ROAD MAP FOR RURAL INDUSTRIALISATION IN BIHAR

A REPORT OF THE SPECIAL TASK FORCE ON BIHAR

GOVERNMENT OF INDIA
NEW DELHI
JULY, 2008

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ACKNOWLEDGEMENTS

This report is based on a detailed field study carried out by Asian Society for Enterpreneurship Education & Development (ASEED) under the supervision of its Director Dr. Nagendra Singh. The findings of the study were discussed at a Seminar in Patna, arranged by the Government of Bihar. The Bihar Team was led by its current Development Commissioner Vijay Raghvan. The Report also received supplementary materials from another field study carried out by APEDA, which was commissioned by the Special Task Force. The contribution of these two institutions and that of the Government of Bihar is deeply appreciated. The Report received valuable comments from the Members of the Special Task Force. Its Officer Shiv Singh Meena and Consultant Smita Anand assisted in the finalization of the Report. The contribution of these people has been praise worthy.

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Executive Summary

The State of Bihar with a geographical area of 94.2 thousand square km is divided by river Ganges into two parts, the north Bihar with an area of 53.3 thousand square km, and the south Bihar having an area of 40.9 thousand square km. The percentage of population employed in agricultural production system in Bihar is estimated to be 81%, which is much higher than the national average. Nearly 42 per cent of GDP of the state (2004-05) was from agriculture sector (including forestry and fishery). High concentration of population largely dependent on agriculture coupled with low yields of the major cereal crops are main reason for the high poverty ratio in the state. Consequently, about 42 % of the State population is below poverty line as against the national average of 26 %. Bihar happens to be the second highest rural population below poverty, (44.3%).

The typical rural character of the economy is heightened by the absence of support industries i.e. heavy dependence of communities on agriculture with limited diversification to non-farm or cash crops. The rural non-farm economy, therefore, plays a significant role in providing employment and income for the poor in rural areas in most Asian countries. Non-farm sources of income for the rural poor are important since their direct agricultural income is not enough to sustain their livelihood either because of landlessness or insufficient owned or tenanted land and also wage employment in agriculture is highly seasonal and requires supplementation of income during lean periods.

The industrial sector in Bihar remains in a poor state-with its growth rate much below the national average. The size of the industrial sector in Bihar in terms of income is hardly 3.2% of net domestic product of the State, whereas, the national average works out to 20.1%. Small industries, dominated by tiny enterprises and artisan based industries, play a significant role in the industrial sector of the state. Generally, their contribution to employment generation is substantial, even when the levels of productivity and total production remain low in this sector. The share of tiny industrial units among all the SSI units (both registered and unregistered) is as high as 99.9 percent.

Agro- based industries occupy a prominent place in the industrial scenario of present Bihar as they account for nearly half of the net value added. Food products, tobacco products, leather products, and non metallic products occupy prominent constituents of industrial base in Bihar, though

group of industries, comprising of cotton, jute, wool, paper, rubber, plastic and chemicals, also have their presence in smaller ways. During the last two decades, agro-based industries viz; tea in Kishanganj district, dairy sector through cooperatives, and makhana industries have shown increasing trend. Yet, these still accounts for a small proportion of State's Domestic Product.

The growth rate of both the credit and deposits in Bihar is lower than the national average. Investment is a must for productive economic activities and at the present CD ratio, it will take a long time to reach a substantial investment level. As per the Economic Survey (2006-2007) of Bihar Government during the year2004-2005, per person bank loan stood at Rs 1575 in Bihar, whereas, it was Rs 5048 in M.P, Rs 27589 in Maharashtra, Rs 3204 in U.P and Rs 7425 in West Bengal. Lower level of credit dispensation in Bihar also indicates that credit needs are even now met by private moneylenders at higher rates of interest, which adversely affect the profitability of enterprises. Naturally, this brings a serious bottleneck in the industrial development of the State.

Overall position of physical infrastructure in the state is far from satisfactory. Absence of rural extension programme both in Agriculture and Industry and low nexus of these two sectors to establish backward linkages for modern agro and food processing industry are some critical issues that need to be addressed on a priority basis. General level of development is low because of inadequate infrastructure on road and power where private entrepreneurs have just begun to take interest. Massive construction of roads by private contractors and state bridge corporation has been taken up that will take sometime to show its impact on the process of economic development.

State Government departments need to develop it's own data base of several centrally assisted projects that requires strong partnership with non- governmental organisatioins with the local monitoring. The State of vocational education is virtually non-existent in Bihar. However, there are 58 Industrial Institutes (ITIs) and Industrial Training centres (ITCs). Of the ITIs, seven ITIs are exclusively for women, and the seating capacity of all the ITIs is reported to be 14968. In terms of population coverage, there is one ITI per 10 lakh population, where as it is 2 lakh in U.P., and 5 lakh in Punjab and so on. Apart from the limited coverage, the existing ITIs are in extremely bad shape as far as infrastructure, equipment and teaching manpower are concerned.

There is no such major retail market lead taken up by any known private players except Vishal retail

at Patna. However, efforts are on to mobilize 'Ambanis and Mahendras to take the lead as private players. Innovative projects may be taken up for economic activation through cluster intervention by independent bodies under the leadership of the Industries Department. The state government has taken a significant step in this regard, particularly in Handloom sector.

Chamber of Commerce and Industry Association in the state are to play their active role to influence the policies and provide the proper linkages to the market outlets. However, industrial area authority and the huge number of sick industries in the state project a serious concern due to pathetic role of private players in the state economy.

Dwindling interest in farm occupation has been visible in small sized farm holdings in comparison to large sized holdings. It may be due to the fact that low size farms no longer remains commercially viable holdings. Zonal picture also supports the above hypothesis on the issue of productivity. Of course, large sized farm respondents were more commercially attuned than small and medium sized farm respondents .This observation clearly supports the common belief that poor households in development process need greater participation. Hence, any economic programme including rural industrialization must target poor households in Bihar as a pro-poor strategy.

Despite all these identified limitations & constraint, buoyancy in the agriculture sector provides ample opportunities towards setting the pace for rural industrialization-the key for Bihar's socio-economic development. It is only through this mode Bihar could resolve the issues of unemployment and poverty.

Recommendations

(a) General Approach

(i) Bihar rural industrialization has to be based on location specific agri-resource endowment which is in abundance but scattered with less value addition. The two major advantages for industrialization process would be product value addition and local employment creation;

(ii) The focus of rural industrialization would be 'cluster' based-with a coverage of specific farm based products;

(iii) The areas that have been identified as surplus in crops, vegetables and fruits production need

to develop sound 'economic clusters'. Such adjoining areas should be clubbed together to form clusters. For example, such clusters may be formed in Districts of Rohtas, Bhojpur, Aurangabad, Arwal, and some parts of Patna districts for paddy, and wheat, in Begusarai, khagaria and Samastipur districts for winter maize, in Patna, Nalanda, Aurangabad, Jahanabad and other such districts for potato & green vegetables, in the districts of Muzaffarpur, Samastipur, Darbhanga and Bhagalpur for fruits, vegetables and spices, in districts like, Sitamarhi, Darbhanga, Madhubani, Supaul, Saharsa, Purnea, and Katihar for makhana . Similarly such specific product-wise pockets may be identified in other parts of the State, though such pockets may not be in a position to be similarly clubbed. Apart from upcoming opportunities for promoting rural industries there, these pockets may also serve as feeders for other major agro-industries centers;

(iv) All necessary infrastructural development like rural extension set up for technology transfer, timely supply of quality inputs, storage, road & transport, power supply, irrigation system etc, should be undertaken intensively in and around such 'Clusters' to increase and sustain agricultural modernization. Like wise such infrastructure build up should also be made available in and around the specially identified pockets to demonstrate the impacts of undertaking commercial farming;

(v) Special emphasis should be given to those high yielding varieties, which may be suitable for processing industries and growing off season vegetable crops in appropriate intercropping systems to enhance per unit area production. Vegetables alone could be used for producing a variety of products, such as potato chips, tomato powder/ puree / juice / pulp / sauce, chilly powder/ sauce/ pickle, apart from dried canned and frozen cauliflower, peas, cowpea, carrot, etc. This would open a great avenue for packaged food industries;

(vi) The major thrust of rural industrialization should be to provide farm products and market linkages, based on product cluster formation;

(vii) Product specific strategies should be adopted for those products which have potential for export from the State. Some of these products are Litchi, Mango, Makhana, Okra and Baby corn. Litchi and Okra are already exported to the markets of EU and Middle East. The market for Honey is already well established. The State should work on the promotion of Litchi Honey;

(viii) Bihar is one of the prominent producer and exporter of Litchi. The most important market for the fresh Litchi is European Union. The State should concentrate on export of both fresh and processed Litchi. Moreover, efforts should be made to tap more international markets for Litchi

and other horticultural products. The main harvesting season for Litchi in Bihar is May and June. Except Thailand, no other country can supply fresh Litchi during this season. Thus, there is a definite opportunity for India from Mid May to early July when potential markets can be tapped;

(ix) Contract farming model should be adopted for quality production of different horticultural crops. In Contract farming, private sector participation is imperative. Cultivation of some specific crops Baby Corn, Snow Pea and Snap Sugar should be undertaken in the contract farming mode;

(x) Effective pre and post harvest management is critical for successful marketing of the produce. The sooner the fruits are packed and cooled after harvest, the better their quality on arrival in the market. Delays between harvesting and packing are frequently the cause of water loss and diminished quality. On the basis of product specific location and logistic feasibility, the State Government should concentrate on establishing more number of Pack Houses, Freezing & Processing Plants and Perishable Cargo Centres. Establisment of these product based infrastructure can make the produce available in fresh form to the consumers. This, in turn, will increase the export volume which is the need of the State to harness opportunities in the foreign market and to develop rural industries;

(xi) Another thrust area should be technological break-through of farm products. This should be done with a sound research establishment of at Rajendra Agriculture University, Pusa and Sabaur Agriculture College, Bhagalpur;

(xii) A variety of fruits, such as litchi, guava, mango, jack fruit, lemon, bael, pine apple, banana etc. is grown in different parts of Bihar. Each of these products, from value addition and marketing point of view, be developed on a 'cluster' basis. Appropriate extension programmes should be initiated for products rejuvenation and area expansion to provide enough raw materials for promoting appropriate agro-industries to produce amchur, mango juice, mango pickles, green mango drinks/juice, guava juice/ jelly, lemon juice, lemon pickles, lemon-cordials, Amla murabba, Amla pickles , banana chips, banana powder, litchi juice etc. North Bihar districts offer great potentials in this regard. The market targets should be national and international. Particular attention has to be placed on quality, product standardization, grading, packaging, and transportation;

(xiii) In certain pockets of Bihar, such as in the districts of Katihar, Purnea, Madhepura, Saharsa, Kishanganj etc, jute is grown extensively. It may be used to promote jute based industries to

produce carry bags, carpets, ropes etc. The immediate focus should be on enhanced productivity and mordanisation of existing Jute mills. The development of these products would require market and communication infrastructure connectivity;

(xiv) Expansion of dairy, poultry and fisheries has tremendous scope in Bihar and priority should be accorded to it. Bihar and adjoining North-Eastern states, including Bhutan and Nepal, can be ready markets for fresh or frozen products of fisheries/poultry as well as for milk powder, butter, ghee, bottled scented milk, ice cream etc. Hence, it will be desirable to put appropriate emphasis on their large scale promotion along with creation of appropriate infrastructure to support such farm product based industries;

(xv) With a focus on skill development of Bihar's vast labour force, which is intelligent, Bihar can move beyond agro-processing and penetrate into such products as metals, drugs and pharmaceutical, leather, electronics, as well as electrical goods industries;

(xvi) Bihar could take a major share in small scale industries such as handlooms, powerlooms, knitting, embroidery, painting based on existing technical know how in several districts in these areas;

(xvii) Another focused area could be lime based industries, stone chips industries, silk weaving and printing industries, glassware industries etc;

(xviii) The respective clusters could be given due infrastructural support for their expansion, technological upgradation, and attractive appreciation in the economic return on investment by means of policy and institutional support;

(xix) As regards the institutional arrangements, the key for effective implementation for planned control of action is felt. There is an urgent need to have a semi-autonomous cell/ unit in the Department of Industry, under the leadership of Secretary, Industry Department, to supervise, coordinate and promote the thrust of Rural Industrialization Programme. Considering the magnitude and complexities, the State Government may consider establishing a specially dedicated Directorate of Rural and Village Industries (RVI) under a senior Administrative Officer;

(xx) For the overall policy directions, it is proposed to establish a Council of Rural Industrialization Programme, to be chaired by the Chief Minister with Ministers for Agriculture, Industries, Panchayati Raj as Members and Industry's Secretary as its Member-Secretary. The major role of the Council will be to provide policy directions and help guide infrastructural support

facilities, financial resource building (with government and private initiatives), and regular stock taking of the programme implementations;

(xxi) At the District level, Rural Industrialization Coordination Committee should also be constituted under the Chairmanship of District Magistrate for ensuring proper grass root level coordination in planning and implementation of the program;

(xxii) Rural market for rural entrepreneurs will need improved services for users to facilitate marketing of the local produce, creating an element of market security for the growers. It can also produce effective credit, marketing links. Rural Banks may be encouraged to provide mobile banks to clusters on haat days. NGOs and local lead bank also need to evolve close partnership to work in partnership for several DRDA Programmes;

(b) Specific Development Approach

There would be a need to lay down both intensive and extensive thrust on the process of rural industrialization. These would include following strategies:

(i) Strengthening credit and delivery system through training, sensitization and Governments' commitment, supporting the recovery process of institutional credit;

(ii) Strengthening the process of rural entrepreneurship development by training of master craftsmen, capacity building of supporting training institutions, implementing rural industrialization projects, arranging training programmes by master craftsmen, and vocational training by master craftsmen;

(iii) Technology transfer and technology development through Technology Upgradation cum Production Centers, Technology Demonstration Centres, District Industries Centers, and networking with technology oriented Centers etc;

(iv) Sub-sector development & promotional interventions for handlooms, powerlooms, silk weaving/seri-culture, handicraft, leather products etc.; and

(v) Stimulating agricultural growth to produce enough surpluses of food crops, fruits, vegetables and cash crops to promote processing/agro-industries. Networking with large industrial units for promoting ancillary industries etc should be accorded priority.

(c) Policy Approach

The Policy Approach for rural industrialization would cover the following:

(i) First phase priority to hinterlands of major cities and urban centres – to bring spill over effects to the rural areas;

(ii) Apart from farm products value addition, attempts towards enlarged scope for light industries with private enterprise development;

(iii) Formulation of appropriate micro economic policies for proper incentives to private enterprise;

(iv) Injection of more accumulated rural capital and price incentives to farmers on farm products for increasing farm income and profitability for creation of home markets for consumer products and services;

(v) With large rural savings and bank deposits, the adoption of public policy to retain part of the annual deposits for build up of capital within the local area with the institutional support packages and infrastructure;

(vi) Adoption of policy incentives for urban state and private factories/industries to relocate part of their expansion/operation to the nearby regions outside the city boundaries through subcontracting, joint ventures, and investment in viable rural enterprises;

(vii) Adoption of measures for urban/rural technology transfers and encouraging by policy incentives for urban factories and research institutes to provide:

  (a) Technical consultancy services to rural enterprises;

  (b) To help in product advertisement and marketing;

  (c) Assigning skilled technical staff and managers (on a contract basis) to rural enterprises – with proper incentives, benefits, and career path; and

  (d) Encouragement to expansion of rural labour markets and instead of rural to urban movement, encouragement of rural to rural labour market development.

(viii) To attract private sector and build up a favorable climate for investment, State Government will have to take up measures to attract Private Sector investment in the State. There is a need to give fiscal incentives to private entrepreneurs, creation of favourable policy environment and infrastructure support.

Preamble

An economy that demands aggressive growth driven interventions has deep seated economic disparity in different pockets. In the emerging socio economic scenario of the state like Bihar, the challenging agenda is to enhance the priority of rural employment generation and reduce the dependency on agriculture while strengthening local delivery mechanism and institutions. Bihar has a paradoxical mix of abundance versus scarcity of resources. For quite some time large industries have not been able to make a dent in the region and exodus of capital investment has been visible due to deteriorated social and physical infrastructure. Considering the various development constraints, including the resource endowment base, rural industrialization is expected to be the springboard for sustained economic growth and bringing permanent solution for poverty eradication and improved levels of living in the State.

