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DEVELOPMENT OF INDIAN ECONOMIC THOUGHT

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2.0 Introduction

Information seeking behaviour of Indian economists is better understood in the light of the background information about Indian economic thought. The growth and development of Indian economic thought started from the ages of Kautilya. Here an attempt has been made to discuss growth and development of Indian economic thought starting from Drain theory till the era of liberalization. Also a brief biographical sketch of eminent Indian economists has been discussed in order to have a better understanding of their contributions for the development of Indian economy.

The modern social science began to develop in India along with the British colonization in the 19th century. The establishment of the Asiatic Society of Bengal (1784), the Academic Association (1828), the Bethune Society (1851), the Banaras Institute (1861) and the Bengal Social Science Association (1867-1878) gave an impetus to social science research in India (Sharma, 1992). The social science research then and after early years of independence was based on the studies influenced by Western thoughts. Later there was great demand for studies based on local issues due to the fact that planned socio-economic development provided tremendous scope for inquiry and research. That paved the
way for the development of modern Indian social science with the help of research undertaken by great economic and political thinkers such as Dadabhai Naroji, G.K. Gokhale, R.C. Dutt, etc. In 1979, there were 8420 social science periodicals in circulation in India. That shows the growth of social science research in the Indian subcontinent (Sharma, 1992, p. 2642). As per Ulrich’s International Periodical Directory, 2003, there are around 1337 social science periodicals published in India (Ulrich, 2003).

Economic research, which forms the major part of social science research, also got a lot of boost owing to various economic problems faced by India before and after independence. After India’s independence in 1947, government was contended with problems of poverty, unemployment, overpopulation, under development etc. This necessitated more serious research in economics to overcome these problems and lead the country towards the developmental path. The phases of economic research and thought spanned over a period of changing times starting from labour and employment oriented in the 1950s to planned model in 1955, and later shifting back to employment in the 1970s. Most of the research or economic thought discussed belongs to the period starting from British rule during famine policy till the recent economic reforms.

2.1 Indian Economic thought: A Historical perspective

The roots of Indian economic thought are traced back to the 3rd century BCE during the Mauryan period (Heitzman, 2003). A treatise on Indian economy 'Arthashastra' by Kuatilya was written during this
period. It portrayed a highly centralized, bureaucratic state, collecting tax revenues from mining, agriculture, craft production, commerce, etc. Kautilya's Arthashastra, a brilliant treatise written 2,400 years ago, is a classic vision that encapsulates incisive understanding of Finance, Money and Resource Management. Roger Boesche's (2002) excellent commentary on Kautilya's voluminous text draws out the essential realist arguments for modern Indian strategic thinking and our understanding of the relationship between politics and economics. After that during the Muslim period, which started in the 11th century, fiscal policy, monetary policy and price control were prominent issues.

Later in the British rule, famine and famine policy envisaged by British were an important topic of Indian economic thought. It was between 1866 and 1900 that India experienced famines in Orissa, Bengal, Punjab and in other parts of the country. The policy, which has been advocated by the British, concentrated more on public works to meet the food expenses of the poor and regarding supply of food grains and price policy it laid emphasis on 'laissez-faire' (Dasgupta, 1993). This policy was widely criticized by people within the British Empire and also by leaders like Balgangadhar Tilak in Indian National Congress, as the policy was impromptu to meet the need of enough food supply to the poor.

This led to interest in economic issues in India, which dates back to the latter half of the 19th century (Bhagwati & Chakravarty, 1969). This period witnessed the expansion of university education and the study of history and political economy as academic subjects in the
universities. It was especially after 1870 that the image of India as a dependent colonial economy emerged with clarity. According to B.N. Ganguly, it was in the last three decades of the 19th century that Indian economic analysis and speculation reached a high-water mark of articulation and a point where knowledge of economic facts and trends and of the underlying causes at work showed a certain coherence and consistency as a common outlook and tradition (Ganguly, 1977). It was also an era that witnessed greater debate among Indians on the nature of Indian economy, the character and mechanisms of economic backwardness and the route away from that backwardness, about the economy and general welfare.

2.2 Areas of Indian Economic Thought

The areas of research dates back to the early history of Indian economic thought. Here the areas, which drew great amount of debate starting with Dadahai Naoroji's drain theory, have been discussed.

Econlit (1969-2005/3) an international database on Economic literature has indexed 10,814 articles on various aspects of Indian economy (AEA, 2005). Similarly, ISID Index to Indian Social Science journals (up to 2004) has 18,203 articles on Indian economy (ISID, 2004). This shows the growth of economic literature on account of research undertaken on various issues of Indian economy. The number of articles on the debates discussed below being covered in these two databases is as follows:
Drain theory emerged as a symbol of Indian nationalism. The theory emphasized unequal transfer of wealth and income from India to Britain, causing great drain on Indian economy. The theory was first developed by Dadabhai Naoroji in a series of his speeches and writings subsequently published in 1901 in a volume entitled, 'Poverty and un-British rule in India'. The concepts of trade with no equivalent returns, the drain of wealth, and annual tribute, formed the core of the theory of external economic drain, on which he laid more emphasis. This was also supported by a number of British writers.
According to Naoroji and other Indian writers, the most important items of drain theory were First, remittance to England of a proportion of salaries, incomes and savings by civil, military and railway employees of British origin, as well as by professionals such as lawyers and doctors. Secondly, payment in Sterling by Government of India towards pensions and furlough allowances of British officials. Finally, the remittances made in Sterling towards interest on loans for construction and maintenance of public works such as railways, irrigation, etc. However, this third point of the drain was less convincing as this contributed to national income and made long-run economic growth possible.

They argued that, these expenditures could have been avoided, if the British adopted the policy recruiting Indian's for top jobs in civil and military services. The military expenditure was one of the major expenditures, that is, 40% of the total Government of India's revenues (Tomlinson, 1975). Also the military was used more for imperial wars far from India.

The drain theory was criticized by both British and Indian writers. According to Morrison (1911), the magnitude of drain has been exaggerated; it is because while calculating export surplus, they failed to allow for relevant deductions. He argues that export surplus was balanced by invisible imports such as shipping services, insurance charges, etc. Regarding interest on capital, he rightly pointed out that it was because of British connection, which enabled India to borrow in the world's cheapest capital market. G.V. Joshi (1912), a well-known
exponent of the drain theory, supported this view. Morrison accepts the fact that regarding home charges India was treated differently compared to other colonies (Morrison, 1911).

Bankim Chandra Chatterjee, who examined the drain theory from the point of view of the agricultural economy of Bengal, argued that it did not give rise to poverty. On the other hand it resulted in good governance in India resulting in welfare of the people. A much more influential dissident from the theory was Ranade (1899), who expressed his opinion on drain theory as essentially a political one in connection with rate of interest on capital and supply of store goods. The most important contribution of the drain theory for Indian economy is the insight it offered about the relationship between economic development and the balance of payments.

2.2.1.2 Ranade and the economics of development

Ranade laid emphasis on optimistic school of economic thought among Indian economists. The main theme of his theory is the balanced development of Indian economy. While talking on causes of poverty, he blamed over the dependence of the Indian economy on agriculture. In most of his writings, Ranade expressed that economic development in India required priority being given to industry and commerce over agriculture. There are several reasons in favour of this argument.

