A STUDY ON THE IMPACT OF OPERATIONAL RESEARCH PROJECT IN BRINGING ABOUT CHANGES IN THE FARMERS OF DELANG BLOCK

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BY

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THESIS ADVISOR : SRI M. S. SAHOO

DEDICATED TO MY PARENTS

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I certify that the thesis " A study on the impact of Operational Research Project in bringing about changes in the farmers of Delang Block " submitted by Shri Prasan Kumar Rath in partial fulfilment of the requirements for the degree of Master of Science in Agriculture (Extension Education) is a faithful record of bona-fide research work carried out under my direct guidance and supervision. It is further testified that all the data presented in this thesis are based on his own observations and no portion there-of has been used in any other thesis for a diploma or degree. The assistance and help received during the course of investigation and writing up of thesis has duly been acknowledged by him.

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'SUNIA'

A C K N O W L E D G E M E N T

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CHAPTER-I
INTRODUCTION

INTRODUCTION

India achieved her political freedom in 1947 and is now the largest democracy in the world. The country has been striving hard and putting all the efforts since independence to achieve economic freedom and social justice. Our Five Year Plans have not yielded expected results as reported by the scientists, planners and administrators from time to time. Incorrect assessment of the resources, inbalanced allocation of resources to different sectors of development and improper utilization of the resources are some of the major reasons for such failure.

Agriculture is the major occupation in which most people in India are directly or indirectly engaged. This sector also provides nearly 50% of the total national income (as per the National Income Committee and the Central Statistical Organization). This proves the inefficiency and inadequacy of the levels of production from the Agricultural sector. In order to achieve economic independence and to guarantee social justice to our people agricultural development need be given topmost priority in our plans. It not only fulfills the basic need of providing food, clothing and shelter but also helps in providing employment as well as raw materials to most of our industries. It is reported by Quaraishi (1975) that in terms of our total labour force agricultural sector employs to the extent of 80% .

Nearly all people engaged in agriculture live in rural areas. Agriculture is still considered a way of life

and not a profession largely due to its traditional characteristics. With the establishment of Agricultural Universities, research stations and reorganization of the department of Agriculture, manned with technically trained personnel during the past years, a marked change has been indicated, particularly in respect of the levels of production. Even with the increased production, the rural farmers have not been able to improve their economic or social status in the society.

Science and technology have established that agriculture cannot be isolated from allied professions or fields and treated singly. A change in one aspect would need necessary change and adjustment in allied areas. As such agriculture as a profession is becoming more complex and need the services of a team of experts from allied fields to help improve it. Thus planning for agricultural development need simultaneous planning in allied fields. Such comprehensive efforts would not only help improve agricultural production but also help solve newer problems that would arise.

Several special projects for agricultural development have been tried on pilot basis from time to time. Many of them are specific in nature, catering to the need of a locality or a category of farmers and/or solving specific problems. Special projects, comprehensive in nature viz. I.A.D.P., O.R.P. and I.R.D. etc. aim at covering major aspects of rural living with emphasis on agricultural production. Quite a number of such projects since the time of Grow More Food Campaign have been rejected due to non-achievement of the objectives. It was perhaps, administrative rather than scienti-

fic for such discarding of the special projects. Some of the researches have reported that the non-achievement of the objectives was not inherent in the projects but largely due to the structural and/or functional deficiency. As such it is necessary to carry out scientific evaluation of these projects from time to time and to determine the weaknesses either inherent in the project itself or in its organizational structure or function. This would help in adoption, modification or rejection of any project.

Operational Research Project came into being in the year 1974. Several units are in operation in different states of the country. The objectives of these units are tuned to the needs of the locality and the people living there. These projects however emphasize on improvement of production in agriculture and allied fields.

The idea of having operational Research project was born out of the experiences gained from National Demonstration Programme, water management schemes and minikit trials in which the research workers and scientists (not the Extension workers) were directly involved to deal with the farmers and their problems. These schemes paved the way for establishing close linkage between the farmers and the scientists and by this both have derived immense benefit. Although a considerable amount of work was done on soil and water management and crop and livestock improvement by the research institutes and the Agricultural Universities, a stage came when the social aspects of the rural transforma-

tion could be coupled effectively with the technological aspects. It was therefore, felt that the operational problems in the transfer of technology should be tackled from the social, administrative, organizational and economic angles concurrently rather than consequently. For this purpose the working group of I.C.A.R. in the year 1974 suggested the initiation of whole village watershed Operational Research Projects. These projects which have been taken up by the Agricultural Universities in collaboration with different extension agencies, banks and other credit institutions, rural organizations, the local administrators and above all the farmers of the area are intended to introduce new land and water use plans for a well defined area which can help to maximize the economic benefits from the ecological strengths of the area and minimise the ecological risks and instability in crop production.

In Orissa two Operational Research Project units- one under Orissa University of Agriculture and Technology and the other under Central Rice Research Institute- are functioning since 1974. Periodical reports during the past years have indicated quite encouraging achievements not only in Orissa but also in other parts of the country. Operational Research Project as a special project does not deal with the so called sufficticated capital-intensive technology but includes labour-intensive technology so as to cater the needs of the rich and the poor as well.

The scheme has been functioning for last five years and therefore it was felt that an investigation

work should be carried out on scientific lines to assess its effectiveness. In case encouraging results are indicated from the study it could safely be recommended for its wider applicability in other parts of the country in order to enhance the speed of agricultural production vis-vis the progress in the level of rural living of millions of our deprived people.

The objectives of the present study specifically stated are :

1. To study the socio-economic characteristics of the people in the project villages.

2. To assess the knowledge of the farmers about the objectives and working of Operational Research Project.

3. To assess the extent of participation of farmers in O.R.P.

4. To assess the extent of change in the knowledge, skill and attitude of farmers about some selected innovations in project and non-project villages.

5. To assess the credibility of O.R.P. as a source of information as compared to other sources.

6. To find out the relative importance of different programme activities of O.R.P. as perceived by the participating farmers.

7. To find out the weaknesses if any, in the functioning of O.R.P. and suggested measures in furthering the scope of O.R.P.

CHAPTER-II
REVIEW OF LITERATURE

Operational Research Project as a special project is somewhat new and not much research work has been under-taken to assess its relative efficiency in bringing about desirable changes and achieving the objectives. The functional scope of Operational Research Project is somewhat wider than other special development projects and as such has been claimed to be comprehensive in nature. As the research results on Operational Research Project are lacking, results of allied projects have been taken into account, so as to enable the present investigator to establish his results. Relevant statements or reports on Operational Research Project as could be collected from different sources have been reviewed. Research results on other special projects and behavioural changes due to several factors have been reviewed in the following pages.

SPECIAL PROJECTS :

Pandey (1972) reported the new technology is labour intensive and therefore, favourable to the small farmers, it affords greater opportunities to gainfully employ his family's surplus labour in farm production, and there by provides an avenue to convert his idle labour into increased earnings.

Ramaswamy (1972) mentioned that the modern technology has not touched the small farmers of the farming population. Several adoption studies carried out in this sphere have revealed that the benefits of the package programme have not substantially reached the small farmers.

Sinha (1972) observed that small farmers constitute about 50% of the rural households. Studies revealed that their productivity was not inferior to that of big farmers operating in similar conditions in the same area with the new technological development. Most of them can become viable units provided credit and farm inputs are made available to them.

The National Commission on Agriculture (1973) suggested that the extension machinery in the District should be strengthened and organised to pay particular attention to the problems of small and marginal farmers. It is not desirable that the programme should receive a setback because of lack of attention by the extension staff at all levels.

Prof. Sher Singh (1973) stated that scientific and technological advance had helped in increasing production and the economic status of the Agriculturists. But small farmers who had no access to inputs and services are not able to derive full benefits of the modern scientific methods in Agriculture.

Singh (1973) stated that the adoption of agricultural innovations have produced a profound impact on socio-economic status of the village people.

While speaking about the special rural programmes (1974) it is reported that special rural programmes aim at building elements of special assistance to small farmers in the area development programme.

Rama Rao (1974) mentioned that special projects have brought about a silent economic revolution, a revolution that has made the poorer and weaker sections more prosperous. And the small farmer aware of his economic viability, what is perhaps more important/is an awareness of the credit institutions that are financing a small farmer is not brought with high degree of risk that was traditionally associated with it.

Mehta (1975) stated that the special schemes are supposed to work within the overall pattern of rural development, but are designed to ensure that benefits are not monopolised by the better-off sections and denied to the weaker sections.

Iqbal (1976) found that with the introduction of I.A.D.P. the farmers in Aligarh have become profit conscious. They are doing farming on business lines. They find it rewarding to spend on farming. Thus more funds are being allocated to Agriculture and Agro-industries.

Shri Jaga Jivan Ram, the Union Minister for Agriculture (1976) opined that people's involvement can be secured on the basis of long term area development as the approach now is under the I.R.D. programme by taking up special schemes for the benefit of the vulnearable sections of the people and areas.

Singh and Sohal (1976) stated that the Extension Education Programmes should aim at changing the farmers' attitude towards change in order to achieve smooth and quick transfer of farm technology to their ultimate users.

Ghose (1977) stated that special programmes have been introduced and intensified to facilitate the wider participation of the small farmers in the new technology to increase employment opportunities and to help increase agricultural production. These include the setting up of development agencies for the small farmers, marginal farmers and Agricultural labourers, the tribal development agencies and the drought prone area programme. Through special programmes significant progress has been made in activities like animal husbandry, dairying, fisheries etc.

Krishnaswami (1977) reported that through appropriate training facilities technical skills should be developed in rural people so as to enable them to work in rural based industries. The operation of various development agencies like S.F.D.A., M.F.A.L., small scale industries development organizations, extension wings of large scale industrial units etc. should be integrated with the area development plan.

Agarwal and Saini (1978) concluded that the S.F.D.A. has brought the significant positive impact on cropping intensity farm investment, net farm income and human labour employment on the small and marginal farmers, who participated in the various programmes of the agency.

Mr. S.S. Barnala (1978) Union Minister for Agriculture stated that the special programmes like S.F.D.A. Drought Prone Area Programme, Integrated Tribal Development Project etc. with their mere project approach produce limited impact. So emphasis need be paid on the strategy for

growth of the rural areas aiming at the development of the total resources both human and material of the area.

Sharma (1978) reported that the Operational Research Project has built-in bias towards improving income and employment potential of the rural people, small and marginal farmers and landless labourers. He also found out that with the initiation of the project in the area, the milk production potential has registered an increase of about 2.5 lakh litres per annuam. The cross bred population in the area has registered an increase by 300%.

Sivaraman (1978) stated that Operational Flood Programmes can also be adapted to the B.A.I.F. approach by suitable allocation of degraded forests for fodder tree plantation. Unless close attention is paid to this approach the poor sections will get no benefit from the milk programme.

He again stated that Operational Research Programmes are another link between the pure science developed in the laboratories and its actual application in the field under farm conditions. It is only through this approach that we understand the socio-economic constraints and the constraints of mass as against small units utilized in laboratories.

Brahme et al (1979) opined that the programmes must provide gainful employment and increase the purchasing power of the rural poor in particular marginal farmers, landless labourers, artisans, women and children. The programmes should be simple enough to operate and economically viable so as to ensure that it is quickly capable of achieving self-reliance and self-replication under similar or varying conditions.

Kulshreshtha (1979) stated that the major impact of Operational Research Project has been that the farmer now looks to O.R.P. for new technology and not for inputs as in the case of National Demonstration. The technology he adopts under O.R.P. is long lasting unlike National Demonstration which lasted only until he got few inputs. O.R.P. aims at giving the farmers the technology tailored to his own means and requirements and soil conditions.

CHANGE IN KNOWLEDGE, SKILL AND ATTITUDE

A. Change in knowledge and skill

Singh (1969) observed that participating and non-participating farmers differed significantly in their knowledge on package of practices. Similar findings were revealed by Sharma and Nair (1974).

Khuspe (1970) reported significant relationship between socio-economic status and gain in knowledge due to training. Due to high socio-economic status they come in contact with more reliable sources of information which help them in increasing their knowledge.

Rajguru & Patel (1973) concluded that high yielding variety programme has helped the farmers to increase their knowledge in both irrigated and non-irrigated tracts.

Singh and Narayan (1973) reported that increase in the farmers knowledge on improved practices of wheat, paddy was to an extent of 155.26% and 151.82% respectively.

Rajguru and Dash (1974) reported that the level of knowledge of farmers about improved seeds, fertilizers and pesticides were 54%, 54% and 50% respectively. They further observed that the level of knowledge on practices of phosphatic and potassic fertilizer was very poor.

Sahoo and Barik (1974) reported that the small farmers are found to be somewhat better knowledgeable and skilled in respect of improved seeds, cropping patterns and improved methods of farming than in the use of fertilizers plant protection measures and improved agricultural implements.

Singh and Singh (1974) reported that participation in informal organisation increases the possibilities of social interaction and helps in increasing the level of knowledge about new farm practices.