CHAPTER - 1

BIHAR'S RURAL ECONOMY

1. Bihar is spread over 9.4 million hectares of land and 61% of the land resources of the State are locked into crop production, as compared to 51% in the country as a whole. Bihar on the whole is endowed with good fertile soil, favourable climatic conditions, and sufficient ground water availability for cultivation of a wide range of agricultural and horticultural crops, be they cereals, oilseeds, fiber crops, vegetables, fruits, flowers, etc. of high commercial value. Nearly 80% population of Bihar depends on agriculture directly or indirectly. In reality, agriculture is the backbone of Bihar economy, contributing 40% to state GDP. Bihar has the total geographical area of 93.60 lakh hectares, with gross cropped area at 79.46 lakh hectares. However, its net sown area comprises of 56.03 lakh hectares. Based on more desegregated classification, Bihar State is divided into three agro-ecological sub-zones. These are North-West Gangatic Plains (Zone-I), North-East Gangatic Plains (Zone-II), and the South Bihar Plains (Zone-III). However, the agricultural productivity has not touched the optimum ground to establish reasonable nexus with growing industrial opportunities. Bihar is one of the important States of India for the production of fruits and vegetables. The State ranks 3rd among vegetable growing States and 6th among fruit growing States in the country. A variety of agricultural produce, notably milk, makhana (Gorgon nut or fox nut), mango, litchi, spices, scented rice, maize, etc have immense potential for commercial exploitation. Bihar holds virtual monopoly in the production of litchi as well as makhana.

2. Although the state of Bihar has inherent strength to develop its own plan to address the huge rural unemployment problem, evident from the massive seasonal migration of labour to western India and other job centric regions of the country, job opportunities have been curtailed to bare minimum point over the years in the absence of industries, to be based on its rich rural resources. Rural industrialization has been defined as an establishment and promotion of industries which largely utilizes rural resources and rural skills irrespective of size and ownership, production skill, capital employed technology and market. Therefore, its basic character reflects the synthesis of traditional

and modern rural industries. This raises several strategic concerns of clarity of approach and governance as well. Rural industries may be divided into two broad categories, namely **(A) Traditional Rural Industries and (B) Modern Rural Industries.**

3. (A) Traditional Rural Industries: This will entail to those industries in rural areas, which are labour intensive, using existing rural skills and locally available raw materials, and are specially identified with low cost traditional technology, low level of investment, small scale of production as well as limited local marketing etc. Cottage/household industries, handicraft, pottery, paper/leaf plates, dairy, mushroom cultivation, bee keeping, handmade carpets, jute/wood products, leather products, agro-processing, etc may be some such industries in this category. (B) Modern industries : It would include modern small/ tiny industrial units, and large and medium industries, using locally available raw materials as well as those obtained from other regions or States, upgraded local skills, modern technology, specially trained rural manpower in manufacturing, fabricating, and assembling modern products including electronic/electric goods etc which have wider market access.

4. The typical rural character of the economy is heightened by the absence of support industries, i.e. heavy dependence of communities on agriculture with limited diversification to non-farm or cash crops. The rural non-farm economy, therefore, plays a significant role in providing employment and income for the poor in rural areas. Non-farm sources of income for the rural poor are important since their direct agricultural income is not enough to sustain their livelihood either because of landlessness or insufficient owned or tenanted land and also wage employment in agriculture is highly seasonal and requires supplementation of income during lean periods.

5. Bihar happens to be the second highest rural population State below poverty line (44.3%). As per the Planning Commission Report (2001), the rural poverty in Bihar was substantially higher than urban poverty (32.9%). It was further projected[1] that the rural poverty was to the extent of 43.18% even at the end of the year 2006-2007. This very clearly shows that decline in the rural poverty has been

[1] Planning Commission, 2001

dismal during the last 6-7 years and with 9 out of every 10 persons in Bihar living in villages[2], poverty in Bihar is significantly a rural phenomena. The anxiety over the rural poverty extent in Bihar gets further deepened by the categorical statement made in the document on approach[3] to 11th Five Year Plan of Government of Bihar that is based on the household survey, conducted by the State government. Thus, the figure of rural population below the poverty line may be even larger. This gains credence, since the State is characterized by high unemployment / under employment on the one hand and on the other, low productivity of those who are already employed. An analysis of NSSO data on employment/unemployment reveals that the estimated number of unemployed persons in Bihar in 1999-2000 was of the order of 23.97 lakh persons, of which 20.33 lakh persons belonged to rural areas, constituting 84.81% of the unemployment. Most of the workers in the State are engaged in low paid agricultural activities either as self employed or as casual labour. This has extremely adverse impact on the per capita income of Bihar. As per recent analysis[4], per capita income gap between present Bihar and India as a whole was to the extent of 30.66% during the year 2004 or as wide as 44.5% during the year 2000 between erstwhile undivided Bihar and India as a whole.

6. In view of the above, the prospect for rural industrialization in Bihar has to its advantage a wide range of product segments to be given effects by integrating activities of similar nature under various sub-sectors. This may be food processing industries, sugar industries, leather industries, handicrafts industries, farm implement and machinery industries etc. This can be very useful for providing technical support, pre and post installation services, and development of other relevant infrastructure including marketing and processing of products.

[2] Census of India, 2001, Series 11 (P.27)
[3] Vision for Accelerated Inclusive Growth, Government of Bihar (2006)
[4] Bihar Development Draft Report, Institute for Human Development, New Delhi (2006) (P32)

CHAPTER - 2

INDUSTRIAL STRUCTURE

A. Size of Industrial Sector

7. The industrial sector in Bihar remains in a poor state with its growth rate much below the national average. The size of the industrial sector in Bihar in terms of income is hardly 3.2% of net domestic product of the State, whereas, the national average works out to 20.1%. According to available estimates, the net state domestic product of Bihar is Rs.32,004 crores, in which the share of industrial sector income is only Rs.1,020 crores . The share of the industrial sector in the GSDP is 5.4 percent. Compared to the national average of industrial income at 20.1 percent, this figure is very low. **(See ANNEXURE I)**

8. Besides its extremely small size, the industrial sector in present Bihar is also characterised by relatively larger share of unregistered industrial units. There are 1675 exporting units in the industrial sector which is dominated by unregistered units. Only 80 units are registered and the remaining 1596 are unregistered. While the unregistered units account for about one-third of the total industrial income in India as a whole, they do so for more than half of total industrial income in Bihar. There are 262 large and medium industrial units in the state which are concentrated only in few divisions of the state. Small industries, dominated by tiny enterprises and artisan based industries, play a significant role in the industrial sector of the state. The share of tiny industrial units among all the SSI units (both registered and unregistered) is as high as 99.9 percent.

9. After the bifurcation of the erstwhile State, all the mineral resources are merged with Jharkhand State. Thus, the centre of industrialisation process has now to be agro-based which too holds high promises. It is obvious from **ANNEXURE II** that the existing industrial units in Bihar cover a range of products like food products, beverages, tobacco, leather products, wood products, plastic products, machinery and equipment, chemicals etc. But in

terms of value of output or net value added, it is the food, beverage, tobacco, petroleum products (because of refinery at Barauni) that account for more than 85% of total industrial income. The total contribution of remaining industry groups is very marginal. However, as per the location quotients, food products, tobacco products, leather products, non-metallic and mineral products have become prominent constituents of industrial base of present Bihar. It may further be noted that agro based industries occupy a prominent place in the industrial scenario of present Bihar as they account for nearly half of the net value added. However, there still remains substantial unutilised potential of agro-based industries in Bihar considering the size of the rural products.

10. In this respect, it may be mentioned that two agro-based industries which have shown some positive trends in Bihar during the last decade are tea and dairy products. It is reported that about 10,000 acres in Kishanganj district are under tea plantation, providing direct employment to about 15,000 workers. Similarly, through co-operative societies, the performance of dairy based sector has been very encouraging. Milk and milk based products of COMPFED and its well known brand 'Sudha' has received a high reputation even outside Bihar. But absolute size of these industries is yet very small, and much of the milk is sold directly to consumers. These could provide a sound base for rural industrialization of the State.

B. Food Processing Industries

11. Varieties of fruits, such as mango, litchi, guava, makhana, lemon, jack fruit, bael, pineapple etc. and vegetables like potato, tomatoes, cauliflowers, garlic, chilies, peas, turmeric etc. are grown in Bihar in a very large quantity. But neither the farmers are able to harness due benefit, nor does it help generation of employment potential. It is all because of poor pre and post harvest management and lack of availability of appropriate fruit and vegetable processing industries (FVPI). The huge annual loss, amounting to 25 to 40% of the total fruits and vegetables produced, occurs on account of poor methods of harvesting and transport facilities.

12. There are only 45 licensed fruit and vegetable processing units in the state. Most of these units are engaged in the manufacture of fruit juices, fruit pulps excluding frozen, squashes, pickles, tomato ketchup/sauce, tomato juice, tomato puree, tomato paste, jam/jelly/marmalades, squashes/crushes/cordials, barley waters, fruit beverages, chutneys, fruit juice concentrate (except tamarind), etc. There are a few more units along similar lines in the unorganised sector also which are involved in minimal processing. However, the industry estimates that only about 2–3 per cent of the total produce is processed suggesting huge opportunities for expanded business enterprises and marketability both within India and outside. Recent APEDA study commissioned by the Task Force, has reveal that the markets of U.K., Middle East and Mauritius are ready to purchase Bihari fruits and vegetables provided the products are of high quality standard.

13. Farm level pre-processing facilities such as pre-cooling facilities, cooling facilities, collection centers, grading and sorting systems, washing and cleaning facilities and pack houses, etc., are absent. These are critical to preserve quality and prevent temperature shocks immediately after harvest. Warehousing and storage system for fruits and vegetables are absent except for potatoes and a few for onions. The entire produce after harvest is immediately transported to the markets within and outside state and some to the processing units mainly for fruits. These deprive Bihari farmers to reap with values for their produce.

14. The fruits and vegetables processing segment is marked by a complete absence of cold chain along the value chain - resulting in quality deterioration and degradation of raw materials. Similarly, even after processing, the products are kept under minimal refrigeration or no refrigeration. A large number of these units are working on work-order basis for larger chains and as such find that the operating margins being thin - leave no scope of either technology up - gradation or required expansion. All these have restricted the product value of Artisans and product expansion.

15. These constraints need immediate attention to help develop Fruit and Vegetable Processing Industries in Bihar. If this anomaly is addressed, varieties of canned processed products, including beverages, juices, concentrates, pulps, slices, frozen and dehydrated

products, potato wafers, /chips, cornflakes, biscuits, glucose, vermicelli etc can be the core of rural industrialisation. Development of food processing sector can also help in promoting fisheries, poultry and dairy , because a number of frozen and canned fisheries as well as meat/poultry products, including milk powder, butter, ghee, skimmed milk powder etc can be produced in Bihar. This could cater to the expanding needs and changing food habits of growing middle class (estimated 350 million) population of India.

C. Sugar Industries

16. The Sugar industry is the largest agro based industry in Bihar. It generates considerable employment in the farm sector directly as well as through ancillary industries and related activities. According to the estimate of 2006-07, the area under sugarcane cultivation is 117.2 thousand hectares, production accounts for 5,338.8 thousand tones and productivity is 45,552 kg/ha against the national average of 70,469 kg/ha. Low productivity of sugarcane in Bihar is also a constraint for giving a boost to sugar industries in Bihar. Bihar has the lowest sugar recovery rate in the country at 9% against the national average of 10.36%.

17. Till the year 1940, 33-sugar units were established in Bihar, of which only 28 were in working condition. But out of 28 sugar units, 18 sugar mills are presently closed. Remaining 10 mills are in private sector, of which only 9 are functional. On an average, these sugar mills could run only for 126 days in a year because of lack of adequate availability of sugarcane. In the course of the last 7 years, area under sugarcane has remained almost constant. It is obvious that there is enough scope for increasing sugarcane cultivation and its productivity level. New initiatives have been taken and positive results are in sight in the form of 14 green field proposals from sugar majors, such as M/s Rajshree sugar and expansion proposals for the existing private sector sugar mills. There is a need to increase sugarcane productivity in Bihar so that farmers get better economic return and feel enthused to go for cultivation of sugarcane more seriously.

D. Makhana Industry

18. Gorgon nut or foxnut, commonly known as Makhana, is an aquatic crop and is grown in stagnant water in various States of India. But Bihar is the leading makhana producing State of the country, since 90% of the national production comes from Bihar. Madhubani, Darbhanga, Saharsa, Katihar, Purnea, Samastipur, Supaul, Kishanganj and Araria districts of Bihar are the main centers of makhana production. There is a possibility of bringing one lakh hectare more under makhana cultivation. **(See ANNEXURE III)**

19. During the year 2006, State Investment Promotion Board has approved the white Ball Project, launched by Shakti Sudha Industries at a Project cost of Rs. 70 crores. With the forward and backward linkage to be provided under this project, nearly 4 lakh farmers of the Sate will join the production process of Makhana.

E. Leather Industry

20. Bihar State has good quality cattle hides and goat skins and sufficient labour force. However, in the absence of sufficient opportunity within the state, both raw materials and labour force are migrating to other states. There are a large number of cattle in Bihar and their hides are of good quality. Bihar accounts for third rank in the country next only to West Bengal and Rajasthan. Hence, leather based industry is an important sector which has a great potential in the State. As per the recent survey conducted by CLRI **(See ANNEXURE IV)**, Bihar State produces annually 2.64 million bovine hides and 5.09 million ovine skins. More than the number, Bihar state is known for the best quality goat skins, cow hides and buff calf skins. Goat skins are smaller in size and they are the best suitable materials for the production of glazed kid leathers which are mostly used for Ladies shoes meant for export.

21. The footwear units in Bihar consist of two segments: (i) sick units owned by BLDC, and (ii) other artisan units located in all the urban centers. All the BLDC Footware units were closed since 1993.There are nearly 50,000 footwear artisans in the State. State has also tanneries in the private sector. There are in all 85 leather units of which 60 units are working in Betia, Muzaffarpur and Patna and 25 units are undertaking the job work. .

F. Artisan-Based, Tiny and Small Scale Industry Units

22. Small scale industries, tiny industries and artisan based industrial units play important role in promoting industrialization and in providing non-farm employment opportunities. The total employment provided by this sector in 2007-08 was estimated at 5.5 lakh mandays. The share of tiny industrial units among all SSI Units (both registered and unregistered) is as high as 99.9 %. These units are evenly spread throughout the State with relatively low employment potential. While the small, medium and large industries display geographical concentration, the tiny and artisan based industries are spread across the State. The details are presented in **ANNEXURE V**. It is revealed from the **Annexure** that there are 55,287 artisans based industrial units, 73501 tiny industrial units, and only 1699 small-scale industrial units in Bihar. It is further revealed that Patna division has the highest concentration of artisan-based, tiny and small-scale industrial units, similar to those of medium/large units. This apart, while Tirhut, Darbhanga, and Magadh divisions have comparatively higher concentration of artisan based industrial units, Tirhut, Magadh and Saran divisions are better placed as far as concentration of tiny industrial units are concerned, and Purnea, Munger, and Tirhut division have better concentration of small scale industrial units.

G. Textile Industry

23. There are large number of handloom industrial units in the State, of which 10,817 handlooms are operational in the cooperative sector and 23,503 in other than the cooperative sector. Apart from this, there are 11,361 power looms in the State. Handloom industrial units are mainly concentrated in Patna, Gaya, Bhagalpur, Bihar, Madhubani and Siwan districts. There are in all 1089 primary weavers cooperative societies of which 417 are functional. Around 98,000 weavers are out of the cooperative fold and 34,367 in the co-operative sector. If proper training, financing, designing and, machinery facilities are made available, there is a great potential of developing handloom/power loom sector in the State. Government has announced series of measures to improve the situation. Bihar has State Handloom & Handicraft Corporation Limited, located at Patna. Besides, there are two weavers' cooperative institutions at the State level and six at the regional level. Bhagalpur is the 'silk host' of Bihar exporting sizeable chunk of silk products to several foreign countries. However, this industry

has been neglected. There is a vast opportunity for its revival. Therefore, Nathnagar Silk Institute(Bhagalpur) is being revamped and strengthened in order to serve the technological needs of this industry.

H. Industrial Sickness

24. Inspite of the fact that Bihar has a very poor record of industrial promotion and development, quite a large number of the existing units are sick. As per the economic survey, Government of India (2006-2007), there were 259 medium and large industrial units in Bihar of which 18 units were pronounced by BIFR as sick, to the extent that it was decided to close 17 units. As per the third All India Census of small-scale industries (2001-2002), out of 72632 registered units only 52,107 were functional and the remaining 20,525 (28.3%) were closed **(See ANNEXURE VI**). Most of the units were operational on a low profit range in spite of easy access for labour and raw materials. It might be due to the lack of market opportunity or absence of infrastructural support to transport the goods to right markets .It could also be due to high costs of production arising from irregular electricity supply and unplanned production schedule to meet the growing market demand.

