Man galloped past his fellow animals in the struggle for existence. Standing erect on the hind legs he held his head high providing for a bigger brain and had his forelegs shaping as hands as did his thumb acquire opposability. With the progress of time he could devise, make and use tools so as to put up a better and more efficient fight against the hazards of nature, rather, to put as much of nature's products as possible into his service. He domesticated animals to bear a part of his load of labour and to give him food as well as speed. He upturned the virgin soil to sow the seed of agriculture. He ushered in a culture for his kind.

Man animated the inanimate objects; a block of stone or a billet of wood or a bar of metal lying lifeless over, or, inside the earth, were transformed into equipments to perform a myriad functions helping him out of his corporeal limitations. In his march of civilization man innovated technologies one after another and got better over the previous handicaps. He philosophised the arts and actions of natural processes and went scientific to be on the path
of a prosperous future.

Man become a social being. In the process of socialization he set a system of symbiosis, of a mutual give and take, of an exchange of ideas, experiences and interests. Symbolization and language came in. Orderly governance, economic operations and social techniques were evolved; mores and folkways came by. Man put himself in a change continuum to earn completeness in manhood.

Opinions vary on the precedence of a change, transformation or innovation over another as to its period or place of origin. But it is taken for certain that the changes or novelties of rites, techniques, customs, manners and mores which constitute innovation have always been on the process of transmission, transfusion or diffusion over time and place transcending periodicities and overcoming social or geographical barriers — and innovation includes the whole gamut of transformation in food, clothing, shelter, defense against enemies and diseases, tools and technologies of production and consumption, forms of play and sport, rituals and liturgies of religion, precedents of law, inventions in science and thought, styles and attitudes in literature and the arts (Bagehot, 1872; Wallace, 1914; Ogburn, 1969; Kallen, 1924 & 1930; McIver, 1940).
Lexicographically, diffusion connotes - (a) the action of spreading abroad; the conditions of being widely spread; dispersion through a space or over a surface; wide and general distribution (O.E.D., 1933); (b) a spreading; extension; dispersion; as, a diffusion of knowledge, light, a breed (Webster's, 1948). On the whole, diffusion ordinarily means the spread of culture from one ethnic group or area to another. It differs from tradition, in that tradition refers to the permeation of cultural content from one generation to another of the same population and diffusion, from one population to another. Its difference with acculturation is one of continuity and intensity of contact; acculturation generally involves prolonged contact of whole culture complexes and may be both unilateral or bilateral.

As back as in the 5th century B.C. Herodotus, ancient Greek traveller — historian, marked examples of cultural diffusion in Part One of his History. With the discovery of America speculations and hair-splitting debates started among the pundits of social science. From the sixteenth to the eighteenth century many authors supported the diffusionist view. In the eighteenth and the nineteenth centuries came up the evolutionist school of anthropology. During the late nineteenth and the early twentieth century Franz Boas in the United States, Gabriel Torde in France and
Friedrich Ratzel in Germany assailed the evolutionist view while upholding the logicality of the diffusionist theory. Fritz Graebner (1911) wrote the first systematic treatise on the theory of diffusion. Many an important study was made on the diffusion of single traits, such as the plough, whole complexes of metallurgical techniques and the spread of basic cosmological ideas and corresponding religious practices (Quaintance, 1904; Raymond, 1937; Bower, 1938; Pederson, 1951; Saxon, 1954; Mead, 1955; Alers-Montalvo, 1957; Stouffer, 1958; Coughenour, 1964; Schultz, 1964; Naskar, 1969).