Futher they found that 80% of respondents had poor knowledge about wheat variety, 10% had good knowledge and 2% had average knowledge. No respondent in the control village was found to possess good knowledge about wheat variety.

Rajguru and Nayak (1975) reported that an appreciable and significant change was observed with farmers in relation to their knowledge about use of improved seeds, fertilizers and pesticides within a period of five years. The adopters of the University area had higher rate of change in knowledge about these innovations than the adopters of N.E.S. area. This clearly indicates the superiority of extension approach by University agency over the N.E.S. block agency.

Supe and Salode (1975) reported that formal education helps the farmer in understanding and acquiring more knowledge.

Swamy and Doraiswamy (1975) concluded that majority of farmers did not adopt all the recommended practices due to lack of knowledge and practices.

Nachiappan and Srinivasamurthy (1976) stated that the participants' knowledge level was no way better than that of the non-participants except in case of a few items of poultry technology. The S.F.D.A's impact on the knowledge level of small farmers was poor. The findings are in line with some of the findings of Deshmukh and Raheja (1963), one of which was that the small farmers did not seek information on intensive farming even though a scheme was in operation.

Subramanyam (1976) reported that age influenced the amount of knowledge gained by farmers. He had further revealed that in most of the treatments farmers studied upto College or Secondary level had retained more knowledge than that of less educated group.

Viswanadham (1977) revealed that the farmers aged about 25 years, educated and having large holdings are to better aware of the dry farming technology.

B. Change in attitude :

Dube (1958) reported that some of the farmers expressed miraculous results and some feared that the fertilizer application may affect the fertility and soil strength.

Singh et al. (1960) revealed that majority (76%) of the respondents hold slightly to moderate favourable

attitude towards package programme and only 10% of them had slightly unfavourable attitude.

Shastri (1962) stated that farmers of Shahbad district had positive attitude towards package programmes and they accepted it to improve their farming. Similar findings were also reported by Varma (1965).

Narayan (1966) reported that majority of the non-adopters were prejudiced towards the use of improved seeds and fertilizers. They were with the impression that fertility of soil is spoilt by fertilizer application.

Singh and Singh (1968) observed a favourable attitude of farm people towards adoption of chemical fertilizer. This finding was confirmed by the findings of Tripathy and Gupta (1971).

Rajguru and Patra (1971) found that age of the farmers was negatively related with the attitude but social factors like education, caste social participation and habit of newspaper reading were directly and positively associated with the psychological make-up of the farmers in acceptance of high yielding variety programme.

Saini (1971) reported that 92.62% and 72.13% of farmers were inclined to follow scientific crop rotations, cultural practices in their farms and 82.79% agreed to apply fertilizers to their crops.

Choukidar (1972) stated that there is no difference in attitude between adopters and non-adopters of high yielding varieties.

The study of Rajguru and Patel (1973) revealed that the farmers have a favourable attitude towards high

yielding varieties and chemical fertilizers but the percentage of farmers having high attitude in irrigated tracts are significantly different from the farmers of non-irrigated tract.

Sahoo and Behera (1973) reported that change due to National Demonstration in attitude is better than the change in knowledge. The extent of change in skill is the lowest . The maximum and minimum behavioural changes are noticed in case of seed, fertilizer, chemicals and implements in order.

Sahoo and Barik (1974) stated that changes in behaviour of small farmers as influenced by S.F.D.A. was found to be low and dis-couraging (only nearly one third). Change in attitude is more than change in knowledge which, in turn was better than change in skill.

Sharma and Nair (1974) observed a significant difference between adopters and non-adopters of high yielding varieties of rice in their attitude.

Rajguru and Nayak (1975) revealed that in general there was a change in the attitude of the farmers towards modern farming. Adopters of the University area had more change in their attitude for farming than adopters of the N.E.S. area. Adopters and non-adopters of both the situations had significant difference in their level of attitudes in the beginning and end of the plan period.

CHAPTER-III
METHODOLOGY

Two Operational Research Project units are now functioning in Orissa - one under the control of Orissa University of Agriculture and Technology, Bhubaneswar and the other under the Central Rice Research Institute, Cuttack. The University unit is functioning in two operational areas in two adjacent Community Development Blocks under Puri District, viz. Delang Block and Jatni Block each with four villages. The villages in Delang Block are Ghorodia, Jorokani, Sisuapada and Beguniapada which come under Ghorodia cluster. Taraboi, Benapanjari, Bisiapada and Tirimal which come under Benapanjari cluster are under Jatni Block. Central Rice Research Institute has undertaken 10 revenue villages in Cuttack Sadar Block with an additional check village.

SELECTION OF AREA :

The present study was undertaken in the Delang Block of Puri District of the state which is functioning under the Orissa University of Agriculture and Technology. This Block was selected purposively since it was learnt that, there has been considerable progress made in the Ghorodia cluster compared to the Benapanjari cluster.

The villages under study were :

1. Ghorodia, Kuapada etc.
2. Sisuapada, Balihunka
3. Jorokani
4. Beguniapada

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1. Chorodia, Kuapada etc.
2. Sisupada, Balihunka
3. Jorekani
4. Beguniapada

SELECTION OF NEIGHBOURING VILLAGE :

One of the objectives was to study the impact of Operational Research Project on the neighbouring villages. The list of such villages situated within a radius of about 2-3 kms from the project villages was made. Six villages namely Batal, Nuahat, Barada, Kumudal, Tigiria and Badalpur were selected. The number of villages was comparatively more because all villages are very small sized with few households in each. All these villages were included for the purpose of study. The project and neighbouring villages brought under investigation have been shown in a map in the beginning of the Chapter.

SELECTION OF RESPONDENTS :

A list of all the households in each project village was prepared. Proportionate random sampling technique was followed in selecting the respondents from each village. Because of the limiting time factor it was decided to limit the number of respondents at 100 i.e. about 8% of the total population. The number of sample respondents from each village is given in Table 3.1.

With regard to the sample respondents in neighbouring villages, no such criteria were followed. A total of 40 respondents from all the six neighbouring villages were interviewed at random. The number of respondents from each neighbouring village are presented in Table 3.2.

Table 3.1

Number of sample respondents from the villages under Ghorodia cluster

Name of the villages	Total households	Sampled families	Percentage
1. Ghorodia	919	70	7.61
2. Jerokani	128	10	7.81
3. Sisuapada	110	9	8.18
4. Beguniapada	136	11	8.08
Total	1293	100	31.68

Table 3.2

Number of sample respondents from the neighbouring villages of Ghorodia cluster

Name of the villages	Sampled numbers	Percentage of total respondent
1. Batal	12	30
2. Barada	3	7.5
3. Tigiria	5	12.5
4. Kumudal	13	32.5
5. Nuahat	5	12.5
6. Badalpur	2	5
Total	40	100.00

RESEARCH DESIGN :

The Operational Research Project has been working there since 1974. Several programmes have been executed under the programme. The present study is rather an evaluative type of work and survey research method has been employed for the purpose. The data were collected from

the respondent farmers with the help of an interview schedule and further processed. Statistical methods for analysis were employed wherever possible.

DEVELOPING AND PRE-TESTING INTERVIEW SCHEDULE :

The officials of the project were contacted for an initial discussion and thorough understanding of the structure and function of the units. Some of the project reports of the state and of elsewhere were studied to gain a thorough understanding. Two initial visits were made to the project areas along with the officials to get acquainted with the Field Assistant working in the area and to know about the people and the place.

An interview schedule was prepared keeping in mind the objectives of the study stated earlier. The entire schedule was divided into suitable parts representing the objectives. This also helped in collecting the basic data. The questions were mostly closed ones having choices and a few were open ended ones.

The provisional schedule thus prepared was employed for pre-testing with some farmers of Ghorodia village. On the basis of pre-testing informations received from the farmers of the said village, the schedule was revised and modified. Thus the final interview schedule was prepared and duplicated (Appendix - I).

COLLECTION OF DATA :

The project officials and the Field Assistant helped in arranging a temporary head-quarter for the investi-

gator in Ghorodia village. The Field Assistant also moved with the investigator in the beginning and helped in establishing rapport with some of the local influentials . This greatly helped in collecting the basic data.

Since it was off season, many village youths were available during most parts of the day. A good rapport established with them further helped in gaining access to the other villagers. During the sittings with the villagers in common places, the investigator explained of his intention of collecting the informations for his research study and sought their co-operation. During these few days the list of households was prepared and random selection of respondents was made. The active members of the family was interviewed for the purpose of the study. With all these preliminaries over, the investigator started his interviewing which was conducted in very casual and informal manner. The respondents were interviewed either in their residences or in community centres or other such common places like tea-stalls and shops etc. All care was taken to follow the principles of interviwing and establishing and maintaining rapport with the respondents. Indirect and cross questions were asked, when the respondents were found to be not clear, ambiguous, not to the point or doubtful. Care was taken to explain the questions fully well so as to avoid mis-interpretation and mis-conception. The responses were recorded in the presence of the respondents and thankfulness was expressed at the end for their co-operation. In some cases more than one sitting was made for completing the schedule.

After collecting the data from the project villages was over, the investigator moved to the neighbouring villages. The problem of establishing rapport with those villagers was somehow got over and interviewing continued. Very little information could be had from those respondents as most of them were found either ignorant or non-involved in project activities. However, interview was made with them following the same procedure as was made in case of the project villages.

PROCESSING AND ANALYSIS OF DATA :

The basic data collected from 100 respondents from the project villages and 40 respondents from the neighbouring villages were processed manually. The interview schedules were serialled from 1 to 100 in case of project villages and 1 to 40 in case of neighbouring villages. Informations received from them were tabulated on big tabulation sheets. From the tabulation sheets, simple and cross tables were prepared. Score points as obtained by different individuals were computed in separate sheets.

After the finalization of the tabulation sheets, total numbers in different items were calculated. Steps were taken to get the figures in small tables.

Some three-point rank order scales have been included in the interview schedule to collect data on several aspects of the project and the behavioural changes of the people in the cluster villages. Each scale has several items. Care was taken to include both positive and negative statements. Score values of 2, 1, 0 and 0, 1, 2 were allocated

to positive and negative statements respectively. Due to lack of time the scales were not tested for validity. However, the mean score for each item and the rank order were calculated, showing the relative importance of each item.

The individual respondent was included in one of the categories of high, medium or low depending upon the total points he scored. The categorization largely depended on the distribution of the score values of the individual respondents in each scale.

The formulae employed in the statistical analysis are given below.

(i) $\% = \frac{\text{Number of responses in favour of}}{\text{Total number of respondents}} \times 100$

(ii) Weighted Mean $= \frac{\text{Total scores obtained from all the respondents for the question or item}}{\text{Number of respondents}}$

(iii) Chi-square

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where O denotes observed value and

E for expected value of a particular cell

(iv) Yate's correction factor :

$$\chi^2_c = \frac{N (|ad - bc| - N/2)^2}{R_1 R_2 C_1 C_2}$$

where, $R_1 = a + b$

$R_2 = c + d$

$C_1 = a + c$

$C_2 = b + d$

(a, b, c, c denote different cell values in a 2 x 2 contigency table)

(v) Rank correlation :

$$R = 1 - \frac{6 \sum d^2}{n(n^2 - 1)}$$

Where d = differences in ranks for each item

n = Total number of items.

(vi) Rank correlation in case of items of equal magnitude :

$$R = 1 - \frac{6 \left[\sum d^2 + \frac{1}{12} \sum (p^3 - p) \right]}{n (n^2 - 1)}$$

Where P is the number of items whose ranks are common.

(vii)

$$t = \frac{r(n-2)}{\sqrt{1 - r^2}}$$

Where r = Rank co-rrelation value

n = Number of items.

CHAPTER-IV
FINDINGS AND DISCUSSION

The research project entitled " A study on the impact of Operational Research Project in bringing about changes in the farmers of Delang Block " was undertaken in Chorodia cluster of Delang Block in Puri district of the State in the year 1979. Basic data were collected by personally interviewing the respondent farmers with the help of a pre-tested interview schedule. These were processed and analysed. The relevant findings as indicated by the processed data are described below.

