

Problem Of Indian Agriculture With Special Reference Of Bihar

Dr. Madhurendra kumar*

Abstract-Bihar is the third most populous state in India with majority of its population depending on agriculture. Agriculture is at the core of Bihar's economy, employing 77 % of the workforce and generating 35 % of the state domestic product. With 88 % of the state's poor living in rural areas, improving agricultural performance and related rural non-farm activity is critical for improving livelihoods and reducing poverty. Thus, agriculture yet forms the backbone of development. An average Indian still spends almost half of his/her total expenditure on food and roughly half of India's work force is still engaged in agriculture for its livelihood. Being both a source of livelihood and food security for a vast majority of low income, poor and vulnerable sections of society, its performance assumes greater significance in view of the proposed National Food Security Bill and the ongoing Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme. Thus with proper thrust on technologies, institutional direction, farm level support services, all delivery mechanisms, improved farm infrastructure including rural connectivity, Bihar could be developed as a granary of India. It can also be developed as the hub of fruits, vegetables, and fisheries for both national and global markets. The entire economic growth processes in Bihar depends on the dynamics of agriculture. Major crops grown since Bihar are rice, wheat, maize, gram, red gram, sugarcane, potato & other vegetables. However, the agricultural sector in Bihar is plagued with numerous, and well known, constraints and problems. We talk about the possible strategic interventions to make the best use of available resources adopting a multi-pronged strategy of development. It also talks about the area specific problems and suggests ways and means to tackle them. The paper tries to prove that if agriculture is developed systematically then agriculture can be one of the major profit earning sectors for Bihar.

Key words: India, Bihar, Agricultural sector, Development strategies.

*Research Fellow in Commerce B.R.A.Bihar University, Muzaffarpur

INTRODUCTION:-Sustainable growth of the agriculture depends considerably on the process of agricultural transformation, which in turn is well connected with shifts in production patterns i.e., on the extent of agricultural diversification. The term 'diversification' has been derived from the word 'diverge' which means to move or extend in the direction different from a common point. Agricultural diversification can be described in terms of the shift from the regional dominance of one crop towards the production of a large number of crops to meet the increasing demand of those crops. It can also be described as the economic development of non agricultural activities. The process of diversification can be classified into horizontal and vertical diversification. Horizontal diversification can be referred to as that form of diversification wherein farmers diversify their agricultural activities in order to either stabilize or increase their income or both. It can either take the form of shift from subsistence farming to commercial farming or the shift from low value food crops to high value crops. Vertical Diversification refers to the farmers' access to non-farm income, i.e., the income from non agricultural sources. Further, a sustained economic growth, rising per capita income and growing urbanization are apparently causing a shift in the consumption patterns in favor of high value food commodities like fruits, vegetables, dairy, poultry, meat and fish products from staple food such as rice, wheat and coarse cereals. Such a shift in consumption patterns in favor of high-value food commodities depicts an on-going process of agricultural diversification.

Agriculture occupies the centre-stage in the overall development of Bihar's economy. Nearly 89 percent of Bihar's population lives in rural areas. Agriculture remains the mainstay of the state's economy and a major source of livelihood for a large majority of population. Bihar's agriculture continues to provide employment to more than 70 percent of the total work force. The Bihar state has a congenial agro climatic environment favoring cultivation of a variety of seasonal and offseason vegetables, fruits, flowers, spices, aromatic and medicinal plants. But there is reduction in arable land, deterioration of land productivity, lack of proper land use planning and lack of capital and appropriate technology. Thus, the state region has the potential to leapfrog from the existing subsistence agriculture to a commercial one through agricultural diversification. But, the congenial environment could not be utilized to harness the huge untapped potential due to a number of operational constraints. Diversification led growth is expected to generate enormous income and employment opportunities for the farmers, especially

for smallholders and rural laborers. Majority of high-value commodities especially vegetables are labour intensive, have a low gestation period and generate quick and higher returns per unit of land and labour but high value agriculture requires more capitals, improve technologies, quality inputs and better support services. Lack of access to these may constraints small farm diversification. Most high value commodities are perishable and need immediate transportation from production to consumption centers and markets. Alternatively, these need to be stored or processed into less perishable forms. Rural markets for high value commodities are thin and marketed surplus of smallholders is usually too small to economically trade in distant urban markets due to high transportation costs. A number of studies have shown that agriculture faces serious problems of dwindling crop yields and resource degradation which may aggravate further if remedial measures are not undertaken immediately.