25. Of the closed units, 40.6% industrial units are in rural areas, and 59.4% of the units are in urban areas. Patna, Gaya, Aurangabad, Seetamarhi, Begusarai and Jahanabad districts had comparatively higher number of units closures. The impact of industrial sickness has been such as Bihar State Finance Corporation and Bihar State Credit and Investment Corporation itself became sick due to poor recovery of their loans, granted to the industrial units in Bihar. Inadequate infrastructure facilities have been found to be responsible for major set back. Some of the Key issues responsible for large sick units have been identified as (i) lack of working capital, (ii) unavailability of raw materials, (iii) extremely bad road, (iv) inadequate communication facility, (v) delay in granting loans by banks & financial institutions, which have stalled the progress of industrialization in Bihar.

CHAPTER - 3

FINACIAL INFRASTRUCTURE & INSTITUTIONAL FINANCE

26. In Bihar there are four types of financial institutions, which cater to the financial needs of the State. They are (i) Commercial Banks, (ii) Regional Rural Banks. (iii) Cooperative Banks, (iv) State level financial institutions, and (v) national level financial institutions. Cooperatives mainly cater to the credit-requirements of agriculture sector, whereas commercial Banks provide credit-facilities for a number of activities, including agricultural and industrial development. As regards state level financial institutions, they largely help promotion of industrial development in the State; whereas the national level financial institutions, though fill in the specific gaps of financial needs in the State. They cater extensively to the interest of corporate houses.

Commercial Banks

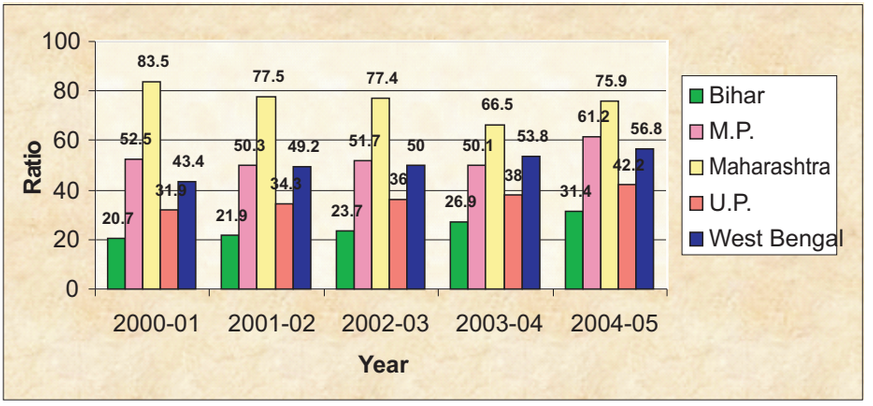
27. Commercial banks are the backbone of financial sector infrastructure. **ANNEXURE VII** shows the distribution and progress of commercial banks in Bihar. It may be noticed from the table that by the end of March, 2007 Bihar had 3698 branches in the State, of which 63.0% were in rural areas, 20.7% in semi-urban areas and 16.3% in urban areas. As regards growth of branches, it may be noted from the table that between 2001 and 2004 there was hardly any growth. In fact during 2001-2002 and 2002-2003 the growth rate was negative because of merger of loss making branches with other branches within the same service area.

Credit –Deposit Ratio

28. It may be observed from **ANNEXURE VIII** that rate of growth of outstanding credit has constantly been on higher side, whereas, deposit growth has remained almost constant. The growth rate of both the credit and deposit in Bihar is lower than the national averages. But what is more important is the application of deposit for the economic development of the State which is measured

from Credit Deposit ratio. At times, credit dispensation shrinks also because of poor repayment of outstanding loans. In fact, till 1990, CD Ratio was at the lowest level as compared to other States in the country. However, some improvement was recorded after 2000-01. Ironically, even during 2006-07 the ratio was at a very low level (31.1) compared to that of national CD ratio average (75.0). Bankers will have no hesitation to use the deposits for the development of the State, subject to launching of viable economic development projects, smooth law and order situation, and reasonably good loan repayment behaviour of borrowers.

CD Ratio of Bihar, Compared to a few Other States of India



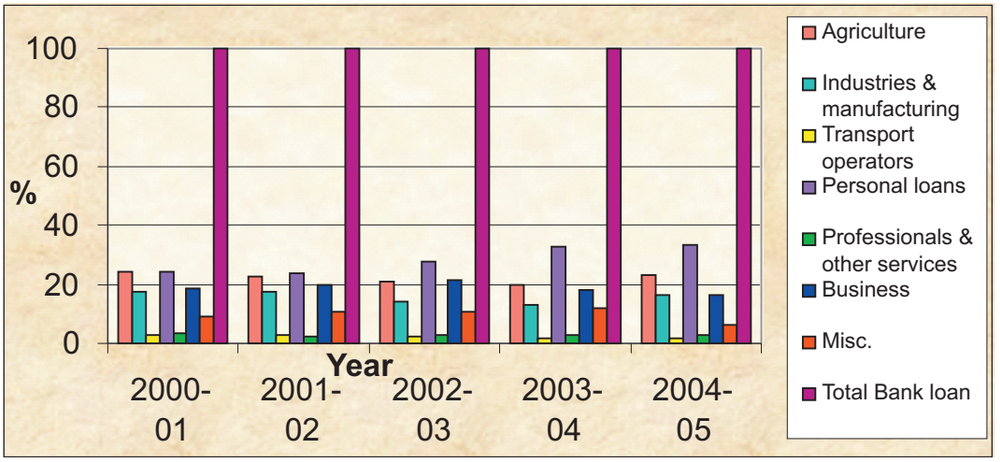
Source: Economic Survey (2006-07), Finance Department, Govt. of Bihar (P.138)

29. It may be noted that investment is a must for productive economic activities and at present, C: D ratio, it will take a long time to reach a substantial investment level. As per the Economic Survey (2006-07) of Bihar Government, during the year 2006-07 per person bank loan stood at Rs 18,000 in the State. Lower level of credit dispensation in Bihar also indicates that credit needs are even now met by private moneylenders at higher rate of interest, which adversely affect the profitability of enterprises. Naturally, this is a serious bottleneck in the industrial development of the State.

Share of Industries in Total Bank Loans

30. The graph given below shows the percentage share of total loans of commercial Banks for various sectors between the years 2000 to 2005. It may be noted that there has not been very significant change in the relative shares of loans to various sectors.

Share of Industries in Outstanding Loans of Commercial Banks



Source; Economic Survey (2006-07), Finance Department, Bihar Government (P.148)

During the year 2005-06, of the total loan agriculture shares 22.7%, industries and manufacturing shares 22.2%, personal loans shares 31.8% and trade 14.8%. This does not augur well for the development of agriculture and industry. The causes need to be identified and addressed to facilitate better credit flow.

Regional Rural Banks

31. There are five Regional Rural Banks in Bihar, namely 'Madhya Bihar Kshetriya Gramin Bank (sponsored by Punjab National Bank), Bihar Kshetriya Gramin Bank (sponsored by UCO Bank), Samastipur Kshetriya Gramin Bank (sponsored by SBI), Uttar Bihar Gramin Bank (sponsored by Central Bank of India) and Koshi Kshetriya Gramin Bank (sponsored by Central Bank of India). Except Uttar Bihar Gramin Bank, whose CD ratio is 34.37 as on 30.09.06, all other Gramin Banks have CD ratio at more than 40, ranging from 44 to 59, which is much better than those of commercial Banks in Bihar.

Cooperative Banks

32. Bihar has a large network of cooperative institutions. Cooperatives in general have suffered because of lack of proper management and political interference. Bihar State Cooperative Bank, Central Cooperative Banks, and Primary Agriculture Cooperative Societies are functioning in the State

and they provide credit facility. But it is unfortunate that due to poor recovery of loans the percentage of their NPA is very high. As per the data available, the recovery rate was 9.1% during 2000, 6.4% in 2001, 11.7% in 2002, and 20% in 2003. The NPA as percentage of their total advances as on September 30, 2002 was recorded as 41.57% much higher than commercial Banks. Similarly, recovery of loan of central cooperative Banks, as percentage of demand was 29% in 2002 and 24% in 2003. Recovery performance is highly unsatisfactory even in the loans dispersed by Primary Agricultural Cooperative Societies and Land Development Banks. With the result, the cooperative structure is in a bad shape and its dwindling credit delivery capability calls for recapitalization and liberalization for increasing their profitability and overall performance.

Credit-flow Thorough Self-Help Groups (SHGs)

33. Micro-credit through SHGs can make significant contribution in poverty eradication. SHGs are small and cohesive group, less bureaucratic, more participative, thoroughly decentralized and effective in a large number of cases. It is mostly because they easily cater to the basic needs of their members, ensure better credit utilization and prompt loan repayments due to peer pressure. In principle, lending through SHGs leads to reduction of transaction cost. But inspite of all this, the performance of SHGs-Bank Linkage in Bihar is poor. Performance of commercial banks also is not very encouraging in this respect with exception to RRBs which have slightly better record than other institutions

Financial Institutions

34. There are various national level and state level financial institutions, operating in Bihar which provides a variety of financial products and services to cater to the needs of industrial sector. The national level institutions are IDBI, IFCI & ICICI which provide financial assistance to medium & large industries and IDFC and SIDBI, which cater to the financial needs of the infrastructure sector and small sector. All these institutions also undertake promotional & development activities. Besides them, there are specialized financial institutions, such as EXIM Bank and NABARD. NABARD plays a major role in increasing credit flow for the development of agriculture, small industries, rural & cottage industries, handicrafts and other rural crafts. This apart, it plays a significant role in development of rural

infrastructure through funding under Rural Infrastructure Development Fund (RIDF). EXIM Bank deals in financing of projects, products and servicing of exports, foreign trade guarantee programme, building export competitiveness, import financing for exports, export and consultancy services.

35. The state level financial institutions, operating in Bihar are BSFC (Bihar State Finance Corporation) BSIDC (Bihar State Industrial Development Corporation) BISICO (Bihar State Investment and Credit Corporation) and BPRFC (Bihar Panchayati Raj Finance Corporation). These institutions have to improve its functioning to contribute effectively.

36. No doubt, there is a plethora of financial institutions in Bihar serving various needs. However, there is a noticeable lack of both width and depth in the financial interventions, particularly for the rural segment of the State. There is also a lack of communication amongst them. In order to promote rural industrialization and seek higher coverage throughout Bihar, there is a need to enlarge the scope of financial interventions, from the point of view of 'entrepreneurial development' in rural Bihar.

CHAPTER - 4

STATE & CENTRAL GOVERNMENT SCHEMES

Schemes of Central Ministry of Labour and Employment

37. This Ministry has laid special focus on self-employment promotion programmes at the State level. In view of the increasing unemployment in the country, the Promotion of Self-Employment and decentralized manpower planning have been adopted during the sixth Five Year Plan as the main plans of its policy to tackle the unemployment problem in the coming years by putting special emphasis on promotion of Self-Employment. To substantiate the needs of the job-seekers under a centrally sponsored scheme, 28 District Employment Exchanges were strengthened by establishing Self-Employment Promotion Cells with the main objectives listed below:

(i) To create awareness among job seekers about the employment market situation and job opportunities;

(ii) To motivate the job seekers to take-up self-employment ventures;

(iii) To assist them in obtaining necessary inputs required for setting of self-employment ventures from different sources;

(iv) To maintain co-ordination with various agencies for promotion of Self-Employment; and

(v) To provide necessary follow-up assistance to the Self-Employment Youth for sustaining them in their market.

Schemes of Department of Science & Technology (Central Schemes)

38. The National Science & Technology Entrepreneurship Development Board (NSTEDB), established in 1982 by the Government of India under the aegis of Department of Science & Technology, is an institutional mechanism to help promote knowledge based and technology driven enterprises. The Board, having representations from socio-economic and scientific Departments and Institutions, aims to convert “job-seekers” into “job-generators” through Science & Technology (S&T) interventions. Major objectives of NSTEDB are as follows:

(i) To promote and develop high quality entrepreneurship amongst S&T manpower and to promote self-employment by utilizing S&T infrastructure;

(ii) To facilitate and launch various promotional services relating to development of entrepreneurship; and

(iii) To network agencies of the support system, academic institutions and Research & Development (R&D) organizations to foster entrepreneurship and self-employment using S&T with special focus on backward areas as well.

Schemes of NABARD (National Bank for Agriculture and Rural Development)

39. NABARD has taken several initiatives to help develop people's participation in variety of rural development schemes. These Schemes are as follows:

SHG – Bank Linkage Programme (Central Schemes)

40. NABARD has been instrumental in facilitating the formation and nurturing of societal groups as SHG's by involving partners like NGO's/ Banks/ MFIs/ FCs, etc. In and Endeavour to achieve the same, NABARD provides grant assistance to the agencies acting as Self Help Promoting Institutions (SHPIs) such has NGOs, Co-operative Banks, RRBs, Farmer Clubs, Individual Rural Volunteers.

Financing Joint Liability Groups (JLGs) (Central / State Schemes)

41. A model scheme was formulated for financing JLGs of tenant farmers, oral lessees etc. The scheme is being implemented by commercial banks and RRBs. The mechanism of JLG will enable banks to extend credit on the basis of mutual guarantee provided by the members of JLG.

MEDP for Matured SHGs (Central / State Schemes)

42. A separate, specific and focused skill building programme, Micro- Enterprise Development Programme (MEDP) has been launched for the matured SHGs. The programme aims at enhancing technical, entrepreneurial and managerial skills of members of matured SHGs and to enable to help develop micro-enterprises in various forms and sizes.

Capital/ Equity Support to MFIs from MFDEF (State / Central Schemes)

43. NABARD provides capital/ equity support to MFIs to enable them to leverage capital/ equity for accessing commercial and other funds from banks, for providing financial services at an affordable cost to the poor.

Training Related Activities (State Schemes)

44. NABARD is extending support for scaling-up SHG – Bank Linkage Programmes by capacity building and other training related activities for different stakeholders of micro – finance like NGOs, Banks, Government functionaries, local bodies, farmer clubs, rural volunteers, and SHG members. The training related interventions also include meetings, exposure visits, seminars, workshops, printing, publications, audio visual training materials, etc.

Scheme for Providing Technology Support to NGOs for Strengthening MIS of SHG Promotion and Nurturing (Central / State Schemes)

45. To facilitate proper maintenance of database and effective implementation of SHG – Bank Linkage Programme, NABARD provides grant assistance for purchase of personal computer to partner NGOs which are not financially storming enough to set up computerization their own.

Schemes of Central Ministry of Textile Industries

46. The Central Ministry of Textile Industries has launched Schemes for technology development for industries. These are as follows :

Technology Up gradation Fund Scheme (TUFS) (Central Scheme)

47. The Government of India had launched a Technology Up - gradation Fund Scheme for Textile & Jute Industries for a period of 5 years under which 5% interest incentive is given to the industry for modernization and technology up gradation.

Export Zone and Technology Parks Scheme (Central Scheme)

48. Two Government schemes, Apparel Parks for Exports (APE) and the Textile Centers Infrastructure Development Scheme (TCIDS), now provide firms / companies with incentives to establish themselves in apparel export zones. Economies can be achieved in these zones with the formation of geographic clusters of textile firms specializing in the various aspects of production. To encourage development of export parks, the Government exempts firms/ companies from some labor regulations and provides them with concessions on land purchase, credit, and taxes.

EPCG Schemes (Central Scheme)

49. Additional flexibility is provided for fulfillment of export obligation under EPCG scheme in order to reduce difficulties of exporters of goods and services. Technological up - gradation under EPCG scheme has been facilitated and incentivised and Transfer of capital goods to group companies and managed hotels are now permitted under this Scheme.

Free Trade and Warehousing Zone Schemes (Central Scheme)

50. Free Trade and Warehousing Zone has been introduced to create trade related infrastructure to facilitate the import and export of goods and services with a freedom to carry out trade transactions in free currency. This is aimed at making India into a global trading-hub and FDI would be permitted up to 100% in the development and establishment of the zones and their infrastructural facilities. Each zone would have a minimum outlay of Rs.100 crore and five lakh sq.mts. built up area.

Single Window Schemes (Central Scheme)

51. The Scheme envisages sanction and disbursement of working capital and term loans together from a single agency. It is applicable to projects with cost upto Rs. 50 lakhs. The Scheme is operated both by banks and financial institutions. State Financial Corporations under Single Window Scheme provide working capital loan along with the term loan to new tiny and small scale sector units so as to overcome the initial difficulties and delays faced by them to start production expeditiously.

Industrial Estate (Central Scheme)

52. The programme started in 1952 when the first such estate was established at Hadapsar in Maharashtra.The main objective of the programme is to encourage and support the creation, expansion and organization of SSI through provision of factory accommodation, common service facilities and assistance and servicing throughout, all stages of establishment and operation and developing sub-contracting relationships within the small scale and large scale industries and specialized manufacturing activities.

