The mainstay of Indian socio-economic setting is agriculture. Nearly eighty per cent of the Indian population live in villages and mostly thrive on agricultural production system. Naturally without a revolutionary change in this system the country cannot prosper. And so the most justified approach has been adopted by the nation's planners in allocating a huge quantum of the country's resources and energy to maximise agricultural production, both quantitatively and qualitatively. In keeping with the tremendous development of science and technology in the recent decades agricultural science has achieved many significant results from laboratory and field experiments to modernise the technology of agriculture. Various efforts have been made by Government and non-Government agencies to spread these results all over the country because without the acceptance of these results by the farmers in their farm situations modernisation only stands by. The agricultural scientist, laboratories and experimental stations form a particular techno-cultural complex wherefrom the results pass on to the farmers who live in a completely different techno-cultural setting. This poses a
problem for diffusion of agricultural innovations.

This dissertation has been initiated in terms of the following objectives: (i) to assess the extent of adoption of recommended agricultural innovations by the members of the farming community; (ii) to measure the extent of differential adoption of different agricultural innovations by the members of a farming community; (iii) 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; (iv) to evaluate the role of economic and social characteristics of a farmer in regulating his adoption behaviour; (v) to evaluate economic and social characteristics of one's family, primary kin group and reference group which are believed to play a significant role in regulating adoption behaviour of an individual and (vi) 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.

The investigation has been carried out at Dakshin Barasat, a rural region of Lower Bengal, comprised of 13 adjacent villages which are inhabited by 1674 families of which 559 being the families of absentee landlords, owner cultivators (non-participating) and landless peasants have
been excluded from the purview of this study as they do not participate toward decision making in the process of cultivation. From among the rest (1115 family heads) a sample is drawn of 218 family heads of which 41 belong to caste, 96 to scheduled caste and 81 to Muslim. Primary groups (family, primary kin group and reference group) of these 218 respondents have also been covered which makes an account of 2778 references of adult members. Some members have received references for more than once. The scrutiny leaves a total of 1309 adult members of primary groups of 218 respondents. Thus 1527 persons have been interviewed for the purpose of this study.

The dependent variable of this study is the extent of adoption of agricultural innovations which have been measured in terms of total exposure of members of a farming community to all agricultural innovations available to them at the time of reference and their total involvement in the process of agricultural transformation. It has been found that the population under study have been exposed to a total of 70 agricultural innovations. An agricultural adoption index to measure agricultural innovativeness has been developed in terms of a ratio of number of years over which an innovation has been used by the respondent and number of years over which that innovation could be used by the respondent and the ratio is multiplied by 100 while there is many
a case of no adoption the maximum adoption achieved has been below 55 which is also far below the saturation point, that is 100. The average adoption is below 18 making the picture none too happy. The coefficient of variation being nearly 82% there remains much to be desired on this count.

The three communities of this study have differential agricultural innovativeness. It is found that fifty percent of population have scored an adoption index of 19 among the caste people, 12 among the Muslims and 11 among the scheduled caste people. The least variation in agricultural innovativeness is noted with the caste population and the highest with the Muslims, while the order of variation among the scheduled caste population is in between. It has also been inferred from a statistical test that the people in a farming community of Lower Bengal tend to differ in their agricultural innovativeness in accordance with their community affiliation. A similar analysis in terms of tenure class reveals that the owner cultivator-cum-absentee landlords have the highest order of agricultural innovativeness who are then respectively followed by owner cultivator, owner cultivator-cum-sharecropper and sharecropper. It suggests that the degree of innovativeness increases as the status of tenure class increases, but the statistical test disclaims such a proposition and holds that there is no statistically significant association between agricultural innovativeness and
affiliation to tenure class. This has convinced the present researcher to analyse his findings in terms of community affiliation alone.