SOCIO-ECONOMIC CHARACTERISTICS OF THE RESPONDENTS :

The respondent farmers were classified into suitable categories under different socio-economic characteristics they possessed. The data are presented in Table 4.1

Table 4.1

Classification of respondents according to their socio-economic characteristics.
n = 100

Age group	Percentage	Educational level	Percentage
A. Upto 30 years	15	A. Illiterate	20
B. 31-50 years	58	B. Primary	55
C. 51 years and above	27	C. Secondary and above	25
Total	100	Total	100

Caste group	Percentage	Size of land	Percentage
a. Brahmin	4	a. Landless	12
b. Non-brahmin	89	b. Upto 2.5 ac.	49
c. S.C./S.T.	6	c. 2.51 to 5 ac.	26
d. Non-hindu	1	d. 5.1 ac. & above	13
Total	100	Total	100

Average total annual income	Percentage
a. Upto Rs.1500/-	7
b. Rs.1501/- to Rs.2500/-	27
c. Rs.2501/- to Rs.3500/-	20
d. Rs.3501/- and above	46
Total	100

Per capita income	Percentage
a. Upto Rs.400/-	29
b. Rs.401/- to Rs.500/-	20
c. Rs.501/- and above	51
Total	100

Sources of income	Frequency	Major source of income (freq)
a. Farming	83	70
b. Business	15	5
c. Employment	17	6
d. Prestige occupation	0	0
e. Wage earning	35	16
f. Artisans and Priests	3	0
g. Weaving	7	3
Total		100

Materials	Frequency
a. Bullock cart	50
b. Bi-cycle	36
c. Radio	4
d. Automobile	1
e. Improved agtil. implements	18
f. Bullocks	71
g. Power sprayer	10
h. Storage bins	3
Total	193

Family type	Percentage
a. Joint	59
b. Single	41
Total	100

Size of family	Percentage
a. Upto 5	40
b. 6 and above	60
Total	100

House type	Percentage
a. Kutcha	71
b. Semi pucca	21
c. Pucca	8
Total	100

Social participation	Percentage
a. No membership	52
b. Membership in one organization	39
c. Membership in two organizations	9
Total	100

Tenure of membership	Percentage
a. Upto 5 years	50
b. More than 5 years	50
Total	100

Cosmopoliteness	Percentage
a. Localite	26
b. Moderately cosmopolite	17
c. Highly cosmopolite	57
Total	100

Age :

The data in Table 4.1 indicate that the middle aged farmers are more in number constituting about a little above half of the population. Older farmers of 51 years and above constitute about one fourth of the population. The younger farmers, however, are a few in number i.e. 15% of the population.

Usually the younger people are not oriented to take up farming as their profession. When they fail in finding other avenues of employment/engagement or under circumstances are compelled, they get engaged in farming. Further farming being complex and arduous in nature, the parents usually passon the profession to their children

when the later becomes somewhat older. It is quite natural for the present figures to indicate a low percentage of young farmers. The high percentage of the middle aged farmers can be attributed to the same reasons as stated above.

Education :

20% farmers are found to be illiterate while 55% have primary education. 25% or one fourth of the respondents are found to have a higher level of education i.e. secondary school standard and above.

The situation with regard to literacy and education not only in Orissa but also in the whole country has undergone a rapid change. Illeteracy is gradually wiped out with a large number of schools and colleges established through out the state. In the cluster villages also there are primary schools functioning for several decades past. There is also a high school in Ghorodia which is not only the biggest but also the central village in the cluster. Besides there is another high school close by i.e. at Delang which is the seat of the block head-quarter. Therefore with such improvements in the facilities for education available within the locality, the percentage of illiterates is naturally low, compared to the overall average of the state.

Caste :

The non-brahmin group of farmers constitute the highest percentage in the cluster. Respondents falling under other caste groups and/or minority are a few in number. Perhaps the proportion is correct taking into account the whole population.

Size of land :

The number of acres under farming by the respondents were considered to be their size of farm. Cultivable and other waste lands as well as orchard areas were excluded for the purpose of study. Landless respondents were found to be 12% . About the same percentage (13%) are big farmers possessing land of 5 acres or above. The rest 75% are either small or medium farmers- the former being the double of the later. The proportion seems to be quite normal when compared with the overall average of the state particularly in the coastal districts.

Annual income :

The data indicate that about two third of the families have a total annual family income of Rs.2500/- or more (i.e. more than Rs.200/- per month) . A little less than half of the respondents earn about Rs.300/- per month for the family. The figures under per capita income also show that about 50% of them have an income of more than Rs.500/-. Taking into account the national average, the figures indicate that about half of the respondents fall under below poverty line group. The situation would be still worse if the current rising prices are computed over the base year price index. Some economists and planners have reported that about 85% (eighty five) of the Orissa's population is below poverty line. Although the present figures are somewhat better than the state average, yet the economic status of the respondents is perhaps a serious threat even for modest development programmes to succeed.

Sources of income :

88% of the respondents reported farming as their source of income followed by 35% wage earners. Employment and business as source of income are next in order. These figures show a different picture when the major source of income is analysed. It is noticed that about 70% of the respondents largely depend on farming and 16% on wage earning. The proportion of respondents having farming as their major source of income is perhaps the same as that of the state average.

Material possession :

Bullocks and bullock carts are the essential possessions for the farmers and the data indicate the same. Bi-cycle is the cheapest form of transport and communication and is possessed by a little over one third of the respondents. Improved agricultural implements are costly and need higher initial investment. The supply and service facilities are also not available in most rural areas . The only improved implement, the soil turning plough recently introduced by the O.R.P. personnel is possessed by 18 respondents. The situation with other possessions is not worthy mentioned.

Family type and size :

Joint families are found to be more in number than the nucleus families. Similarly the big sized families are found to be in the same proportion, compared to the smaller sized ones.

It seems that the traditional joint family system is gradually disintegrating from rural society giving way to the nucleus family system. Such results were also reported by Sahoo and Sarkar (1971) and Sahoo and Behera (1973). The proportion of joint families and big sized families being more or less same, such findings are unlikely to be noticed.

House type :

Although kutcha houses are more in number (71%) yet the number of semi pucca and pucca houses seems to be quite encouraging. The cluster is agriculturally prosperous area for quite a long time. With the adoption of new farm technology, the production vis-vis income level of the farmers have gone up. The extra income has probably been invested by a number of farmers in converting their kutcha houses to pucca ones. Further with the improvement in trasport and marketing facilities , the building materials are also somewhat easily available to the rural people, as such, the present finding of the better proportion of semi pucca and pucca houses in the cluster compared to the average of the state is justified.

Social participation :

There are rural institutions and organisations functioning in these villages. It is noticed that about half of the respondents do not maintain any membership in these. About one fourth of the respondents are found to be new members having a tenure of upto 5 years. The rest one fourth are found to be older members , their tenureship being more than 5 years.

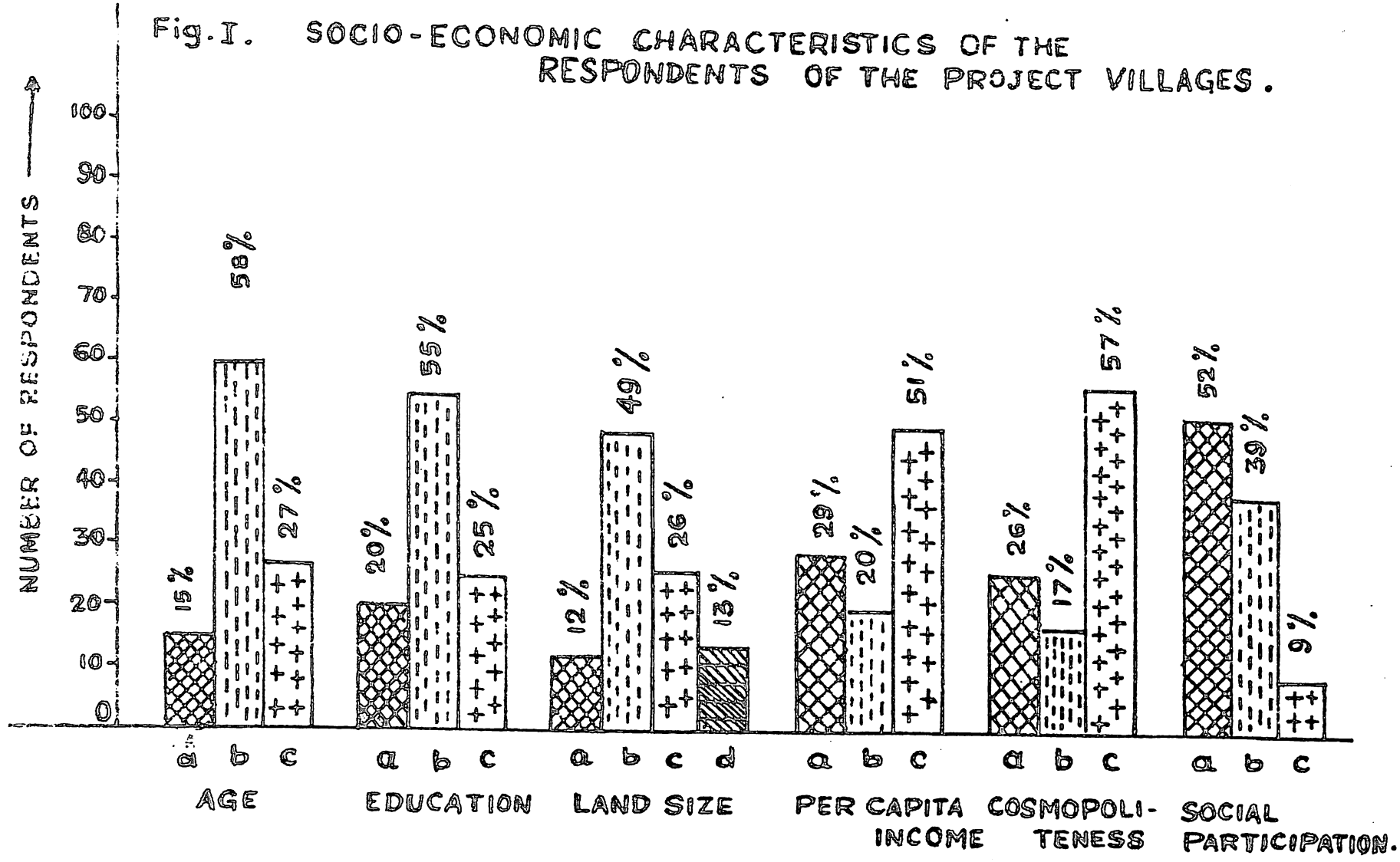
The rural organizations are somewhat informal in nature. Informality even prevails in formal and statubary organizations. Those who want to get into the organizations, continue to remain perhaps due to their socio-economic influence. Further the traditional characteristics of these organizations to be handled by older people is perhaps changing and giving way to the educated youth to get in and shoulder the responsibility.

Cosmopoliteness :

It is noticed that a little more than half of the respondents are cosmopolite in nature having good knowledge about the people and the places outside their locality. About one fourth of the respondents are poor in this respect. The high percentage of the respondents to be cosmopolite is perhaps due to the geographical locality of the area. The district head quarter, the state Capital are nearby and are well connected by roadways and railways all through out the year. It is perhaps the landless and the wage earner group who either do not have the means or scope to visit the places or to contact persons beyond their community limits.

The data on different categories of the respondents under some socio-economic characteristics have been graphically presented in figure-1.

Fig.I. SOCIO-ECONOMIC CHARACTERISTICS OF THE RESPONDENTS OF THE PROJECT VILLAGES.



INTER-RELATIONSHIP OF SOME SOCIO-ECONOMIC CHARACTERISTICS :

The data were processed to find out, if there exists any relationship between some of the socio-economic characteristics of the respondents. Cross tables from the data for this purpose were prepared and statistically analysed wherever possible. The findings are described in Table nos. 4.2, 4.3 and 4.4 and 4.5 .

Age and its relationship :

The data on relationship of age with education, social participation and cospoliteness are presented in Table 4.2.

Table 4.2

Age group	Education					
	Illiterate	Primary	Secondary & above	Total	df	X^2
Upto 30 years	1 (6.66)	7 (46.67)	7 (46.67)	15 (100)		
31-50 years	10 (17.25)	34 (58.62)	14 (24.13)	58 (100)	4	12.33* (Sig)
51 years and above	9 (33.33)	14 (51.85)	4 (14.82)	27 (100)		
Total	20	65	25	100		

Figures within ( ) indicate % of the horizontal total

Table 4.2 continued

Age group	Social participation					Tenure of membership		
	No member ship	Having membership	Total	df	X^2	Upto 5 years	More than 5 years	Total
Upto 30 years	5 (33.33)	10 (66.67)	15 (100)			7 (70.00)	3 (30.00)	10 (100)
31-50 years	30 (51.73)	28 (48.27)	58 (100)	2	3.38 (N.S)	8 (28.58)	20 (71.42)	28 (100)
51 years & above	17 (62.96)	10 (37.04)	27 (100)			9 (90.00)	1 (10.00)	10 (100)
Total	52	48	100			24	24	48

Figures within ( ) indicate the percentage of the horizontal total

Table 4.2 Continued

Age group	Cosmopoliteness			df	x^2
	Localite	Cosmopolite	Total		
Upto 30 years	3 (20.00)	12 (80.00)	15 (100)		
31-50 years	11 (18.96)	47 (81.04)	58 (100)	2	6.47 * (S)
51 years & above	12 (44.45)	15 (55.55)	27 (100)		
Total	26	74	100		

Figures within () indicate the percentage of the horizontal total

The data indicate that age maintains a negative relationship with education and cosmopoliteness of the respondents. In case of education and cosmopoliteness the negative relationship is found to be statistically significant. With regard to relation with social participation, although not statistically significant, the trend of negative relationship is clearly noticed. No such trend is however noticed between age and tenure of membership of the respondents in rural organizations.