Schemes of Central Ministry Of Rural Development

This Ministry has developed a variety of industrial development Schemes to reach rural poor. The Schemes are outlined as follows :

Swarnjayanti Gram Swarozgar Yojana (SGSY) (State Scheme)

53. The objective of the Swarnjayanti Gram Swarozgar Yojana (SGSY) is to bring the assisted poor families (Swarozgaries) above the Poverty Line by ensuring appreciable sustained level of income over a period of time. This objective is to be achieved by inter alia organizing the rural poor into Self Help Groups (SHGs) through the process of social mobilization, their training and capacity building and provision of income generating assets. The SHG approach helps the poor to build their self-confidence through community action. Interactions in group meetings and collective decision making enable them in identification and prioritization of their needs and resources. This process would ultimately lead to the strengthening and socio-economic empowerment of the rural poor as well as improve their collective bargaining power.

Group Life Insurance Scheme (State Scheme)

54. A group life insurance scheme for Swarozgaris aged not less than 18 years and not more than 60 years was introduced w. e. f. 1.4.1988. This scheme is operative from the date on which the asset is disbursed to the Swarozgari till the Swarozgari completes the age of 60 years or a period of 5 years from the date of commencement of the cover, whichever is earlier. A sum of Rs.5000 shall become payable by LIC to the nominee of the deceased in case of natural death. In the event of death due to accident a sum of Rs.10,000 shall become payable by LIC.

Sampoorna Grameen Rozgar Yojana (SGRY) (Central Scheme)

55. The primary objective of the Scheme is to provide additional and supplementary wage employment and thereby provide food security and improve nutritional levels in all rural areas.The secondary objective is the creation of durable community, social and economic assets and infrastructural development in rural areas. The programme will be implemented as a centrally sponsored scheme on cost sharing basis between the Centre and the States in the ratio of 75:25 of the cash component of the Programme. In the case of Uts the Centre would provide entire (100%) funds under the Scheme. Food grains will be provided to the States/Uts free of cost.

National Social Assistance Programme (NSAP) (State Scheme)

56. The Directive Principles of State Policy in the Constitution of India enjoin upon the State to undertake within its means a number of welfare measures. These are intended to secure for the citizens adequate means of livelihood, raise the standard of living, improve public health, provide free and compulsory education for children etc. In particular, Article 41 of the Constitution of India directs the State to provide public assistance to its citizens in case of unemployment, old age, sickness and disablement and in other cases of undeserved want within the limit of its economic capacity and development.

Jawahar Gram Samridhi Yojana (State Scheme)

57. With a view to further strengthen the infrastructure availability in rural areas, it was decided to restructure and streamline Jawahar Rozgar Yojana to provide demand-driven rural infrastructure at the village level. The restructured programme is implemented only at the village level and has therefore, been renamed as Jawahar Gram Samridhi Yojana (JGSY).

Employment Assurance Scheme (Central Scheme)

58. The primary objective of the Scheme is to create additional wage employment opportunities during the period of acute shortage of wage employment through manual work for the rural poor living

below the poverty line. The secondary objective is the creation of durable community, social and economic assets for sustainable development.

Scheme for Technology Up-gradation / Establishment / Modernization of Food Processing Industries

59. Setting up/expansion/modernization of food processing industries covering all segments viz fruits & vegetables, milk products, meat, poultry, fishery, oil seeds and such other agri-horticultural sectors leading to value addition and shelf life enhancement including food flavors and colors, oleoresins, spices, coconut, mushroom, hopes etc.Increase the level of processing, reduction of wastage, value addition, enhance the income of farmers as well as increase exports thereby resulting in overall economic development.

Schemes for Human Resource development

60. Setting up of food & Training Centre (FPTC)

Development of rural entrepreneurship and transfer of technology for processing of food products by utilizing locally grown raw material and providing “Hands-on” experience at such production cum training centre, while according priority to SC/ST/OBC and women.

61. Certification for infrastructure facilities for running Degree/Diploma Courses and Training Programmes for food processing.

Creation of infrastructural facilities like library, laboratory, pilot plants etc. for running degree/diploma courses and training programmes including extension services for food processing.

62. Training Programmes sponsored by Ministry of Food Processing Industries

Conducting training programmes sponsored by MFPI in various areas of food processing.

63. Entrepreneurship Development Programme

Enabling the potential entrepreneurs in taking food processing projects.

Scheme for Quality Assurance, Codex Standards and Research & Development

64. Promotion of Quality Assurance/Safety Concept

(i) To promote the concept of quality assurance and their adoption.

(ii) To create awareness among the food processing industries as well as consumers about the advantage of Safe and Quality foods through Generic advertisement, Workshop/Seminars etc.

(iii) To train various stakeholders engaged in food business and preparation of quality assurance training modules/Guides/manuals, development of sector specific Codes of practices such as GMP, GHP, GAP etc. from farm to work and their implementation.

65. Setting Up/Upgradation of Quality Control Laboratory

(i) To ensure compliance with National food standards.

(ii) To assist industries in the food sector to develop and implement quality management system such as ISO9000, HACCP etc.

(iii) To analyze the samples received from food processing industries, and other stakeholders.

(iv) To impart training in the areas relating to quality improvement through own expertise.

(v) To provide on information on quality standards and requirements of various markets on quality of products.

(vi) To reduce the time of analysis of samples by reducing transportation time of samples.

66. Research and Development in Processed Food Sector

(i) Update processing packaging and storage technologies for all major processed food products so that they meet International Standards.

(ii) Standardization of various factors such as bacteriological standards, preservation standards, additives, pesticide residue etc. of meat and meat products, development of value added products of commercial importance.

(iii) Development of processing technology for the production of intermediate and finished food products/production including design and building of prototype equipment/pilot plants.

(iv) Fortification of cereals/cereal products for enhancing the nutritional level of out population, epically women and children; and

(v) Traditional foods of various regions of the country.

Scheme for Strengthening of Nodal Agencies

67. Strengthen the State level Agencies for food processing industries, designated by the State Government, by providing financial support for installation of basic office hardware including computer system and internet for collection of detailed field information, preparation of data base, monitoring of assisted projects, coordination of agro food business etc.

Schemes for Backward and Forward Integration and other Promotional Activities

Generic Advertisement

68 The objective of Generic Advertisement is to build awareness among the consumers about the advantages of processed food is nutritious, convenient, offers variety, is available round the year, saves time on cooking etc. This would also seek to encourage marketing promotion campaign for new products mix and brand name support.

69. **Seminar/Workshop/Symposium**: to focus attention on the development of Food Processing Industries. Pattern of Assistance: 50% of cost subject to maximum of Rs. 1 lack. When the Ministry sponsors/co-sponsors such events, the would be no ceiling to financial assistance provided.

70. **Studies/Survey/Feasibity Reports**

- For assessment of potential and other relevant aspect of Food Processing Industries on sectoral and regional basis.
- Pattern of assistance: 50% of cost subject to maximum of Rs. 3 lakhs. When the Ministry commissions such studies/surveys/feasibility reports, there would be no ceiling to the financial assistance provided.

Strengthening of Industry Associations

Performance Award

Schemes for Infrastructure Development

(a) Food Park

1) Infrastructure and common facilities for use by small and medium enterprise which

enhance valued addition.

2) Common processing, packing, marketing intelligence platform facilitated by large industry and utilized by small and medium industry and farmers;

(b) **Packaging Centre:** Cost of packaging material and packaging technology is the largest component of the cost of packaged food. Lack of access to superior packaging technology, which enhances shelf life, protects food, is internationally acceptable and has no deleterious effect on environment and health has been and inhibiting factor in the growth of food processing industry. The objectives of this scheme are:

Integrated Cold Chain Facilities

Irradiation Facilities

(i) Enhancing shelf life by irradiation of such products for which this method of preservation is approved under the relevant legislation.

(ii) Prevent infestation (as in spices of flour) /sprouting/change in chemical composition (as in potato) both for domestic market as well as for expert.

(iii) The technology to be guaranteed and its application to be specifically monitored by the Department Of Atomic Energy so as to ensure complete safety in the manner of irradiation and the final products.

Schemes of Khadi & Village Industries Commission

71. Programme for promotion of V.I Cluster- Rural Industry Service Centre (RISC) for Khadi and V.I. activity.

(i) Provide backward forward linkages to Khadi & V.I. activities in a cluster.

(ii) To provide services like raw material support, skill up-gradation, training, Quality Control, Testing facilities, marketing promotion, design & product development in order to strengthen the rural clusters.

(a) Schemes under Polymer & Chemical Based Industry

The village industries viz.Leather, Soap, Agarbatti, Match, Plastic are grouped under Polymer & Chemical Based Industry. The industry wise schemes being implemented under this Directorate are furnished below.

Sl. No.	*Name of the Industry*	*Scheme*
1.	*Non Edible Oils & Soap*	• *Seed Collection & Oil Processing* • *Toilet Soap Base and Toilet Soap* • *Laundry Soap* • *Detergent Powder & Cake* • *Detergent Cleaning Powder* • *Shampoo* • *Liquid Soap* • *Phenyl*
2.	*Agarbatti*	• *Scented Agarbathi* • *Masala Agarbathi* • *Dhoop Agarbathi*
3.	*Cottage Match*	• *Card Board / Wooden match boxes* • *Wax vesta match*
4.	*Village Leather*	• *Intensive Flaying Centre* • *Bone Crushing Unit* • *Vegetable Tanning Unit* • *Wet Blue Unit* • *Footwear Manufacturing & Leather Goods*
5.	*Plastic*	• *Injection moulding* • *Extrusion* • *Blow moulding* • *Thermoforming* • *Rotational moulding*

CHAPTER - 5

ISSUES RELATED TO RURAL INDUSTRIALISATION IN BIHAR

Poor Formal Education System

72. Inadequacy in skill and entrepreneurship development is the key constraint to rural industrialization. This is due to poor formal education. During the last more than a decade, literacy has grown but at a sluggish rate as compared to India as a whole. As per the SES, 2002-03, dropout in schools from primary to secondary classes has been recorded between about 62% and 86% both in the cases of boys and girls, which are much higher than all India averages. Pupil- teacher ratio was also very high (73 to 80), and single classroom and single teacher schools still continued to be the features of primary school system. If one compares the proportion of students enrolled in higher education, the situation in Bihar is not much different from national average. Similarly, in professional education also the performance of Bihar is much poor as compared to all India level.

Lack of Vocational Training Institute

73. State of vocational education is virtually non-existent in Bihar. However, there are 58 Industrial Institutes (ITIs) and Industrial Training centres (ITCs). Of the ITIs, seven ITIs are exclusively for women, and the seating capacity of all the ITIs is reported to be 14,968. In terms of population coverage, there is one ITI per 10 lakh population, where as in comparison it is 2 lakh in U.P., 5 lakh in Punjab and much higher in other States. Apart from the limited coverage, the existing ITIs are in extremely bad shape as far as infrastructure, equipment, and teaching quality are concerned. Other technical educational institutions, such as Polytechnics, Engineering Colleges, Medical Colleges, Dental Colleges, Pharmacy educational institutions, as well as Information Technology based educational centres are also inadequate and prevailing quality is poor. This requires urgent attention of the Government.

Absence of Adequate Rural Infrastructure

74. Due to absence of adequate rural infrastructure, people find it difficult to use the two-ways communication through on - line service for crop information, purchases of Agri-inputs, consumer durable, and sale of rural produce at reasonable prices. Farm information online marketing support adds momentum for rural industrialization so that products may be accessible from rural economic clusters- all over India. Most of the dealers have direct touch with the local farmers; these farmers need awareness about pests, disease, fertilizers, seeds, and appropriate technology. For these information farmers mostly depends on local dealers.The total surface length of roads per lakh of population is only 43.89 Kms as opposed to national average of 151.27 Km (1999-2000). Although 32 percent of the villages in the State are connected by roads but due the lack of maintenance, it is reported that most of the village roads provide only seasonal connectivity. Rural electrification scene to promote rural industries scene is not so encouraging. There are 39015 villages in Bihar, and only about 50% of the villages were electrified till the year 2006[5].

Inadequate Processing & Marketing Channels

75. Climatologically and edaphically influenced factors allow for cultivation of a variety of crops. However, farmers get discouraged as they do not get remunerative price for their products. It is a common understanding that the comparative advantage in production is lost because of the inadequate marketing and processing facilities. In Maharashtra, 40% of the produce is used for processing whereas it is less than 2% in Bihar. A good number of Agricultural Market Yards (53) and agricultural marketing in general are still unorganized in Bihar. About 50 percent of farmers sell their agricultural produce in villages to itinerant traders. Most farmers, particularly small and marginal farmers do not have required quantum of surplus to hire a transport vehicle for carrying out their

Places of marketing of Farm Produce

Farm size	Within village (% of produce)	Outside village (% of total produce)	Outside district (% of total produce)
Small	44.77	55.23	-
Medium	55.53	37.26	7.21
Large	44.06	46.64	9.30
Average	47.70	47.21	5.09

[5] Roap Map of Power Sector in Bihar, A report of the Special Task Force on Bihar, July 2007

produce to regulated markets or places where they can get reasonable price.

76. The mode of transport of goods to the market remains the same. Maximum small farm holders carry 100% of their farm produce on head or on bicycle and just 12% use tractors. Even the medium farm holders carry the farm produce on bicycle and on head to an extent of around 34%, and the rest at 52% bullock cart is used for the transportation purposes. About 87% of large farm holders, having adequate surplus farm prices, prefer tractors as a mode of transportation followed by carts which is 49%.

Low Level of Credit Availability

77. Enlarged investment is considered to be the key to productive economic activities. At present, the level is very low in the State. The CD ratio in the State is repeatedly very low (i.e. 35%) in comparison to India's average of 60%. It will take a long time to reach a substantial investment level. As per the Economic Survey (2006-2007) of Bihar Government, during the year2004-2005 per person bank loan stood at Rs 1575 in Bihar, whereas, it was Rs 5048 in M.P, Rs 27589 in Maharashtra, Rs 3204 in U.P and Rs 7425 in West Bengal. Lower level of credit dispensation in Bihar also indicates that credit needs are even now met by private moneylenders at higher rates of interest, which adversely affect the profitability of enterprises. Naturally, this is a serious bottleneck in the industrialization process of the State.

Poor Implementation of Government Schemes

78. Large numbers of central and state government schemes are not effectively functional and fully utilized by local potential users for the related objectives. Most of the district government functionaries have yet to learn supportive decision making process to encourage the use of the state government schemes for the fullest benefits. Recommendations to be made by the district Officials, which is mandatory for the Central Government Schemes, are held up and delayed and are not recommended to the central government in time. Eventually, number of important programmes of self employment in rural areas for youth, women and other weaker section are not adequately implemented nor fund targeted for specific sector remain unutilized or unused.

CHAPTER - 6

STRATEGIC THRUST AND POLICY DIRECTION

A. The Strategic Thrust

79. Bihar has limited options for bringing economic growth momentum. Considering the resource endowment of the State, the opportunities for development emanate from rural industrialization – with a major focus on value addition to a variety of farm products. Development of these products, in the light of small farm holdings, could be possible, particularly for enlarged products base, by means of a 'cluster' approach. Around these clusters, there would be emergence of a variety of ancillary industries.

80. The strategic thrust for cluster development will be to start with establishment of on-farm primary processing centers in identified production areas, followed by establishment of Agri-business Centres (ABC) on the periphery of mega food parks and terminal market sites and provision of basic infrastructure to improve physical connectivity through out the value chain (such as roads, power supply, water supply and tele-communication) - with a view to enhancing connectivity, marketing efficiency, and value addition in the State.

81. Strategic intervention for rural industrialisation is designed to address the increasing competitive agribusiness sector at national level in a new global economy. This will facilitate the development of competitive agribusiness sector in the State to promote diversification and transformation of agriculture system to be able to raise incomes and reduce poverty. This will be achieved through improved business practices related to use of infrastructure, market intelligence, capacity building, and value chain linkages.