First, balanced growth of development requires proper coordination between different sectors, which alone can assure
adequate and sustainable demand for the output of each sector. This he borrowed from the German School of Historical Economics led by Fredrich List. Due to the initial conditions of the Indian economy, a substantial increase in industrial employment and output is, therefore, necessary for sustained economic growth.

Secondly, again borrowing from List, he emphasized a sequence of historical stages through which economy must pass i.e. agriculture, manufacturing and commerce. Looking into Indian conditions by distinguishing between an existing stage of agriculture plus handicraft and one of agriculture plus manufacture plus commerce, which he held as the next stage to which India should aspire to proceed. Here he stressed the need for industrialization in India.

Thirdly, manufacturing industries should apply modern technology to the production process. This helps society's aggregate output per head as it is directly related to the proportion of its labour force engaged in manufacturing.

In regard to industrialization in India, he observed social and economic difficulties. His main emphasis was on capital, which is required for investment in industry. The deficiency in supply of investment funds was partly due to low savings among Indian population because of low average income. Also considerable amount of their gross savings was taken up by taxation. Another point he put forth was inappropriate government policies, which did not encourage local industries to come up. Government of India did not give any
support or protection to local industries against foreign competition. He also blamed that lack of entrepreneurial skills among Indians was a constraint on development.

Towards agrarian policy, he argued that method of land revenues assessment in India was quite inappropriate, for it had the effect of discouraging productive investment on the land. He emphasized development of agriculture on capitalist lines, which could alone unleash the productive powers of land (Ranade, 1899, p. 352). He proposed that the revenue on land should be fixed permanently as a proportion of the gross staple produce.

To conclude, Ranade's approach to economic policy was guided by an over-riding objective, the development of productive capacity. This applied to both agriculture and industry. He pointed out that in both the government has a major role to play, but its role was to initiate, encourage and allow rather than direct control. And encouragement should be given to domestic producers instead of foreigners as they lack access to capital and deficient in entrepreneurial skills.

2.2.1.3 Gokhale on Development and Welfare

He has been widely regarded as a 'successor' of Ranade in the Indian national movement. It was the Ranade tradition which he imbibed and enriched. His view of the contemporary Indian economy and its development laid emphasis on general welfare of her people by providing mass education, sanitation, public health etc.
As regards poverty, public finance and drain theory he showed that they have a link with a development theory, development being understood, from the angle of the welfare of the masses of the rural population. Like Ranade, he too supported the idea of protection to Indian industries. Among the various hurdles faced by Indian industry, he recognized the lack of industrial and technical education, which is an important handicap for the growth of industry. To have a production in modern lines, he pleaded that government should send agricultural and industrial experts for training abroad.

Gokhale made clear his conception of a welfare state in his budget speech in 1903. In his speech, he pleaded for a change in the functions of the state in the direction of contributing directly to the welfare of masses. He drew the attention of the government to the measures to be taken in order to secure for the country those moral and material advantages, which the government of advanced countries do.

In connection with farmer's problems, he pointed out the three evils, viz., poverty, ignorance and in sanitary surroundings. Regarding poverty he had agrarian situation as a whole, not only that there should be high incidence of land revenue, but also that farmers should be released from the load of debt. To overcome these, he suggested to reduce land revenue and emphasized organized rural credit, which helps farmers to come out of the clutches of money lenders.

He pleaded that the Government of India should have plans for the development of some of the rudimentary social services, which
include mass education, elementary sanitation and combating of drinks. He treated primary education as a primary means to economic welfare, and advocated compulsory primary education for boys, to begin with, in the municipal corporations of bigger cities and district headquarters. Also, advocated free elementary education for both boys and girls. He felt that the claims of good water supply and drainage are more important than the construction of railways for the welfare of people.

2.2.1.4 Gandhian economics

M.K. Gandhi, father of the nation, has contributed towards economic thought in his own way, which is different from that of the economists. His economic thought was based on the concept of overall development of individuals in the society. He was trying to describe an economic ideal to strive for rather than an economic plan to simply implement. The viewpoint on economic issues expressed by him, which really differentiates from the mainstream tradition, is his extraordinary emphasis on the ethical aspect of economic behaviour.

The concept of 'limitation of wants' is a typically Gandhian contribution to the theory of welfare economics. This states that individual's welfare is best achieved not, as economic theory suggests, by attempting to maximize the satisfaction of a multiplicity of desires subject only to the prevailing budget constraint but rather by reflecting on his desires and trying to choose between them. While economic analysis often regards these as synonyms, according to him they are distinct concepts.
According to him, multiplying one's wants makes a person a slave to an unending sequence of desires, and there is no slavery equal to slavery to one's own desires (Gandhi, n.d.). Such a process does not lead an individual to any sustainable steady state consumption path, instead it erodes self-respect and peace of mind. Another reason is that it may not make an individual or a society happy because multitude of wants has its own costs. Such an attempt requires extensive use of machinery, which could lead to pollution of the environment and loss of creativity in work. Another argument in favour of limiting wants turns on the adverse moral consequences of economic growth.

Whichever of these various justifications of the doctrine of limitation of wants one may take as primary, they have one thing in common, namely, such limitation is not intended as a glorification of austerity but rather an exercise in the optimization of overall individual welfare.

Gandhiji advocated the concept of 'Swadeshi' which means indigenous or homegrown. It was a mass movement to encourage people, especially those living in cities, to develop the habit of consuming Indian rather than foreign products. He did not regard Swadeshi merely in terms of political expediency but sought to justify it by moral grounds. Here he advocated that one has to help one's neighbours. This principle has a direct consequence on the interpretation of 'Swadeshi', that is, local products should be preferred, if produced and available in India. This he advocated in order to meet the problem of poverty and rural unemployment, as agricultural
labourers did not find jobs for the whole year due to seasonal produce. The remaining months they may spin the cotton yarn using 'Charaka', which will be used for producing cloth, known as 'Khadi'.

He was also opposed to the concept of modern industrial revolution using machinery. According to him, machinery will displace human and animal labour instead of supplementing it. Secondly, unlike human labour there is no limit to its growth and expansion. Thirdly, it appears to have a law of its own, which leads not only to labour being displaced but also to its being displaced at an ever increasing rate. His other argument is that machine-based production also leads to concentration of production and distributions in the hands of a few, thus making rural people depend more on cities. However, he did not oppose implementation of machinery in all sectors. For example, he appreciated Singer's sewing machine, surgical instruments, etc.

Even though his much-emphasized economic thought on spinning wheel did not become an answer to rural unemployment and mass poverty, it did have the importance of decentralization. He argued for limited degree of decentralized planning. He also opposed price-control through rationing as it leads to corruption and black marketing.

2.2.2 Independence and after

After the independence the objective of the Indian economic development was declared to be economic growth together with social equity. Parliamentary democracy and mixed economy through which
the state is playing a crucial role was to provide the institutional framework for economic advance. During the first three five year plans (1950-1965) the economy did advance with growth in agricultural output, but failed in terms of industrial growth and growth rate per capita income. This is attributed to failure of economic planning to lead accelerated growth that provides context of economic thought in recent past. Due to vast amount of literature on political economy, here the concentration has been laid on the literature, which laid its emphasis on economic ideas with relevance for policy.

2.2.2.1 The Mahalanobis Model

The Indian planning from the 2nd five-year plan onwards concentrated in public investment in capital goods production. This was due to the application of the Mahalanobis model by the Government of India as a basis of planning. The purpose of this model was to determine the optimal allocation of investment between different productive sectors so as to maximize long-run economic growth in India.

