

INDUSTRY AND AGRICULTURE: A SUSTAINABLE INDIA BARDHAMAN DISTRICT MODEL

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Abstract: For the first time in history, our generation has the opportunity to end extreme poverty in the world's most developing nations. Mr. P Chidambaram, the honorable Home minister of India once said that, India would have a better economy if it only comprised of Western and Southern India. Ahmedabad, Bangalore, Surat and Pune are few of the examples of India's urbanization. Eastern India (West Bengal, Bihar, Assam and Orissa) contributes 30% of agricultural and mining support to our nation. In spite of fertile lands and ore mines, these parts are considered under-developed parts of India. Lack of Governance and citizen participation has blessed them with this curse. My research is not only to develop a whole new city, but also to build sustainable rural areas surrounding the city.

Bardhaman district of West Bengal is having the advantage of both industrial and agricultural development. I want a development of a new city, without destroying the agricultural lands. The last three year of India's growth has seen the death of many farmers. Cities are built, but on the verge of the acquisition of cultivated lands. Those farmers are left without livelihood. My research is to have urbanization in terms of both industrial cities and agricultural townships.

We need to build new cities to support the GDP growth, stop migration to already developed cities and help transforming the surrounding villages to sustainable towns. If we try investing in the rural sector (Eastern India), depending on their base activity of revenue generation, and help them to

transform into towns, can expect a far economically developed nation. This topic is about how tomorrow's wealth will be created, and introduction of "Third World Job", the unnoticed work we do, without pay.

Keywords: Agri-Business, Economic Base, Education, Citizen Participation.

INTRODUCTION

"India lives in its villages":- Mahatma Gandhi

Even today, 72% of West Bengal's population depends on agriculture and its allied industries. Kolkata with a population density of 7950 people/sq km is the second densely populated city in India after Mumbai, thus resulting in slum generation. Migration and Congestion moves hand in hand, leading to poverty and urban decay.

People in rural areas should have the same quality of life as is enjoyed by people living in urban areas. We need to focus on poverty alleviation, better livelihood opportunities and innovative programmes of wage and self employment. Presently, integration of Trade, People participation and Knowledge can make this possible. We need to have community based organizations, industrial establishments, providing proper logistic support and implementation of new government policies for the rural sector, to reduce the Urban-rural gap. Singur village doesn't need any land acquisition for industries, rather can develop on the base of Agriculture.

Learning from the World: - Latin America was once the leading producer of Orange in the world. How these cash crops help the economy of two continents is the most important study. They started producing orange juices and packing them in large barrels. Then started exporting them to Europe. They generated revenues from these crops. In Europe, they started packaging the imported juices in small packs of various quantities, and then exported them to the whole World. So agricultural growth in Latin America helped those to generate revenue and also helped the economical growth of Europe. This initiative was taken by "Coca Cola".

ECONOMIC BASE

Basically drives any region's sources of Income. For example, IBM decides to set up their new project at Durgapur (WB). New set of engineers and other technical staffs are sent to Durgapur, for the implementation of the project. So this IT Company now acts as one of the economic base for the region. These engineers will try to settle there with their families. So, generating economical growth in terms of real estate development. Again this will help to plan a small township, helping to attract more services like hospitality, retail malls and social development. We can now consider Durgapur, a much more economically stable place.

We can implement Barddhaman town development model.

Barddhaman previously an underdeveloped rural place was centre to Kolkata and Asansol with proper environment for Rice cultivation. This became their economic base. Agriculture as their basic activity, the rice land owners with the help of Government started developing, Rice mills, cold storages and bricks bhatti, introducing the multiplier effect. Thus generated large employment and also supported the people of the surrounding villages. Today it is one of the most important towns of Barddhaman district, with large township projects and retail shops. Satima Cold storage was once the largest cold storage in Asia. We can develop places even with sustainable agricultural growth.

STEPS OF URBANIZATION

Hamlet -> Village -> Towns -> City -> Metropolitan -> Mega Polis -> Conurbation, the various stages of urbanization.