Any society, a defined group of people at that, may continue to have some archetypal symbols and images and meanings of life - concepts and to go by the status — typed models of economic operations, social activities and cultural activities through the decades, centuries, even milleniums (Moreland, 1929; Royal Institute, 1932; Barnett, 1941; Davis, 1951; Kelvin, 1954; Crane, 1954; Ginsberg, 1947; Dube, 1955; Harris, 1956; Hoselitz, 1960; Griliches, 1957; Harp, 1960; Katz, 1961, Foster, 1962; Leoline, 1963; Chaudhuri, 1964; Levi-Strauss, 1966; Gusfield, 1967; Singh, 1967; Misra, 1968; Desai, 1969; Sinha, 1969; Duchham, 1970). If in a subregion of the system a hitherto unknown element is introduced, say e.g., a new technical devise, a new way of allotting social roles or a new cultural manifestation, this event
constitutes a perturbation that under certain conditions may be transmitted out into surrounding regions and propagate itself until eventually the whole system has become permeated and at the same time to some degree transformed (Dixon, 1928; Silfström, 1935; Kollmorgen, 1941; Brayne, 1945; Smith, 1946; Chase, 1948; Maclaurin, 1949; Greenberg, 1951; Bertrand, 1951; Barnett, 1953; Buler, 1954; Hess, 1954; Katz, 1955; Heine Gelden, 1956; Coleman, 1957; Beal, 1957; Agricultural Production Team, 1959; Karpat, 1960; Van den Ban, 1960; Rogers, 1960; Lionberger, 1960; Mansfield, 1961; Bose, 1962; Blaug, 1963; Fliegel, 1968; Moreman, 1968; Mendras, 1970; Rajagopalan, 1971; Randhawa, 1974). A permeation of this kind, either partial or total, is known as a diffusion of innovation.

Innovation is ordinarily defined as the process by which new products and techniques are introduced into the economic system, resulting in the capability of doing something that could not be done at all before or at least so well. It is an idea perceived as new by the individual (Rogers, 1962). Schumpeter defines it as one that results in the establishment of a new production function — a change in the set of possibilities that defines what can be produced and how. In economic theory the term innovation is generally reserved to denote a change which requires a significant amount of imagination, a change that represents a relatively
sharp break with the established techniques and essentially creates a new capability. In fact innovation is a matter of degree as expressed in most economic literature wherein a sharp conceptual line is drawn between changes in the labour capital quantum employed with the prevailing technique and practice and changes to new ways of using labour and capital (Schumpeter, 1934; Nelson, 1959; Rutton, 1959).

India is one of the lands where earliest human transformations took place as did flourish the earliest human efforts in technology, agriculture, et al. Fossil primates predominate the abundant Siwalik fauna. The migration of this Indian Siwalik fauna has been noted by Von Keonigswald as far down as Java where a number of fossil hominids have been recovered. The earliest skull, Homo Modi joker tensis, has been dated to the first interglacial period (De Terra, 1943; De Terra & Patterson, 1939; Zeuner, 1950). However, the presence of Pleistocene Man in India is known from the chipped stone tools left behind by him and discovered in many localities (Dani, 1960; Piggot, 1950). In India little prehistoric investigation has as yet been undertaken, except in Bombay and Madras, but a few examples of what in Europe would be classed as Aurignacian tools have been discovered (Burkitt, 1963). Looking back from the historical times to the hoary ages of protohistory and
Prehistory?one will find specimens galore through every stage of human development (Venkateswara, 1932; Darlington, 1969).

Perhaps anticipating the dictum of one of their progenies, Francis Bacon, that *Natura non-nisi parenda vincitur* (Nature can be conquered only by obeying her) that our ancient forefathers began to be sedentary to settle along the shores of the Mediterranean and the river banks of Europe, Africa and Asia. At Jericho there was a walled settlement dating back to 6000 B.C. (Forbes and Dijksterhuis, 1963). Gradually they invented agriculture which took place in as early as the Neolithic or Mesolithic age.

While the records of the invention of agriculture and other technological advances is yet to be correctly dated it can very well be said that India had common civilizational experiences sometime during the sixth to the third millenium B.C. (Childe, 1936; 1965) or even before, with the Western and Eastern Asian countries in the broad designs of plough, ship, and bullock carts, the latter with similar spikeless structure of wheels as was available in Western Asiatic countries (Filliozat, 1953; White, 1960). Civilization in West and East Asia arose on the background of agricultural communities spread mainly in the riverine plains of the Nile, the Euphrates and the Tigris, the Indus and the Hoang Ho etc. The village cultures spread in the fourth millenium B.C. over Syria
North Mesopotemia, the Iranian Plateau and the East Iranian borderlands, including portions of India (Mode 1961). One is not sure, of course, as to the exact timings of the efflorescence of culture in the different river banks. India saw it flourish here as in elsewhere and was very much in the transcontinental diffusion process. The diffusion of the ideas and scientific knowledge of India, which accompanied her commerce to upper Asia and China on the continent and to the Indo-Chinese peninsula and the Indonesian archipelago across the eastern and southern seas, brought about tremendous exchange of a practical type between India and all eastern Asia as well as Western Oceania (Chatterji, 1932; Aiyanger, 1932; Chatterji, 1932; Singh, 1932). India sold imitation sponges to Alexader's Greeks. Before that Herodotus refers to Indian fabrics woven from "Wool grown on trees" that is cotton.