The diversification of agriculture towards selective high value cash crops including fruits and off-season vegetables, compatible with the comparative advantage of the region, is suggested as a viable solution to stabilize and raise farm income, increase employment opportunities and conserve and enhance the natural resources principally land and water. The adoption of high value cash crops helps in two ways. First, it promotes the productive use of abundant marginal lands available in the state. Second, these crops help in maintaining and improving the ecology and environment by promoting soil conservation and improving soil fertility. In economic terms, it leads to significant improvement in the quality of life of the people. The process of crop diversification to high value crops in Bihar is very slow and not spreading to many new areas.

HISTORY OF INDIAN AGRICULTURE:-The history of Agriculture in India dates back to Indus Valley Civilization Era and even before that in some parts of Southern India. India ranks second worldwide in farm outputs. Agriculture and allied sectors like forestry and fisheries accounted for 15.4% of the GDP (gross domestic product) in 2016 with about 31% of the workforce in 2014. India ranks first globally with highest net cropped area followed by US and China. The economic contribution of agriculture to India's GDP is steadily declining with the country's broad-based economic growth. Still, agriculture is demographically the broadest economic sector and plays a significant role in the overall socio-economic fabric of India.

India exported \$38 billion worth of agricultural products in 2013, making it the seventh largest agricultural exporter worldwide and the sixth

largest net exporter. Most of its agriculture exports serve developing and least developed nations. Indian agricultural/horticultural and processed foods are exported to more than 120 countries, primarily in the Middle East, Southeast Asia, SAARC countries, the EU and the United States. **INDIAN AGRICULTURE AFTER INDEPENDENCE:-**In the years since its independence, India has made immense progress towards food security. Indian population has tripled, and food-grain production more than quadrupled. There has been a substantial increase in available food-grain per capita. Before the mid-1960s India relied on imports and food aid to meet domestic requirements. However, two years of severe drought in 1965 and 1966 convinced India to reform its agricultural policy and that they could not rely on foreign aid and imports for food security. India adopted significant policy reforms focused on the goal of food grain self-sufficiency. This ushered in India's Green Revolution. It began with the decision to adopt superior yielding, disease resistant wheat varieties in combination with better farming knowledge to improve productivity. The state of Punjab led India's green revolution and earned the distinction of being the country's bread basket. The initial increase in production was centred on the irrigated areas of the states of Punjab, Haryana and western Uttar Pradesh. With the farmers and the government officials focusing on farm productivity and knowledge transfer, India's total food grain production soared. A hectare of Indian wheat farm that produced an average of 0.8 tonnes in 1948, produced 4.7 tonnes of wheat in 1975 from the same land. Such rapid growth in farm productivity enabled India to become self-sufficient by the 1970s. It also empowered the smallholder farmers to seek further means to increase food staples produced per hectare. By 2000, Indian farms were adopting wheat varieties capable of yielding 6 tonnes of wheat per hectare. The lasting benefits of the improved seeds and new technology extended principally to the irrigated areas which account for about one-third of the harvested crop area. In the 1980s, Indian agriculture policy shifted to "evolution of a production pattern in line with the demand pattern" leading to a shift in emphasis to other agricultural commodities like oilseed, fruit and vegetables. Farmers began adopting improved methods and technologies in dairying, fisheries and livestock, and meeting the diversified food needs of a growing population.

As with rice, the lasting benefits of improved seeds and improved farming technologies now largely depends on whether India develops infrastructure such as irrigation network, flood control systems, reliable electricity production capacity, all-season rural and urban highways, cold storage to prevent spoilage, modern retail, and competi-

tive buyers of produce from Indian farmers. This is increasingly the focus of Indian agriculture policy.