We can see that in Europe, Trans-Euryale rail connects almost the whole of the continent, helping their sub-urban regions and rural areas to get connected to the metropolitan cities. They have

already reached the stage of Conurbation, thus we need to move a long distance. Durgapur, the second best planned city in India, has reached the stage of 'City' on the verge of its development, thus helping the surrounding rural places with economy and employment. Presently in India, around 180 million rural people get benefitted by staying around the developing cities, having access to jobs, markets and infrastructure.

ON-THE- GROUND SOLUTIONS FOR ENDING POVERTY

Eastern India contributes about 30% of India's agricultural production and exports. Still the sub-urban areas and rural areas of these parts are not blessed with development and infrastructure. My study area is Barddhaman district, along the Delhi-Kolkata Golden Quadrilateral. If we succeed to develop 1/4th area, we can help the Eastern part to retain its glory and upliftment.

Barddhaman District

This is one of the most developed districts in WB. Barddhaman town is the main district town and Durgapur and Asansol is the industrial zone of this district. Panagarh town is the Army base of this district. The total area is of 7024 sqkm. The six subdivisions are 1) Asansol 2) Sadar North 3) Sadar South 4) Durgapur 5) Kalna 6) Katwa. The whole district has 1) 32 police stations 2) 31 development blocks 3) 2 municipal corporations 4) 9 municipalities 5) 277 gram panchayats 6) 2438 villages

This is one of the districts in India having 100% literacy rate.

Key strengths-> The fertile land. Presently an important economic hub because of its location and natural resources available in the region.

STEP→1

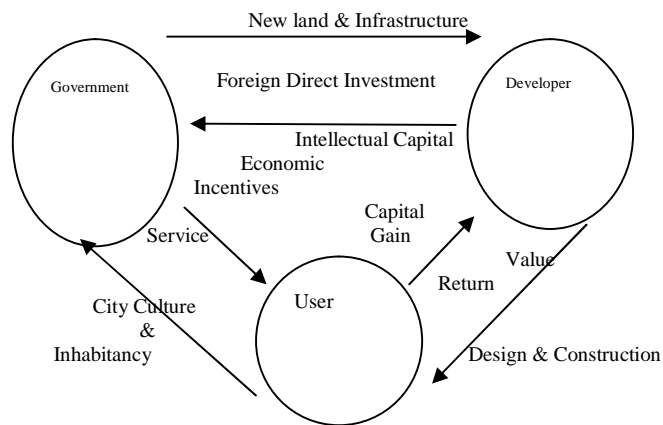
Along the Golden Quadrilateral

In Barddhaman district, the key areas in terms of Industry and Agriculture, along the Golden Quadrilateral are: - Kulti&Asansol → Raniganj&Andal → Durgapur&Panagarh → Barddhaman town.

My research is basically for the development of this belt, so that whatever revenue the State is generating from this part can be used for the transformation of the 194 villages along this quadrilateral to towns with minimum infrastructure facilities. The main reason for considering this area is the Golden Quadrilateral (NH2), which helps with proper connectivity to Delhi, through important cities of the country.

<u>Main Sectors</u>	<u>Asansol&Kulti</u>	<u>Raniganj&Andal</u>	<u>Durgpur&Panagarh</u>	<u>Barddhaman Town</u>
Industry	IISCO steel plant(Asansol), Burn standard locomotive(Burnpur)	Small steel processing and aluminum industry	DSP, DASP, DFP, DPL, Hindustan Cables Ltd (Durgapur)	Rice mills, Cold storage, Food processing (Jute)
Mines	Coal mines(Kulti), Mineral ores, dolomite(Kulti)	Coal mines, iron ore mines	*	*
Knowledge city	Asansol Engg. College, Textile college(Asansol), Science College(Asansol), Good High Schools(Asansol&Kulti)	Raniganj Engg. College, Few high schools	Panagarh Military school, NIT-Durgapur, DBMS, B.C. Roy Engg College	Barddhaman University, Engg College, Convent Schools
Logistic Parks	Burnpur	*	Benachiti & City centre (Durgapur)	Barddhaman
Food Processing Unit	*	*	*	Barddhaman
Township	Anjali Residential and Sugam park satellite township project(Asansol)	Temple Green- a proposed township project at Andal	<u>IQ</u> city, Infocity, DLF (Durgapur)	Renaissance Township, Shrachi Township
Power Plant	*	*	Durgapur Power plant	*

Planning the Aerotropolis in brief



FUTURE PLAN

Durgapur-Andal Aerotropolis

14th Nov. 2008, opposition proposed the first aerotropolis in India, but could not succeed because of political affairs. A part of my research is the planning of this region from where, we can generate revenue to support all the rural parts of this corridor.