India went through numerous vicissitudes in economic pursuits. One of the world's oldest cultures, it had contacts with the other cultures and made substantial contribution to the march of world civilization whether in the prehistoric, protohistoric or historical times. It is not known if the paleolithic man also known as "quartzite men" had any idea of agriculture. They lived on the flesh of animals and such fruits and vegetables as grew wild in jungles
The neolithic men who used "ground, grooved and polished" stone implements, cultivated land and grew fruits and corn. They also domesticated animals like the ox and the goat. They knew the art of producing fire, made pottery at first by hand and then with the potter's wheel. They lived in caves and decorated their walls by painting scenes of hunting and dancing. Next the Indians passed through age of metals, namely, copper, bronze etc. The general opinion is in favour of the view that the Iron Age had already commenced when the Rig-Veda was composed. The Indus Valley excavations "proved beyond doubt" that some five thousand years ago a highly civilized community flourished in these regions carrying back the antiquity of civilization in India nearly to the same period which witnessed the growth of ancient civilisations in Egypt, Assyria and Babylon. Agriculture continued to be one of the principal occupations of the people along with crafts in the villages with an organized city life. In the Magadhan epoch the rural population consisted mainly of agriculturists and ranchmen. There were also "craft villages" of carpenters, smiths and potters. Towns mainly attracted the ruling and commercial classes. The Indian civilisation was at its height during the Gupta period, called by the historians as the "Golden Age". Art literature, economics and science reached the pinnacle of
perfection with a highly organized polity, a well-knit social fabric and the most efficient kind of governance. This was during the 4th to the 6th century A.D. Before and after this period history was punctuated with foreign invasion and subjugation by the Scythians, Huns, etc. which, while on the one hand depleted the country's wealth, on the other facilitated, foreign contacts in the domains of art, literature and economic organisation in plenty.

During the centuries of the rulership of the Pathans and Mughals brisk economic activities went on in the country, interruptions of famines, natural calamities, foreign invasions and social cataclysms notwithstanding. Agriculture, industry and foreign trade had always been pulsating with life (Chicherov, 1971) although inventions and discoveries were none too many. But at one stage it had to be immobile since neither the waves of European renaissance touched the shores of India nor the subsequent social revolutions in the Western world could have any impact on the Indian populace nor the fruits of the Industrial Revolution benefited the Indian economy. The Industrial Revolution rather battered the Indian economy since the British, first through the East India Company and, later, through their imperial rule made the best out of the Industrial Revolution at the cost of, inter alia, the Indian economy. The whole Indian continent served as the hinterland to industrial
at their colonies in distant continents. Thus which was otherwise a viable economy with abundant natural resources and a more or less organized technology as available at that time reeled under the imperial peril. During the British rule, India had as many as 22 famines excluding severe 'scarcities' (Ghosh, 1944). Poverty became all pervading (Naoroji, 1888; Dantwala, 1973).

Not very worthy attempts could be made through economic and political movements for the boycott of British products. Some leverage, of course, had to be given by "His Majesty's Government" to the Indian entrepreneur. This, added to the British investments in India, gave way to the establishment of some localised industrial complexes. But the resultant decay in cottage industry drove the labourer out of his traditional occupation to the field of an already decadent agriculture which had no niche to offer since it was somehow pulling on the old way (Pattullo, 1772; Banerji, 1883; Ray, 1947).

As the bell tolled in the midnight of August 14-15, 1947, the alien rulers quit India. The key of state power came into the hands of the people, a people bearing the marks of colonial exploitation, disease, pestilence, famine, illiteracy and scarcity. The Bengal famine of 1943 took away 5 million lives. The World War II depleted the granary.
The railroad, posts and telegraphs and the machinery of production were worn out. The partition, another gift of the departing foreign rulers, made eight million people displaced from Pakistan to be provided with food, shelter and the minimum means of livelihood.

