

A REPORT

**ON THE ECONOMIC PROGRESS OF BIHAR
USING TECHNOLOGY AND CORRECT STRATEGIES**

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ABSTRACT : In this report, the factors for the economic stagnation of Bihar are identified first. After the identification, possible actions by various agencies such as the government and the banks are suggested.

1. INTRODUCTION TO BIHAR AND THE STATE OF ART OF THE TECHNOLOGY:

The cultural heritage of Bihar is rich and people in this state can be proud of it. The ancient kingdoms having their capitals in Rajgir, Patliputra and Vaishali were famous over the known world in those times. Patliputra was the capital of famous kingdoms for a period much longer than any other city in India. In the religious field, this place was blessed by Lord Rama, the karm yogi king Janak, his daughter Janki, Lord Buddha and Lord Mahavir. On the Parasnath Hill (Shikharjee), 21 out of 24 Jain Tirthankars obtained Nirvana. Adi Sankaracharya and Guru Nank visited this state. Guru Gobind Singh, the tenth guru, was born here and spent early part of his childhood in this state. Which other state in the world can have such a rich past ?

I was born here, had early education in this state and later on, moved to another state and then to the western nations for the higher education. I can divide my life span at the present into two equal parts, the first half in India and the second half in U.S.A. and Canada which are amongst the highest technologically and economically developed nations.

India is amongst the bottom one third of the nations in the world economically, if per capita GNP is used as a measure; and within India, Bihar is at the bottom or near the bottom amongst all states based on the same criteria. Why it is so? What has happened to the people of Bihar who were so mighty once upon a time that even Alexander the Great did not think of invading them ? Why should Bihar be at the bottom of this list ?

The resources of a country are its people, and the wealth above and below its land. Are the lands of Bihar not fertile ? Does it not have wealth above or below the ground? Does it not have water resources unlike Israel or California? If some people think that it has to be poor because it has a very high population density then they have to look at Japan, U.K. and the Netherlands. In these countries, their people are their resources. Besides, Bihar has much more natural resources than these countries have. Obviously, the outlook is not all that of doom and gloom. What one has to do is to choose one of the several possible paths to come out of the present situation. It requires identification of the problems, self confidence, and positive outlook towards the future. One also has to remember that the nations which are very advanced today, have gone through much worse times in their histories than what Bihar is in today. For example, Japan was devastated after the second world war; the Netherlands was over run by Germany during the war and U.K. was heavily bombed by Germany. Climatically also, the nature is not as kind on these countries as it is on Bihar by providing it with many natural resources and milder climatic conditions. It will take reasonable amount of time to achieve higher living standards. These countries did not become advanced within a short period of time.

Four types of economic revolutions have taken place in the human history. At first, the human being used to live nomadic life until it learnt how to sow and reap harvests. This was the first economic revolution (agricultural revolution) and life became much easier. The civilization grew around major

rivers which were needed for irrigation and transport. The examples are the Egyptian Civilization, the Mesopotamian Civilization, the Indus Valley Civilization, and the civilization in China. The industrial revolution a few centuries ago in England was the second economic revolution. It brought drastic economic changes in Europe but, India and most of the countries of Asia and Africa, were untouched by this revolution because, (a) they were too far away from Europe, and (b) they were ruled by the Europeans which had no interest in the development of their colonies. We must remember that Japan has never been ruled by any foreign country other than by U.S.A. which was briefly so for a few years after the second world war.

The third economic revolution came in the fifties of this century with the invention of transistors and it is called the electronic revolution. It resulted in automation of machines for higher productivity, better telephones etc. It improved communications which resulted in improvement in quality of life of rich and poor alike. India was late in realizing the utility of this revolution also. The fourth economic revolution was the computer and robotics revolution in early eighties, and it seems that India has realized its importance and has acted quickly this time although different areas within India are not affected by several of these revolutions.

All these revolutions have benefited the man kind with better living conditions. The trade unions in even advanced countries like U.S.A., had resisted the drive towards automation.