Why?

The proposed region is developing, but, still it requires more development support and infrastructure for better quality of life. Kolkata is congesting because of migration. Now, with this development of the aerotropolis, we can build a new city; can introduce new industries, new habitat places and increase in the employment rate. Then we can attract more international and national organizations to invest in the whole Durgapur-Asansol industrial zone.

Asansol → Andal ← Durgapur

Durgapur-Andal Aerotropolis

My proposal: (1) Project Size: - 3500 acres (2) Residents: - 2,10,000 (3) Buildings: - 580 (4) Multi-Dwelling Housing: - 196 acres (5) Neighborhood amenities: - 28.25 acres (6) International Business: - 163.67 acres (7) Commercial: - 26 acres (8) Mixed Use residential: - 103.49 acres (9) Green spaces: - 615 acres (10) Central Park: - 73.51 acres (11) Central Business District: - 192 acres (12) Parks: - 108.45 acres (13) Residential Green: - 119.53 acres (14) Commercial Green: - 21.47 acres (15) Canal Green: - 6.9 acres (16) Airport area: - 1845.73 acres

It will consist of two parts, international airport to act as a cargo hub, and an industrial township covering a total area of 3500 acres. Here the initialization is taken by HUDCO and Progressive Social Infrastructures Development Ltd. We can ask West Bengal Industrial Development Authorization and West Bengal Road transport authorization to support this development. The total loan in my model is Rs. 2380 million from FDI and national banks and can ask support from the State Government and Airports Authority of India. The total Capital cost will be around Rs. 2160 crore.

Airport Construction

Will support 7 million passengers and 0.80 million tons of cargo. The airport will have 35 aircrafts at any time with 30 additional bays at fringe areas. Companies like L&T, GMR and SPCL who are experts in large level constructions can be asked for the construction. At the same time they can even be asked to build the large logistic hubs for storage of steel products, agricultural crops and raw mineral ores.

Industrial Township

It can have township for both High Income Group and Medium Income Group.

Real Estate Developers under consideration (1) DLF (2) SPRE (3) Bengal Shchahi (4) Bengal Ambuja (5) Purvankata (6) Vascon (7) Bengal DCL (8) Godrej Properties

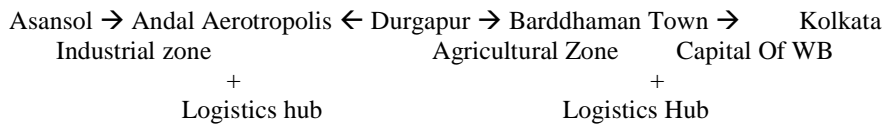
Industries

Both the IT-sector and manufacturing sectors can be set up. In IT-sectors, companies should be asked to build their R&D sector, so that it can help the employment of the fresh engineer graduates.

(1) IT-sector: - Companies that we can approach. (a) IBM (b) WIPRO (c) TCS (d) Cognigent (e) Tech-Mahindra

(2) Industries: - Since a whole airport is to be constructed, airplane manufacturing industries can be set up. Few companies whom we can approach. (a) Miracles cable pvt. Ltd.- Mumbai (b) Vijay Trading Corporation- Bangalore (c) Supertech Forge Industries- Ghaziabad (d) Vishwakarma Air Systems-Pune