82. The main objective of the future strategic thrust would be to improve the business practices that are critical to the goal of rural industrialization. In this context, it is worth mentioning that – development of appropriate marketing infrastructure will ensure profit enhancing opportunities which

will be realized through investments in infrastructural gaps that exist in the value chain. This has to be inclusive of marketing intelligence component so as to know where and what market opportunities exist. Because it is the market which permits the stakeholders to make a profit they need to extract from the market. Capacity building will enable the stakeholders to make right business decisions to access relevant technologies

83. The proposed intervention would promote new business practices amongst stakeholders. Business practices are related to learning to work together in a value chain, making sound investment in supply chain infrastructure, and using market intelligence effectively. Series of micro rural enterprises will facilitate the resolution of bottlenecks in the value chains and promote innovations and technology, marketing, supply chain infrastructure, and management that will allow those chains to become competitive

84. The institutional mechanisms would include dissemination of relevant market intelligence to cluster networks and producer companies, women agribusiness associations, and private sector managed terminal markets. This will also help in creating societies for development and promotion of cluster driven units in the state. It will also promote establishment of partnerships and linkages among stakeholders involved in agribusiness activities, including farmers, processors, agribusiness entrepreneurs, service providers, NGOs and public sector agencies.

85. The proposed intervention would reduce high dependence of the rural economy on agriculture[6]. This seeks to benefit both the supply side factors (farmers, enterprises and labor) as well as the consumers. While the supply side factors benefit in terms of better income, capacity development, access to new technology etc., the consumers would benefit through better product quality and its variety at affordable prices. The enterprises linked with agriculture, particularly small and medium enterprises, will benefit from economies of scale through better cooperation with other

[6] Similarly, On-Farm Primary Processing Centres (OFPPCs) will also function as stand alone entities without having to depend on ABCs or MTMs or MFPs for their financial viability. In all, 6000 OFPCs have been planned for Bihar (ADB study report op cit 2007).
The cluster mapping exercise has led to recommendation for setting up of an MTM at Purnia and MTM-cum-MFP at Muzzafarpur in the State of Bihar. Similarly, the study recommended Kolhapur as a suitable location for setting up of an MTM and Baramati as a location for Mega Food Park. There are several ABCs and OFPPCs falling in the proximity of these MTMs or MFPs. The ABCs and OFPPCs are, however, planned on a standalone mode. Therefore, there is flexibility in networking them for any of MTMs or the MFPs whenever they come up.(ibid)

members of the value chain, and also improve their productivity and quality by gaining access to new technology and research inputs. The workers will not only be able to upgrade their skills (and therefore income as well) but will also have more employment opportunities with development of the entire value chain.

86. There is a need to build the capacity development of the potential rural entrepreneurs across the value chain, to access and use information to their benefits. This would also open up new avenues for cooperation/linkages among the new entrepreneurs. Training will enable better planning and management of inputs, outputs and logistics.

87. One of the major ingredient of proposed strategic thrust for rural industrialization is introducing product based ' Cluster Approach'. The concept of 'Cluster' revolves around a few key operating determinants viz, geographical boundary, same or similar range of products, related and supporting industries, demand conditions, raw material availability, promotion of active cooperation" or "targeted joint action", industry competitiveness, supporting factor conditions in infrastructure, linking to winner value chains within and outside the Cluster, accepting it as a dynamic long term process, and a clear time frame. Worldwide, the Clusters are being acknowledged as a strategic mechanism through which regions or states can attain higher level of industrial development.

88. Cluster support team would encourage producers' companies, farmers' association /self help groups that can take-up primary processing and marketing activities at the village level with the involvement of member farmers and therefore these value-added products can fetch better returns.

89. In view of the above, Clusters can be defined as a sectoral and geographical concentration of enterprises of Clusters in particular Micro, Small and Medium Enterprises (MSMEs), facing common opportunities and threats". It may also be mentioned that at times "agencies have come up with definition of Clusters by specifying a minimum number of units in a given measured location[7]".

[7] Ibid

B. Key Elements of Proposed Strategy

90. In Bihar, efforts towards rural industrialization in overall perspective would gravitate around traditional manufacturing clusters. The prime focus would embrace low tech micro and small enterprise clusters, targeting competitiveness as well as employment generation capabilities. This alone will definitely have a positive impact on both employment and poverty alleviation which are the main concern of the state. However, high tech clusters or non-cluster small and medium industries, capable of generating employment and prosperity, also need proper attention.

91. The development strategy on rural industrialization would broadly cover the following key elements.

(i) Identification of industrial resource materials viz., raw material, skills, which could be taken advantage of;

(ii) Demarcation of location, having preponderance of identified resource materials, and structural bases for infrastructural support;

(iii) Policy recognition of cluster approach as well as all out corresponding support by the government;

(iv) Ideally a cluster should be within an easily approachable distance for the local stakeholders. It would be helpful in developing mutual linkages and trust;

(v) Preference should be given to activation of cluster, rather than to proliferation/creation/formation of more and more clusters;

(vi) Clusters of similar and supporting nature should be inter- connected to form an array of clusters. This array should be appropriately strengthened with enabling infrastructure to help achieve higher level of competitiveness with a sense of inclusiveness/togetherness by undertaking joint initiatives through cluster level associations and their connectivity in a planned and time bound manner.

(vii) A well structured action plan with definite time frame for lateral and collateral initiatives, including development of BDS in financial services, management and skill training, consultancy and advisory services, marketing, technology transfer, and enterprise linkages etc.;

(viii) Constant monitoring, evaluation and undertaking mid course correction;

(ix) Active participation of beneficiaries and local self government machinery; and High powered state level inter ministerial joint – implementation & monitoring mechanism, with representation from beneficiaries and other supporting external agencies, including private or public sectors.

(x) Infrastructural and BDS support interventions should get precedence over cluster activation and the support system should be made to run effectively and uninterrupted for 3 to 5 years;

(xi) The State Government by itself or through private sector players, should develop a cadre of human resources to undertake cluster development preferably in close partnership with non-government credible bodies.

C. Community Centric Strategic Model

92. Past experiences make it imperative that the sense of initiative be transferred to the beneficiaries so that not only their dependence on government machineries reduces to a bare minimum, but also they develop the much needed confidence to manage their enterprises. The following interventions will be appropriate in this respect:

(i) Producers community may be mobilized to formulate the 'Commodity Specific Interest Group' (CSIG); federate at different levels and develop understanding on organizational aspects in terms of legal, functional and managerial dimensions;

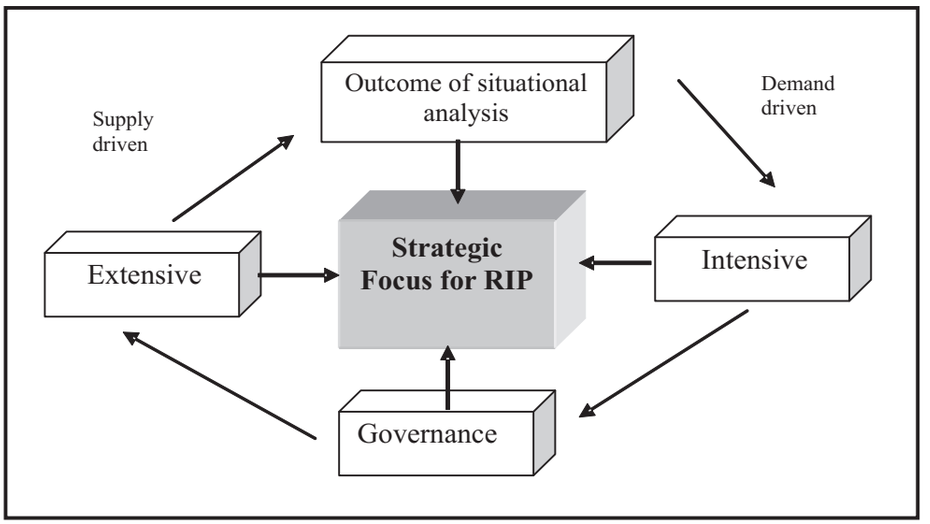
(ii) The office bearers of commodity specific interest group will be trained to develop entrepreneurial capabilities, aptitude for decision-making, enhance marketing knowledge and skills. This will enable them to become effective change agent in the rural economy and set standards of excellence in their economic venture through establishing linkages with professional; and

(iii) Provide backward and forward linkages through institutional interventions for financial sustainability of rural poor and farm women. This would strengthen the nexus of agriculture and industries at the village level.

93. Needless to mention that the entire canvas of the strategic focus stands on the situational variables. On the one hand, the basic approach revolves around a judicious blend of both the extensive and intensive functional interventions together with aggressively developed market meant for the rural producers in order to facilitate a paradigm shift from supply driven to demand driven rural economy. On the other, it suggests efficacy of sensitive proactive and responsive governance. Fortunately, the current focus of the government does show above sensitivity where speed and momentum would add their efficacy.

94. In view of the above, it may not be out of the context to mention about the state Department of Industries which is heavily loaded with the complexities of bureaucratic systems and administrative procedures. Khadi and Village as well as Handloom Directorates, which are placed within the Department of Industries, are not appropriately empowered to coordinate with other functional heads and to address even the pressing issues of rural industrialisation. Therefore, the following Chart – 1 reflects a framework for providing linkages.

Chart - I



95. In the past, Directorates were reduced to such an extent of misplaced irrelevance for quite some time that they were even put together under a single administrative head, causing utter disarray at the ground level in administration, supervision and monitoring[8]. This has made negative impact on

[8] Currently it has Handloom Directorate and cottage and village industries directorate with two separate heads Udyog Mitra is not fully equipped to meet the growing need of rural entrepreneurs as a single window support unit inspite it's new face lift. It needs further strengthening in terms of resource and greater autonomy to operate.

their performance. The above observations are only the pointers to the need for an appropriate administrative revamp whereby all the administrative sub units are adequately empowered for decision taking process and smoothened for effective and efficient governance.

96. This apart, the strategy of RIP focuses upon the critical roles the Panchayati Raj administrative mechanism may play at the grass root level in planning, implementation, supervision and monitoring. However, what is really a great challenge for the strategic focus is to encourage a paradigm shift from supply driven to demand driven rural enterprises. This challenge may effectively be encountered by building proper marketing bridges. Currently, state marketing emporium and local and national trade fair are common operating mechanism that builds linkage with rural entrepreneurs. Absence of proper regulated market and large chunk of unorganized informal sector poses serious challenge to the rural economy.

D. Extensive Strategy

97. Extensive process is envisaged to take up mass scale intervention on clear and sound plan of action. ***For example, in order to abridge gap of trained skill workers for rural enterprises, that is in dismal state of being due to poor institutional infrastructure (Industrial Training Institute), an extensive intervention is needed.*** There is a need to have one ITI in each district to meet the growing demand. Since the government alone can not afford to set up the ITI in every district, attempt should be made by private players to set up community polytechnics. NGOs and other social organization should be encouraged to have vocational and skill demonstration centers to create employability amongst youth. New business houses should be invited to set up such centers in selected areas in each agro –climatic zone.

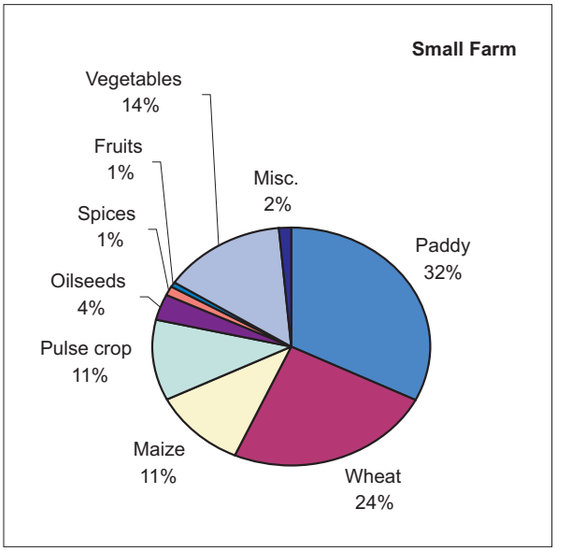
98. Similarly, zone-wise intervention at institutional level, block level intervention through panchayats should form part of extensive strategy to expand the outreach at a faster pace. Another example that may be cited of an economic activation program that is currently on in the state under the aegis of World Bank (Livelihood Project) with the nodal role of Ministry of Finance, Government of Bihar. Social Welfare Department's Women development center of the Government of Bihar can also be taken advantage of for steering rural industrialisation towards the demand driven production

phenomenon. May be, it would move further to explore partnership with other NGOs and private players to multiply its efforts.

E. Intensive Strategy

99. Intensive strategy is characteristic of a defined product centric Cluster on specific area approach for a limited period. Later, the successful implementation of the project would multiply its efforts in other areas. Demand driven model is proposed to have search for good role models and best practices in different areas and to build strong market nexus.

100. The Chart – 2 below shows the size of farm products in Bihar. The strategic approach is how to add value to these products. Therefore, the **proposed strategic intervention** is closely associated with the characteristics of the state's operating mechanism for rural industrialization process. The huge agriculture potentials of the state have not been fully tapped. The nexus of agriculture and industry has not been explored adequately. Neither of the sectors (agriculture and industry) has evolved strong rural extension network with a positive inter- sectoral linkages at any level. In fact, institutional infrastructure to support rural industries has not been functional over the years. However, building vocational skills and creating their employability has become major challenge to the State. This would encourage gainful employment and socio-economic equity amongst those marginalized rural poor. One may examine the options of initiating extensive[9] or intensive strategic intervention in the given economy at different locations depending upon specific economic cluster potentials. As defined earlier, there is a need to



[9] Extensive strategy approach characterizes the spread of activities on the defined locations on mass level to have wider awareness and concurrent impact on a large scale. The intensive strategy defines a focused area approach on a pilot basis, thereafter encourage the outcome of the project to multiply and replicate its success at different level over a period of time (Evaluation study by IDMAT Swashakti Project WB 2004).

have role models that can be enhanced to extend the outreach on a mass scale. Thus, it is a blend of extensive and intensive approach that would fit into the current scenario of the state's economy.

101. The State enjoys natural comparative advantage for horticulture with possibilities for growing a diversified basket of fruits, vegetables and spices. Their potential has not been fully exploited. For making these products viable in the export market, following steps should be taken:-

(i) Product specific strategies should be adopted for those products which have potential for export from the State. Some of these products are Litchi, Mango, Makhana, Okra and Baby corn. Litchi and Okra are already exported to the markets of EU and Middle East. The market for Honey is already well established. The State should work on the promotion of Litchi Honey.

(ii) Bihar is one of the prominent producer and exporter of Litchi. The most important market for the fresh Litchi is European Union. The State should concentrate on export of both fresh and processed Litchi. Moreover, efforts should be made to tap more international markets for Litchi and other horticultural products. The main harvesting season for Litchi in Bihar is May and June. Except Thailand, no other country can supply fresh Litchi during this season. Thus, there is definite opportunity for India from Mid May to early July when potential markets can be tapped.

(iii) Contract farming model should be adopted for quality production of different horticultural crops. In Contract farming, private sector participation is imperative. Cultivation of some specific crops Baby Corn, Snow Pea and Snap Sugar should be undertaken in the contract farming mode.

(iv) Effective pre and post harvest management is critical for successful marketing of the produce. The sooner the fruits are packed and cooled after harvest, the better their quality on arrival in the market. Delays between harvesting and packing are frequently the cause of water loss and diminished quality. On the basis of product specific location and logistic feasibility, the State Government should concentrate on establishing more number of Pack Houses, Freezing & Processing plants and Perishable Cargo Centres. Establisment of these product based infrastructure can make the produce available in fresh form to the consumers. This in turn will increase the export volume which is the need of the State to harness opportunities in the foreign market and to develop rural industries.

F. Future Policy Direction

102. The major element of future policy direction towards rural industrialization should be focused at integrating community orientation towards resource regeneration and skills orientation. The task is to have umbrella supportive frame under appropriate administrative structure. For example, Khadi and Village Industries are supervised by an organization that has lost the energy to carry on it's extension programme. It's expected role to converge multidimensional supportive inputs at the district level through DICs (District Industries Center) has been placed into an ideal structural set up. However, the desired policy expectation support for rural entrepreneurs in absence of adequately trained manpower and ill-equipped rural extension orientation is at low ebb. There is nothing new in the policy frame except that of unified ***Udyog Mitra***– single window support programme, operational under Department of Industries that has become quite effective and prompt in recent past.

103. It is desirable to encourage creation of ***Rural Business*** hubs through Panchayat Raj institutions. State government is expected to initiate comprehensive district planning exercise, involving Panchayati Raj bodies that would set the foundation of such business hubs. Removal of Agri-Produce Marketing Act has, of course, minimized the blocks and hurdles with the free movement of agricultural produce from village to haats. But the creation of rural business hubs would add momentum to the new institutional infrastructure for the development of rural industries. Currently, the State does not have any such Training Agency/Institute to build a capable extension team-work force. Multi- stage training intervention would, thus, be needed to augment the process to build such an institutional frame at the ground level.