The model has two versions, one with four and other with two sectors. The basic assumption of both is that capital cannot be shifted from one sector to another and that foreign trade to be excluded. The two-sector model deals with investment allocation between capital goods and a consumption goods sector, whereas four-sector version distinguishes between two types of consumer goods, namely, factory production and household production, agriculture being subsumed
under the latter. It also includes service sector comprising such things as health and education and the capital goods sector itself. Due to clarity of logic of analysis in two-sector model, it is being widely debated.

Even though its originality and brilliance did not generate much interest, it provided an analytical framework for the 2nd five-year plan. Essentially it provided a rationale for a shift in the pattern of industrial investment towards building up a domestic capital goods sector.

The Mahalanobis model is often been criticized both for being concerned exclusively with investment and identifying investment with the production of capital goods, while paying little attention to savings. Bhagwati and Chakravarty (1969) observed that this model is based on the Soviet model, which encourages building up of capital goods base which puts constraints on domestic and foreign transformation. Thus the 2nd plan took no explicit account of savings, whereas economists looking at growth inevitably started from savings.

Another most important limitation of this model was the neglect of foreign trade. If domestic transformation possibilities are limited by specificity of the physical capital stock, which can be easily moved from one sector to another, foreign trade offers an important alternative means of transformation. Some economists pointed out that the link between trade and industrialization was a serious limitation and that it would lead to unfavourable consequences on the economy.
2.2.2.2 Industry and trade

During 1930s and onwards Indian economists were arguing that the issue of protection be dealt with within the framework of a coordinated programme of economic development rather than on an industry-by-industry basis. The Fiscal Commission appointed by Government of India immediately after independence adopted such a policy.

However, the industrial policy based on the Industrial Policy Resolution of 1948 and the Industries (Development and Regulation) Act of 1951 provided a detailed and comprehensive framework for the licensing and regulation of industrial investment and also for related questions such as pricing and distribution controls. It set a group of objectives, which were to be achieved by direct state control. Thus according to Industries Act, all existing undertakings in the 'scheduled' industries had to be registered with the government and no new industrial undertaking could be established nor any extension was possible without a license from the central government. By 1966, practically all-manufacturing industries came under license regime, even imports too were subject to licensing and could be permitted only if necessary and essential.

From the mid-1960's criticisms against these policies started coming from Indian economists. They argued that government intervention did not contribute towards industrialization, as it was a policy more of administrative control than policy based on economic
principles and rationality. Lakdawala (1964-65) during the presidential address to Indian Economic Association in Baroda on 'Aspects of trade policy in India' dwelt at length on the divergence that had come about between the theory of economic growth and development on the one hand and that international trade on the other. Regarding import restriction, he argued that questions relating to licensing need to be answered by economic reasoning rather than dealt with on an ad hoc basis by bureaucratic device. And the question was not just one of import substitution, which was an acceptable goal of development policy in the short-run, but how this was to be achieved was not spelt out. The switch from tariffs to import restriction had been accompanied with loss of efficiency.

Another important critique on this government policy was by Bhagawati and Desai (1970). They pointed out three defects. First, due to absence of any explicit economic criteria for accepting or rejecting applications for an industrial license, decisions were taken in an ad hoc manner leading to gross inefficiency in resource allocation. Secondly, the informational basis for reaching decisions on industrial licensing was extremely poor. Thirdly, the Licensing Committee decided between alternative applications on the first cum first served basis, reflecting a vague concept of inter-firm equity. Due to ceilings in licenses, sequential procedures led to deliberate foreclosing of capacity by bigger, better-organized firms. They concluded that more traditional means such as taxes and subsidies designed to keep industrial investments within the defined targets were a more efficient means of
planning than the detailed licensing of thousands of applications for license.

The main important critique as regards export policy was the import entitlement scheme under which exporters received import licenses, which commanded high premia in the market, pro rata to the value of exports made. During the 1960's this was the principal means of export promotion. According to Bhagwati and Desai (1970, p. 406), the scheme could create an incentive to over invoice the exports, thus giving rise to illegal transactions. This could benefit the exporters and the Indian economy in the short run, but if the exporters in order to earn more profit, start sending shabby goods and faked over price declarations, it would affect the long run trade policy and affect the reputation regarding the quality of Indian goods abroad.

Expert committees appointed by the Government of India from time to time agreed with the economists that quantitative restrictions of trade and industry was inefficient and suggested better ways of achieving the objective desired, thus amounting to some degree of liberalization.

2.2.2.3 Savings Behaviour

During the 1960's, Raj (1962) emphasized the importance of the marginal rate of savings, which, he argued, has a strategic role in Indian planning. He stated three broad hypotheses about savings behaviour by private households in India. First, time lags of consumption behind
income were important, especially among rural households. Secondly, the rate of savings among agricultural households was significantly lower as compared to non-agricultural households; and movement of internal terms of trade against agriculture would tend to raise the aggregate savings rate in the economy. Thirdly, within the rural sector the marginal propensity to consume among higher income groups was just as high as among lower income groups. The first two of these have been confirmed by subsequent economic research. Attention was also paid to inter-sectoral differences between agricultural/rural and non-agricultural/urban households.

In conclusion, it has been widely accepted that, first, the savings rate in the agricultural sector is lower compared to non-agricultural sector. Secondly, the extent to which it is lower has been diminishing over time since the 1970s due to Green Revolution. Thirdly, a movement in the inter-sectoral terms of trade in favour of agriculture tends to lower the aggregate savings rate in the Indian economy.

2.2.2.4 Industrial Deceleration

The deceleration in the growth of industrial output, which began in the 1960s and lasted certainly till the mid 1970s. It continued in few counts into the early 1980s. This situation created considerable social and political consequences for India. The account of deceleration debate is largely based on studies done by Ahulwalia (1982) and Krishna (1990).
Ahulwalia's study based on National Accounts statistics showed that the deceleration was industry-specific and significant if it happened only in basic and capital goods industries. Some attributed it to slowing down of agricultural growth (Chakravarty, 1974; Raj, 1976). However, the questions were raised that how much it should be attributed to agricultural growth even though industry and agriculture linkage in India is indeed strong. It does not follow that deceleration in industry is caused by deceleration in agriculture; the statistics showed that during 1960s growth of agriculture, particularly food grains, did not slow down.

Another aspect, which received much attention in the literature, was increasing inequality in the distribution of income. It has several versions, but none were mutually exclusive. According to one version, high degree of income inequality leads to a pattern of demand that reduces growth. It was this, argued by Mitra (1977) that was responsible for leveling off in the demand of mass consumption goods simultaneously with the development of luxury consumer goods industries catering to the needs of rich. This was further developed by Nayyar (1978) who stated that manufactured goods sold to the relatively few rich could use the capacity of capital goods sector only to a limited extent and that the capacity could be utilized to a fullest extent only when broad based demand for mass consumption goods is created.

The other version of income distribution states that industrial deceleration has to do with savings. According to Chakravarty (1974;
1979), increasing income inequality by leading excessive savings thus leading to deficiency in demand, is causing industrial deceleration. He suggested that an important mechanism for producing higher inequality was a trend in inter-sectoral terms of trade in favour of agriculture, due to the government policy of support prices and investment in building inventories of food grains.

