict accountability

Accountability is critical and should be reflected not just in target-setting for state governments but also by stakeholders accepting responsibility for outcomes. We believe that Bharat Nirman Plus will be effectively implemented only when there is accountability for all involved—the government that will catalyse the effort, private players who will build profitable businesses as they replicate winning models, and local panchayats/communities who will demand development and help make it happen. Single-point accountability will be essential at the government, private sector and panchayat levels. Success stories such as the National Highway Authority of India and the Delhi Metro have demonstrated that large-scale programs can be successfully executed in India.

### Concerted action by all key stakeholders

For Bharat Nirman Plus to succeed, all key stakeholders – the central government and state governments, the local panchayats and communities as well as the private sector – must play critical roles.

**Actions for the central government—Create new institutions, craft new policy and provide funding:** The central government needs to set up at least three new institutions to create accountability and facilitate implementation of Bharat Nirman Plus:

- A National Water Corporation (NWC) to fund and manage all rainwater harvesting and irrigation projects. The NWC should operate as a centralised body funding and monitoring state irrigation projects. It should coordinate between multiple ministries controlling land in rural areas and be empowered to release land for rainwater harvesting projects. The NWC should also provide subsidised capital for state-sponsored projects. Finally, it should accredit 5,000 to 6,000 technical experts to help create rainwater harvesting capacity throughout the country.
- A National Grain Mission to catalyse the creation of an effective (public-private) extension service. The mission should ensure that agricultural knowledge is translated into insights and selective investment is made in grain yield-related research. It should also create a National Grain Market with a unified tax system, encouraging large grain players to enter and invest in this sector.
- A National Special Tourism Zones Authority to create a policy for setting up STZs. The authority should also identify Special Tourism Zones and facilitate their setting up in association with state governments.

Policy reform is needed in six areas:

- 1 **Power:** Expand Rural Electrification Corporation's mandate to finance and facilitate Decentralised Distributed Generation (DDG) of power in rural India to the tune of at least 5000 MW over the next five years. Potentially, 30 per cent of all capital allocations for DDG could be used to process DDG requests from local authorities such as panchayats, cooperatives and other user-based institutions. The central government will need to set aside capital grants of around Rs. 22,500 crore (equivalent to 90% of the total capital cost) for funding DDG initiatives over the next five years.
- 2 **Water:** Tie funds disbursement for new irrigation projects to the creation of rainwater harvesting capacity. As with power-sector initiatives, 30 per cent of all capital allocation should be utilised to process requests from local authorities such as panchayats, cooperatives and other user-based institutions.
- 3 **Agriculture:** Revamp the support pricing mechanism. Despite its key role in eliminating risk for the grain farmer, support pricing is not effective beyond Punjab, Haryana and Andhra Pradesh, where the Food Corporation of India has traditionally been strong.
- 4 **Wastelands:** Set nationwide targets for converting wastelands into agricultural land and approve cultivation plans submitted by individual states. These should be the

responsibility of the National Wasteland Development Board. The board should also set policies for the release of government-controlled forests and other wastelands for the cultivation of globally priced crops. These policies should also enable long-term contracts between the community and private players to facilitate regular yield buy-back which in turn will protect the interests of the cultivators. Further, tax holidays should be provided to private players involved in developing wastelands.

- 5 Tourism:** Enact an STZ Policy. This should allow an STZ to receive subsidised central funding for upgrading tourist sites, development of airports, rail tracks, and stations, etc. Tax holidays should also be provided to private investors who build facilities including hotels, restaurants and entertainment centres in the STZs.

**Actions for state governments—Facilitate and create plans/policies:** States must do their part by creating an attractive investment environment in the following areas:

- **Power:** Set targets to generate and distribute at least 500 to 1000 MW of DDG power in rural areas in each state over the next three to five years and apply for subsidised funds to REC. Frame policies that allow distributed generation through private, state, and panchayat or cooperative ownership and permit pricing freedom.
- **Water:** Set specific targets for irrigation projects and construction of rainwater harvesting capacity over the next three to five years and apply for subsidised funds to the NWC. Set up a Rural Water Authority in each state as an independent regulator that sets prices and enforces legislation. Create financially independent irrigation agencies to implement all irrigation projects.
- **Tourism:** Target the creation of two or three world class tourism destinations in each state in the next three to five years and work with the National STZ Authority to obtain central funding.
- **Wasteland:** Create a three-year master plan to utilise wastelands for cultivation of globally priced crops such as jatropha and pulpwood, and submit to the National Wasteland Development Board for approval.
- **Agri boards:** Facilitate the growth of agricultural crops by establishing mechanisms such as a Wine Board or Horticulture Board.

**Actions for panchayats and local community organisations—Participate, demand, facilitate:** Local authorities should actively participate in capturing opportunities and in programmes created by the central government and state governments. They should encourage community participation by applying for funds for distributed power generation, rain water harvesting capacity, and wasteland/community land development. Additionally, they can catalyse the migration to “dollar-priced crops” and actively partner with corporates in doing so.

**Actions for the private sector:** The private sector should gear up to capture the opportunities that will open up in the rural sector. These include:

- Acting as suppliers for the infrastructure creation programmes (supplying equipment to create power of 5000 MW alone could be a Rs. 25,000 crore opportunity).
- Operating and maintaining the infrastructure created.
- Selling goods and services to rural India. This will be a Rs. 20,00,000 crore to 25,00,000 crore market by 2020. Five non-food categories—healthcare, personal and financial services, clothing, education, and consumer durables—will emerge as major growth areas. While the entire market may not be accessible, the private sector will nevertheless benefit substantially from selling to a market that could be thrice the size of the current urban consumption market.

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Bharat Nirman Plus has the potential to transform rural India. Many of the initiatives described in this document can be implemented in the next three to four years, vitalising India's rural economy and creating a vast rural consumption market. Rural India—or Bharat—will participate in transforming its own future, ensuring sustainable, inclusive growth for India.



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