It is quite usual for the older people to be either illiterate or less educated compared with the young respondents. With the opening up of new schools and colleges in recent years, particularly after independence, the young people have availed the facility of their education. This has helped for more number of young respondents

to be either literate or educated and vice-versa. Similar results have also been reported by Sahoo and Behera (1973) and Sahoo and Barik (1974) and many others.

As have been stated earlier, the leadership pattern in our society is perhaps changing. The youth in every field is competing for and ultimately winning the leadership positions. Besides, several new youth organizations are also being organised to cater to the manifold need, particularly of the young generation. It is obvious that the social participation of the youth is more than the old respondents. This fact is further supported by the data under tenure of membership. The younger generations have perhaps, entered into the local organizations in recent years as it is seen that 70% of them have a membership tenure of upto 5 years. Conversely, only 10% of the old respondents have such tenure for more than 5 years. Although age and membership tenure do not exhibit any relationship yet the data adequately indicate that the youth is replacing the old in leadership activities.

The young respondents are comparatively better educated and have a better social participation. They are also found to replace the old in taking up leadership responsibilities. These reasons perhaps compell the young to become more cosmopolite than the old respondents. Further the young people are more active and change prone. They have needs, varied in nature. To fulfill these needs- both individual and community in nature- the young people are rather compelled to keep contact or visit people and

places outside their locality. Development of transport and communication facilities in recent years also greatly help in this regard. Therefore it seems justified for age to maintain a negative relationship with cosmopolite characteristic of the respondents.

The above type of relationship is in confirmity with the findings of Sharma (1966), Singh (1970) and Sharma and Kishore (1970).

Education and its relationship :

The data on relationship of education with some socio-economic characteristics of the respondents is presented in Table 4.3

Table 4.3

Inter-relationship of education with some socio-economic characteristics

Educational level	Per capita income					
	Upto Rs.400	Rs.400/- Rs.500/-	Rs.501/- & above	Total	df	χ^2
Illiterate	10 (50.00)	6 (30.00)	4 (20.00)	20 (100)		
Primary	17 (30.90)	11 (20.00)	27 (49.10)	55 (100)	2	16.639 **
Secondary & above	2 (8.00)	3 (12.00)	20 (80.00)	25 (100)		
Total	29	20	51	100		

** Significant at 1% level

Figures within ( ) indicate % of the horizontal total

Table 4.3 continued

Educational level	Size of land						
	Land (less	Upto 2.5ac	2.51 to 5 ac.	5.1 ac. & above	Total	df	χ^2
Illiterate	6 (30.00)	10 (50.00)	2 (10.00)	2 (10.00)	20 (100)		
Primary	4 (7.27)	34 (61.82)	12 (21.82)	5 (9.09)	55 (100)	6	22.295**
Secondary & above	2 (8.00)	5 (20.00)	12 (48.00)	6 (24.00)	25 (100)		
Total	12	49	26	13	100		

** Significant at 1% level
Figures within ( ) indicate % of the horizontal total

Table 4.3 continued

Educational level	Social participation				
	No member ship	Having member ship	Total	df	χ^2
Illiterate	15 (75.00)	5 (25.00)	20 (100)		
Primary	27 (49.10)	28 (50.90)	55 (100)	2	5.829 (N.S)
Secondary & above	10 (40.00)	15 (60.00)	25 (100)		
Total	52	48	100		

Figures within ( ) indicate % of the horizontal total

Table 4.3 continued

Educational Level	Cosmopoliteness				
	Localite	Cosmopolite	Total	df	χ^2
Illiterate	14 (70.00)	6 (30.00)	20 (100)		
Primary	11 (20.00)	44 (80.00)	55 (100)	2	26.957 **
Secondary & above	1 (4.00)	24 (96.00)	25 (100)		
Total	26	74	100		

** Significant at 1% level
Figures within ( ) indicate % of the horizontal total

The figures in Table 4.3 clearly indicate that education maintains a positive relationship with income, size of land, social participation and cosmopoliteness of the respondents. Except in case of social participation, this relationship is found to be statistically significant. However, the trend of positive relationship between education and social participation is clearly noticed, although it is not statistically significant.

Higher the size of farm under cultivation, higher is the income. It is obvious that the big farmers could afford to spend money on higher education of their children. Since higher education is costly, those with less income can not afford to send their children for higher education. Obviously size of land and education are positively related. In other words higher the size of farm, better is the level of education of the respondents.

Education brings about change in human behaviour i.e. in respect of knowledge, skill and attitude. With such change in behaviour educated persons are likely to improve their production techniques and once production increases, the income is likely to increase. Singh (1970), Sahoo and Behera (1973) and Sahoo and Barik (1974) also reported the similar results.

Young age and high education are found to go together. The relationship of young age with social participation and cosmopoliteness of the respondents have already been started earlier. It is needless to report the same to justify the positive relationship between education and social participation or cosmopoliteness. Education to maintain such positive relationship have also been reported by Dhaliwal and Sohal (1965), Singh (1970), Sahoo and Behera (1973) and many other researchers.

Per capita income and its relationship :

Table 4.4 contains data on relationship of per capita income of the respondents with their size of land and social participation .

The data in Table 4.4 indicate that per capita income maintains a statistically significant positive relationship with size of land and social participation of the respondents.

Table 4.4

Inter - relationship of per capita income with some socio-economic characteristics.

Income group	Size of land							Social participation				
	Landless	Upto 2.5 ac	2.51 to 5 ac.	5.1 ac. & above	Total	df	x^2	No membership	Having membership	Total	df	x^2
Upto Rs.400	8 (27.58)	16 (55.18)	3 (10.34)	2 (6.90)	29 (100)			22 (75.86)	7 (24.14)	29 (100)		
Rs.401/- to Rs.500/-	2 (10.00)	14 (70.00)	3 (15.00)	1 (5.00)	20 (100)	6	22.784 **	17 (85.00)	3 (15.00)	20 (100)	2	26.698 **
Rs.501 & above	2 (3.93)	19 (37.25)	20 (39.22)	10 (19.60)	51 (100)			13 (25.50)	38 (74.50)	51 (100)		
Total	12	49	26	13	100			52	48	100		

** Significant at 1% level
Figures within ( ) indicate % of the horizontal total

It is already stated that income increases with increase in the size of land. Such result is evident and perhaps needs no futher explanation. Those with better income can afford to become members in different organizations and institutions. Not only the payment of membership fees but also the higher income group can afford to meet other expenditures associated with the organizational activities and requirements. Evidently, better the income status, better is the social participation level of the respondents. The present findings confirm the findings of Sahoo and Behera (1973) and Sahoo and Barik (1974).

Social participation and cosmopoliteness :

In Table 4.5 the data on relationship between social participation and cosmopoliteness of the respondents have been presented.

The data in Table 4.5 reveal that both the characteristics are positively associated and this association is statistically significant. Those respondents who hold only membership or executive positions in different organizations are usually required to keep contact with people and places outside the locality. They usually visit other such agencies (both Government and non- Government) to fulfill the requirements of their organizations. This helps in improving their cosmopolitic characteristic. Conversely those who have a better knowledge of people and places outside

Table 4.5

Inter-relationship of social participation with cosmppoliteness

Social participation	Cosmopoliteness				
	Localite	Cosmopolite	Total	df	X^2
No membership	21 (40.38)	31 (59.62)	52 (100)	1	11.65 **
Having membership	5 (10.42)	43 (89.58)	48 (100)		
Total	26	74	100		

** Significant at 1% level

Figures within ( ) indicate % of the horizontal total

the locality are usually choosen to hold executive positions in different rural organizations. Evidently the two characteristics are found to be positively related. Similar results were reported by Sharma (1966), Sohal and Singh (1963), Sahoo and Barik (1974) and many others.

KNOWLEDGE OF THE RESPONDENTS ON OPERATIONAL RESEARCH PROJECT :

The overall knowledge of the respondents about the objectives and activities of O.R.P. was tested. The relevant data were collected in a 3 point scale, from all the 100 sampled respondents. The mean scores and rank orders were computed as can be seen from Table 4.6

Table 4.6

Knowledge about the objectives and activities of O.R.P.

Items	Know well	Know some	Don't know	Total score	Mean score	Rank
1. Meaning of O.R.P.	3	21	76	27	0.27	17
2. Year of the initiation of the programme	48	32	20	128	1.28	3
3. Objectives of O.R.P.	18	56	26	92	0.92	8
4. Area of operation	43	30	27	116	1.16	4
5. O.R.P.Field Assistant working in the locality	90	4	6	184	1.84	1
6. O.R.P. executive staff	36	30	34	102	1.02	6
7. Different programme items of O.R.P. at present	21	53	26	95	0.95	7
8. Expected role of the farmers in O.R.P.	16	43	41	75	0.75	11
9. Expected role of the supervisory and specialist staff	13	33	54	59	0.59	15
10. Relation between the programme and objectives of O.R.P.	6	39	55	51	0.51	16
11. Extent of benefits derived from O.R.P. programme						
(a) Self	71	9	20	151	1.51	2
(b) Villagers as a whole	37	29	34	103	1.03	5
(c)Specially small and marginal farmers	30	25	45	85	0.85	9
(d)Neighbouring villages	22	34	44	78	0.78	10
(e) Landless labourers	18	30	52	66	0.66	12
(f) Non-farmers	14	31	55	59	0.59	14
(g) Youth and women	16	28	56	60	0.60	13

The data in Table 4.6 reveal that most of the respondents know the Field Assistant working in the project villages. They also pretty well know the year of initiation and area of operation of the programme. They have little above average knowledge about the O.R.P. executive staff. With regard to the extent of benefits derived from the programme, they have a very good knowledge about benefits derived by them individually. Next in order is the benefits derived by the villagers as a whole.

The respondents, however, have a poor knowledge about the meaning of O.R.P., the programmes in relation to the objectives of O.R.P. and the role of the supervisory and specialist staffs including the expected role of the farmers. They equally do not know how much benefits being derived from the project activities by non-farmers, youth and women, landless labourers and the neighbouring villagers.

The findings indicate that the project staff perhaps have not put any effort to publicize the meaning and the objectives of the project among the people. So also is the situation with group approach and group spirit of work. That is why the respondents could identify and realize the benefits they have individually derived rather than the benefits derived by groups or the villagers as a whole. In most special projects, the same state of affairs exist as has been reported by Sahoo and Barik (1974). The situation in the present finding is however not that worse as the findings stated above, since the respondents could identify the benefits derived by the villagers as a whole

to a satisfactory level. More efforts by the project staff is perhaps warranted in making people better aware of the objectives and programme items of the project including the role and involvment of the farmers than what it has been found out. The situation will greatly improve, if the efforts are diverted in improving or developing the inner resource of the beneficiaries.

Knowledge and its relationship with socio-economic characteristics :

The knowledge of the respondents about O.R.P. as influenced by some of their socio-economic characteristics was studied. Respondents were grouped under 3 categories- poor, average and good- according to the score each individual received in the scale (Appendix-II). The data on inter relationship of knowledge with some socio-economic characteristics arranged in two-way tables have been presented in Table 4.7.

The data in Table 4.7 indicate that knowledge level of the respondents maintains positive and significant relationship with the educational level, per capita income, size of holding and social participation of the respondents. The relationship with age although not statistically significant, yet tends to maintain a negative relationship as is evidenced from the figures.

Table 4.7

Inter- relationship of knowledge about O.R.P. with some socio-economic characteristics of the respondents

Knowledge level	Age group						Educational level					
	Upto 30 years	31-50 years	51 years & above	Total	df	χ^2	Illiterate	Primary	Secondary & above	Total	df	χ^2
Poor	4 (26.66)	17 (29.31)	13 (48.14)	34			13 (65.00)	16 (29.09)	5 (20.00)	34		
Average	5 (33.34)	24 (41.37)	8 (29.62)	37	4	4.082 (N.S)	6 (30.00)	23 (41.82)	8 (32.00)	37	4	15.549 **
Good	6 (40.00)	17 (29.32)	6 (22.24)	29			1 (5.00)	16 (29.09)	12 (48.00)	29		
Total	15 (100)	58 (100)	27 (100)	100			20 (100)	55 (100)	25 (100)	100		

** Significant at 1% level

Figures within ( ) indicate % of the vertical total

Table 4.7 continued

Knowledge level	Per capita income						Size of holding						
	Upto Rs.400/-	Rs.401/- to Rs.500/-	Rs.501/- & above	Total	df	X^2	Landless	Upto 2.5ac	2.51-5.0	5.1 & above	Total	df	X^2
Poor	17 (58.62)	6 (30.00)	11 (21.56)	34			11 (91.66)	18 (36.73)	3 (11.53)	2 (15.39)	34		
Average	8 (27.58)	10 (50.00)	19 (37.26)	37	4	15.215 **	1 (8.34)	24 (48.97)	8 (30.76)	4 (30.76)	37	6	34.887**
Good	4 (13.30)	4 (20.00)	21 (41.18)	29			- (0)	7 (14.30)	15 (57.71)	7 (53.86)	29		
Total	29 (100)	20 (100)	51 (100)	100			12 (100)	49 (100)	26 (100)	13 (100)	100		

** significant at 1% level

Figures within ( ) indicate % of the vertical total

Table 4.7 continued

Knowledge level	Social participation				
	Having no membership	Having membership	Total	df	x^2
Poor	27 (51.92)	7 (14.58)	34		
Average	15 (28.84)	22 (45.84)	37	2	15.744**
Good	10 (19.24)	19 (39.58)	29		
Total	52(100)	48(100)			

** Significant at 1% level

Figures within ( ) indicate % of the vertical total

The young people are found to be better educated than the older counterparts. Young age is also normally associated with change proneness and dynamism. Contrary to this the older people are normally lethargic, conservative and are less change prone. Such characteristics perhaps do not help the older people to voluntarily collect informations on new programmes or projects. On the other hand because of better educational attainment, the younger people are more knowledgeable, better skilled and maintain a favourable attitude towards new programmes and projects. Such findings have also been noticed by several past workers while studying special development projects.