AGRICULTURE ISSUES:- Important for cereals (Wheat and Maize), the state is major producer of horticultural crops especially fruits and vegetables. A wide variety of crops, horticulture and tree species are grown viz., cereals (rice, maize, wheat), oilseeds (mustard), pulses (lentil, gram pigeon pea), fruits (Mango, Banana, Litchi, guava, citrus, pineapple), vegetable (potato, onion, tomato, okra, parwal, peas, cauliflower, cabbage).. The state has a total area of 2.81 lakh ha under different fruit crops with a production of 33.8 lakh MT and is the major litchi exporting state of the country. The total area under vegetables including potato and onion is about 8.43 lakh hectares with an estimated production of 86.43 lakh MT. Also, in terms of the gross value of components of agricultural production, fruits and vegetables rank second after cereals having 28.6 percent. Indo-Gangetic plains have predominantly rice-wheat cropping system, in view of changing scenario, marketability and commercialization, there is a need of diversified crops and land use systems to bring in more integration, wide variety of choice, risk minimization and sustainable agricultural development. Bihar is a leading state in maize production. It has multiple uses. The baby corn, sweet corn, popcorn and green cobs are remunerative enterprises for increased income and profit. In Bihar expansion in area under Quality Protein Maize (QPM) will result in enhanced profitability. Maize based industry producing starch, human food (corn flakes, popcorn, bread, and confectionary), animal and poultry feed etc. can be popularized for better return. In case of rice, we may concentrate on organic farming of scented rice varieties such as Katarni of Bhagalpur region and Rajendra Basmati, Sugandha in Patna region. However, there is need of introducing rubber rollers of high quality. Parboiling is one of the latest well-developed premilling treatments given to paddy to improve its quality. In comparison to raw rice milling, parboiling system has some additional advantages like higher head rice recovery, retaining more protein, vitamin and minerals, greater resistance to insect infestation during storage and leaching loss during cooking. Further, parboiled rice bran contains 30 % oil whereas raw rice bran contains only 15-20 % oil.

In Bihar, parboiling mills are mainly situated in old Shahabad district. These need to be modernized and spread in different regions. The modernized rice mills get higher (68-72 %) total mill yield and about 60-65 % head yield of rice recovery and segregated by byproducts like good quality bran which could be more effectively utilized for extraction

of edible bran oil. Apart from this there is great scope of popularization of mills / small scale industries to produce pressed rice as well as puffed rice in the state. A variety of agricultural produce viz. milk, makhana, mango, litchi, spice, scented rice, pulses oilseeds, vegetables, medicinal and aromatic plants, flowers have immense potential for commercial agriculture and setting up of processing industry in production area. Honey and ornamental fishes have high potential for commercialization. As the pulses are the cheapest source of protein, 15 % milling loss will result in loss of 2 millions tones of pulses. Various types of polishing machines have come up, like leather polishers, rubber polishers, nylon rope polishers and emery roll polishers. Polishing dal surface is done by removing power sticking to its surface, applying water (1-1.5 kg/q), smearing soap stone or Selkhari power (1-1.5 kg/q), or oil 100-200 g/q). Thus there is good scope in dal industry for Bihar to compete with other states of the country. In Bihar there is great scope of instant dal, Parched grain and dal power manufacture, green colored arhar dal sorting etc. Jute and paper industries may prove great promise in the north-east Bihar region. In Kishanganj and Araria districts tea is cultivated in 1600 and 200 ha respectively. If it extends to the potential area of 10,000 ha, there will be prosperity of industrialization in the region.