104. As regards cooperative institutions, Sudha, a dairy co-operative, is a shining example in Bihar and one of the most successful exercises of its kind in India. Launched in 1993, the co-operative's revenues from a range of milk and milk products has raised manifold as on date. The co-operative has 6,000 outlets covering 84 towns in the State. More than 260,000 milk farmers in the State are members of the co-operative, and a private bank has even launched a pension scheme for them. Sudha has begun extending its market linkage to other Indian States like Uttar Pradesh, West Bengal, Jharkhand. However, institutional development strategy of such organization needs attention for sustained growth in the extensive strategy approach for RIP. For example, other products like processed fruits and

vegetables, with proper packaging may attract effective marketing outlets. It would help a large number of rural producers and agro-industries. Community interest groups being promoted by department of agriculture under World Bank and Asian Development Bank support may stimulate rural entrepreneurs to move forward in this direction through 'Sudha' market outlets.

105. The project 'Bihar Green' is being launched by the state govt, Department of Agriculture. It is aimed at helping vegetable farmers and vendors, particularly women, by opening vegetable outlets for them. The project is one of the several moves by the Govt. to promote agro-based businesses and to empower women. The government has decided to form self-help groups of women, involved in vegetable farming and selling the produce on the lines of successful milk cooperative “Sudha Dairy". To begin with, the small vegetable outlets are proposed to be set up near the existing Sudha Dairy booths in Patna and later in Darbhanga, Muzaffarpur, Purnea, Gaya and Bhagalpur districts. The women will be provided assistance in setting up their shops to run on minimum profit so as to compete with big business houses like Reliance and others. Woman vegetable vendors are proposed to be trained to improve their communication skills. They will also be taught the importance of hygiene and keeping the vegetables fresh. These women would no longer sell surplus vegetables at slashed prices. The women vendors will fix their own prices daily at the vegetable outlets. These policy initiatives should be accorded top priority in implementation, its base should be expanded, and experiences should be replicated on a wider scale, with due correction/rectification in observed deficiencies.

G. Institutional Framework

106. The absence of institutional framework to cater to the learning needs of rural industrial extension work force has posed serious constraints to rural industrialization programme. In order to bring administrative reforms for rural industrialization programme in the state, an appropriate training and well coordinated governance needs urgent attention. As the situation stands, the available training machinery of the State is neither enough in number nor are they well equipped to support needed entrepreneurship development and rural enterprise creation, commensurate with the objective behind the concept of promoting rural industrialization in the State. The State Government

would do better to improve and upgrade the training machinery and its working efficiency. If need be, the State Government can even seek partnership with competent NGOs, private training agency which can take up the challenge and can produce desired results.

107. As stated earlier, '***Udyog Mitra***' concept in recent past has taken off the ground under Single Window Scheme. The outfit of the District Industries Centers at District level is functioning much below expectation. The knowledge, enthusiasm, motivation, performance expectation, goal orientation of the functionaries are to be rekindled and rejuvenated at intervals through training for better performance. But 90% of the officers of DIC did not attend any such training program almost for more than a decade. This has to have its telling impact. In-fact, these functionaries should be given advance training to help them become competent trainers for the rural unemployed youth [10]. They should be eventually made to use their expertise and ability to develop aspiration and will in the youth to go for self employment by undertaking rural industries. This apart, they should also function as friend, philosopher and guide for the entrepreneurs. This concept should be revisited, problems analysed, and capacity built by equipping them with all the support systems to make them move with a sense of strong determination for making the rural industrialization programme a resounding success in the State.

108. State Department of Industries has taken total responsibilities of coordinating rural traditional and modern industries of the state with limited and poorly trained manpower. Heavy and small industries are interlinked under one administrative head being looked after by single Industrial Development Commissioner. He is supported by ***Director of Industries*** and ***Director Technical Development.*** The former is generally caught up in administrative load of the department coordinating Udyog Mitra functions as well. Whereas ***Director Technical Development*** has massive

[10] Training programmes may be organized for youth on different, modules viz- potential rural entrepreneurs, existing rural entrepreneurship development, product specific rural entrepreneurs development programme. Such modulars programme are being offered by local agencies but state department of industries need to extend aggressive support to such local agencies with close monitoring of quality and follow up. Independent training agencies may be hired to develop need based training module to the emerging requirement of the state on related theme.

task to pay attention on large and medium industries promotion. Small and rural enterprises are left under ***Director Handloom*** or ***Director Khadi and Village industries*** who have inadequate extension network. Therefore, there is an urgent need to strengthen the capacity of the department and modernize their support system at every level with strong information support system[11]."

109. Intensive and extensive promotion of rural industries in Bihar will be a challenging task. The entire range of small scale industries, village and cottage industries would come under the domain of this exercise with all their problems and prospects. The promotional efforts will call for the following;

(i) Strengthening credit and delivery system through training, sensitization and Governments' commitment, supporting the recovery process of institutional credit;

(ii) Strengthening the process of rural entrepreneurship development by training of master craftsmen, capacity building of supporting training institutions, implementing rural industrialization projects, arranging training programmes by master craftsmen, and vocational training by master craftsmen;

(iii) Technology transfer and technology development through technology upgradation cum production Centers, technology demonstration Centres, district Industries Centers, and networking with technology oriented Centers etc.;

(iv) Sub-sector development & promotional interventions for handlooms, powerlooms, silk weaving/seri-culture, handicraft, leather products etc.; and

(v) Stimulating agricultural growth to produce enough surpluses of food crops, fruits, vegetables and cash crops to promote processing/agro-industries. Networking with large industrial units for promoting ancillary industries etc.

110. As a part of intensive strategy, selective focus on skill upgradation, technological modernization, organizational motivation and goal orientation etc may be the key features to be instilled at the institutional level into the organizational system of the enterprises through appropriate training to ensure their effective functioning. Sudha diary organization needs attention on such related issues to streamline the cooperative body. Curiously the sample entrepreneurs had neither interest in

[11] The head office team also need to be geared on new areas of training and innovative project outlook. State can take up several studies and projects on different new industrial opportunities in rural areas in addition to area study and concurrent training intervention. In order to take up such task entire team need exposure and new orientation from time to time. They also need advance training on management practices and reinforce their vigor and energy.

getting their workers trained, nor did they know about such training institutes, while a majority of the enterprises were performing below their installed production capacity with much lower gross profit that too for their weak market linkage and poor marketability of their finished products. On the top of it, a large majority (70%) of the sample entrepreneurs had no training exposure, before or after the commencement of their enterprises.

111. In order to overcome these observed deficiencies, following proposals are made:

(i) Capacity strengthening need to address the knowledge and skills development of small and marginalized farmers as well as women to enable maximum realization of their harvest across supply chain;.

(ii) Producers need to be sensitized to maintain quality and food safety through proper handling and storage of produce after harvesting. They would be trained to understand and appreciate the process of supply chain and how they can contribute in this process for mutual benefits;

(iii) Producers will be mobilized to formulate the 'Commodity Specific Interest Group (CSIG)' federate at different level and develop understanding on organizational aspects in terms of legal, functional and managerial dimension;

(iv) The office bearers of commodity specific interest group will be trained to develop entrepreneurial capabilities, aptitude for decision-making, enhance marketing knowledge and skills. This will enable them to become effective change agent in the rural economy and set standards of excellence in their economic venture through establishing linkages with professionals; and

(v) "In Bihar, training infrastructure especially for horticulture crop is not suitable to support the training requirement under the fast changing context of horticulture development. At present, horticulture department does not possess any training infrastructure and adequate trained manpower to purse any training programme at district level. Also existing training facilities at Rajendra Agricultural University, Samastipur, would not be sufficient to cater the training need of the state. So, additional training infrastructure facilities need to be created in consonance with proposed 29 Agri-Business Centres (ABC) under the project. Additional 2400 sq ft should be constructed within 29 proposed ABC with well furnished training facilities**.(See ANNEXURE XII)**

112. Apart from these, the promotional efforts will also call for taking steps for solving a number of infrastructural problems, be they related to power supply, water supply, road and transport communication, working capital, institutional credit support etc. The foregoing initiatives are only indicatives as there are many other functional aspects which have not been included for the sake of brevity. But it goes to show that the task of promoting rural industries is very challenging and onerous in the context of inherent complexities of the sector, eg., wide dispersal, enormous range of products, infrastructural constraints, lack of standards and standardizations, disparity in technology employed, scale of production, and marketing/managerial bottlenecks etc.

113. In order to effectively promote rural industrialization of Bihar, some of the other policy and institutional intervention would cover the following:

(i) First phase priority to hinterlands of major cities and urban centres – to bring spill over effects to the rural areas;

(ii) Apart from farm products value addition, attempts towards enlarged scope for light industries with private enterprise development;

(iii) Formulation of appropriate micro economic policies for proper incentives to private enterprise;

(iv) Injection of more accumulated rural capital and price incentives to farmers on farm products for increasing farm income and profitability for creation of home markets for consumer products and services;

(v) With large rural savings and bank deposits, the adoption of public policy to retain part of the annual deposits for build up of capital within the local area with the institutional support packages and infrastructure;

(vi) Adoption of policy incentives for urban state and private factories/industries to relocate part of

their expansion/operation to the nearby regions outside the city boundaries through subcontracting, joint ventures, and investment in viable rural enterprises;

(vii) Adoption of measures for urban/rural technology transfers and encouraging by policy incentives for urban factories and research institutes to provide:

(a) Technical consultancy services to rural enterprises;

(b) To help in product advertisement and marketing;

(c) Assigning skilled technical staff and managers (on a contract basis) to rural enterprises – with proper incentives, benefits, and career path; and

(d) Encouragement to expansion of rural labour markets and instead of rural to urban movement, encouragement of rural to rural labour market development.

114. For giving top priority to rural industrialization, following institutional agenda needs to be followed:

(i) Considering the magnitude and complexities, the State Government may consider establishing a specially dedicated Directorate of Rural and village industries (RVI) under a senior administrative officer with a State Steering Council, chaired by the Chief Minister or by the Dy chief Minister and co-chaired by the Industrial Development Minister with the representation of the heads of all the cross functional departments, expected to coordinate with the directorate of RVI for creating necessary infrastructural support and resource building as well as reasonable representation from functional clusters to facilitate implementation of the rural industrialization program in the State Departments like those of agriculture, rural development, social welfare, planning and panchayate Raj including the coordinating heads of the SLBC & national financial institution should necessarily be on he Council. Secretary Industries Development would act as a nodal departmental head. The function of the Council is to integrate all the concerned departments.

(ii) Alongside, Rural & Village Industrialization Coordination Committee should also be constituted at District level under the chairmanship of District administrative head for ensuring proper grass root level coordination in planning and implementation of the program, that integrates all the

departments and supporting sectors.

(iii) To begin with, the State Government should consider popularizing the use of Solar Photo Voltaic Technology extensively in Bihar, particularly in rural areas to meet their immediate power need for light, fan, electrical or electronic gadgets. It will provide them pollution free energy. Thus, their children can study at night in better and healthy environment, the traders/ shop keepers/ artisans will get light for extending the hours of their gainful activities at night, radios television can be used for information & entertainment, people will have better family & social interaction at night.

(iv) There may be solar street light, telephone booth etc in the villages and so on. Panchayati Raj Institution can take up this responsibility of promoting standard quality of stand alone Solar Home lighting systems, street lights in the villages. However, temptation of giving subsidy on a large scale for this purpose should be avoided as far as possible. It can at best be linked with village /cottage industries, or any income generating activities in villages. However, State Government should arrange to conduct free demonstrations of photo voltaic technology/ Solar Home Lighting System, free training to develop chains of supply and after sale services in the villages with the help of NGOs, and manufacturers of solar home lighting systems (SHLS). It will create additional self employment opportunities also. Financial institutions may be roped in to provide credit facilities for installation of SHLS. It has already started happening in other States, including Bihar.

(v) State government should establish a Monitoring and Evaluation Cell at each district headquarter – to watch and assess the process of industrialization. In this process, a proper system of information collection and data analysis be also established.

CHAPTER - 7

ROLE OF PRIVATE SECTOR IN RURAL INDUSTRIALISATION

115. Private sector has a major role to play in the economy of the state, in time to come. Yet the pace of their active participation has been slow. The Chambers of Commerce and Industries Association have become instrumental in developing food processing sector linkage. In order to understand the outreach progress, attempt has been made to examine the geographical spread of large and medium industries in the state in addition to massive physical infrastructure initiated by the private sector in partnership of the state.

Geographical Spread of Large & Medium Units

116. As per the data available from Industries Department of Government of Bihar, out of 35 districts of the State, as many as 10 districts do not have even a single medium large industrial unit and another 11 districts have less than five units each. Distribution of large and medium industrial units among all the nine divisions of the State is presented in following table.

Geographical Distribution of Large & Medium Industrial Units in Bihar

Divisions	No. of units under industry groups				
	Food products, beverages & tobacco	Cotton , Wool, jute, paper & leather	Rubber, Plastic & chemicals	Basic metals, metal products machinery & Transport	Total
Patna	22	18	7	52	99 (38.2)
Magadh	6	1	9	9	25 (9.7)
Bhagalpur	2	3	2	3	10 (3.9)
Munger	2	3	12	1	18 (6.9)
Saran	12	1	0	1	14 (5.5)
Tirhut	21	6	13	16	56 (21.6)
Darbhanga	9	9	1	-	19 (7.3)
Purnea	8	6	1	3	18 (6.9)
Bihar	82 (31.7)	47 (18.1)	45 (17.4)	85 (32.8)	259 (100.0)

Figures in parentheses represent percentage

**Source*: Economic survey (2006-2007), government of Bihar (P.49)

117. Most of the medium and large industrial units are concentrated in Patna, Magadh and Tirhut divisions. The highest concentration is in Patna division (38.2%), followed by Tirhut division (21.6%) and Magadh division (9.7%), Darbhanga (7.3%)..It is further interesting to note that the highest percentage (32.8%) of the units represent the industry group comprising of metal products, basic metal, machinery and transport, followed by industry group, comprising of food products, beverages, and tobacco (31.7%), industry group comprising of cotton, wool, jute, paper and leather (18.1%), and the industry group comprising of rubber, plastic and chemicals (17.4%) in descending order.

118. With the growing physical infrastructure like construction of roads and flyovers etc, demand for small tool makers and other mainstream construction workers is likely to move up in coming years. Infact, there is a visible dearth of skilled construction workers in the villages due to spin off in building and road construction works in small townships and neighboring cities.

Physical Infrastructure, Road, Power and Telecom

119. Private sector contribution in the improvement and further expansion of physical infrastructure in Bihar holds the key to development and growth of Bihar's economy, Regular power is crucial for growth of small and medium industries in the State. Therefore, special attention has to be placed on bridging supply and demand gaps. The only reliable supply of electricity is from its share of 1169.77 MW from central power generation stations against the estimated demand of 2332 MW in 2007. In order to meet the power supply needs of the State, there is an urgency to focus on generating renewable, non conventional sources of energy. The Government of Bihar has already initiated projects to bring additional power supply to the State. The focus is to be placed on implementation of these projects-with further strengthening of the institutional capacity of Bihar State Electricity Board.

120. **Transport infrastructure** is considered to be another priority area for rural infrastructure. Currently road transport infrastructure is very weak in Bihar. In addition, it is proving difficult to construct and maintain roads in the flood prone north Bihar. At present Bihar has a total road length of 81655 kilometers. Some 36851 kilometers of kachha roads are in villages and districts, and conditions are not very good. In all, 27 National Highways pass through 35 districts of Bihar and connect the international border of Nepal as well as adjacent States of West Bengal, Jharkhand and UP. A total of 711.10 kms of National Highways have been transferred to NHAI for upgradation to 4 lane divide carriageway under NHDP scheme. (**See ANNEXURE XIII**). In terms of population, while for the

country as a whole, road availability is in the order of 234.58 kms per lakh of population, in Bihar it is only 89.28 kms per lakh of population. Therefore, road density in Bihar is much lower than the national average. It may also be mentioned that in general only one third of the villages in Bihar (36.1%) are accessible by road **(See ANNEXURE XIV)**. Rural industries growth depends solely on rural market possibility and available network. Market infrastructure is strongly linked to rural road infrastructure. Considering the issue of quality of roads, the position of Bihar is much to be desired. The share of surfaced road to total road length in Bihar is only 43 per cent whereas nearly 58% of the total road length in India is surfaced. In nutshell, it may be concluded that progress in road infrastructure in Bihar has not been at par with the national average, and has been far behind some of the fast moving States. However, Bihar Government has encouraged private roads constructing agencies from outside Bihar to be partners in infrastructure development. Favourable policy environment has been created for their active participation. By now, a large network of road construction throughout Bihar is on implementation agenda of the Government. Their impacts are expected to be visible soon.

Private Transportation of Goods and Services

121. There is hardly any cargo base nearby Bihar except that of kolkatta .Of course, branches of several such agencies do operate at Patna. There are two international airports at Patna and Gaya. Presently Indian Airlines, Jet Airways, Deccan Airways, and Sahara Airways are providing air services from Patna Airport in addition to rail mode.