It has been stated earlier that size of land, per capita income and education of the respondents are positively related with each other. Knowledge of the respondents being positively related with education,

obviously would maintain a similar relationship with these two characteristics. Further the big farmers having a comparatively better economic stand can afford to use innovations for improvement of their production. O.R.P. being a special project, having more number of programme items for agricultural development has perhaps attracted these big farmerswho try to know more about project and its programmes. On the other hand, because of the poor economic ability, the small and marginal farmers tend to become more apathetic and do not exhibit any sort of keenness to know about the project and its programme. The same state of affairs prevail among the high and low income groups. These reasons are probably responsible for the big farmers and those with higher per capita income to know more about O.R.P.

Those with better social participation are also found to be better cosmopolite in nature. They come in contact with different agencies and personnel and collect informations for the rest of the community members, as Lionberger states, they act as the local influentials and the gate keepers of informations. Further agency or agencies usually work through the local groups and organizations for successful execution of different programmes. These factors help the individuals holding either membership or executive position in rural organisations to know more about different agencies, projects and programmes operating in their area.

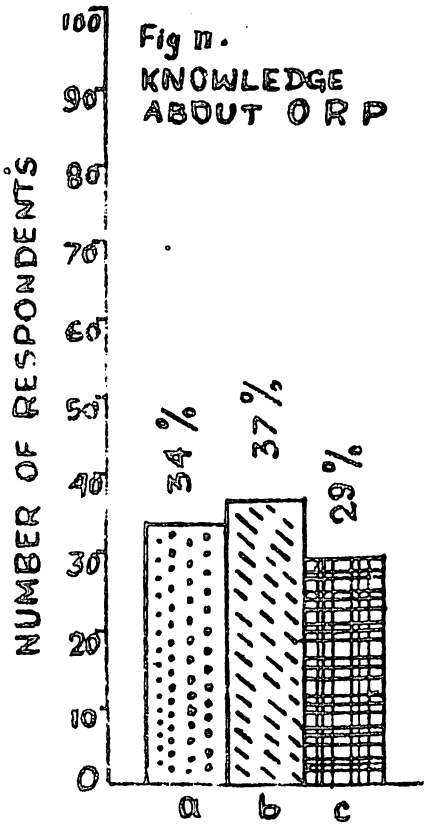


Fig II.
KNOWLEDGE ABOUT ORP
NUMBER OF RESPONDENTS
34%
37%
29%
a
b
c

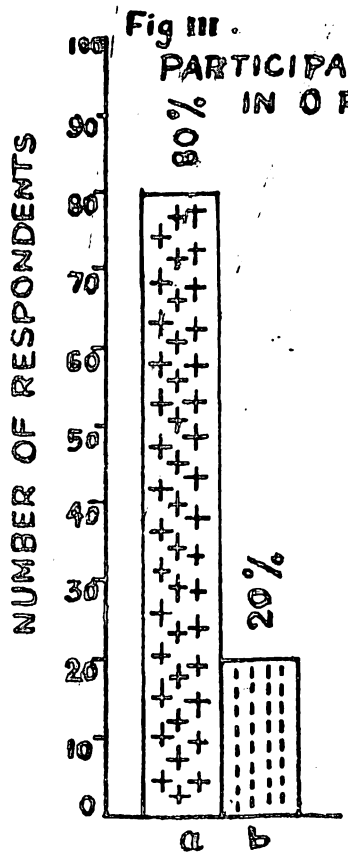


Fig III.
PARTICIPATION IN ORP
NUMBER OF RESPONDENTS
80%
20%
a
b

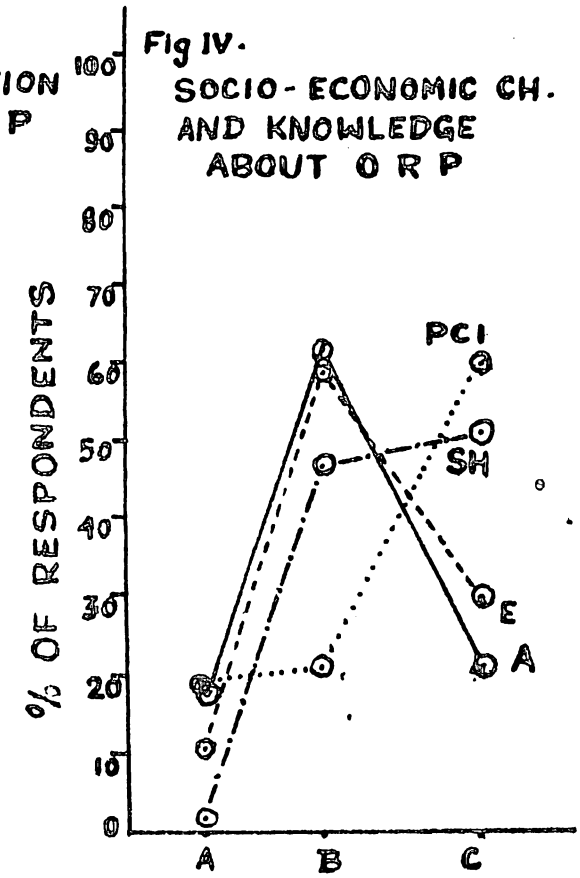


Fig IV.
SOCIO-ECONOMIC CH. AND KNOWLEDGE ABOUT ORP
% OF RESPONDENTS
PCI
SH
E
A
A
B
C

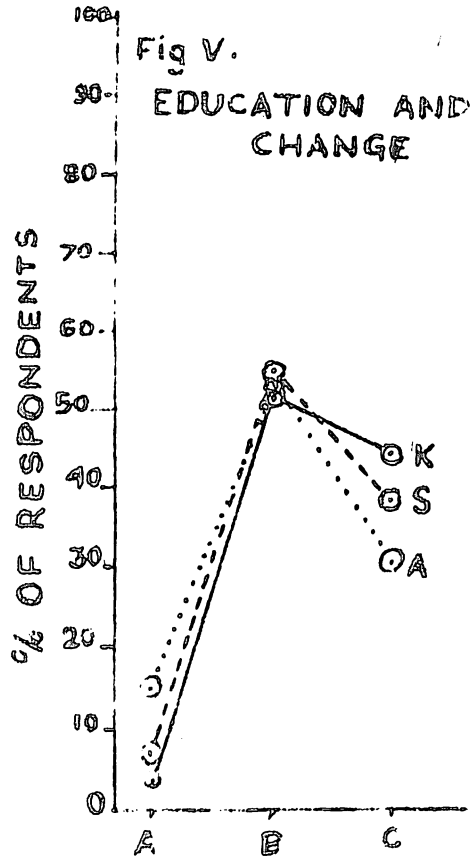


Fig V.
EDUCATION AND CHANGE
% OF RESPONDENTS
K
S
A
A
B
C

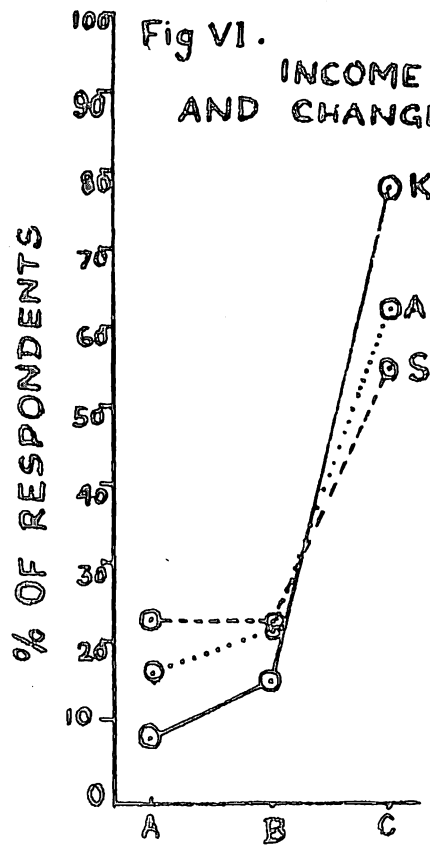


Fig VI.
INCOME AND CHANGE
% OF RESPONDENTS
K
A
S
A
B
C

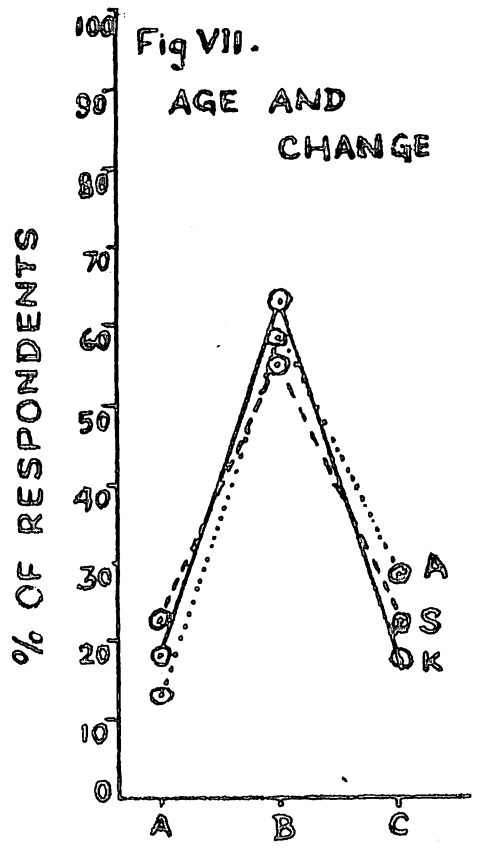


Fig VII.
AGE AND CHANGE
% OF RESPONDENTS
A
S
K
A
B
C

The data on knowledge of the respondents about O.R.P. and its relationship with some of their socio-economic characteristics have been graphically presented in Fig. II and Fig. IV respectively.

PEOPLE'S PARTICIPATION IN OPERATIONAL RESEARCH PROJECT :

The repondents were asked about the extent of participation of the village people in O.R.P. programmes. It has been seen that while 99% of the respondents agreed that almost all the village people are aware of the project operating in the village, only 71% felt that the village people are participating in different programme items to the same extent. On futher probing about their own participation, only 18% of the respondents agreed to have participated in almost all the programmes. 62% of the respondents take part in some programme items while the rest 20% do not participate at all.

The reasons for participation of the village people was tested in a three point scale which has been presented in table 4.3.

It is evident from the data that solving individual problem as a reason for participation has secured the highest mean score followed by the reason , " Improvement of production level ". Demand for new technolgy that the project can provide is also another important one for people's participation. Influence of the local leaders, solving community problem and the pressure from the project personnel for involvment of

Table 4.8

Reasons for people's participation

n = 100

Items	F.A.	P.A.	D.A.	T.S	M.S.	Rank
1.They understand the meaning and objectives of the project and consider the same to be beneficial	70	30	0	170	1.70	6
2. The programme items take into account the needs and interests of the people	62	21	17	145	1.45	7
3. The project programmes help in development and utilization of available total resources	60	25	15	145	1.45	7
4. The project personnel need the people to be involved	62	20	18	144	1.44	8
5. The local leaders influence and persuade to do so	9	13	78	31	0.31	10
6. The people have developed a self inspired keenness to be involved in the development projects	80	15	5	190	1.90	5
7. To fulfill the needs by solving						
(a) Individual problems	99	1	0	199	1.99	1
(b) Community problems	31	31	38	93	0.93	9
8. There is a growing demand by them for new technology which the new project can provide	95	5	0	195	1.95	3
9. The project programmes do help in improving the production level	96	4	0	196	1.96	2
10. The project programmes do help in improving the income level both from farm and non-farm enterprises (vocations)	94	4	2	192	1.92	4

F.A. = Fully agree P.A. = Partially agree
D.A. = Disagree T.S. = Total score

M.S. = Mean score

the people have been found to rank low in the scale. In other words these reasons are not considered important for influencing people's participation.