(3) Other industries: - Since the zone itself produces steel and iron, we can have hardware companies. Here are few, whom we can approach to set up their production plants. (a) A.K. products: - manufacturer, whole seller and exporter of brass products (b) A.N.G. industries: - prominent manufacturers and supplier of tractor parts like linch pins etc. (c) A.A. precisions: - Pioneer in manufacturing and supplying lathe machine. (d) Aanuraj industries: - manufacturer of foundation bolts, incolcel fasteners, Monel fasteners etc. One Economic activity of logistics and transportation through the Airport can generate billions of revenue, as well as can support the surrounding services and industries. Thus, the development in this region can help the growth of employment, education and economy. The basic services needed are water supply and treatment plant, sanitation and sewage treatment plant, power supply and proper roads and transportation. (1) Water treatment plant → CGE and Veolia has already made it possible in Karnataka and Nagpur to have 24/7 water supply, with the support of the State Government. Now we need to implement the system in this Durgapur-Andal aerotropolis with the citizen involvement. (2) Sanitation and solid waste treatment plant → The solid waste treatment plant can help to earn revenue. The government can approach companies like Hanger biotech to introduce a solid waste plant. (a) Wet organic wastes → organic compost → Sell them to corporate clients (b) Dry organic waste → Green Coal → Cement and Paper industries (c) Recyclable waste → Sell them in junk market.



They can earn a revenue of 120 crore from this solid waste treatment plant, much more than what government will invest for the setting-up of the plant. (1) Power plant → companies like Tata, Jindal and Pasco can be approached to produce electricity with the support of state government, and supply it along the regions at a slightly higher price, to achieve 24/7 power supply

Industrial Zone → Bardhaman Town ← Kolkata

Bardhaman has already been the most important town for agricultural production and export. Now this can act as logistics hub, having huge go-downs to store the agricultural outputs for distribution and exports, as well as storing all the manufacturing products coming from the industrial zone to Kolkata through the Golden Quadrilateral and Grand Trunk Road.

We can also plan educational institutes for aeronautical studies at Asansol. We can also plan to build Electronic-city at Asansol, with small to medium size IT and Electronic hardware companies. Thus, migration from this quadrilateral belt to Kolkata for better livelihood will stop. The people of these regions can enjoy all the urban comforts. All the fresh graduates and engineers can now get employment in all the planned industries. Even, the sub-urban people can utilize the education and infrastructure of the developed areas and thus help to generate more employment, finally helping the GDP growth.

The whole concept of the new city is inspired from the development of Jamshedpur, a whole new city developed by Tata Group.

Step → 2

Thus a new city is formed. Now the 194 villages surrounding the proposed area need to get developed.

Government funds and Policies + Private sector investments + Agriculture research institutes for the pro-poor growth should be the initial Set-up for transforming villages into towns (1) Implementation of new labour rates. (2) Helping the farmers with new technologies (3) Rural banks to support the savings (4) Private financial institutes to

fund for agricultural equipments (5) Setting of food processing units (6) Make them know the importance of cash crops (7) Proper use of the land for cultivation as well as other commercial activities (8) Setting of storage firms to help the farmers to sell their products throughout the year (9) Investment in basic health (10) Make them know the real value of their cultivated crops (11) Proper investment in education (Providing scholarships) (12) Setting of Agro-business (13) Improvement in power, transport and communication services (14) Proper water supply with canals and wells for cultivation (15) Housing development and financing with the help of institutes like MHFC, HDFC etc.