122. **Inland waterways** can provide relatively low cost freight in Bihar, since Bihar has a good network of major and minor rivers. Rural producers need strong transportation facilities .The river Ganga, passing through Bihar, has been declared as National Waterways (NW) No. 1 by the central Government. On NW-1, least available depth (LAD) of 2 meters is being provided between Haldia and Patna for a distance of 1020 kms as well as 1.5 meters between Patna and Varanasi for about 330 days in a year. Floating terminal facilities have been provided at Haldia, Karagola, Bhagalpur, Munger, Patna, Varanasi, Chunar and Allahabad. A permanent terminal has been constructed at Gaighat, Patna. The Central Inland Water Transport Limited (CIWTL) and private operators are operating river services on NW-1. In addition, there are a large number of rivers with a total navigable length of over 1300 kms in Bihar which could provide links to various important cities of the State in course of time, depending on its economic viability.

123. All these facilities, if monitored properly, could provide a network of connectivity to Bihar's rural industries and facilitate the process of rural industrialization. These basic facilities would encourage the private entrepreneurs, both from within and outside Bihar, to actively participate in the ventures related to rural industrialization.

Tele-Communication

124. The private sector in telecommunication at present, cover 67.1 lakh telephones (basic & mobiles) in Bihar. BSNL, ***Reliance, Bharti, and Tata Telecom are the four telecom operators***, providing services in the State. However, BSNL is the leading operator having 41% market share. As to the telecom service density, it comes out to 809 per 1000 population [12]. This will definitely improve further in the course of time and would bring far reaching implications on the investment of private entrepreneurs.

125. **Studies on power generation potential and distribution by private players** have revealed that power sector can invite large number of private players in the state both in hydro and renewable energy area. While six small hydro power plants have already been identified but individual entrepreneurs associated with them are hardly few. NABARD has also extended support to more than 16 small hydro projects to the State through the corporation, BSHPC. Of course, biomass power has greater scope to invite rural entrepreneurs to take up active role. Out of the 4000 operational rice mills in Bihar, it was found that most of the rice mills (about 4000 medium and small units) are running their units by diesel generating sets due to paucity of power supply in rural areas. However, the rice husk produced by them remains unsold by rice mills owners. Of course, 13 rice mills have already identified own gasifies system in order to carry on their own operation. Role of private small entrepreneurs through biomass gasification technology system has assumed significance to modernize the rice mills as part of modern small scale rural industries.

126. Inspite of huge scope and potential, there is no big private players in cargo, road, air, and water transportation, energy supply and retail market outlet, except a few recent ones like Vishal retail etc. However, the emerging road construction and massive repair work connecting almost remote villages of the state have raised hopes for potential nexus between agriculture and industries. Chamber of Commerce and Industry Association in the state are to play their active roles to influence the policies and provide the power linkages to the market outlets.

[12] Economic Survey (2006-07), Government of Bihar

CHAPTER - 8

CONCLUSIONS

127. Bihar is spread over 9.4 million hectares of land and 61% of the land resources of the State are locked into crop production, as compared to 51% in the country as a whole. However, the agricultural productivity has not touched the optimum ground to establish reasonable nexus with industrial opportunity. The field level analysis has revealed that around 83% marginal farmers and nearly 10% small farmers dominate the farm holding families of the State. This land holding scenario has been an inhibiting factor to a large extent in the transformation of the present subsistence agriculture into commercial agriculture. In general, there is a wide gap between existing average yield and expected potential yields of various crops. State as a whole has been able to exploit the yield potentials of rice, wheat, maize and potato, only to the extent of 37%, 52% and 52% to 36%, respectively. A study to determine the nexus between agriculture and industries has required special attention on enhanced agriculture production strategy and better extension system for proper backward linkages of rural agro-industries.

128. Apart from agro-based industries, Bihar has the potential to promote metal product industries, drugs and pharmaceutical industries, leather industries, electronic as well as electrical goods industries, traditional industries, like handlooms, power looms, knitting, embroidery, painting, as well as small scale industries, such as lime based industries, stone chips industries, silk, weaving and printing industries, glassware industries etc. The respective clusters should be given due infrastructural support for their expansion, technological upgradation, and attractive leverages towards the economic return on investment by the private enterpreneurs.

129. Field studies have revealed that quite a large number of existing industrial units in the State are sick or closed. As per the economic survey, Government of India (2006-2007), there were 259 medium and large industrial units in Bihar of which 18 units were pronounced by BIFR as sick, to the extent that it was decided to close 17 units. The impact of sickness has been such as Bihar State Finance Corporation and Bihar State Credit and Investment Corporation itself became sick due to poor recovery of their loans, granted to the industrial units in Bihar. Inadequate infrastructure facilities have

been found to be responsible for major set back. Some of the Key issues which have stalled the progress of industrialization in Bihar are: (i) lack of vocational training, (ii) unavailability of timely credit, (iii) extremely bad road infrastructure, (iv) inadequate communication and power supply facilities, and (v) poor marketing and processing infrastructure facilities.

130. All necessary infrastructural development like, rural extension set up for technology transfer, timely supply of quality inputs, storage, road & transport, power supply, irrigation system etc should be undertaken intensively in and around such clusters to increase and sustain agricultural modernization. Likewise such infrastructure build up should also be made available in and around the specially identified pockets to demonstrate the impact of undertaking commercial farming. Similarly a variety of fruits, such as litchi, guava, mango, jack fruit, lemon, bael, pine apple, banana etc. is grown in Bihar. Appropriate extension programmes should be initiated for their rejuvenation and area expansion to provide enough raw materials for promoting appropriate agro-industries.

131. Rural markets for rural entrepreneurs need improved services for users to facilitate marketing of the local produce, creating an element of market security for the growers. It can also be effective credit - marketing link up points. It may be provided with mobile banks on haat days by Grameen Banks provided rural banks take that lead in this regard. Market Yards are a long felt need of the farming community of the state as it goes a long way in ensuring higher remuneration to them through proper weighing, cleaning, grading and better price realisation of their farm produce. The rural and farm entrepreneurs look forward to a regulated market yard as a dependable infrastructure to further their economic goals. The advantages of a regulated market yard system are immense and wherever such a system exists, that strengthens the foundation for rural industrialization process and develops timely supply of raw materials. Promoting rural industries require a lot of planned activities and effective monitoring. For this, State Government may consider establishing an especially dedicated Directorate of Rural & village Industries under an enthusiastic and senior administrative officer.

132. Thus, future industrialization of Bihar can be planned and implemented around : (1) agro-based industries, (2) metal product industries based on the inputs, obtained from neighbouring Jharkhand State and chemical industries, (3) industries, based on the bye products petro-chemical

complex at Barouni as well as drugs and pharmaceuticals, (4) traditional industries ,such as handlooms, power looms, wooden furniture, leather goods etc mostly in the unorganized sector industries and (5) small scale industrial clusters , some of which have already been identified as Lime based units at Gaya, Aurangabad, Rohtas; Stone chips units at Gaya, Nawada; Silk weaving and printing units at Bhagalpur; hand looms and Power looms units at Gaya, Bhagalpur, Siwan, Madhubani, Nalanda; Glassware industries at Rohtas; Metal utensil units at Patna, Buxer, Aurangabad, Bhojpur and Hosiery units at Patna and Muzaffarpur.

133. To support the thrust of rural industrialization incorporating all above mentioned industries, there would be a need for focused policy directions, infrastructure support on a priority basis, and banking and credit facilities at all operating levels in rural Bihar.

ANNEXURE I TO XVI

ANNEXURE - I

Size of Industrial Sector in Present Bihar State

Sl. No.	Particulars	Bihar	India	Share of Bihar %
1.	Net domestic product (Rs. crore)	32,004	11,89,773	2.7
2.	Industrial Sector Income(Rs. crore) Registered Un registered Total	 445 575 1020	 1,58,240 80,904 239144	 0.3 0.7 0.4
3.	%age share of (2) in (1)			
	(a) Percentage share of 2(a)	1.4	13.3	-
	(b) Percentage share of 2(b)	1.8	6.8	-
	(a) Percentage share of 2 (c)	3.2	20.1	-

***Note**:* Income figures are at 1993-94 prices & average for triennium record 2002-2003
Source- Economic survey 2006-07, Bihar Government (P.47)

Structure of Industries in Bihar (ASI)

Industry group	No. of factories	Value of output (Rs. crore)	Net Value Added (Rs. crore)	Share % to all Industries		
				No. of factories	Value of output	Net value added
Food products/beaverages/tobacco	303	171330	35401	21.8	22.1	28.3
Textile/textile products	23	418	-85	1.7	0.1	-0.1
Leather/leather products	8	7697	1318	0.6	1.0	1.1
Wood/wood products	138	2243	295	9.9	0.3	0.2
Paper/printing/ publishing	64	18848	5718	4.6	2.4	4.6
Coke/petroleum/ nuclear fuel	29	506106	74692	2.1	65.4	59.7
Chemicals	49	7834	2164	3.5	1.0	1.7
Rubber/plastic products	14	3601	218	1.0	0.5	0.2
Basic metals/metal products	100	29209	1299	7.2	3.8	1.0
Machinery and equipments	57	3652	826	4.1	0.5	0.7
Transport/equipment	5	2172	449	0.4	0.3	0.4
Others	599	20917	2793	43.2	2.7	2.2
All Industries	**1388**	**774027**	**125090**	**100.0**	**100.0**	**100.0**

**Source:* Economic Survey, Finance Department, Government of Bihar, (2006-2007)

ANNEXURE - III

Makhana Production in Bihar

	Area (in hectare)	Production (in tons)	Value (Rs. In crore)
India	18500	54500	450
Bihar	16850	50550	400

**Source:* Economic Survey (2006-2007), Government of Bihar (P.54)

Production of Hides and Skins – 2003

(In million pieces)

	Bihar	All India	Bihar's share %
Cattle hides	1.32	23.0	5.74
Buffalo hides	1.32	28.0	4.71
Goat skins	4.59	82.0	5.60
Sheep skins	0.50	30.0	1.67

Source: All India Survey on Raw Hides and Skins – CLRI, 2005

Artisan-based, Tiny and Small Scale Industries in Bihar

Divisions	Number of Industries			
	Artisan based	Tiny	Small scale	Total
Patna	12580 (22.8)	19370 (26.4)	737 (43.4)	32687 (25.1)
Magadh	7700 (13.9)	10386 (14.1)	98 (5.8)	18184 (14.0)
Bhagalpur	1908 (3.5)	3142 (4.3)	76 (4.5)	5126 (3.9)
Munger	4587 (8.3)	5835 (7.9)	175 (10.3)	10597 (8.1)
Saran	2662 (4.8)	7308 (9.9)	132 (7.8)	10102 (7.8)
Tirhut	10090 (18.3)	12773 (17.4)	173 (10.2)	23036 (17.7)
Darbhanga	8365 (15.1)	6893 (9.4)	52 (3.1)	15310 (11.8)
Kishangaj	3102 (5.6)	2685 (3.7)	32 (1.9)	5819 (4.5)
Purnea	4293 (7.8	5109 (7.0)	224 (13.2)	9626 (7.4)
Bihar	55287 (100.0)	73501 (100.0)	1699 (100.0)	130251 (100.0)

**Source:* ASI Data, 2002-03 QE.
*Figures in parentheses represent percentages.

District wise Distribution of Closed Industrial Units in Bihar

Sl.No.	Name of district	No. of closed units			Percentage of totally closed units
		Rural	Urban	Total	
1.	West Champaran	223	469	692	3.37
2.	East Champaran	411	313	724	3.53
3.	Sheohar	15	16	31	0.15
4.	Seetamarhi	458	443	901	4.39
5.	Madhubani	309	273	582	2.84
6.	Supaul	42	73	115	0.56
7.	Araria	59	138	197	0.96
8.	Kishanganj	11	68	79	0.38
9.	Purnea	53	273	326	1.59
10.	Katihar	271	269	540	2.63
11.	Madhepura	149	160	309	1.51
12.	Saharsa	68	112	180	0.88
13.	Darbhanga	108	204	312	1.52
14.	Muzaffarpur	562	891	1453	7.08
15.	Gopalganj	396	263	659	3.21
16.	Siwan	382	361	743	3.62
17.	Saran	398	314	712	3.47
18.	Vaishali	212	172	384	1.87
19.	Samastipur	181	166	347	1.69
20.	Begusarai	357	500	857	4.18
21.	Khagaria	206	185	391	1.90
22.	Bhagalpur	121	661	782	3.81
23.	Banka	120	50	170	0.83
24.	Munger	92	353	445	2.17
25.	Lakhisarai	23	88	111	0.54
26.	Sekhpura	2	65	67	0.33
27.	Nalanda	299	436	735	3.58
28.	Patna	134	2431	2565	12.50
29.	Bhojpur	128	158	286	1.39
30.	Buxer	89	120	209	1.02
31.	Kaimur	155	39	194	0.95
32.	Rohtas	258	319	577	2.81
33.	Jahanabad	546	293	839	4.09
34.	Aurangabad	534	376	910	4.43
35.	Gaya	609	818	1427	6.95
36.	Nawada	290	232	522	2.54
37.	Jamui	59	93	152	0.74
	Total	**8330**	**12195**	**20525**	**100.00**

Source: Third All India Industrial survey (2001-02)

Economic Survey, (2006-2007), Finance Department, Government of Bihar (P.69)

Distribution of Commercial Banks Branches offices in Bihar (March end)

Year	Distribution (%age)			Total	Growth rate (%)
	Rural	Semi-Urban	Urban		
2001	69.3	18.5	12.2	3620	1.49
2002	69.1	18.5	12.4	3616	– 0.11
2003	69.1	18.6	12.3	3609	-0.19
2004	68.7	18.9	12.4	3618	0.25
2005	68.0	18.9	13.1	3646	0.77
2006	61.6	20.6	15.8	3675	0.80
2007	63.0	20.7	16.3	3698	0.63

Source: Economic Survey (2007-08), Finance Department, Bihar Government

(P.137)

Credit and Deposits of Commercial Banks in Bihar and India (Rs in crores)

		2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
A. Bihar	Credit	5547.2	6547.3 (18%)	7802.6 (19%)	9667.1 (23.9%)	12868.5 (33.1%)	14062	17156
	Deposits	26800.7	29832.5 (11.3%)	32931.6 (10.3%)	36000.6 (9.3%)	41007.4 (13.9%)	46543	56916
	Credit-Deposit Ratio	20.7	21.9	23.7	26.9	31.4	30.2	31.1
B. India	Credit	538433.8	655993.1	755968.8	880312.0	1152467.9	1517497	1949568
	Deposits	949433.3	1123393.3	1276195.7	1511273.4	1746814.0	2093040	2598822
	Credit-Deposit Ratio	56.7	58.4	59.2	58.2	66.0	72.5	75.0

Note: Figures in parentheses show the %age growth over proceeding year.