Neither the agriculture nor income distribution caused industrial deceleration; it only slowed down the growth rate of public and private investment. A decline in the growth rate of investment had adverse effects in particular on the demand for capital and basic goods. The second five year plan strategy, contributed much value to the basic and capital goods industry. Thus, as a natural consequence, deceleration in industrial output took place.

2.2.2.5 Measurement of Poverty

In the 19th century, Indian economic thought had looked economic growth as the only long-term remedy for poverty. It was based on the mainstream economic tradition from Western economic thought. Poverty was seen essentially as a lack of resources leading to absolute deprivation such as insufficient nutrition and poor housing. Two different methods have been developed to measure the extent of deprivation; one is the direct method, which specifies deprived as those, whose food consumption fails to meet their nutritional requirements. The other known as the 'income' or 'expenditure' method, regards
deprived those with insufficient income to meet their basic needs, of which nutritional needs are the most important.

The Indian economic thought on poverty concentrated entirely on income method and in particular on how to construct the 'cut-off' monetary income below, which people are to be classified as poor, which is popularly known as 'poverty-line'. This has been done in a number of different ways, depending upon the specification of minimum nutritional requirements, which people must be able to buy in order to escape being classified as poor. Dandekar and Rath (1971), who have done a pioneering work in this area, specified nutritional requirement as 2250 calories per capita per day. Data on household consumption expenditure was used to identify the expenditure class with a level of calorie intake nearest to the calorie norm that had been specified. Later there were debates in favour and against of this specification. Some argued that calorie alone, would not be sufficient to meet the nutritional requirements; poverty line should be calculated by including protein, calcium or vitamins, etc. Secondly, according to the other argument, which has been widely discussed in 'Economic and Political Weekly' during the 1970's that the calorie requirements vary with age and sex and households differ in their composition of age and sex, thus uniform average calorie requirement for constructing poverty line will be misleading. However, these extended approaches for calculation of poverty line faced with their own problems.
2.2.2.6 Agriculture

During the 1960s in the literature of economics the question of farmers, particularly, that of Indian farmers, which was economically rational, often came up for discussion. Some discussed it as somewhat simplistic in terms of measured price elasticity’s of supply (Bhagawati & Chakravarty, 1969), and others (Krishna, 1963; Naraian, 1965; Dasgupta, 1970) took a more comprehensive view, looking at efficiency in input use, allocation of land between different crops, the influence of weather uncertainty on the choice of crops and so on.

Another issue, which has been more discussed, was that of inverse relationship between farm size and productivity per acre. According to Sen's (1966) explanation the difference in the opportunity cost of labour as perceived by small peasants as compared to capitalist farmers. An alternative explanation given by Khusro (1964) was the fertility of the soil which was lower on larger farms. If the cultivated area was standardized on the basis of land-revenue ratings the decline in productivity with size was much reduced.

Between 1970s and 1980s there was a considerable discussion on the economic rationale of different land tenurial arrangements. The share cropping form of tenancy, which prevailed in India since long was given specific attention. According to Rao (1971), sharecropping prevails in those areas and for those crops, where because of lack of substitution facilities, the amount of uncertainty and entrepreneurship are relatively less important, otherwise fixed contractual arrangements
are more likely to occur. Looking into other considerations, Bardhan (1984) analyzed share cropping as a compromise between the incentive problem under wage contract and risk bearing problem under fixed contracts. He notes that costs of land supervision and monitoring force landowners to go for land lease contracts rather than hiring labour. On the contrary, the fixed rent contract could impose too heavy burden on the poor. The fixed rent contract, for example, could well involve advance payment of rent. A tenant lacking capital assets and without ready access to credit markets may get ready to share tenancy in which the rental share is collected at the time of harvest.

Considerations relating to the credit were also given to the prevalence of share cropping, which can lead to technological backwardness in agriculture. In a well-known model of Bhaduri (1973), which is concerned with the implications of usury in a semi feudal setting for the adoption of yield raising innovations, the landlord provides consumption loans to his tenants at a high rate of interest. This model propagates that tenant leases land from landlord on crop sharing basis, where interest itself is fixed at higher level, regularly borrows and repays principal along with interest at the time of harvest at each time. Then landlords have no incentive to undertake yield increasing innovations resulting in tenants borrowing less as income goes up due to increase in the yield, thus causing interest loss to the landlord. However, several writers questioned the assumptions made under this model. According to them, in a kind of situation to which the model is meant, the landlord could influence his social and political clout to alter the terms and conditions of tenancy and credit contracts, including the
rental share and rate of interest, so as to appropriate for himself the gains made possible by technical progress.

2.2.2.7 Liberalization

In the post independent India, the debates surrounding the issues of state control and liberalization, which appear to be continuous and complex took place. The first relates to the controversy related to food controls of the 1940s, which were extended to early years of independence. It covered arguments that whether liberal markets or government controls could better ensure domestic food security. This happened due to the outbreak of Second World War and also because of great Bengal famine. After independence government continued this policy for fair distribution of food grains to all the people through rationing. In 1947 government appointed second 'Food grains Policy Committee' suggested for massive increase in the agricultural production and curtailing imports of food. It was in the late 1960s that emphasis was laid on agricultural growth through 'Green revolution' techniques fed by subsidized agricultural credit. Till then the policy of control followed by some decontrol continued.

The second episode of liberalization associated with the balance of payments crisis and devaluation of Indian currency of 1966. This was also fallout of agricultural failures for two successive years thus leading to large increase in food imports. During the 1960s, India's strategy of import-substituting industrialization was based on the idea of domestic industrial diversification with a degree of protection having a limited
foreign exchange. The industrial growth was based on the state led investment into the industry, but it neglected trade as a major engine of growth. This resulted in diversification and development of domestic industry, but widened the gap between production of consumption and investment goods and the domestic supply of consumption goods did not grow fast enough.

The serious economic crises happened during the war with China in 1962. This has led to increase of defense expenditure, consequent cutback on public investment and dampening the growth of industrial activity. The inflation, following Chinese war caused the real exchange rate to appreciate at higher level. This was followed by the second crisis of consecutive monsoon failures due to inadequate attention to agriculture leading to very sharp decline in agriculture. The economic effects of these two crises led to abandoning of five-year plans for three years and laying greater emphasis on investment in agriculture and industry both by government and private investment. This also forced the government to borrow from external agencies such as World Bank and USAID, which led to some amount of liberalization of trade and industrial policies, and to devaluation of Indian currency.

The third liberalization episode related to external crisis and external assistance resulting from both internal and external shocks. The first was international oil price hike in 1979, which caused India's terms of trade to deteriorate by 33% in that one year. Secondly, due to worst harvest agricultural output declined by 13% in 1979-80 (Ghosh, 1998). During this period government did not respond with fiscal measures
for stabilization and intensification of import controls in order to reduce deficit (Ghosh, 1990; Joshi & Little, 1994). Rather, it decided to maintain higher import bill and to seek external borrowing from IMF in order to increase investment to increase domestic oil output and other infrastructural production and also to increase public savings and exports. The conditions attached to the loan led further liberalization of Indian economy by removing ceilings in import restrictions, net bank credit, etc. There was huge opposition to this borrowing from left economists. However, this could not yield sustainable growth over a period due to unsustainable fiscal strategy and generated large fiscal deficits.