The independent variables include income, occupational orientation, education and mass media exposure. Annual income of an individual is the sum total/his earned and unearned income. In case of any primary group all such annual incomes of adult members of that particular group are added together and multiplied by a reciprocal of the size of the group. The reference group of the respondent has the highest annual income. However, the income difference between respondent's reference group and respondent is not statistically significant, while the reference group has significantly higher income than that of respondent's family as well as that of respondent's primary kin group. The income of respondent is significantly higher than that of family as well as primary kin group. The income of family is, however, not significantly higher than that of primary kin group. The income of caste respondents is significantly higher than that of Muslim respondents as well as scheduled caste respondents, but the income of Muslim respondents is not significantly higher than that of scheduled caste respondents. A similar situation occurs in either case of family and reference group, while a little variation is noted with primary
kin group where the income of caste respondents is not significantly higher than that of the Muslim respondents. This is for the reason that the Muslims of this region have established contacts with relatively rich Muslim families of outside residence through marriage. It is thus observed that the economic leadership in the area is still in the hands of the caste people, and in the economic scale of progress the scheduled caste people are not the only laggards but the Muslims also are so. It is true that the involvement of Scheduled Caste and Muslim in tilling the soil and raising the crops is greater than the castes. The people who are greatly concerned with agriculture are relatively poor to to patronise the progressive march of agricultural development and to subscribe to the process of modernisation of agriculture.

All occupations followed by the persons interviewed have been listed, and these occupations have been ranked by the respondents of this study. These ranks have been transferred into scores, and the scores have been added together and multiplied by a reciprocal of the size of the respondents of this study. The extent of occupational orientation of a person having single occupation is a scale value as reported against that occupation. In case of a person following multiple occupation, the weightage of an occupation is multiplied by a proportion of the income which has been accrued
from that occupation and the results thus obtained against all the occupations followed by the person are added together to get occupational orientation of that person. The occupational orientation of a primary group is measured as the summation of all values of occupational orientation received by the adult members belonging to the group and multiplied by a reciprocal of the size of the group. In occupational orientation, the reference group has scored the highest, which is respectively followed by family, respondent and primary kin group. The occupational orientation of reference group is significantly higher than that of family, respondent and primary kin group. But the occupation of the family is not significantly higher than that of the respondent or that of the primary kin group, nor is the occupation of the respondent significantly higher than that of the primary kin group.

The occupational orientation of caste respondents is significantly higher than that of scheduled caste respondents as well as that of Muslim respondents. Similar is the case with family, primary kin group, and reference group. The occupational orientation of Muslim respondents is not significantly higher than that of scheduled caste respondents. Similar is the case with primary kin group and reference group. But in case of family the Muslims have significantly higher occupational orientation than the scheduled caste. This signifies that an
overall change is essential. The highly ranked occupations
are donned by the caste people and the man behind the plough -
the Muslim or the scheduled caste bloke - is in the lowly
placed occupation. Efforts in modernization of agriculture
can get a fillip only if agricultural occupation is given its
real place of honour.

Education is a descriptive variable which has been
quantified in terms of number of years of schooling. One
score is given for general literacy and one additional score
is assigned for the completion of each year of schooling.
The score thus obtained by a person denotes the level of his
education. In case of a primary group the summation of all
scores obtained by the members of the group is multiplied by
a reciprocal of the size of the group to get the educational
level attained by the group. The reference group of the res­
pondent has attained the highest level of education which is
respectively followed by respondent, primary kin group and
family. The educational attainment of reference group is
significantly higher than that of the respondent, primary
kin group and family. But in neither case the difference in
educational attainments is statistically significant. The
level of education attained by the caste respondents is sig­
nificantly higher than that of the Muslim respondents and
also that of the scheduled caste respondents. Similar is the
case with family as well as reference group. Coming to primary kin group the difference in neither case is significant. The educational attainment of the Muslim respondent is not significantly higher than that of the scheduled caste respondent. The same is true with primary kin group. In either case of family and reference group the educational attainment of the scheduled caste is higher than that of the Muslim. In case of family the difference is not statistically significant while it is highly significant in case of reference group. This denotes that the caste people are having higher education while the Muslim and scheduled caste people get lesser education. Since the latter two groups who provide the brawn for agricultural operation are not provided themselves with the brain; that is if they are not intellectually equipped the process of modernizing agriculture will be lagging. The exposure of a person to each of the three important mass media comprising of cinema, newspaper and radio has been quantitatively assessed on a five-point scale. The scores received by an individual against the three mass media are added together for computing the extent of mass media exposure of that individual. In case of a primary group the scores obtained by all the adult members of the group are added together and multiplied by the reciprocal of the size of the group to denote the extent of mass media exposure of
the group. The reference group has the highest mass media exposure, which is respectively followed by family, respondent and primary kin group. It is very interesting to note that in neither case the difference is statistically significant. The extent of mass media exposure of the caste respondents is significantly higher than the scheduled caste respondents. Similar is the case with family, primary kin group as well as reference group. Caste respondents do not have significantly higher mass media exposure than the Muslim respondents; while in either case of family, primary kin group and reference group the difference is statistically significant. The Muslim respondents have higher mass media exposure than the scheduled caste respondents, but the difference is not statistically significant. The same is true with family as well as primary kin group. In case of reference group the scheduled caste have higher mass media exposure than the Muslim, and here also the difference is not statistically significant.