Source: Economic Survey (2007-08), finance Department, Bihar government (P.138)

Potential and Productivity of Principal crops in different agro climatic zones of Bihar *(Kg. per hectare)

Crops	Zone		Zone II		Zone III	
	PRD	Potential	PRD	Potential	PRD	Potential
Rice(Paddy)	2285 (50.78)*	4500	2063 (45.84)	4500	2558 (51.16)	5000
Wheat	2511 (62.78)	4000	2451 (61.28)	4000	2740 (60.89)	4500
Winter Maize	5284 (66.05)	8000	4340 (54.25)	8000	4553 (56.91)	8000
Pulses	622 (34.56)	1800	727 (40.39)	1800	760 (42.22)	1800
Oilseeds	1593 (88.50)	1800	1482 (82.33)	1800	1521 (84.50)	1800
Spices (Turmeric&Ginger)	11629 (77.53)	15000	--	--	7888 (52.59)	15000
Jute	--	--	2433 (81.10)	3000	--	--
Makhana	1722 (86.10)	2000	1121 (56.05)	2000	--	--

*Figures in parentheses indicate percentage of realized potential of respective crop

Source: - Potential data are obtained from RAU, Pusa, and Samastipur

Glimpse of Nexus between Agriculture and Proposed Industries in Bihar

ZONE I		
District	***Agriculture***	***Potential Rural Industries***
Sitamarhi	*Wheat, Maize, Lentils..*	*Poultry feed+ Handloom*
Siwan	*Sorghum, Wheat, Sugar Cane..*	*Sugar Factories/Handloom*
Vaishali	*Banana, Vegetables, Wheat, Maize, Lentils.*	*Veg.+fruit processing unit/Timber based ind.*
West Champaran (also known as Bettiah district)	*Rich paddy fields, Sugar Cane.*	*Sugar Factories.Rice Mill*
Samastipur	*Paddy, Famos for Spices/ and Maize.Sugar cane*	*Vegetable/Fruit processing unit*
Saran	*Paddy, Wheat, Sugar Cane.Potato/Maize*	*Sugar Factories.*
Madhubani	*Paddy/Famous for Makhana/Fish*	*Handloom,*
Muzaffarpur	*Paddy, Maize, Wheat, Lentils. Famous for Litchis and Mango.*	*Veg processing unit +bidi ind.*
Gopalganj	*Paddy, Wheat, Maize. Sugar cane*	*Sugar Factory*
Darbhanga	*Paddy/Fish/Makhana*	*Fish /Makhana*
Motihari	*Rice Paddy (Home of Basmati rice), Sugar Cane, Jute, Lentils.*	*Sugar Factories,*
Araria	*Paddy, Maize, Jute*	*Jute Mills*
	ZONE TWO	
Katihar	*Paddy/Jute/Fruits*	*Jute and Paper Mills.*
Khagaria	*Paddy, Wheat, Maize, Jute.*	*Starch ind.*
Kishanganj	*Fruit/Tea/Wheat, Maize, Jute*	*Jute Mill/Fruit Processing unit*
Madhepura	*Paddy, Jute/Fruit*	*Fruit Processing unit*
Purnea	*Jute/Fruit/Fish/Poulatry*	*Jute & Fruit Processing unit*
Saharsa	*Paddy/Wheat/Banana/Maize*	
Supaul	*Paddy/ Fish*	*Fish culture*
	ZONE III	
Aurangabad	*Paddy, Wheat, Lentils.*	*Carpet and Blanket Weaving*
Banka	*Paddy, Wheat, Maize, Lentil.*	
Bhabhua	*Paddy Fields, Wheat, Pulses*	*Rice mill*
Bhagalpur	*Paddy, Maize, Lentils.*	*Silk +Handloom ind.*
Bhojpur	*Rich Paddy Fields, Wheat, Maize/Pulses/Vegetables*	*Rice and Pulses/Vegetable Processing Unit.*
Buxar	*Rich Paddy Fields, Wheat, Maize, Sugar Cane.*	*Veg. processing unit*
Gaya	*Paddy, Wheat, Potato, Gram/Vegetables*	*PulsesMill &Vegetable processing unit.*
Jamui	*Paddy, Wheat, Maize/Fruits*	*Bamboo based Ind.*
Jehanabad	*Paddy, Wheat, Vegetables*	*Rice mill*
Lakhisarai	*Paddy, Wheat, Lentils,Fruit,Vegetables*	*Pulses based Ind.*
Monghyr	*Paddy,Fruits Wheat, Lentils.Arhar*	*Fruit Processing Unit*
Biharsharif	*Rich Paddy Fields, Potato, Onion,Vegetables*	*Handloom weaving.*
Nawadah	*Paddy.Arhar,Wheat,Fruits & Vegetables*	*Bidi Factories.*
Patna	*Rich Paddy fields, Potato, Onion, Vegetables.*	*Sugar, Fire-Works, Biscuit, Flour Mills, Light-bulb, Shoes and Wagon Factory.*
Rohtas.	*Rich Paddy Fields, Wheat,Pulses*	*Rice Mill & Flour Mill*
Sheikhpura	*Gram, Wheat, Lentils & Vegetables.*	*Pulses based Ind.*
Arwal	*Paddy, Maize, Wheat*	

ANNEXURE - XI

Duration of storage of agricultural produce on different categories of farms

Zone	Long term (%)		Short term (%)	
	Own (No)	Own (%)	Own (No)	Own (%)
Zone-I				
Small	11	22.45	31	43.06
Medium	20	40.82	30	41.67
Large	18	36.73	11	15.27
Total	49	100.00	72	100.00
Zone-II				
Small	1	5.56	19	51.35
Medium	2	11.11	9	24.33
Large	15	83.33	9	24.32
Total	18	100.00	37	100.00
Zone-III				
Small	7	31.82	53	68.83
Medium	4	12.12	9	11.69
Large	22	66.66	15	19.48
Total	33	100.00	77	100.00
Bihar Total	100		186	
Small	25	25	93	50.0
Medium	26	26	48	25.81
Large	49	49	45	24.19
Total	**100.00**	**100.00**	**186.00**	**100.00**

Proposed Pockets of Farm & Non-farm enterprises

S. No.	Product Range	Locations
1	Jute Product (Carry Bags, School bags eco-friendly userbags, carpet and ropes etc.)	Kotihar Purnea Madhepura Saharsa Kishanganj
2	Spices and vegetable like tomato pulp/purie,potato chips, chilli Powder , pickles of different varieties, food processed items, Bel/Aonla, Mango produce,	Bhojpur Rohtas Buxar.
3	Bamboo products	Kotihar Bhojpur
4	Fruits Guava, Litchi juice Banana chips and powder, lemon cordial	Muzzafarpur Hazipur Darbhanga
5	Fish Latcheries and processing/packaging	Muzzafarpur Darbhanga Motihari
	Non Farm	
6	Makhana Maize product Vegetable products-processing/packaging	Fatuah, Begusarai Patna
7	Handloom cluster Embroidery, Knitting, stiching garments	Banka, Bhagalpur Nalanda Gaya.
8	Bamboo products	Gaya, Zahanabad, Bhojpur
9	Metal Based (Bronje & Alloy metal)	Buxer Pareo (Bihita)
10	Honey bee cluster	Bhojpur Muzzafarpur Begusarai
11	Solar Technology & allied products	Nalanda Myngher Bihita

Category wise Total Road Length in Bihar (in km)

Category	Road length in km.			
	Pucca	Katcha	Total	Percentage (%)
National Highways	3629.00	0.00	3629.00	4.4
State Highways	3232.22	0.00	3232.00	3.9
Major District Roads	7714.25	0.00	7714.25	9.5
Other District Roads	2828.00	990.00	3818.00	4.7
Village Roads	27400.00	35861.63	63261.63	77.5
Total	44803.47	36851.63	81655.10	100.00

Source: Road Construction Department, Government of Bihar

Economic Survey (2006-2007), Finance Department, Govt of Bihar (P.92)

Accessibility of Villages by Roads in Bihar and India

Types of Villages	%age of villages accessible by roads	
	India	Bihar
Villages with population < 1000	37.4	27.7
Villages with population 100-1500	75.9	53.2
Villages with population .>15000	91.7	70.6
All villages	47.9	36.1

Source: Basic Road Statistics of India, Min. of Shipping, Road Transport and Highways, Government of India (2004).

Summary Critical Concerns, Resources and Strategic Intervention

Critical Concerns	Resource Variables	Strategic Intervention
General		
1. *Huge unemployment* 2. *High rural poverty* 3. *High population density*	*Favorable agro-climatic conditions* *Can grow varieties of field, aquatic and horticultural crops.*	*Extension system to be strengthened to maximize exploitation extent of yield potential of various crops.*
Infrastructural		
4. *Poor road transport* 5. *Poor credit delivery* 6. *Less women participation in work force.* 7. *Inadequate and unreliable power supply*	*Yield potentials of high yielding varieties of crops are yet to be fully exploited.* *High irrigation potential.* *Tremendous scope of increasing production of Rice, Wheat, winter Maize, pulses, vegetables, fruits, Makhana.*	*Farm scientists to find way out for enhancing the keeping and processing quality of farm produce.* *Area under fruit-crops like litchi, banana mango, guava to be extended.*
Agricultural		
8. *Lack of storage & marketing facility* 9. *Smaller farm holding* 10. *High gap between actual & potential yield of crops.* 11. *High wastage of vegetables & fruits* 12. *Defunct agril extension services* 13. *Poor institutional credit support for farming.* 14. *Non availbility of quality inputs on time, lack of marketing facility etc.*	*Co-opertive dairy poultry & fisheries have excellent prospects.* *A majority of farmers feel positively about improvement in rural economy in times to come.* *Agriculture and allied sectors have tremendous potential to provide raw material for promoting food processing industries in various parts of the State on a large scale.* *Traditional industries like handlooms, powerlooms,*	*Production of Makhana, green vegetables, potato, spices to be increased.* *Experiences of Sudha Dairy to be multiplied.* *Near stagnation of poultry development to be given a boost.* *Storage and transport facility to be made available.* *National Level initiative to be sought to reduce, the damage by flood.* *Irrigation and energy support to be scaled up.* *Institutional farm credit support to be ensured*

Industrial *15. Poor training exposure to entrepreneurs* *16. In appropriate training to entrepreneurs* *17. Poor training orientation of entrepreneurs.* *18. Lower functional motivation & expertise of district level officials.* *19. Poor vocational training outfit.* *20. Lower productivity & profitability of industrial units.* *21. Lack of power supply.* *22. Lack of adequate credit facility* *23. Lack of proper transport & communication.*	*leather goods, wooden furniture, metal utensils, silk weaving and printing, paintings etc have good base which can be strengthened.* *Though after bifurcation of state, hardly 1% of total mineral deposits of the undivided Bihar is available State can still exploit its own lime stone, pyrites, apart from importing mineral resources from neighboring Jharkhand State.* *Existing base of DIC and KVIC can be made good use of.* *Unemployed youth and women can be converted into strength to promote rural industries.* *Bihar, adjoining States and Nepal can be good markets, though the sale of products can be tied up with well known brands to reach other city markets also.*	*by helping the banking system in recovery of loans.* *Efforts to be made to promote floriculture and off season vegetable crops in appropriate intercropping system.* *To begin with areas should be identified where any crop including fruits & vegetables are grown in very large area, and where its production is in surplus. Such adjoining areas to be clubbed together to form clusters. Local specific agro-industries to be promoted in or around such clusters.* *Some other such pockets also to be identified though cluster may not be possible for promotion of major agro-industries. These pockets should be developed to serve as feeders for other major agro-industries centers.* *All necessary efforts should be made to increase production and to develop necessary infrastructure in areas under clusters and specially selected non-cluster pockets.*

summary of critical concerns in Rural Industrialisation

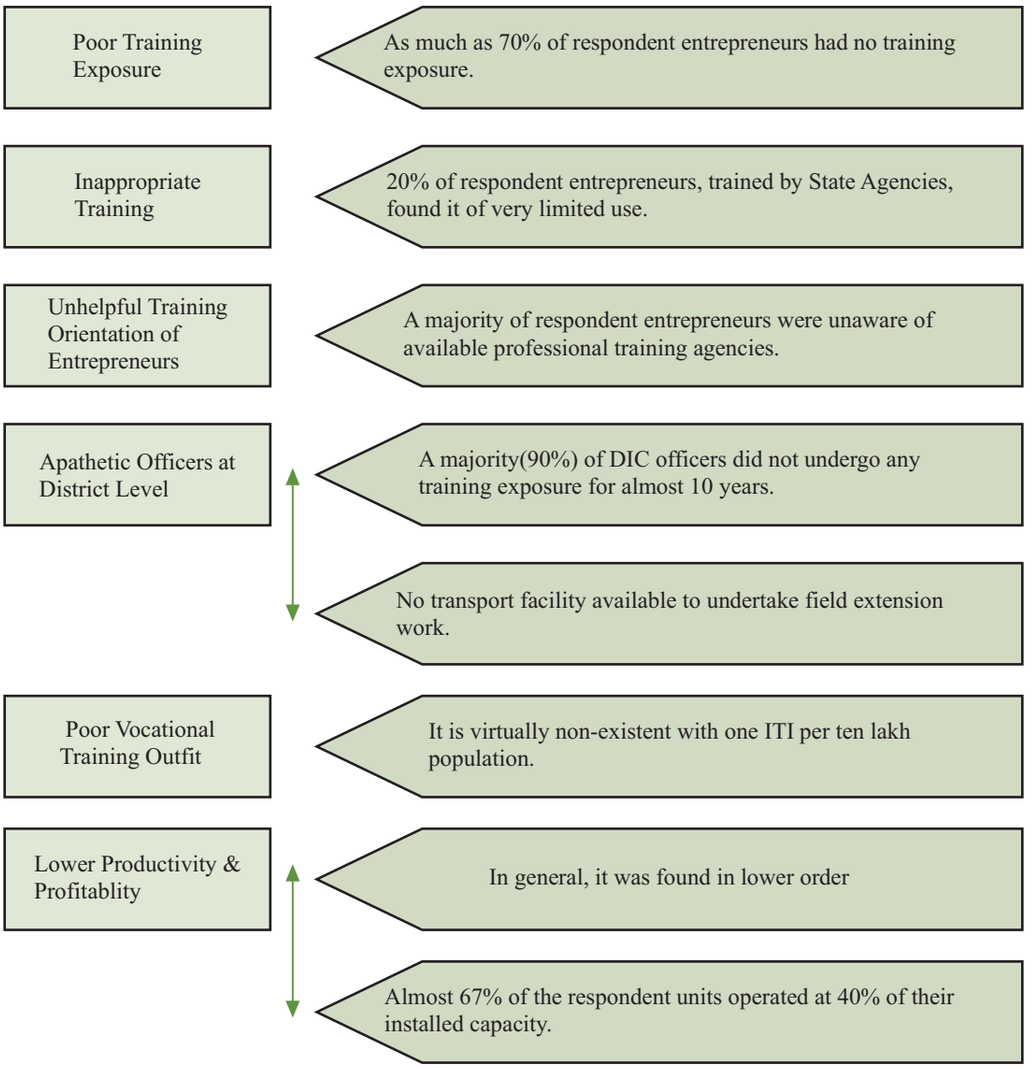
General

Huge Rural Unemployment	84% of unemployment in rural areas.
High Rural Poverty	Around 44% of rural population below poverty line.
	Dismal decline of rural poverty between 200-01 to
Poor law and order Situation	Generally acts as repugnent to making capital investment
Very high Population Density	880 persons per sq km. as against India average of 325 persons/sq km.
Highly Inadequate &Unreliable Power Supply	Highest concern of a large majority of farmers & entrepreneurs.
Poor Road Transport	Road availability of 89 kms/lakh population as against India average of 234 kms/lakh that too 45% of roads being kacha.
Poor Institutional Credit Dispensation inspite of reasonably good network.	CD Ratio only around 31% as against India average of 60% & more.
	Very poor loan repayment due to high level of willful default.
	Cooperatives too incapacitated due tovery high NPA.
Gender Bias in Work Force at Industry Level	Female participation in workforce is very low.
Recurrnce of Flood	Devastating annual feature.
Multiple Constrains Experienced by Farmers & Entrepreneurs	Non-availability of quality inputs on time lack of technical know how, highcost & irrigation, lack of marketing facility, lack of storage facility etc
	Lack of power supply, lack of credit facility, lack of proper transport & communication etc for enterpreneurs

Agricultural

High level of Small Farm Holding Size.	Farm holding families dominated by marginal farmers (83%), and small farmers (10%).
Wide Gap Between Actual and Potential Yield of Crops.	Exploitation of yield potential to the extent of 37% for Rice, 52% for wheat and Maize, 36% for potato & so on.
High Perishability of Vegetables & Fruits	On an average one-third (25 to 40%) of fruits & vegetable production get destroyed every years forcing distress sale
High Level of Small Farm Holding size.	Agril. Extension services almost non-existent-adversely affecting transfer of modern technology.
Poor Institutional Credit-Support	Only 16% of the farmer respondents were provided with kissan credit – card (KCC) and only 50% of them could avail credit –card through KCC.

Industrial


Poor Training Exposure
As much as 70% of respondent entrepreneurs had no training exposure.
Inappropriate Training
20% of respondent entrepreneurs, trained by State Agencies, found it of very limited use.
Unhelpful Training Orientation of Entrepreneurs
A majority of respondent entrepreneurs were unaware of available professional training agencies.
Apathetic Officers at District Level
A majority(90%) of DIC officers did not undergo any training exposure for almost 10 years.
No transport facility available to undertake field extension work.
Poor Vocational Training Outfit
It is virtually non-existent with one ITI per ten lakh population.
Lower Productivity & Profitablity
In general, it was found in lower order
Almost 67% of the respondent units operated at 40% of their installed capacity.

MAP OF BIHAR


Paschim Champaran
Purbi Champaran
Sitamarhi
Madhubani
Supaul
Araria
Kishanganj
Gopalganj
Sheohar
Siwan
Muzaffarpur
Darbhanga
Saran
Madhepura
Vaishali
Samastipur
Saharsa
Purnia
Buxar
Bhojpur
Patna
Begusarai
Khagaria
Katihar
Munger
Bhagalpur
Nalanda
Jahanabad
Sheikhpura
Lakhisarai
Bhabhua
Rohtas
Banka
Nawada
Jamui
Aurangabad
Gaya
N
NEPAL
Uttar Pradesh
West Bengal
Jharkhand