The problems that faced the country were enormous and the immediate resources limited. "We are trying to catch up to-day with the Industrial Revolution which came to the Western Countries long years ago ...... we attach the greatest importance to industry, but in the present context of things we attach greater importance to agriculture and food. For if we do not have a strong agricultural foundation for our economy, then the industry we seek to build will have unstable foundations. Apart from this, in the context of the present circumstances, if our food front cracks, everything also cracks.... If our agriculture is strongly entrenched, as we hope it will be after some time, then everything should become relatively easy and we can go ahead faster on the industrial front". With these words Prime Minister Nehru tabled India's First Five Year Plan in the House of the People. It was "a plan for the optimum utilization of our human and material resources to plant the orchard for posterity" (Planning Commission). The Second Plan differed from the First in two major aspects: in the reduced share of
agricultural investments; and in the shift, within the enlarged share of the organised industrial sector, towards, 'heavy' industry. The strategy in Government investment in agriculture showed a declining trend. It was reduced from 33 percent in the first Plan to 20 percent in the Second Plan (achievement) and 23 percent in the Third Plan (Bhagwati and Desai, 1951). The Fourth Plan strategy of agricultural production was based eminently on the exploitation of the high yielding varieties of cereals and multicropping programme, both of which had been tried and found feasible in the Plan interregnum of 1966-69. "Out of this experience, the Fifth Plan is modifying the approach to the small and marginal farmers' involvement in agriculture. The dry farming technique that has been learnt in the Fourth Plan is proposed to be applied on a large scale in the programme of S.F. D.A./M.F.A.L. and the new drought prone areas programme". (Draft Fifth Five year Plan). During the past year industry did not look up well. Cottage industry is in a moribund state. All eyes are now on devetailing agriculture with industry. Agriculture has become the focal point of economic activity. In West Bengal "the strategy for accelerating the production of food and other crops in the State has been adopted with an eye to increasing the per-hectare yield to attain a growth rate of 4% per annum" (Government of West Bengal).
been very many official approaches, let alone the numerous non-official experimentations, in rural area development in India. And everywhere it is centered around modernization of agriculture.

Indeed there is no other alternative. The people are going vertically down the poverty line everyday. According to Min has the percentage of people below the poverty line was 59.4 in 1960-61. Dandekar and Rath (1971) put the figure at 33% for the rural population and 49% for the urban areas in 1960-61. Bardhan (1971) estimates it at 38% in rural and 44% in urban areas in 1961-62. The position worsened in the last one decade and a half. While scholars are at variance with each other on the percentage of people below the subsistence line there is no controversy on the enormity of its size. Even Mahatma Gandhi was apprehensive if "a non-violent system of government is clearly an impossibility so long as the wide gulf between the rich and the hungry millions persists". India has opulent agricultural assets (Swaminathan, 1973). It would appear to have an agricultural potential to ensure a minimum level of nutrition to her people over the next two decades (Sukhatme, 1965). But to achieve that a dour struggle is to be launched. The economy cannot flourish by semantic exercises, catchwords cannot make industry grow and agriculture cannot be modernized by parroting platitudes.
The task of modernising agriculture or for that matter ushering in the new technology in the domain of agriculture is formidable, to say the least. This can be done by an all out effort in building up a technologically mature society involving basic social and economic changes and replacing the old traditional order by a dynamic society. This can be done by not only accepting the temper and application of science and modern technology but also by bringing about changes in economic and educational patterns, changes in the socio-economic structure as a whole (Ghosh, 1960; Datta, 1963; Ram Krishnan, 1966; Mehta, 1970; Rao, 1971). This calls for perspective planning (Puttaswamaiah, 1974) of attack on all the fronts - social, political, economic, cultural -- are to be worked out. The background materials -- in that the socio-economic and cultural complex of the people where the transformation is to be effected is required to be known. In the third five year plan the concern was expressed that "Precise data are not present lacking, and without these it is difficult to devise definite measures". Data are now available in plenty no doubt, but the necessity of further, more detailed, "precise", and methodical data is growing everyday.