The liberalization process which started in the 1990s was the result of economic crisis of 1990-91 and subsequent government plan for borrowing another loan from IMF. Also there was a great force within and outside the government in favour of decontrol and more market friendly policies. When the new government took over in 1991 its first two economic policy initiatives were to approach IMF for an immediate standby loan and two stages devaluation of rupee by about 20% (Ghosh, 1998, p. 324). Subsequently, wide-ranging economic reforms were set in motion in which the immediate aim of stabilization was conjoined with a broader structural adjustment package based on a strategy of liberalization. The critics pointed out that current liberalization do not concentrate much on socio-economic factors, which controls used to support. Also this liberalization pattern relies heavily on attracting foreign capital to raise the rate of investment and which assumes that free trade policies will promote rather than inhibit further
industrial diversification. The two more critical concerns expressed by the opponents against the recent reforms relate to employment generation and poverty. This 1990s liberalization movement surely led India on a developmental path by attracting more FDI in various sectors, and also helped to generate new employment and to raise income levels of the people.

2.3 Eminent Indian Economists and their contributions

In 1947, economics profession barely existed in India as has been observed by Rao and Joshi (1979) 'In the field of the humanities even up to the forties it was not economics but literature, philosophy, and history that attracted the most talented students'. But by the late 1950s a transformation had indeed taken place. Now more than half a century after 1947 the Indian economics profession is well established and highly developed and there is an abundance of well-respected Indian economists located in India and abroad. Owing to these phenomena a large number of gifted students are drawn into this profession.

According to Terence J Byres (1998, p. 24) as explained in a book 'Indian Economy: Major debates since independence' has categorized Indian economists into five generations based on their dates of birth. He started with a group beginning 1893 to 1910, in which 1893 is the birth year of P.C. Mahalanobis. These economists of first generation were responsible for building institutions, which later became intellectual centers of learning in Economics. The first generation of institution builders includes: P.C. Mahalanobis, C.N. Vakil, D.R. Gadgil, A.K.
Dasgupta, Sachin Chaudhuri and V.K.R.V. Rao. During the same time Indian Economic Association was founded in 1918.

2.3.1 The Pre-1947 Period

2.3.1.1 P.C. Mahalonobis (1893-1972)

He was born in Cukcutta in June 1893. He did his studies there and completed his graduation with honours in Physics in 1912. In 1915, he started working in Presidency College as Assistant Professor of physics and later he developed his interest towards statistics. In 1931, he founded the Indian Statistical Institute in Calcutta. He was its Director and Secretary till 1972. The institute attained world prominence in areas of research in Mathematics, Statistics, Economics and related fields. Along with ISI he also founded the reputed statistical journal 'Sankya'.

Even though he tried to make ISI a true centre of excellence in the area of Economics, it could not attract young talent of Economists. This is inspite ISI playing a major role in the planning of India in the 1950s. However, under his leadership it played a major role in the development of India's high quality statistical infrastructure, viz., National Sample Survey in 1950. Dr Mahalonobis was the chief architect of India's Second five-year plan. He was a great institution builder; during his tenure as a Director of ISI he recruited young talent of researchers in the areas of Statistics, Mathematics and Economics. One of the economists worked closely with him is Dr Ashok Rudra, who did a lot of work in the areas of planning and development.
2.3.1.2 C.N. Vakil (1895)

He was a guiding spirit behind Bombay School of Economics, which is the present Department of Economics, Mumbai University. The British founded Bombay School of Economics in 1922 as a self-conscious emulation of LSE. Vakil studied in LSE and was an early Director of Bombay School until 1956. He has been considered an important institution builder. Vakil, along with his colleagues, contributed to a greater extent to Indian economic policy. He, along with his colleague P.R. Brahmanand, wrote a critique on India's first five year plan. The critique was based on a concern for employment creation, but stressed more on dangers of deficit finance and gave central emphasis to the supply of wage goods.

He was also a Planning Commission member during the Second five year plan and contributed papers along with his colleagues at Bombay School for its deliberations. Vakil was opposed to the second plan and its capital goods strategy. He and Brahmanand in their 'Planning for an Emerging Economy' laid down a challenge to Mahalanobis in connection with the second plan, as he was its architect.

Vakil and his colleagues Dantawala, Lakdawala, Brahmananda, Meghanand Desai, to name a few, were successful in breaking the influence of Calcutta and Delhi in planning process of India.
2.3.1.3 D.R. Gadgil (1901-1971)

Gadgil did his entire university education in England between 1918 and 1923 at Cambridge and returned to India after completing his M.Litt thesis. On return he first worked for a year as acting Additional Asst Secretary in the finance dept of Govt of Bombay and then as Principal at MTB college, Surat for 5 years. In 1930, he became the first Director of Gokhale Institute of Politics and Economics established by his father-in-law and he was in the same position till his retirement in 1966.

Much of his writing work and institute work was related to Maharashtra, but this was by no means exclusive in nature. He worked on the areas of transport, tenancy and land reform, rural indebtedness, agricultural labour, etc. His abiding concern was Indian planning in general. He served as a member of Economist's panel during the 2nd plan in 1955. He also worked on various committees associated with Planning Commission. In 1967 he was appointed Deputy Chairman of Planning Commission.

2.3.1.4 A.K. Dasgupta (1903-1992)

He has been considered as one of the best Economists of India. He studied in the Dept. of Economics, University of Dacca. Later, he taught there from 1926 to 1946. During the period in the mid 1930's he was a research student at the London School of Economics. According
to Ashok Mitra (1974), he was a great teacher, teaching was a way beyond an avocation, it was a mission.

Dasgupta left Dacca after the Second World War and joined provincial government in Calcutta and later became Professor of Economics first at Ravenshaw College, Cuttack and later at BHU. In between, he served IMF for three years. Then he moved to Delhi and became Deputy Director General of NCAER and a professor in Indian School of International Studies. By the mid 1960's he became Director of A.K. Sinha Institute of Social Studies at Patna.

He played a major role in founding and sustaining 'The Economic Weekly' by supporting Sachin Chaudhuri. He also contributed a paper for the first issue. He published many more papers in the weekly. In one of his papers to the Economists' panel setup in 1955 to advise the Planning Commission on the 2nd five-year plan, he gave support to a policy of deficit finance.

2.3.1.5 Sachin Chaudhuri (1904-1966)

He did his education in the University of Dhaka along with A.K. Dasgupta. He founded the 'The Economic Weekly' in 1949, which is considered as one of the best Indian journal in the area of economics. In 1966 its name changed to the present 'Economic and Political Weekly'.

Prior to starting of this journal, he was, at various times, a political worker as well as the manager of India's leading Film Company, historian of the Moghul period, etc. He received support
from his brother to start the journal 'The Economic Weekly', who
gave financial help. Also his close friends A.K. Dasgupta and D.P.
Mukerjee helped him in this venture and contributed papers to the
journal. He had very good intellectual and editing qualities that brought
the journal a very good success and made it unique (Datta, 1967). He
was editor of this weekly until his death in 1966.

2.3.1.6 V.K.R.V. Rao (1908-1991)

Rao, a product of Bombay School, obtained his graduation and
post graduation in Economics from University of Bombay in 1927. Later
he moved to Cambridge for his PhD. After his PhD on Indian national
income, returned to India in 1934. After his return, he started working
as a faculty in Karnatak College and then at Andhra University. Later
he became a principal of a college in Ahmedabad before moving as
Professor at Dept of Economics, Delhi University.