They never expected Japan to introduce automation and robotics in a big way as it did, because Japan has very high population density. With the introduction of the high-tech, Japan is the leading nation in the world in the use of technology and we should not forget that Japan is within Asia, in the same continent in which we live. It is also the same country where king Ashok sent missionaries to preach Buddhism and thus, some Biharis or some Indians claim that India is its Dharm Guru. All this happened from the Patliputra, from the state of Bihar which has barely known the second economic revolution; thus lagging the Dharm Shishya by two or three economic revolutions (some parts of Bihar have seen the first economic revolution only).

2. THE ECONOMIC PROGRESS OF BIHAR BETWEEN THE PERIOD 1947 to 1989:

Bihar is the second most popular state in India having 10.5% of the population of the country. On the per capita basis the income in this state is one of the lowest within India (Rs. 1517 for Bihar and Rs. 4097 for Punjab in the year 1985). The literacy rate in 1981 was 26% whereas it was 70% in Kerala and the national average was 36%. Per capita state expenditure on education was Rs. 106 as compared to Rs. 163, the national average. On the other hand it contributed 27% (Rs. 1078.93 crores) or the national income from the mining sector in the year 1988. These percentages were 34.6 in 1960 and 31.6 in 1980. In the absolute value, the numbers have always been increasing even in the constant 1988 rupee terms. The index of the infra-structural development, which is made up of certain weightages of, (a) power available, (b) irrigation, (c) roads, (d) railways,

(e) education, (f) health and (g) banking in the year 1989, was 98 as compared to 100 as the national average. Its resources from the forest are more than several other states. It produces 7.1% of the total food crop of the country i.e. it was the fourth leading state in food production in the year 1988. Considering the fact that substantial portion of its area (Chotanagpur Plateau) is not suitable for food crop, this share of food production is not bad. The net state domestic product is 6.1% of the national product in the manufacturing sector. The index of industrial development is 179 (a number below 200 is considered low). The plant load factor, a measure of the efficiency of power generation, is 37.1 whereas the national average is 51.6. One can understand the low industrialized state of Bihar by its low power generation efficiency mentioned above, and also by the rates it charges to its customers in various sectors; it is Rs. 0.63 in the domestic sector, Rs. 0.09 in the agriculture sector but, Rs. 1.31 in the industrial sector which is the highest in the country. How can industries operate profitably within this state ? The performance of the State Transport Corporation and the Irrigation Department are also the lowest in the country . The State Transport Corporation losses Rs. 4.19 per effective kilometer of the operation whereas the ratio of the expenditure to revenue of the State Irrigation Dept. is 16.204 which is 6.18 for Punjab and 11.5 for the national average. The loss figures for the State Transport Corporations of Karnataka, Assam and Punjab are -0.06, -2.05 and -2.41 respectively.

Thus the inefficient operation of the State Government is one of the factors of the low per capita income of Bihar,

the other factor is the wealth transfer to the Central Government from the profitable mining sector. The third factor is the transfer of power generated within this state to other states.

The industrial classification of workers within Bihar are in the ratio 83.2 : 7.2 : 9.6 in the areas of agriculture, industry, and services respectively. The same ratios for Punjab are 63.6: 13.3 : 23.1. The ratios of incomes in these sectors in Bihar in rupees are 1001:5655:4710 whereas for Punjab are 6020:6664:9119.

Thus a worker in Punjab in the agriculture sector makes 6.6 times more than what he earns in Bihar. There are several reasons for this which are, (a) there could be more people working in the fields in Bihar than are necessary, (b) the state of mechanization of the agriculture, (c) the amounts of fertilizers, pesticides used, (d) the use of the latest variety of seeds for rabi and kharif crops, (e) irrigational development, (f) type of farming, for example returns could be more in horticulture than in other types of crops. Even in Punjab, they are growing forests which has better yield in rupees than in growing a food crop. The return on investment in the food crop is much lower as compared to that in the manufacturing or service sectors in spite of the subsidies to agriculture. This is one of the reasons why the wages are very low in the agriculture sector. Since Bihar has very high percentage of its population working in the agriculture sector, the per capita income is very low and its 40.7% of the population is below the poverty line, the highest percentage in the country. In Punjab, more people have shifted to the industrial and service sectors which are more paying.