It seems that the project is operating in a dis-organised community where organised groups , the pattern of leadership-followership is lacking. That is the reason which show a very poor picture of influence of local leaders. Community feeling and community approach are perhaps lacking. The project personnel might have been compelled to follow and continue individual approach rather than group approach. They must have been dealing with the village people individually for which solution of individual problems as reasons for participation has ranked first and solving community problems has been found to be the least in this regard.

It is however commandable that the village people have realized that the project would help in improving the production and the people have a growing demand for new technology that the project can provide. Effective introduction of certain innovations might have strengthened such an attitude.

It is found that out 100 respondents interviewed,80 are participating and the rest 20 are not . Further, out of 80 participants 61 have been participating since the begining of the project and 4 have joined recently. Out of the 20 non-participants, 9 persons are contempleting to participate in near future. The reasons for participation of village people as a whole has been

discussed earlier. Similarly the reasons for individuals participation or interest to participate in near future was assessed as can be seen from the Table 4.9

Table 4.9

Interest of the people for participation

n = 80

Items	F.A	P.A	D.A.	T.S	M.S	Rank
1. Enhancing the level of production	89	0	0	178	2.0	1
2. Enhancing net income	89	0	0	178	2.0	1
3. Enhancing social status	57	18	14	132	1.4	2
4. To get free input materials	1	20	8	21	0.23	8
5. To get subsidy or subsidized equipments and materials	2	29	58	33	0.25	7
6. To get technical guideance from the project staff	42	36	11	120	1.34	3
7. To utilize the services of the project officials for non-project purposes or fulfill the personal motives	3	31	50	47	0.52	5
8. To satisfy the ego of contact with project and other officials	0	1	88	1	0.01	10
9. To futher develop the leadership ability	3	18	68	24	0.29	6
10. Motivated by the family members, neighbours, respectives etc.	0	3	86	3	0.02	9
11. To manifest one's own talents	30	38	21	98	1.10	4

F.A. = Fully agree P.A. = partially agree

D.A. = Disagree T.S. = Total score

M.S. = Mean score

It is evident from the date that improving the level of present production and net income have been largely responsible for individuals to participate in O.R.P. programmes. Enhancing social status of the individuals through such participation is the next important factor in order. The respondents are least influenced by any ego or motivated by their family members and neighbours etc. for their participation. Nor do they feel that, getting free input materials and/or subsidy in any form has any influence for their participation. But getting technical guidance from the project staff has been found to influence to a large extent for their participation.

It seems that the O.R.P. programme items must have helped in improving the production level of those who participated in the begining of the project. The increased production leading to higher income of those individuals must have been eye-catching and might have greatly influenced to follow the suit. Usually the successful participants are named in different meetings, seminars etc. and also get published in print or air. Such publicity helps in enhancing the social status of the participants and also act a motivating factor for others to participate. Evidently, the above three factors are found to be important motivating factor for individuals to participate in O.R.P. programmes.

It has been reported by some past workers that getting free input materials and/or subsidy in any form has been a motivating factor for such participation.

The individuals in the project villages are perhaps quite aware of the comparative low value of such free inputs or subsidy with the cost of increased production through their participation and adoption of advocated technology. This is definitely a commandable achievement of the project personnel.

It has been already stated that out of 100 respondents interviewed,20 have not participated in O.R.P. programmes so far. The reasons for such non-participation was also studied and the relevant data are presented in Table 4.10.

The data in Table 4.10 clearly reveal that landlessness is the major criterion followed by lack of investment ability for such non-participation. Un-suitability of the programme items is next in order. The non-participants are found competent, do not hesitate to give up the traditional methods and their family members do not dissuade in taking up new technology. Similarly lack of experience, non-availability of input materials and doubts in the efficiency of technology do not pose any problem for their participation. Disregard of discrimination of the project personnel and the inability of the respondents to take risk are found to influence to some extent in this regard.

Not only most O.R.P. programmes are agricultural in nature but also it seems,the project officials pay more attention for agricultural development. Obviously the landless respondents do not find scope to participate in those programmes. The poor economic status

Table 4.10

Reasons of non-participation

n = 20

Items	FA	PA	DA	TS	MS	Rank
1. No mind	1	1	18	3	0.15	7
2. No land & other resources	18	2	0	38	1.9	1
3. No faith on new technology	1	0	19	2	0.1	8
4. Programme items not suitable to him	7	4	9	18	0.9	3
5. Lack of investing ability	10	0	10	20	1.0	2
6. Unable to bear the risk of loosing	4	0	16	8	0.4	5
7. Family members disuade	0	0	20	0	0.0	9
8. Hesitation to give up the traditional ways	0	0	20	0	0	9
9. Still evaluating the utility or the benefits of the programme	1	0	19	2	0.1	8
10. Project officials either do not help of discriminate	4	5	11	13	0.65	4
11. Project programmes do not yield useful results	1	2	17	4	0.2	6
12. Input materials not available as and when needed	1	0	19	2	0.1	8
13. Experience of earlier failure either in own case or neighbour's case	1	0	19	2	0.1	8
14. Personal incompetence	0	0	20	0	0	9

FA = Fully agree PA = Partly agree

DA = Disagree TS = Total score

MS = Mean score

of quite a good number of respondents do not allow them to participate that involves some investment. This is not only a case in these project villages but also a general case of the state where majority of the people live below the poverty line. Further most of the economists criticize out modern technology to be capital-intensive in nature. The small and marginal farmers including agricultural labours are therefore deprived of using such technology. The credit institutions also do not maintain an infrastructure to come to their rescue. Such circumstances naturally compel a good section of the population, not to participate in the development programme. It is however encouraging that the non-participants including their family members have necessary experience, mind to change and faith in technology.

The extent of people's participation in O.R.P. has been graphically presented in Fig. III .

BEHAVIOURAL CHANGES DUE TO OPERATIONAL RESEARCH PROJECT :

Operational Research Project has brought about some changes during the last few years. The material aspect of change are usually reported from time to time. But the non-material aspect, behavioural change has not been assessed. It is agreed upon that human resource development should be given priority over other resources. It was therefore decided to assess the behavioural change- knowledge, skill and attitude- of the beneficiaries as affected by O.R.P. Information on the level of knowledge

or skill before the functioning of the project and the present level were collected in a three point ranking scale. Both the mean scores and their differences were computed.

Data on the gain in knowledge on some technology advocated by the project personnel due to O.R.P. are presented in Table 4.11

The data in Table 4.11 indicate that there has been maximum gain in knowledge on high yielding paddy cultivation followed by fertilizer application and plant protection measures. Very little change in knowledge on items like duckery, goatery, cropping pattern, poultry farming and dairying are noticed.

The preference of the respondents for different programme items of Operation Research Project has been discussed later. The relative importance of High Yielding Paddy and groundnut cultivation is found more than other items. Because of such preference in favour of these two and allied technology, the farmers perhaps, have tried and become successful in acquiring more knowledge in these items than in others. Wheat cultivation in the area is seen loosing importance for which the area under the crop is gradually decreasing as is seen from the annual reports. Those farmers who were growing wheat earlier but not now, have reported to have fogotten many technical aspects. Gain in

Table 4.11

Change in knowledge about some technology

Items	Knowledge before the project					Present knowledge					D	Rank correlation		
	K.W	K.S	D.K	M. S.	Rank	K.W	K.S	D.K	M.S	Rank		d	d^2	R
1. High Yielding paddy cultivation	1	31	48	0.41	1	35	45	0	1.43	1	1.02	0	0	
2. Groundnut cultivation	0	22	58	0.27	2	13	47	20	0.91	4	0.64	-2	4	
3. Wheat cultivation	0	6	74	0.75	6	4	30	46	0.47	6	-0.28	0	0	
4. Cropping pattern	0	3	77	0.37	9	3	32	45	0.47	6	0.10	3	9	
5. Fertilizer application	0	9	71	0.11	5	9	68	3	1.07	2	0.96	3	9	
6. Plant protection measures	0	11	69	0.13	3	6	65	9	0.96	3	0.83	0	0	+0.784
7. Water management	0	10	70	0.12	4	3	50	27	0.70	5	0.58	-1	1	't' = 3.94 **
8. Implements and tools	0	5	75	0.06	7	1	31	48	0.41	7	0.35	0	0	
9. Poultry farming	0	5	75	0.06	7	1	12	67	0.17	11	0.11	-4	16	
10. Dairying	0	9	71	0.11	5	3	16	61	0.27	9	0.16	-4	16	
11. Pisciculture	0	2	78	0.02	9	7	11	62	0.31	8	0.29	1	1	
12. Duckery, Goatery etc.	0	3	77	0.03	8	1	8	71	0.12	10	0.09	-2	4	

K.W = Know well K.S = Know some D.K = Do not know

M.S = Mean score D = Difference in mean score of each item

d = Difference in rank of each item R = Rank correlation value

** Significant at 1% level

knowledge on items like poultry, dairying, duckery etc. is found to be low, perhaps due to low preference attached in their favour.

Besides the mean score rankng, the ranks were subjected to rank co-rrelation and 't' test to know the consistency and cohesion in expression of knowledge level in both the stages by the respondents. The calculated 't' value indicates significant relationship, leading thereby to conclude that, even though the respondents are different in all respects, they are more or less unanimous with respect to their knowledge level in certain programme items.

Data on the change in the level of skill in the same technology were assessed in the similar manner and the data are given in Table 4.12.

Change in skill is found to follow the same pattern of change in knowledge on different technology, except in case of wheat cultivation. Learning by doing has been established as the best way of learning. Those farmers who were growing wheat earlier, have not forgotten the skill and technique of wheat production, but, perhaps, have forgotten to some extent, other informations associated with it. As such, when the data on change in knowledge on wheat production show a negative value, the data on change in skill do not indicate such a decrease.

The rank co-rrelation 't' value as calculated , shows the same significant relationship as before.

Table 4.12

Change in skill in some technology. n = 80

Items	Skill before the project W.S	S.S	N.S	M.S	Rank	Present skill W.S	S.S	N.S	M.S.	Rank	D	Rank co-relation d	d^2	R
1. High Yielding paddy cultivation	0	21	59	0.26	1	15	54	11	1.05	1	0.79	0	0	
2. Groundnut cultivation	0	10	70	0.12	2	3	51	26	0.71	4	0.69	-2	4	
3. Wheat cultivation	0	1	79	0.01	6	0	18	62	0.22	7	0.21	-1	1	
4. Cropping pattern	0	3	77	0.03	4	1	27	52	0.36	5	0.33	-1	1	
5. Fertilizer application	0	3	77	0.03	4	3	60	17	0.82	2	0.79	2	4	
6. Plant protection measures	0	4	76	0.05	3	2	55	23	0.73	3	0.68	0	0	+ 0.639
7. Water management	0	2	78	0.02	5	1	27	52	0.36	5	0.34	0.	0	
8. Implements and tools	0	2	78	0.02	5	1	20	59	0.27	6	0.25	-1	1	't'=3.26 **
9. Poultry farming	0	2	78	0.02	5	0	13	67	0.16	10	0.14	-5	25	
10. Dairying	0	2	78	0.02	5	1	12	67	0,17	9	0.15	-4	16	
11. Pisciculture	0	1	79	0.01	6	3	10	67	0.20	8	0.19	-2	4	
12. Duckery,Goatery etc.	0	2	78	0.02	5	0	7	73	0.08	11	0.06	-6	36	

W.S = Well skilled, S.S = Skilled some, N.S = Not skilled, M.S = Mean score
d = Difference in rank of the two(Before and after)
D = Difference between mean score, R = Rank co-rrelation value
** Significant at 1% level

It indicates that,though the respondents are different in many respects, they are more or less same with respect to their skill level on certain programme items.

Attitude is defined as pre-disposition to act. In bringing about technological changes, change in attitude needsto be effected first. With a favourable change in attitude, slowly but steadily other changes would set in. The attitude of the participants and any change in it due to O.R.P. was studied in the same manner as in case of change in knowledge, and skill. Data on attitudinal change are presented in Table 4.13.