He founded Delhi School of Economics in 1948. According to P.N.
Dhar, during his first meeting with Rao, he talked about converting his
department into something like the London School of Economics within
the course of just five years. In 1946, with independence being
imminent, Rao felt the need of preparing Economics profession to meet
the tasks that have to be inevitably undertaken. He convinced that the
country needed economists of high-caliber to meet the emerging
requirements of independent India. Keeping this task in mind with his
ambitious vision, in spite of all opposition, he founded 'Delhi School of
Economics'. 
By the time he ceased to exist its Director in 1957, he had given physical shape to the school and appointed talented economists of high quality. Later he created a separate campus for the school within Delhi University campus. Some of the noted economists worked with him in the school is: P.N. Dhar, B.N. Ganguly, N.K. Pant, K.N. Raj, etc. In 1952, the 'Indian Economic Review' journal of Delhi school was founded. He contributed papers on full employment, deficit financing, national income and capital formation to this journal. Rao became a vice chancellor of Delhi University in 1957 and set up 'Institute of Economic Growth' in 1958 as another important center of economic research. Later in 1972 he established one more institute 'Institute for Social and Economic Change' in Bangalore. One of his major contributions to Indian economy is his work on 'National Accounts Statistics'.

2.3.1.7 D.P. Mukerjee (1894-1961)

He, along with Radhakamal Mukerjee, founded the Lucknow School of Economics, which is the present Dept of Economics, University of Lucknow. He was a great intellectual and an eminent teacher of Economics. He believed in policies based on Indian culture and socialism rather than depending on western thoughts. Lucknow school under their leadership made a major contribution towards the development of an Indian perspective on social science and especially to the evolution of an Indian school of economics.

He completed his Masters degree in Economics in 1920 and joined Lucknow University in 1922 as a Lecturer in Economics and
Sociology. He served the university about 28 years as a lecturer, Reader and Professor. Apart from teaching, he served as a Director of Information, Ministry of Home Affairs, Government of United Provinces, now called Uttar Pradesh and founded Bureau of Economics and Statistics. He also served as a member of UP Labour Enquiry Committee in 1947. He, along with Radhakamal Mukerjee expressed their deep concern about the way in which the Indian planning is being carried out by economists and policy makers.

2.3.1.8 Malcolm S. Adiseshiah (1910-1994)

Adiseshiah was a renowned economist and an educationist. He had his early education at Vellore and Chennai and took degrees from Cambridge and PhD from London School of Economics and Political Science. He worked as a teacher of economics at St.Paul's College, Calcutta and Madras Christian College, Chennai. He was associated with UNESCO from 1948-1970 and planned and executed many projects of great cultural and social importance. He also worked as Vice-Chancellor of University of Madras. He contributed many articles on planning, higher education, economic development, and poverty and on other aspects of Indian economy and wrote books on development economics.

Adiseshiah undertook a review work of functioning and further development of ICSSR and played a major role in obtaining affiliation of Central Government for India International Centre, Delhi. In 1971 he established Madras Institute of Development Studies to undertake
advanced research in the economy, society and polity with special reference to Tamil Nadu. Under his leadership MIDS started many academic activities, including a PhD programme. In 1978, Government of India, nominated him to the Rajya Sabha as a Member of Parliament.

2.3.2  Post-1947 economists (Second generation)

2.3.2.1 Bhabatosh Datta (1911-1997)

Prof Datta was a great teacher of economics taught at various colleges in Calcutta and was also a policy maker, and an adviser to the Government of West Bengal, RBI and IMF. He did his graduation and post graduation in Economics from the University of Calcutta and PhD from the London School of Economics. He served as a lecturer at the Dept of Economics, University of Calcutta from 1946 to 1960. In 1962 he became the Director of Public Instruction of the Government of West Bengal and then in 1965 Secretary of Dept of Education. Between 1964 and 1965 he served as a member of Fourth Finance Commission appointed by Government of India. He was a member of editorial committee under whose guidance the 'History of Reserve Bank of India, 1935-1950' was written. He served as a member of the Central Board of Directors of RBI and the Industrial Development Bank of India and was a Director of the Industrial Reconstruction Corporation of India during the years 1972-75.

He played a major role in the activities of the ICSSR and Centre for Studies in Social Sciences, Calcutta, who was responsible for the establishment of later in 1973. He contributed a good number of articles
on various aspects of Indian economy for Economic Weekly, Economic and Political Weekly, Indian Economic Journal, Man and Development, etc., and published a large number of books on development economics. Also, he contributed articles on development economics in Bengali language. His areas of specialization were Industrial Economics, Welfare economics and International monetary system.

2.3.2.2 Pitamber Pant (1919-1973)

He was a public servant with Government of India. He did his post graduation in Physics, but developed a lot of interest in economic problems and the role of planning in solving them. He started his career in 1942 as Secretary to Nehru. In 1947 Nehru brought him in contact with P.C. Mahalanobis. One of his reports co-authored with N.T. Mathew was responsible for the establishment of Central statistical unit, which became the present Central Statistical Organization [CSO]. In 1956 he joined Planning Commission as head of manpower division and Personal secretary to the Chairman of the Planning Commission. He headed the Perspective Planning Division of the Planning Commission from its formation in 1958 until 1970 and founded Indian Statistical Planning Unit in Delhi.

According to Ashok Rudra et al (1974), he was 'unquestionably one of the outstanding figures of Indian planning, standing second only to the towering figure of Prof P.C. Mahalanobis, he played a key role in shaping India's plans during the sixties. Even though he was not trained as an economist, he had abiding sense of the central economic issues.
He was one of the key figures during the formulation of the 3rd five-year plan on the question of resource mobilization.

2.3.2.3 K.N. Raj (1924)

Born in 1924, he completed his research on RBI's monetary policy at LSE between 1944 and 1947. Thereafter he worked as a research Officer at RBI from 1948 to 1950 and later became Asst Chief of the Economic division of planning division. In 1953 he joined Delhi School of Economics as Professor.

He combined his work as an academic economist while continuing his ties with the Indian government at various capacities. He chaired an important committee on 'Agricultural Taxation' as well as that on steel control of Ministry of Heavy Industries, Government of India and then worked as a member of Economic advisory committee to the Prime Minister. He has been considered as one of the distinguished development economists. He contributed towards the first five-year plan.

He worked on various issues related to Indian economy. His famous works are on agricultural taxation, monetary policy, holy cow, Indian planning, steel control, etc. In 1972, he founded Centre for Development Studies in Trivendrum.

2.3.2.4 I.G. Patel (1924-2005)

He was an economist, a civil servant and an administrator of higher education. He had his education at the University of Bombay,
Cambridge and Harvard. In 1949, Patel became the principal of Baroda College, and also taught there as a Professor of economics and also taught at Delhi School of Economics. Later, he joined the research department of the IMF. Patel served as an economic adviser in the Union finance ministry in 1954 and served in various positions in the government for 18 years. In 1955, he collaborated with P.C. Mahalanobis and others at the Indian Statistical Institute, Calcutta in the preparation of the draft Second Five-Year Plan (Krishnaswamy, 2005). He was the deputy administrator of the UN Development Programme for two years. Patel was the governor of the Reserve Bank of India from 1977 to 1982. He also served as Director of Indian Institute of Management, Ahmedabad from 1982-84 and of the London School of Economics from 1984-1990. Her Majesty Queen Elizabeth conferred an honorary knighthood on Patel in 1990.