Tests have been made to facilitate the communication of modern technical know-how from agricultural research station to farmers, to guarantee the supply of material inputs,
to assure the availability of services and to create a suitable infrastructure for initiating a quick transformation. But the success of this programme depends on the farming community whose members are expected to accept and utilise this technical know-how, material inputs, services and infrastructure, which are innovations to them. These innovations, like all other innovations, have received from them a differential response which indicates a differential involvement of the farmers in this programme of transformation of agricultural technology. The agricultural scientist, laboratories and experimental stations form a particular techno-cultural complex wherefrom the results are desired to pass on to the farmers who live in a completely different techno-cultural setting (Chapin, 1928; Brunner and Yang, 1950; Wilkening, 1950; Abell, 1952; Iyer, 1954; Allahabad Agricultural Institute, 1956; Smith, 1957; Beals, 1963; Keeler, 1969; Shiwalkar, 1968; Axinn, 1972; Sachchidananda, 1972).

The first objective of this study is, therefore, to assess the extent of adoption of recommended agricultural innovations by the members of a farming community. Some innovations get ready acceptance while others do not (Bose, 1964; Dasgupta, 1970). This makes a case of preference of one innovation to the other. Hence, the second objective of this study is made to measure the extent of differential adoption of
different agricultural innovations by the members of a farming community. The members of a farming community in India live in a highly stratified society where economic stratification is better understood in terms of tenure category and social stratification with reference to community affiliation. The third objective of this study is thus organised to study the impact of economic and social stratification of the society on the extent of adoption of agricultural innovations by the members of a farming community. The members of a farming community have a traditional outlook and are subjected to a socio-economic system which does not act as a catalytic agent to quicken the process of transformation. This is for the reason that one behaves in a situation according to his orientation. The orientation of an individual in a society is a complex of characteristics acquired and/or achieved by him to his societal experience and existence. Any person may have many varied characteristics but in the process of adoption of agricultural innovations, which is expected to bring to the individual a higher economic order, his economic characteristics may play a decisive role in determining the direction and magnitude of his adoption behaviour. A befitting social system is always needed for the individual to perceive, appreciate and absorb any and all economic changes. Thus, social characteristics of an
individual may regulate the course and contents of his adoption behaviour (Loomis, 1950; Linton, 1952; Copp, 1956; Lionberger and Coughenour, 1957; Hildebrand and Parke-keimimer, 1958; Kaufman and Bryant, 1958; Bose, 1961). The fourth objective of this study is thus defined to evaluate the role of economic and social characteristics of a farmer in regulating his adoption behaviour. In a peasant society one's orientation gets expression not only in terms of his personal characteristics but also on the basis of characteristics of his family in which he lives, primary kin group in which he seeks a support to meet his worldly affairs, and reference group in which he makes a reference to all of his desires, sentiments and problems to relieve his tension of keeping something away from others (Slocum and Case, 1952; Wilkening, 1953; 1954; Lionberger, 1954; Marsh and Coleman, 1954, 1955; Turner, 1955; Slocum, Brough, Jr. and Straus, 1958; Fitzsimmons and Holmes, 1958; Larson, 1958; Bell, 1959; Campbell, 1960). Thus, the primary group like family, primary kin group and reference group of an individual may have a role in regulating the action vis-a-vis adoption behaviour of an individual. The fifth objective is, therefore, to evaluate economic and social characteristics of one's family, primary kin group and reference group which are believed to play a part in regulating adoption behaviour of an individual. From a
scrutiny of the propositions made above it may now be stated that economic and social characteristics of an individual and his primary groups may have a role in regulating his adoption behaviour, but in no case it means that these forces exert equal influence on an individual's adoption behaviour (Marsh and Coleman, 1954; Chakraborty, 1972). In fact, these forces have different background and locus standi. The horizon as well as operational significance of primary kin group widen in a tribal setting and become narrowed down in an urban condition. The forces of individualism are stronger in a thoroughly urban society but the spirit of familism rules a peasant society. The people having urban facilities but cherishing most of their rural values are found to depend more on reference group than to family or primary group or individual self. Thus the relative importance of one's characteristic and the characteristic of his family, primary kin group, and reference group in regulating one's adoption behaviour has a significance in explaining differential adoption of agricultural innovations (Gough, 1952; Crams, 1955; Hoselitz, 1959). The sixth objective of this study is, therefore, to estimate the relative importance of economic and social characteristics of individual, his family, primary kin group and reference group in interpreting the differences in adoption behaviour of individuals.