How would the workers move from the agriculture to other sectors ? For this, capital is needed which I consider as the fuel for the engine of the economic growth. How can Bihar get this capital ? Let us look at the operation of the banks which were nationalized in the year 1969 to help the economics of various states. Let us look at the relative performances of these banks in the various states bearing in mind that their policies are formulated from their head offices, located probably at Delhi. The credit to deposit ratios, in the years 1969, 1980 and 1990 in Bihar, were 0.308, 0.414 and 0.378 respectively. The same figures for Maharashtra were 1.01, 0.773 and 0.801 respectively. These figures were also high for Tamil Nadu and West Bengal, the other industrialized states with ailing industries. For example, the deposits and credit figures for 1990 in Bihar were Rs. 7,664 crores and Rs. 2,897 crores respectively; the difference being Rs. 4,767 crores (it is almost equal to an annual total outlay of this state). These banks have transferred the capital which was badly needed in Bihar to other states for financing their developments. The explanation is given for this transfer is that these states with low ratios, are not developed enough to absorb the credit. Let us pause for a moment and try to understand the rationale for such actions assuming that the policy makers of these banks are professionals who know their job very well. Let us take another example of a doctor who is also a professional and who has to treat say, 16 patients suffering from different diseases. Does he give one set of medicines to all his patients ? Suppose he gives one set of medicines and sees that different patients are responding differently, then should he not give appropriate medicines to each of his patients?

The banks have been nationalized in the year 1969 i.e. 21 years ago, it is sufficient time to understand the economic ailments of different states and cure their respective economic ailments. Thus, we see that with the nationalization of banks, the wealth of this state has been channelized elsewhere by the decision makers at their head offices.

It is well known that the basic necessities of a human being are food, clothing and shelter. Did the policy makers of the bank not see that the people of Bihar did not have these basic necessities with 40.1% of its population living below the poverty line ? The need for Bihar was the capital, which was necessary to transfer its workers from the agriculture sector to the industrial and service sectors where the wages are higher. They could have advanced credit to the consumers from whom they took the money, for housing and land development industries. It should be borne in mind that approximately 60% of the area of Patna is classified as slum area, the highest figure among all the cities in India. The materials and labour in this industry, are available locally, so any investment in this sector would lead to the highest growth rate in Bihar. On the other hand, if they make credit available to the consumers in Bihar to purchase electronic appliances, such as a VCR or a refrigerator or clothes which are manufactured in other states, it will help the manufacturing sectors of those states. Thus the growth rate will be slower in Bihar. They can also advance loans to make medical polyclinics, private hospitals and necessary equipment and instrumentation to the doctors, thereby improving the health care within the state which is in shambles presently.

The population of Bihar is 10.2% of the national population but it has received around 7% of the money that the Central Government transfers to various states. It is not justifiable because it has, on an average, contributed approximately 25% of the national income from mining since the independence. Thus, a serious problem exists in the transfer of payments from the center to this state. In all fairness, Bihar should get approximately 15% of the share for the next 24 years.

3. RECOMMENDATIONS :

The following are badly needed actions to eradicate poverty from this state :

1. Stop the outflow of the badly needed capital by the banks and invest it in the housing, land development, and health care sectors within the state. The advancing of these loans should be done by the banks directly to the consumers.
2. Negotiate with the center for 15% of the share of the transfer of payments to make up for the inequitable transfers of the past, considering also the fact that Bihar has contributed roughly 25% (roughly 25% of the total annual outlays) of the national income from mining.
3. Get an increase in the share of profits from the mining sector.
4. Improve the technical education in the state, including the education in the computer related areas, for higher productivity. As the economy of the state

will get sophisticated, better qualified personnel will be needed.