In his various roles, he worked on various complex issues of policy with special reference to economic policy issues. He was a distinguished architect of economic policy-making in his capacity as an Indian and an international civil servant. He had written critically acclaimed books like Glimpses of Indian Economic Policy: An Insider's View and An Encounter with Higher Education: My Years at LSE and also contributed a good number of articles on various aspects of Indian economy.

2.3.2.5 V.K. Ramaswami (1928-1969)

He is another public servant, who was an accomplished economic theorist. He did his graduation in Economics at the University of
Madras. After leaving Oxford, he worked for RBI as Research Officer (1951-1953), joined the staff of the Indian Taxation Enquiry Commission in 1953, and then the Union government in 1955 as economic adviser to the ministries in charge of Industrial Development and Foreign Trade. In 1964, he became Economic Adviser and then Chief Economic Adviser to the Ministry of Finance.

He actively participated in the formulation of policies in the fields of industrialization, foreign trade and foreign assistance. In addition to his capacity as a public servant, he pursued a parallel career as an academic and research economist in those branches of the discipline, which related to international trade, theory of economic growth and monetary and fiscal policy.

2.3.2.6 Ashok Mitra (1928)

He did his graduation in Economics at the University of Dhaka in 1947. He studied under Prof A.K. Dasgupta and S.R. Sen. Later in 1949, he completed his MA in Economics from BHU, where A.K. Dasgupta had become a professor of economics. He then taught at the University of Lucknow (1949-51) before proceeding to the Netherlands in order to pursue his doctoral degree. He completed his PhD under the guidance of Jan Tinbergen (the Nobel laureate in Economics) between 1951 and 1954.

He returned to India in 1954 and worked in the Ministry of Finance, Government of India. This was followed by his stint at Economic Commission for Asia and the Far East in Bangkok (1955-56),
NCAER (1957-59), the Economic and Development Institute of the World Bank, where he taught for four years (1959-63). He then moved to IIM, Calcutta as Professor. During his stay at IIM, he wrote a paper on the 'Mahalanobis model, a critique on the model'. His paper on agricultural taxation published in 1963 drew the attention of a lot of scholars, he argued in his paper that agriculture sector in India was under taxed.

In 1966, he took over as Chairman of the Agricultural Prices Commission of the Government of India and later in 1970 he became Chief Economic adviser in the Ministry of Finance, Government of India. He held that post till 1972 and later moved to Calcutta and became a National fellow of the ICSSR until 1975. Between 1977 and 1982 and again in 1983-1986 he was Finance and Planning Minister in the first term and Finance Minister in his second term, Govt. of West Bengal.

In 1981, during his tenure as a Finance Minister of West Bengal, he initiated a discussion by a group of Economists on IMF loan to India in order to find out the dangers associated with such loan. He was opposed to this move by the Union government. He also exercised important influence on union government policies on nationalization of banks, priority sector lending for agriculture and small-scale industries and a structure of differential rates of interest for borrowers and users.

2.3.2.7 Sukhamoy Chakravarty (1934-1990)

According to Terence Byres (1998, p. 105), he was one of the most gifted and truly outstanding economists in the post 1947 era. He did his
graduation from Presidency College, Calcutta and proceeded to Indian Statistical Institute for his post graduation. In 1957 he moved to Holland to do his PhD at the Netherlands school of economics under Jan Tinbergen, who impressed with his work offered him a fellowship.

After his PhD he worked for a while at MIT in 1959-1961. Later moved to India and worked as a Professor at Presidency College. In 1963 he joined Delhi School of Economics as Professor. From then till 1970 he spent his time within the university teaching mathematical economics. In 1971 he moved to Planning Commission as a member and worked there till 1977. From then onwards his area of academic work changed from pure mathematical economics to planning of India. He contributed to a greater extent to the development of Indian economy. He worked closely with the Fifth five-year plan documents, suggesting implications for income distribution of alternative assumptions.

He published a book 'Development planning in India: The Indian experience (1987), which is considered by Amartya Sen as the definitive insider's view of Indian planning' (Sen, 1990). Also, he contributed many papers in the areas of population policy, economic development, Indian economy, etc.

2.3.2.8 Krishna Bharadwaj (1935-1992)

Born in 1935 at Karwar, Karnataka, Krishna Bharadwaj obtained her MA in 1957 and PhD in 1960 from the University of Bombay. She was a postdoctoral fellow at MIT between 1961 and 1963. Later she
joined as a lecturer in the University of Bombay and then worked as a research officer in the same university. Her research was in the area of Economics of transport. She published papers based on her work in 'The Economic Weekly' in 1961.

In 1963, she reviewed a classical political economy book 'Production of Commodities by means of Commodities: Prelude to a critique of economic theory' written by Piero Sraffa for 'The Economic Weekly'. It drew very good attention to her intellectual skills. Prof Piero Sraffa was impressed with her work, and said that it was one of the best three reviews on his work. Later with his help, she moved to Cambridge, where she was a fellow of Clare Hill and senior research officer in the Department of Applied Economics between 1967 and 1971. During her stay in Cambridge, she wrote a book 'Production conditions in Indian agriculture', which was published in 1974.

She returned to India in 1971 as a visiting professor at the Delhi School of Economics. Later she joined the Centre for Political Studies at JNU in 1972 as a Professor, when no economics department existed. An economics department was then established under her leadership, with recruitment of five new members of the faculty. The department was named 'Centre for Economic Studies and Planning', which started teaching MA students from 1973. Some of the economists, who worked with her at JNU were: Amit Bhaduri, Utsa Patnaik, Prabhat Patnaik, Sunanda Sen and S.K. Rao.
2.3.2.9 V.M. Dandekar (1920-1995)

He is one of the outstanding members of Gokhale Institute. After his Master’s degree in statistics from ISI, he joined Gokhale Institute in 1945 and remained there until his retirement in 1980. He was Director of the institute between 1970 and 1980.

He, as a professional economist throughout his career, was preoccupied with the basic problems of Indian society, viz., poverty, unemployment and inequality. In the 1940's, he and Gokhale institute contributed towards national sample survey based on their own concepts compared to that of P.C. Mahalonobis and ISI model. However, Government of India accepted the model suggested by P.C. Mahalonobis.

Apart from his studies on basic problems on society, he wrote decisively on many themes in the broad area of land reforms, poverty, unemployment and agriculture. His important contributions are one on poverty, where in he wrote a monograph in association with Nilkantha Rath, ‘Poverty in India’. The monograph is considered as one of the outstanding contributions in the area of poverty. His study on cow slaughter legalization drew a lot of vigorous campaign in public.

2.3.3 Third generation Economists

Third generation of economists includes great and rich in examples of academic economists, who worked for both academics and the state, and contributed substantially to the Indian economic thought.
Some such important figures are B.S. Minhas, C.H. Hanumantha Rao, Ashok Rudra, V.S. Vyas, A. Vaidyanathan, Manmohan Singh and Deepak Nayyar. Here about only two have been dealt in depth.

2.3.3.1 Ashok Rudra (1930-1992)

Ashok Rudra completed his graduation in Statistics at Calcutta in 1950, and obtained PhD from University College of London in 1953. After his return from UK, he joined ISI in 1953. Soon he started working on planning along with P.C. Mahalanobis. Even though he was not an economist, he acquired great technical expertise while working with Mahalanobis.