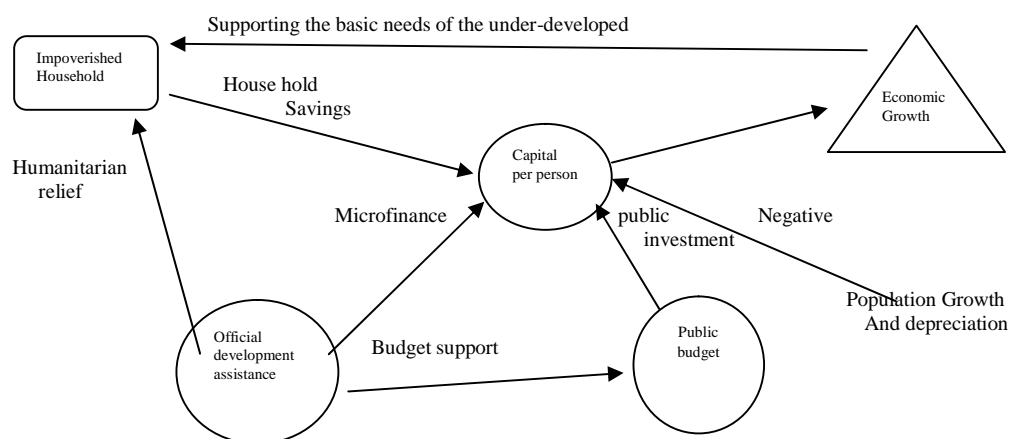
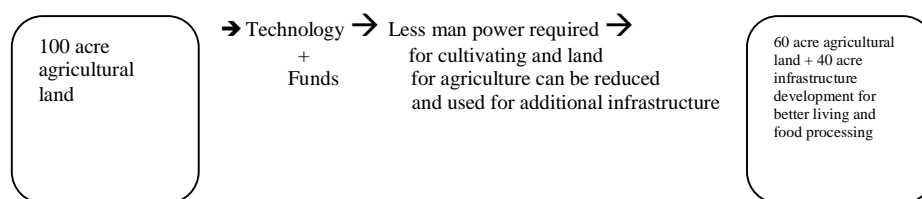
We have seen that, villages of Bardhaman district have the most fertile land for cultivation. The food productions are

Cereal → Bajra, Barley, Maize, Rice, Wheat
Fruits → Arecaut, Banana, Cashew nut, Citrus, Coconut, Guava, Litchi, Mango
Milk & Poultry products → Fishery and poultry
Pulses → Arhar, Gram, Urad
Vegetables → Brinjal, Cabbage, Cauliflower, lady finger, onion, potato, peas

So we can set Food processing units, Plastic based modern items and diversified jute products, so that we can implement the agricultural growth as their economic base and support the process of urbanization. Today Brazil has the maximum urbanization of 84% in the whole world.

Education has the most important role in their upliftment. A farmer knows that the rice that he is producing only cost Rs. 8 a kg. But the finished product in the market is thrice costlier. If government with the help of private sector helps to build an initial set-up of agricultural field and processing unit together for a group of farmer, converting agriculture into agri-business will help the farmers to get the actual value of their cultivated products.

Other small industries: - Clay image making, dairy, mat making, pottery, carpentry, black smith, oil crushing, cane and bamboo products, wood and stone carving.



OFFICIAL DEVELOPMENT ASSISTANCE

From the government funds, private sectors investments, private institutional investments, NGOs we can support the building of investment to end poverty. They will be officially termed as Official development assistance.

Private and public investments in capital are 1) Business capital, 2) Human capital, 3) Knowledge capital, 4) Infrastructure, 5) Natural Capital and 6) Public institutional capital.

Agricultural upliftment

Kalyani model: -_Kalyani University is one of the renowned universities in WB, who does research for agriculture and its productivity (1) They have started developing all the surrounding cultivated land of the university (2) They have done proper study of the soil to understand the need for the crop development (3) They have started developing the low lying water filled areas (4) They have divided the land and started growing fishes at some part and in the rest, started growing fruits like banana (5) They use the year cycle of the crop cultivation. If rice is produced twice a year, the in between time, where there is no rice production, with the help of useful fertilizers they grow cash crops like vegetables and fruits. (6) They are using the agricultural land as wealth generation centre (7) The barren lands are being also used. Some

parts are excavated to build a pond for cultivating fishes, and those excavated earth is used for filling the low lying areas (8) They are providing technologies, funds and ideas to the farmers for their development and economical growth and are distributing the revenue generated among the farmers.

CONCLUSION

“To cut the tree, you need to sharpen the blades”. This is the time when we should participate together to build a new India. Education, Governance and Funding will be the backbone for the rural growth. We need not to acquire the agricultural lands for future development. Rather non-agricultural units of every state should be identified at first, government need to create land banks for attracting industries and investments and create new cities to reduce migration. Then collect the agricultural lands together to increase the agri-business for the rural sector and maintain the sustainable balance between industry and agriculture.

Urbanization for me is “Agglomerating industries and agriculture for better urbanization”.

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