OTHER IMPORTANT ISSUES:-Seed production and Planting: Material Quality seed is in scarce in Bihar, though seed production is a highly profitable enterprise. Seed village concept including organized systematic method of breeder, foundation, certified and truthful seed will change the face of Bihar Agriculture. Since the region has immense potential for fruit production, ensured supply of quality planting material of different fruit plants has great scope. Ornamental plants can also be propagated and distributed in large scale. Certification and quality control of existing nurseries in the state also need to be done urgently. Production of quality seeds of vegetables particularly onion, cauliflower, French bean, okra, brinjal, tomato, cucurbits, cowpea and pea will be highly remunerative venture for the state. The Hajipur region is known for quality seed production of tropical cauliflower. Efforts should be made for intensification of seed production scientific and organized manner.

Organic Farming: The increasing consciousness among the people towards hazards of synthetic chemicals has given rise to the scope of organic farm produces. There is a great demand of organic foods among the urban rich as well as in the western markets. Agro-inputs like bio-fertilizers, bio pesticides, vermin compost etc. are major components of organic farming system. There is easy availability of

raw materials for organic pesticides and manures in the state. Large scale investment in this sector will be a highly remunerative venture. Agri-Implement Production Agriculture and allied enterprise can be a business, which may maximize productivity, income and employment. Many improved implements are required for agricultural operations. Most of them can be fabricated on commercial scale at local level with some incentives and support at policy level. Processing and Value Addition Most of the agricultural produce can be processed and value added resulting in high demand, more acceptability of consumer and better returns. Rising farm incomes will generate tremendous demand for consumer goods, equipments, processing and distribution industries stimulating rapid growth in industry and rising job opportunities in both the rural and urban sectors. Commercial agriculture and processing can bring prosperity to Bihar. Storage and Transportation Only in horticultural produce, Bihar suffers a staggering loss to the tune of 30 % due to inadequate post harvest management. There is a need to better manage our harvest and prepare maturity indices for different markets, cool chain management, CA storage, transport and logistics. Proper storing facilities and transportation at the production site and processing site will minimize post harvest losses and enhance profitability. Packing and Brand Development With the advancement of pre and post harvest technology, proper packaging, handling and brand development is gaining grounds. Scientific and proper packing not only saves the post harvest losses but also increases shelf life and price tag. High aesthetic and technological packing and development of brand of Bihar Agricultural Products will fetch high prices and have a larger share of the market. FPO licenses in Bihar are inadequate its easy availability will go a long way in ensuring quality standards for strong brand development. Marketing and Export The marketing and export of agricultural produce need greater emphasis. Presently farmers don't get any support for marketing and export of their produce. Very few crops are listed in the minimum support price of the government, subjecting farmer to the natural vagaries of the market forces. Regional inequality in development can stifle the overall development potential of the sector. The dairy value chains can be popularizes though the SHG approaches. Improving supply chains and operations will enable stakeholders in India to enhance competitiveness and successfully deploy growth initiatives. The need is especially acute for small and resource-poor farmers as well as entrepreneurs because of their small operational bases and greater vulnerability to unforeseen shocks. Since this dairying activity is

profitable and the demand for milk and milk products is growing rapidly, there is enough scope to upscale milk production activities.

CONCLUSION:-In order to promote Bihar as a granary of India, proper thrust on technologies, institutional direction, farm level support services, all delivery mechanisms, improved farm infrastructure including rural connectivity is needed. It can also be developed as the major hub of fruits, vegetables, and fisheries for both national and global markets. The entire economic growth processes in Bihar depends on the dynamics of agriculture. There are successful experiments in different parts of the country, which if adopted, can provide an answer to various problems which Bihar is facing in its race to higher productivity levels. Bihar can then surely catch up with the present productivity levels of rice and wheat in Punjab and other cherished goals in maize, pulses, oilseeds, horticulture and livestock production in the next few year Plans. Fortunately for Bihar, the State has trained agricultural labour from Punjab. The Bihari labour ,who were responsible for the first Green Revolution of Punjab will now provide the momentum for the Second Green Revolution in their home State. Thus, there is a need for awakening with commitment to convert the weaknesses into opportunities and revamp agriculture which is a sole source of economic development. Bihar also needs to put a special focus on system of organic farming in the light of experiences available in India. This would bring faster results for increased productivity.

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