He continues to work for ISI, even though in between he accepted different assignments. To name a few, Professor at University of Bombay, assignment with Govt of Kerala, etc. He joined Visva-Bharati University at Santiniketan in 1968 and remained there till 1972. He rejoined ISI in 1972 and stayed there until 1979. He wrote a biography of P.C. Mahalanobis, but it was published only after his death in 1992.

He made great contributions on planning models. In addition to this, he did distinguished work in the field of agriculture. He published two classic papers, one on size-productivity and the other on the mode of production in agriculture. The other areas of work along with other economists include: interlocking of markets (with Bardhan,
1978), share cropping (with Bardhan, 1975) and labour contracts (with Bardhan, 1981).

He published a classic book on agriculture, 'Indian Agricultural Economics: Myths and realities', the book was revised in 1992. He also worked on other areas, which includes liberalization, industrial retardation and poverty.

2.3.3.2 Deepak Nayyar


Between 1969 and 1973, he joined Indian Administrative Service and worked in various capacities. In 1973, he returned to Oxford in order to complete his D.Phil and worked as a lecturer in Economics at University of Sussex (1973-80). On his return to India he worked as a Professor at Indian Institute of Management, Calcutta (1980-1983). Later he shifted back to the official and policy level to work as Economic Advisor, Ministry of Commerce between 1983 and 1985. In 1986, he joined the Centre for Economic Studies and Planning, JNU. Again he had been called for official involvement as Chief Economic Advisor to Government of India and Permanent Secretary, Min of Finance from July 1990 to December 1991.

He has published extensively on the Indian economy. Nayyar is one of the leading authorities on foreign trade (1976; 1982). He
has written on international labour migration and remittances (1989) and on other issues. In his R.C. Dutt lectures, delivered in 1995 and published as 'Economic liberalization in India: Analytics, experience and lessons he provides excellent view of the nature and impact of liberalization. One more text written along with Amit Bhaduri 'The intelligent Person's guide to liberalization' (1999) was intended for a lay audience.

2.3.4 Indian Economists abroad

There are good numbers of Indian economists working abroad. Here, we have taken note of a few, who continue to work on Indian economy along with their works related to West. Notable among them are: Amartya Sen, Jagadish Bhagwati, T.N. Sreenivasan and Pranab Bardhan.

2.3.4.1 Amartya Sen (1933-)

He had his higher education at Presidency College, Calcutta, and obtained MA degree in 1955. After that he moved to Cambridge and completed his PhD in 1959. His teachers at Presidency College introduced him to welfare economics. He published his PhD on Choice of techniques in the form of book in 1960.

He worked as Professor at Jadavpur University, Calcutta (1956-58), a fellow at Trinity College, Cambridge University (1957-63) and Professor at Delhi School of Economics (1963-71). Later he moved to London School of Economics as Professor and worked there between
1971 and 1977 and continued his career in Oxford and Harvard universities.

His contributions mainly are in the fields of welfare economics, poverty, social choice theory and economic development. His first book on 'Choice of Techniques' published in 1960 was related to the Indian economy, and clearly found its initial impulse in India's grappling with the planned economic growth. His other major books include 'Collective Choice and Social Welfare' (1970) and 'Poverty and Famines' (1981). His work on various topics of welfare economics, social choice, poverty and economic development fetched him coveted Noble prize for Economics in 1998. It was a great honour bestowed on an Indian economist.

2.3.4.2 Jagdish Bhagwati (1934-)

He attended Cambridge University where he graduated in 1956 with a first in Economics. He then studied at MIT and Oxford. He was a Professor at ISI and Professor of International trade at the Delhi School of Economics between 1963 and 1969. Then he proceeded to a Professorship at MIT (1969-80) and to Columbia in 1980. He is closely associated with planning in India. Bhagawati along with Srinivasan wrote a report on 'India's Economic Reforms' for Government of India in 1993, which was the central point for discussion on liberalization. The document was rated high in respect of both analytical treatment and empirical content.
In the 1960's he worked on devaluation and later in 1966 started supporting the planning model envisaged by Mahalanobis. He was associated with the work of the 3rd and 4th five year plans. Also he has worked on various issues of international trade, trade policy and development economics. He has published around 50 books on various issues of economics.

### 2.3.4.3 T.N. Srinivasan (1933-)

Srinivasan did his graduation and post graduation in Mathematics from Madras University (1953-54). Later he moved to Yale University to complete his Master's Degree and PhD in Economics (1958; 1962). He started his career as an instructor at Yale University and then became Assistant Professor in the same University (1960-64). He was a Professor in the planning unit of ISI, Delhi (1964-67); a special advisor to World Bank in Washington (1977-80) and joined Yale University as Professor in 1980.

He worked along with Jagadish Bhagawati on various issues related to Indian economy, including the famous report on India's economic reforms in 1993. He was actively involved with the work on poverty, growth rate of the Indian agriculture sector, impact of the green revolution, etc. His areas of interest are microeconomics, economic development and trade.

### 2.3.4.4 Pranab Bardhan (1939-)

He completed his graduation from Presidency College, Calcutta in 1958 and Masters from Calcutta University in 1960 and later moved
to Cambridge University to complete his PhD in 1966. He started his career as a lecturer in Calcutta University in 1961; later, after completion of his PhD in 1968, he joined as Assistant Professor at MIT. He was a Professor at Indian Statistical Institute, New Delhi during 1969-1972 and Professor at Delhi School of Economics between 1973 and 1977. Presently he is working as a Professor of Economics at University of California, Berkeley. Since 1977 he has been there.

He has worked on various issues related to Indian economy. His areas of research include development economics, labour, poverty, political economy, International trade, agriculture etc.

2.4 Conclusion

The outline of future direction of Indian economic thought does not as yet appear clear. Inevitably, Indian economic thought will continue to be influenced predominantly by prevailing trends of professional economics in the world at large. May be, some of the past topics may reappear from time to time and some topics may add something useful. One such topic is the role of state in economic affairs. There is a powerful ancient Indian tradition in Indian economic thought that looks to the state for control of economic activity. As such, it has the authority to intervene, if necessary, in the public interest. Also there was a school of thought, which expressed distinct preference for private economic activity, especially commerce, and wished to restrict the role of state in economic activity. Both the schools left their mark on recent Indian economic thought. The problem of striking balance between
them will continue to confront Indian economists concerned with the issues of economic policy.

Secondly, the future direction of Indian economics will depend on how far economists continue to stick to the predominant neoclassical paradigm as world over economists are beginning to suspect that it does not provide a proper foundation for the analysis of economic behaviour. An alternative more in line with the tradition of Indian economic thought would be to retain the individualistic focus but to let considerations other than self-interest alone influence the individual preferences. Another important aspect of the neoclassical paradigm that has recently attracted criticism is its narrow concept of nationality. However, the tradition of Indian economic thought offers a variety of principles that could help in developing a broader concept of rationality in individual choice.

The areas of research need to be further strengthened, and there is need to do research on new problems of Indian economy such as trade quotas on agriculture and industry, population policy, urban policy, liberalization of new sectors, monetary policy, etc. Active debate on these issues will help the country to handle these problems in an effective way and achieve the expected economic growth.
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