Attempts have been made to know how the socio-economic characteristics of respondent as well as those of his primary groups regulate agricultural innovative behaviour of the respondent. Taking all the communities together it is found that the income of respondent and that of each of his primary groups bears a statistically significant and positive
relationship with agricultural innovativeness of the respondent. Similar is the case with scheduled caste as well as Muslim respondents, but with the caste respondents agricultural innovativeness does not bear any significant relationship with income of reference group and that of primary kin group. In relationship with respondent's agricultural innovativeness the income of family comes first which is then respectively followed by income of respondent, primary kin group and reference group. Similar situation prevails with the scheduled caste respondents; while among the Muslim respondents family is followed by primary kin group respondent and reference group, and among the caste respondents family is followed by respondent, primary kin group and reference group. The difference between coefficients of correlation is not significant between respondent and primary kin group, and in all other cases the difference is significant. The same situation occurs with scheduled caste and Muslim respondents, but among the caste respondents the only difference that is not significant is between respondent and family.

In all community situation the occupational orientation of family, respondent, primary kin group and reference group bears a statistically significant and positive relationship with agricultural innovativeness of respondent. But the relationship is not significant with primary kin group.
among the caste respondents and with reference group among the Muslim respondents. As to the magnitude of relationship family comes first in all the cases except among the caste respondents where occupational orientation of respondents comes first. The second position is secured by occupational orientation of respondent in all community as well as among the scheduled caste respondents while it goes to family among the caste respondents and to primary kin group among the Muslim respondents. The third position is secured by the primary kin group in all the cases except among the caste and Muslim respondents where it is scored by the respondents themselves in case of Muslims and by the reference group in case of caste respondents. The fourth position goes to reference group in all the cases except among the caste respondents where the position is secured by the primary kin group. The difference between coefficients of correlation is significant in all cases except that is found between respondent and family among caste respondents and between respondent and reference group among Muslim respondents.

The relationship of respondent's agricultural innovativeness with education is significant in all the cases except with the education of primary kin group among scheduled caste as well as Muslim respondents. As to the magnitude of relationship education of family comes first in all the
cases except among the caste respondents where it is secured by the respondents themselves. The second position goes to the respondent in all the cases except among the caste respondents where it is acquired by the reference group. The third position has been acquired by reference group in all the cases except among the caste respondents where it is accrued by the family. The fourth position goes to primary kin group in all the cases. The difference between coefficients of correlation is significant in all the cases except between family and respondent in all community situation, between reference group and family among the caste respondents and between reference group and primary kin group among the Muslim respondents.

The relationship of respondent's agricultural innovativeness with mass media exposure in all the cases is significant except with primary kin group among the caste respondents and with reference group among the Muslim respondents. As to the magnitude of relationship mass media exposure of family comes first in all the cases except among caste respondents where the position is secured by respondents themselves. The second position goes to respondent in all the cases except among caste respondents where it goes to reference group. The third position goes to reference group in all community situation, to family among caste
respondents and to primary kin group among scheduled caste as well as Muslim respondents. The fourth position is secured by primary kin group in all community situation as well as among caste respondents while the position goes to reference group among scheduled caste as well as Muslim respondents. The difference between coefficients of correlation is significant in all the cases except between family and respondent as well as between reference group and primary kin group in all community situation and between respondent and reference group among caste respondents.

An examination of magnitude of relationship between respondents agricultural innovativeness and his socio-economic characteristics reveals that education exerts the highest possible impact in regulating agricultural innovative behaviour of the respondents in all community situation as well as among caste respondents while the position goes to income among scheduled caste as well as Muslim respondents. The second position goes to mass media exposure in all the cases except among the scheduled caste respondents where it goes to occupation. In all community situation income has scored the third position while it goes to occupation among caste respondents, mass media exposure among scheduled caste respondents and to education among Muslim respondents. The fourth position goes to occupation in all community situation.
as well as among Muslim respondents while it goes to income among caste respondents and to education among scheduled caste respondents. The difference between coefficients of correlation is statistically significant between education and occupation, mass media exposure and occupation, and income and occupation in all community situation as well among Muslims while in all other cases the differences are not significant. Among caste respondents the differences in all the cases are significant. Among scheduled caste respondents the difference is only significant between income and education and all the other differences are not significant.