5. Improve the education of workers so that they are familiar with the concept of productivity and profitability, which is done very well in West Germany which has least number of strikes and lockouts.
6. Improve the education of women, who are the significant part of the work force and who would also enhance the quality of life in their families.
7. Negotiate with the Central Government regarding the composition of membership of the Planning Commission. Ideally, the number of members should be based on the population percentage i.e. Bihar should have one tenth of the members of this commission. If this criteria is used then the growth of various states within the country will be much more balanced than the way it is done presently. States like Bihar are also under-represented in the Central Government's Departmental employment. There are only 6.1% people from Bihar in these departments. The balanced representation of people in the government will also be reflected in the planning process.
8. Reserve special funds for the betterment of the very poor. Centers for the development of these people through the use of technology should be carried out from Patna and other district towns. The scientists and engineers within India have

not used their skills for this purpose. There is over staffing of engineers in various departments, and government controlled industries. The centres for the rural department technology should not be located only in Delhi but should be dispersed throughout the country. There should be many more centers than there are presently.

8. Decrease the power rates it charges to the industrial customers.

4. CLOSING REMARKS :

There are two steps involved in the economic progress of a given country or a state which are :

1. The creation of wealth, and
2. The distribution of wealth.

The wealth will be created by following correct fundamental principles. For humans to create wealth, they have to have incentive, drive, desire etc. This drive is the highest if an individual is able to produce and retain the wealth. He or she can also produce wealth when working in a group or in an organization. The efficiency of an individual is less in a group than what he or she can do by himself or herself. There are situations where he can not produce wealth all by himself; for example, he can not make a car all by himself. In this case, he has to work in an organization. Therefore, if in the present situation, the housing loans are advanced by the banks to the consumers directly without involving too many hands, the wealth creation process will be more efficient. The other

alternative would be to advance these loans to the legally constituted societies from which the individuals could borrow the money. This second alternative will not be very efficient.

As far as the land development is concerned, it has to be done by an organization because the individuals can not develop townships. Therefore, such loans must be given to private sector developers or other bodies.

The question of the distribution of wealth comes up when individuals work in groups such as in a manufacturing company. The question of the sharing of profits and fair wages come up in these organizations also. These matters should be discussed between the owners and the workers. Both partner must understand that in these negotiations, they do not hinder or stop the first process i.e. the creation of the wealth.

In the begining of this report, I had mentioned countries like U.K., Japan and Netherlands. What are the main differences between the people of these countries and the people of Bihar ? Were the people of these countries much more intelligent or much more efficient than the people of Bihar at the end of the second world war ? The answer is no. Then why do these people have so much wealth with lot less natural resources ? The answer is based on many factors and some of these are :

1. These people were much more technically and educationally literate even before the second world war. They had developed systems which produced wealth at a very high rate. All that they needed after the war was the capital.

2. Massive amount of capital was injected into these countries by U.S.A. whose industries were untouched by the war. Both Germany, and Japan were highly developed technological states before the war and so, they developed quickly after-wards. The capital in these countries was almost like 'amrit'.

To develop China and India whose economies are similar, it would require, (a) much more capital because of large populations, and (b) enormous effort to increase the technical skills of the people. In view of the above, I believe that in Bihar, it requires massive drive for technical education and entrepreneurship. The education in schools have to be modified to include education on how to open a business etc. Bihar is a state where people are still divided on caste lines, a division of labour having its origin in the ancient times. The world has undergone four economic revolutions, and the wealth is being created by modern technologies. There is desire to possess wealth by all individuals irrespective of their castes. Therefore, they all have to be involved in either opening a business or working in a technological environment. In the ancient times, the main wealth was created by agriculture where most of the people were employed. The remains of this ancient arrangement of wealth creation can be seen in Bihar where 83% of the workers are still employed in the agriculture sector. The shift to industrial and service sector has already taken place in other states of India. In U.S.A., only 10% or less of its people are involved in the agriculture.