The data in Table 4.13 indicate that,attitudinal change is more than the change in knowledge and skill. Further, such change is more conspicuous in case of technology relating to animal husbandry items. It has already been discussed that the existing situation-socially and economically- is not favourable for those items to be widely adopted by the respondents. The initial poor attitude in favour of those items has greatly been changed during the functioning of O.R.P. Perhaps, the people have been greatly convinced of the usefulness of these technologies. Due to the superstitious beliefs, initial investment requirements,risk and other associated factors, the respondents have not adopted or perhaps, are not yet ready to adopt the same. This has led them not to bother to collect more informations or to acquire more skill on these technologies. But the extent

Table 4.13
Change in attitude about some technology n = 30

Items	Attitude before the project		Present attitude		D	R
	M.S	Rank	M.S	Rank		
1. High Yielding Paddy cultivation helps in increasing production and income	0.86	7	1.66	6	0.80	+ 0.819
2. Groundnut cultivation is an unnecessary botheration as it does not yield financial benefit	1.46	3	1.81	3	0.36	
3. Wheat cultivation is a good practice not only to be used as a food but also a source of getting some income.	0.73	10	1.63	7	0.90	
4. Traditional cropping and improved cropping patterns are normally equally helpful.	1.27	5	1.68	5	0.41	
5. Use of fertilizers in proper manner and form normally improved the prdocution and income of a farmer.	0.80	8	1.61	8	0.81	
6. Adopting plant protection measures is dangerous in many ways and need to be discouraged for use by the farmers.	1.50	2	1.90	1	0.40	't' = 4.41
7. Controlled and regulated irrigation not only helps in better crop growth but also in commanding more area compared to its indiscriminate use.	1.20	6	1.80	4	0.60	
8. Improved implements & tools do save labour and also are convenient to work with.	0.46	11	1.33	11	0.87	**
9. Poultry farming be discouraged and confined to lower caste hindu and non-hindu communities.	1.66	1	1.82	2	0.16	
10. Dairying as a supplementary profession to farming should be encouraged. This also helps in regular flow of income.	0.78	9	1.51	9	0.73	
11. Pisciculture is quite profitable compared with other enterprises.	0.22	12	1.27	12	1.05	
12. Goatery & Duckery etc. should be discouraged and instead preference should be given to agricultural practices.	0.37	4	1.47	10	1.10	

M.S = Mean score , D = Difference in mean score of each item , R = Rank co-rrelation

** Significant at 1% level

of change in attitude indicates that, these technologies will gain momentum in near future. The concept of conservation, utilization and re-cycling of energy , by gearing up together, agriculture and animal husbandery programmes , has perhaps been understood by the respondents. Such a programme would also ensure more employment for the people and help increase the net returns to a considerable extent. These points might have influenced for such attitudinal change. Because of a higher initial attitude, the extent of change is not much noticed in case of crop production items. Greater change in attitude compared to change in knowledge and skill has also been reported by Sahoo and Behera (1973) and Sahoo and Barik (1974).

The rank co-rrelation 't' value indicates significant relationship between programme items, concluding thereby that, the attitude level of different respondents on some programme items in both the stages remains substantially same.

The present level of knowledge, skill and attitude as influenced by some of the socio-economic characteristics of the respondents was studied with the help of two-way tables (Appendix-II). Statistical analysis of the data indicate that, there is no significant relationship between the socio-economic characteristics and present level of knowledge, skill and attitude. However, there is some trend noticed as is graphically presented in Figs.V, VI and VII. It is evident from the figures that, improvement in knowledge, skill and attitude

continue to rise to certain age level of the farmers after which it declines. In other words,the middle aged respondents are more prone to such changes, compared to their young or old counterparts. The trend of positive relationship (with slight exception) between education and per capita income influencing knowledge, skill and attitude is quite clear.

Middle age and change proneness to go together has been found out by past workers. Although change in young age is sometimes found to be more than in other age groups, yet the stability of change is rather always more in case of middle age. Factors like education and income to maintain a positive relationship with change in knowledge, skill and attitude are in confirmity with the findings of Sahoo and Behera (1973) and Sahoo and Barik (1974).

Behavioural change in neighbouring villages :

40 persons from six neighbouring villages, adjacent to the cluster were interviewed to assess the impact of O.R.P., if any, on these villages. It was found out that 16 persons or 40% are not aware of the project. Again, out of the rest 24, 16 are found to participate in some of the project programmes being motivated by their fellow farmers of the cluster villages. In other words, 40% of the people in the neighbouring villages have been found to be motivated indirectly by the project.

Table 4.14

Behavioural changes in the neighbouring villages n = 16

Items	Knowledge before project	Present knowledge	D	Skill before project	Present skill	D	Attitude before project	Present attitude	D
	M.S	M.S		M.S	M.S		M.S	M.S	
1. High Yielding Paddy cultivation	0.69	0.87	0.18	0.56	0.69	0.13	2 1.43	1.75	0.32
2. Groundnut cultivation	0.18	0.18	0	0.12	0.12	0	1.43	1.56	0.13
3. Wheat cultivation	0.31	0.31	0	0.18	0.18	0	0.93	1.25	0.32
4. Cropping pattern	0.06	0.12	0.06	0.06	0.06	0	0.56	0.69	0.13
5. Fertilizer application	0.43	0.68	0.25	0.37	0.50	0.13	1.06	1.25	0.19
6. Plant protection measures	0.37	0.56	0.29	0.25	0.50	0.25	1.18	1.56	0.38
7. Water management	0.06	0.06	0	0	0.06	0.06	1.0	1.12	0.12
8. Implements & tools	0.25	0.43	0.18	0.18	0.25	0.07	0.75	1.06	0.31
9. Poultry farming	0.18	0.18	0	0.06	0.06	0	1.25	1.56	0.31
10. Dairying	0.06	0.06	0	0.06	0.06	0	1.06	1.43	0.37
11. Pisciculture	0.02	0.12	0.12	0	0.06	0.06	0.87	1.25	0.28
12. Duckery, Goatery etc.	0	0	0	0	0	0	1.0	1.43	0.43

M.S = Mean score , D = Difference in mean score

The extent of behavioural change of the 16 participants, in terms of knowledge, skill and attitude on O.R.P. programmes, were assessed and the data can be seen from Table 4.14.

The pre-paged data indicate a similar trend of results as is seen in the cluster villages. That is, change in attitude is found to be more than change in knowledge and skill. Change in skill is found to be the lowest. Further, the high yielding paddy and the associated items, namely fertilizer application, plant protection, water management and implements are found to be better accepted than other items. Maximum change is noticed in plant protection. In the package of practices for high yielding paddy cultivation, plant protection is considered to be more complex in nature. Superficial knowledge or skill may bring harm, instead of doing good to a person. Due to this, perhaps, the farmers have carefully learnt the technique for which such high change is noticed in this item. Change in attitude in all the programme items seems to be a good indication and may lead to successful implementation of the programmes in years to come. Sahoo and Behera (1973) studying the impact of National Demonstration Programme, both in the demonstration and neighbouring villages reported that,only 42% of the farmers in the neighbouring villages were aware of the programme. The present result of 60% being aware and 40% being participants in the neighbouring villages of the project is quite high and signifies the worth of the project.

Attitude of the participants towards O.R.P. :

The attitude of the participants in the project villages towards the project, its programmes and its personnel was assessed in 3-point ranking scale as can be seen from the data in Table 4.15.

The mean score on different statements listed in Table 4.15 indicate that, there is a favourable attitude to a substantial degree, maintained by the people towards the project. The programme items are considered profitable and the project has contributed to the economic achievement of the people including social development of the village as a whole are found to top in ranking. The project personnel are also quite helpful and available as and when necessary and provide the needed technology.

Although slight, the personnel are found not very helpful in non-project activities; the programmes fail to cover all the people in the village; and the project lacks in the development and utilization of local resources.

It has been stated that, 80 out of 100 respondents interviewed, are found participating in the project activities. This indicates that, perhaps, the programme items are not enough to cover all the people. However, during the short span of 5 years of its working, covering 80% of the population is quite encouraging result. Since the programme items are too many for too weak a staff to handle, the project personnel particularly the Field

Table 4.15

Attitude of the participant respondents towards O.R.P

N = 80

Items	Agree	U.D.	D.A.	T.S.	M.S.	Rank
1. Project personnel						
a. Friendly in their dealings	65	6	9	136	1.70	4
b. Helpful	68	4	8	140	1.75	1
c. Available as and when needed	66	6	8	138	1.72	2
d. Provide technical guidance as necessary	64	9	7	137	1.71	3
e. Even help in non-project activities	45	25	10	115	143	5
2. Project programmes						
a. Fulfil the needs and interest of the people	63	13	4	139	1.73	2
b. are profitable to adopt	73	6	1	152	1.90	1
c. tuned to the situational demands	50	23	7	123	1.53	3
d. covers nearly all the people in the village	38	28	14	104	1.30	5
e. are varied to suit to different vocations	48	23	9	119	1.48	4
3.						
a. Project helps in development and utilisation of local resources	61	11	8	133	1.66	5
b. It has helped in social development of the village	66	9	5	141	1.76	2
c. It has provided informal education	63	10	7	136	1.70	4
d. It has contributed in economic achievement of the people	67	8	5	142	1.77	1
e. The project has been largely responsible for changing and reshaping the village situation towards its all round development	64	9	7	137	1.71	3

U.D = Un decided, D.A = Disagree, T.S.= Total score, MS= Meanscore

Assistant find it hard to engage themselves in any non-project activity. The respondents are rather justified in identifying and pointing out such weakness in personnel. It is a fact that, people normally hesitate to give a correct picture of their resources. Naturally the programmes are to be framed on the basis of the resource informations, provided by the local people. Obviously such a plan would not help in full utilization of the available resources.

On the whole, O.R.P. is very well accepted by the people in terms of their participation and otherwise.

CREDIBILITY OF OPERATIONAL RESEARCH PROJECT AS A SOURCE OF FARM INFORMATION

The respondents were asked to record the different sources of information they use, in solving their farm problems. They were also asked to name three sources in order of importance (credible source). The Ist, 2nd and 3rd preferences were given a score value of 3, 2 and 1 respectively for the purpose of their relative ranking. 88 respondents answered to this and the data collected from them are presented in Table 4.16

Data in Table 4.16 reveal that, maximum number of respondents are found to seek farm informations from the O.R.P. personnel. Friends and relatives and neighbour farmers are next in order followed by the personnel of the State Department of Agriculture for the same. Other sources of information are found to be used to a negligible extent.

Table 4.16

Sources of farm information and their credibility

n = 88

Sources	Frequency	1st pref	2nd pref	3rd pref	T.S	M.S.	Rank
a. Friends & relatives	60	6	21	31	91	1.03	3
b. Neighbour farmers	55	1	14	33	64	0.72	4
c. Leading farmers	13	2	0	7	13	0.14	6
d. Local leaders	0	0	0	0	0	0	-
e. Block staff	3	0	0	0	0	0	-
f. O.R.P./Univ.staff	72	69	12	3	234	2.65	1
g. Commercial agents	0	0	0	0	0	0	-
h. Agril.Deptt. personnel	50	10	32	5	99	1.12	2
i. Radio	22	0	9	9	27	0.30	5
j. Newspaper	1	0	0	0	0	0	-

With regard to the credibility of the above sources, O.R.P. personnel are found to rank first followed by the personnel of the State Department of Agriculture. Friends and relatives and neighbour farmers are next in order.

The O.R.P. Field Assistant is having his head-quarters in the area and is regularly visiting different farmers in all the villages under the cluster. The villages being close by, the farmers also easily visit and find the Field Assistant as and when they need. The specialists and the expert staff of the University also make regular visits

to the area. The University staff also are competent in latest technology as well as providing solution to farm problems varied in nature. They are also superior to the staff of the Agriculture Department of the State. The information they provided on several occasions must have helped the farmers in some way or other. Undoubtedly the O.R.P. personnel are found not only most utilized source but also the most credible source of farm informations.The friends and relatives and neighbour farmers are normally utilized for inter-personal communication purpose including informations on farm problems. Although they are frequently consulted, due to their physical proximity and availability but perhaps, are less relied upon due to lack of technical competency as compared with State Agriculture Department personnel. The local V.A.W of the Agriculture Department and also the A.E.O have to cover a wider area as compared the Field Assistant of O.R.P. Naturally the intensity of their visit and availability is comparatively less than that of the O.R.P. Field Assistants. They therefore, secure a low position in the list of sources but because of their technical competency, they are found to secure 2nd position as credible source for farm informations. Mass media sources like radio, newspaper etc. are much less utilized and are found to have poor credibility. Several past workers like Lakshmana and Satyanarayan (1967), Sharma and Leagans (1969) and Sahoo and Behera (1978) have reported credibility in favour of personal localite sources.

RELATIVE IMPORTANCE OF OPERATIONAL RESEARCH PROJECT PROGRAMMES.

The list of different programme items undertaken by the project personnel was prepared and their relative importance was studied, with the help of a rank order scale. The data are presented in Table 4.17

Table 4.17

Relative importance of different O.R.P. programmes

N = 80

Items	f	1st pref	2nd pref	3rd pref	Total score	Mean score	Rank
a. H.Y.V. paddy cultivation	80	79	1	0	239	2.98	1
b. Groundnut cultigation	62	0	52	4	108	1.35	2
c. Wheat cultivation	21	0	3	11	17	0.21	5
d. Fertilizer application	73	0	17	28	62	0.77	3
e. Plant protection measures	68	0	1	16	18	0.22	4
f. Water management	28	0	0	0	0	0	-
g. Soil testing	2	0	0	0	0	0	-
h. Agril. implements and tools	14	0	1	0	2	0.02	9
i. Poultry keeping	10	0	1	4	6	0.07	8
j. Dairying	13	0	2	7	11	0.13	7
k. Pisciculture	12	1	2	9	13	0.16	6
l. Goat keeping	1	0	0	0	0	0	-
m. Duckery	1	0	0	1	1	0.01	10
n. Youth and women activities	0	0	0	0	0	0	-
o. Vegetable cultivation	40	0	0	0	0	0	-

It is noticed that all the 80 participating respondents have taken up High Yielding Paddy cultivation, Fertilizer application, Plant protection measures and groundnut cultivation are next in order with regard to adoption. However, a slight change is noticed with regard to the preference of the participants for different programme items. High Yielding Paddy cultivation ranks Ist both in adoption and preference. Groundnut cultivation is prefered next, although it secures 4th place with regard to adoption. Fertilizer application and plant protection programmes are preferred next to groundnut cultivation. Water management programme, which is being taken up by some 28 participants, is not given any preference rating.