As to the magnitude of relationship between respondent's agricultural innovativeness and socio-economic characteristics of his family, income has secured the highest position in all the cases except caste respondents where it goes to education. The second position is acquired by education in all community situation, mass media exposure among Muslim respondents and occupation among caste as well as scheduled caste respondents. The third position is secured by mass media exposure in all the cases except among the Muslim respondents where it goes to education. The fourth position is acquired by occupation in all community situation and among Muslim respondent while it goes to income among caste respondents and to education among scheduled caste respondents. The relationship of respondent's agricultural innovativeness
with income of family is significantly higher than that is found with education of family, mass media exposure of family and occupation of family. This is true in all community situation as well as among Muslim respondents. All other differences are not significant but among Muslim respondents the difference is significant between mass media exposure and occupation. Among caste respondents the difference is significant between education and mass media exposure, between education and income and between occupation and income. Among the scheduled caste respondents the difference is only significant between income and education.

Coming to the magnitude of relationship between agricultural innovativeness and socio-economic characteristics of primary kin group of respondent, income has secured the highest position in all the cases except caste respondents where it goes to education. The second position goes to occupation in all the cases except among caste respondents where it is with mass media exposure. The third position is acquired by mass media exposure in all the cases except among caste respondents where it is with occupation. The fourth position goes to occupation except among caste respondents where it is accrued by education. The difference between coefficients of correlation is significant in all the cases except that is found between occupation and mass media exposure in all community situation as well as among the Muslims. Among the
scheduled caste respondents the difference is significant in all the cases except that found between income and occupation. Among caste respondents the difference is significant between education and occupation, between education and income, and between mass media exposure and income while difference in other cases is not significant.

As to the magnitude of relationship between respondent's agricultural innovativeness and socio-economic characteristics of reference group of respondents the first position is secured by education in all community situation, by mass media exposure among caste respondents, and by income among scheduled caste as well as Muslim respondents. The second position goes to income in all community situation, to occupation among scheduled caste respondents and to education among caste as well as Muslim respondents. The third position is secured by mass media exposure in all community situation as well as among Muslim respondents, by occupation among caste respondents and by education among scheduled caste respondents. The fourth position is acquired by occupation in all community situation as well as among Muslim respondents, by income among caste respondents and by mass media exposure among scheduled caste respondents. The difference is significant only between education and occupation in all community situation. Among caste respondents the difference is not significant between mass media exposure and education and between occupation
and income while in other cases the difference is significant. Among scheduled caste respondents the difference is significant only between income and mass media exposure. Among Muslim respondents the difference is significant between income and mass media exposure, between income and occupation, and between education and occupation.

It has been transpired from this study that the process of modernization of agriculture has started in the rural region of West Bengal. But it is far below the saturation point. It is also observed that the innovative behaviour of the farmer is regulated to a considerable extent by the socio-economic characteristics of the individual and the primary groups he belongs to. It is noted with interest that while social characteristics play the most important role in case of the caste people it is the economic characteristics that exert the greatest influence in the case of scheduled caste and Muslim people in their tryst with the transference of technology in the field of agriculture. The reason is obvious. With the caste people acceptance of an innovation is an embellishment in his treasure casket of modern life symbols; it complements the element of elitism so endeared by him. But with the scheduled caste and Muslim people it is the question of eking out a piece more of that "daily bread" so that he could dish out a better living for his people. An innovation for him is the harbinger of a prosperous living. But
his economic situation does not permit it always. The schedu­
duled caste and the Muslim people constitute the largest part of the country's population. Evidently efforts should pri­
marily be made for uplifting their economic lot. It further comes out that between the individual and the primary groups to which he subscribes his allegiance it is family which plays the most influential role in regulating his innovative behaviour. It has transpired, therefore, that people of the lower Bengal area are yet to sever the shell of familism. Obviously to instill innovativeness among the farmer one is to traverse through the family road. Family should be the first point to be marshalled in the strategy for transforma­
tion of the technology of agriculture.