It is quite often debated whether or not to have automation which includes robotics and computerization in India? In my view, these are aids in improving the productivity and the entire world is using these. One should not blindly oppose introduction of these aids. Actually, their introduction should be economically justifiable and human considerations of displacing a person, should be also of paramount importance. Countries of Western Europe and Japan have blended these considerations much better than what has been done in U.S.A., in my view, i.e. workers with obsolete skills are retrained and redeployed.

As far as the housing industry is concerned, all the constituents that are required for this industry are present in Bihar. These constituents are, (a) labour, (b) materials, (c) unemployed engineers or graduates from polytechnics or other graduates in science or arts, (e) the capital and (f) the market or the buyers. Constructing a building does not require high technology. The question is why the houses or apartments are not being built ? The answer lies in so many factors. The first one is that the unemployed graduates do not have the risk taking capacity. They apply for jobs but would not go for business. The second one is the family tradition which has its roots in their castes. They or their parents know that business was not done by their ancestors but they are not able to visualize the changes that have taken place in the other parts of the country or in the rest of world. They can now clearly see that with collapse of the Soviet Empire, business will be the wave of the future. The governments are going to play their roles only when it would be absolutely necessary and would let the free market

shape the economy. In Bihar, I feel that the government through these nationalized banks, has to play an important role. It has to act as a catalyst in this house construction industry by providing the risk capital in accordance with the following steps :

1. It asks the local civil engineering firms or architects for plans, cost of construction of the houses, and the nominal profit estimates for the builders. In this way, it knows the total selling cost of a house. It can advance some outright grants to the builders in this beginning phase.
2. In the newspapers it should ask builders i.e. unemployed graduates to come forward and take the loans for building those houses in Patna and other towns of Bihar. (for a certain number of houses to be built). It should also guarantee to buy back these houses at the selling prices arrived at in the step 1.

The steps 1 and 2 should be used for a small number of houses, say, 50 in Patna. If the builders can sell those houses for any price in the free market then they would not sell it to the bank. The bank has to buy it back only if they can not be sold. While the houses are in construction, the banks have to inspect them to check so that the quality of the houses are in accordance with the specifications.

If the bank finds that this experimentation is successful then it can go ahead in large scale construction of the houses. This will develop the housing industry i.e. makers of bricks, tiles, cement, architectural firms, much better than the rest

of the country. The governments in advanced countries play this kind of role even today. Glaring example is the subsidy to the farmers in U.S.A., Canada, Japan and West European countries. Other examples are the computer and aerospace industries which get direct and hidden subsidies from the governments.

The bank should advance loans to the consumers for the purchase of flats or houses. This loan should be amortized over 40 to 50 years period to make the monthly payments low. This loan will be secured even over this large period because, (a) the houses made of brick have much longer life than those of wood made in the western nations, (b) the climatic conditions are not so harsh, (c) the inflation rate in India is much higher than that in the west. The interest rate should be allowed to float over this period. It should be, say, 2% above the inflation rate. The interest rate should be revised every year.

This concept of job creation through large number of small builders is more efficient in job creation and is cost effective. It will do away with the housing shortage. The cost of the houses or flats will be less than those constructed by any other way. This is the clue for the faster development rate of the western nations. If the government tries itself to build these houses through its own departments, it will have more than necessary people on its payroll and there will be so many other problems which the governments themselves know due to their own experiences with the housing projects. If the governments in the west also try to construct these houses through their departments they would face the same problems. People are the same everywhere in this world. The only difference

is that they (westerners) have come up with a very efficient SYSTEM which is sensitivbe to the opinion of the people. The freedom of press contributes very strongly to this effect. Why our SYSTEM is not sensitive, probably because India has had foreign rulers for centuries and **THE RULERS DO NOT SERVE THEIR PEOPLE.** After independence, we have made minor changes in the administrative methods. The will and the desire to change seems to be missing which is why we have so much of discontent, a sort of rebellion (violence), and indiscipline in the country.

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