Among the programmes allied to farming, pisciculture and dairying have been preferred by few respondents only. Vegetable cultivation and youth and women programmes have not received any preference rating.

The project villages are commanded by the Delta Irrigation Project and irrigation is available through out the year. All the farmers in the state are experienced in paddy cultivation. The high yield per unit of land obtained from High Yielding Varieties has probably impressed the local farmers for which all the participants are found to adopt the same. Rice being the staple food, the village people have got the scope to fulfil the local demands for the same. Therefore, natural that, high yielding paddy cultivation has ranked first in preference rating. Groundnut needs comparatively low investment and also is less risky. The success in production and net returns

from this crop not only in the project villages but also in the adjoining villages has greatly influenced the local farmers in its favour. The University Extension service introduced groundnut cultivation some years back in the adjoining area and in few years the crop was a adopted by nearly all the farmers. These reasons must have been responsible for such preference by the respondents. Fertilizer application and plant protection measures are important features not only for high yielding paddy but also for other crops for higher production and net returns from farming. These two items are rather more than essential. Obviously, these items are found to receive such high preference rating. Perhaps due to high investment and high risk involved in vegetable cultivation and a poor marketing facility, it has been found not to receive any preference. Pisciculture and dairying need land and more capital for initial investment. Since most people do not have sound economic status, these items have attracted the attention of only a few.

Adverse attitude on some programme items :

Data were collected on the adverse attitude, if any, on the programme items carried out by the project as can be seen from the table 4.18.

Out of the 15 programme items undertaken by the project (presented in the Table 4.17), 9 items have not received any adverse comments. Six items receiving adverse comments are shown in Table 4.18.

Table 4.18

Adverse comments on programme items

n = 80

Items	Not significant	Not related to the problems	Not related to benefits of majority	Beneficial for a selected group	Detrimental to the community
Soil testing	2	-	1	-	-
Poultry keeping	-	-	-	-	8
Pisciculture	-	-	66	72	-
Goat keeping	47	1	-	-	-
Duckery	19	-	-	-	18
Youth and women activities	8	50	-	-	-

The data clearly indicate that, items on crops and soils except soil testing have no adverse effects on the community. It is noticed that, both duckery and poultry keeping are considered to have detrimental effect on the community life. The villages are predominantly inhabited by Hindus who do not encourage such a profession. This religious taboo has perhaps, led to such adverse attitude of the respondents towards poultry keeping and duckery. It has already been stated that, pisciculture needs both land and financial resources. Such resourceful individuals are quite few in number. Obviously,this programme is beneficial to a selected number of individuals and has no relevance to the majority. Goat keeping is not considered a significant item. Except in case of bullocks, stall feeding of domestic animals is not a general practice, even in the rural areas of the entire state. There are also certain

superstitious beliefs against goat keeping for which this programme is not considered of any importance. Extension Education aims at helping people for a better living and home making. Better living can be achieved through higher production and subsequent higher income and it seems, the people have been made aware of achieving the same by improving the production. The non-material aspect of richer and fuller life through a better home that can be achieved through other family members, particularly women, is perhaps neglected in the present moment. As such, the respondents are justified to consider youth and women programme to be not related to the present problems.

CONSTRAINTS IN OPERATIONAL RESEARCH PROJECT

The weaknesses and short comings, if any, in the present functioning of Opernational Research Project was studied. Data on the constraints relating to the structureg function and other aspects of O.R.P. are presented in Table 4.19

Table 4.19 reveals that, adequacy of the field staff is found to be number one constraint. In other words, the field staff are not adequate in number. In fact, there is only one Field Assistant posted in the cluster. He has to look after all the programme items in all the four villages, by contacting several people individually. He has to maintain his office, prepare periodical reports and returns and make official visits outside of the locality. As such, his contact with the people

Table 4.19

Constraints

n = 100

Items	F.A.	P.A.	D.A.	M.S	Rank
a.ORP is primarily concerned with farmers and farm probelems and ignores other vocations	14	22	64	1.50	6
b. ORP takes into account current needs & problems of the people	59	23	18	1.41	10
c.ORP programmes are planned in consultation with the village people & their representatives	64	16	20	1.44	9
d.ORP seeks the cooperation of the villagers for the execution of its programme in time	67	18	15	1.52	5
e. ORP has taken care to publicise its objectives among the villagers	82	17	1	1.81	2
f.ORP personnel do not take much interest in the development of the people	12	13	75	1.63	3
g. ORP personnel					
(i) are adequate in number	1	3	96	1.95	1
(ii) provide timely technical guidance	59	28	13	1.46	8
(iii)make frequent contact at regular intervals	36	47	17	1.19	13
(iv) usually available for consultation	61	26	13	1.48	7
(v) do not have rapport/ co-ordination with other allied agencies	11	17	72	1.61	4
(vi) arrange for specialists service as and when needed	36	41	23	1.13	14
(vii) usually work with few selected individuals of the village	24	24	52	1.28	12
(viii) are also helpful on non project activities	50	33	17	1.33	11
h. Programme activities are varied,suitable to different vocations.	50	33	17	1.33	11

F.A = Fully agree, P.A = Partially agree, D.A = Dis agree

M.S = Mean score

might not be considered intensive. The beneficiaries also may not be meeting the Field Assistant during their calls on him. Under such circumstances, it is logical for them to consider the inadequacy of the field staff as the major constraint. The philosophy and objectives of the project are not properly publicised and also the non-material aspect of human resource development is not emphasized. Such constraints that act as a barrier for people's involvement and co-operation is not only noticed in O.R.P but also in most developmental projects. Sahoo and Barik (1974) reported similar results while studying the impact of S.F.D.A. in Orissa. These constraints, however, are not so acute as found out in other projects. Lack of co-ordination with allied agencies is equally an important constraint and also is an usual one found under Indian conditions. The politicians, administrators and technologists always stress for co-ordination between allied agencies, but in actual practice it is hardly achieved. The team spirit of work is not at all noticed. The respondents are justified to indicate lack of co-ordination as a constraint for smooth functioning of O.R.P. It is quite encouraging that, the project is not lacking in providing specialists' services and programme items suitable to different vocations, keeping regular contact with all categories of people and helping people in some non-project activities. However, it seems that, the constraints in the functioning of O.R.P. are not very acute.

WEAKNESSES AND SUGGESTIONS

The respondents specifically mentioned some of the weaknesses in the present functioning of O.R.P. They also proposed some suggestions to over-come the weaknesses. These are listed below.

Weaknesses in O.R.P.	Suggestions of the respondents	Earlier supporting reports
1. The farmers are not well aware of the objectives and programmes of ORP	1.Wide publicity through different media be made to make all the farmers aware of those.	National Commission on Agriculture(1973) Rama rao(1974) Sahoo and Barik (1974)
2. The programmes are not sufficient to cover the problems of the small farmers under the present situation.	2.Pregrammes be planned in consultation and close contact with the small farmers and/or their representatives	Subramanian(1966) Quaraishi(1972) Sinha (1972)
3.In-adequate field staff	3. More field staff be appointed.	Pandey (1972) Ramaswamy(1972)
4. Heavy work load on the present Field Assistant	4.Supporting field staff be appointed.	Tewari(1971) Sahoo and Barik (1974)
5.The field staff do not visit the farmers regularly	5.Instructions need be given to visit the farmers at regular interval	Tewari(1971) Quaraishi(1972) National Commission on Agriculture(1973)
6.All the farmers are not equally treated.	6.Impartiality be maintained	Quaraishi(1972) Tewari(1973)
7.Availability of input materials including credit is neither adequate nor timely.	7.Necessary infrastructure be developed.	

Weaknesses in O.R.P.	Suggestions of the respondants	Earlier supporting reports
8.Price instability and poor marketing facility inhibits rate of change and growth in agricultural production.		

Looking to the above list of weaknesses and suggestions thereto, it seems that the project needs a still better publicity, so as to attract the whole population. Although the people are aware of the project functioning in the locality, they seem not to know the details of its objectives. The staff engaged may put some more efforts in this regard. It is claimed that, the project has designed programmes to cover all categories of people. But as the findings reveal, the landless and other weaker section are not actually deriving any benefit. This may be due to the extreme financial incapability of the same group. Under such situation, either the programmes meant for them be re-designed or arrangements made to provide necessary facilities so as to enable them to participate in the programme. Not only in O.R.P. but in most special development projects, the weaker section is usually neglected. This is not due to the weakness in any project but largely due to the poor financial stand of the people. The credit institutions also do not extent any help to the required level due to lack of security of the people. Co-operatives may help solve this problem to a greater extent. The project may appoint a cooperative assistant to organize and run several small

co-operative societies formed by different professionals and groups. Although this is a service, but is essentially needed under the project situation.

With regard to the staff, it does not seem that, the field staff is in-adequate. In one of the studies of work and time analysis of the V.L.Ws, it was found that, one V.L.W can adequately work with 500 of farm families. Since the present Field Assistant is in a higher position, he can handle still a bigger number of farm families residing within a close proximity. His work load is perhaps, not more but is definitely diversified in nature. It is necessary that, supporting staff to render assistance in diversified programme items would greatly help the Field Assistant and enhance the effectiveness of the programmes. Those who do not get scope to participate, perhaps feel being neglected. Again those who participate in several items are obviously visited more by the staff more frequently . Obviously, the people feel being discriminated which is not a case. Non-availability of input materials and necessary capital is a problem of general nature. So is the case with regard to agricultural prices and marketing. All these weaknesses can be largely overcome by organizing and working farmers' co-operatives.

CHAPTER-V

SUMMARY AND CONCLUSION

An investigation entitled " A study on the impact of O.R.P. in bringing about changes in the farmers of Delang Block " was carried out in Chorodia cluster of the block in the Puri district or Orissa State during 1979. Basic data were collected with the help of interview schedule from hundred sample respondents of the project villages and forty from the neighbouring villages. The data were processed and statistically analysed. The salient findings of the investigation as indicated by the processed data are summarised below.

1. The composition of the people in the project villages in respect of their socio-economic characteristics are :

(i) More than half of the people are middle aged.

(ii) About 80% are either literate or educated.

(iii) Majority (89%) come from non-brahmin caste.

(iv) With regard to the size of farm 12% are landless; 50% possess land upto 1 hac. and rest more than 1 hac.

(v) Farming is the major source of income of about 70% of the population. Most of them are engaged in a secondary occupation in some form or other.

(vi) Except bullocks and bullock carts, they do not possess anything worth mentioning.

(vii) Joint families are found to be more in number than the nucleus families, which is gradually increasing. Big sized families of 6 and above are in the same proportion of joint families.

(viii) Although kutcha houses are more in number (71%) yet the number of semi-pucca and pucca houses seems to be quite encouraging and gradually increasing.

(ix) Nearly half of got membership in some rural organizations. Out of them half have a tenure of membership of more than 5 years.

(x) A little more than half are cosmopolite in nature.

(xi) Age of the respondents is negatively related with their education, cosmopoliteness and social participation.

(xii) Education maintains a positive relationship with income, size of land, social participation and cosmopoliteness of the people.

(xiii) Per capita income shows a trend of positive relationship with size of land and social participation of the people.

(xiv) Social participation and cosmopoliteness of the people maintain a positive relationship .

2. Most of the people are well aware of the Field Assistant working in the project villages, year of initiation and area of operation of the project. However, they have a poor knowledge about the meaning of O.R.P., programmes in relation to the objectives of O.R.P. and role of the supervisory and specialist staff including their expected role in the project activities.

3. (i) More than three-fourth are found participating in O.R.P. programmes and the rest are not. Almost all the participants are farmers.

(ii) Improving the level of present production and subsequent net income have been largely responsible for individuals' participation.

(iii) Landlessness and lack of investment ability are the major criteria for non participation in O.R.P programmes.

4. (i) Change in attitude due to O.R.P. is more than change in knowledge, which in turn, is better than change in skill.

(ii) There has been maximum gain in knowledge and skill on high yielding paddy cultivation followed by fertilizer application and plant protection measures. Very little change on items like duckery, goatery, cropping patter, poultry farming and dairying are noticed.

(iii) Attitudinal changes are more conspicuous in all items and particularly in animal husbandry ones.

(iv) Behavioural change in respect of knowledge, skill and attitude is influenced by age, education and per capital income. The middle aged farmers with better education and per capita income have manifested more change than the others.

(v) Although not spectacular, the impact of O.R.P. in the neighbouring villages is encouraging, particularly in respect of high yielding paddy cultivation.

(vi) In general, people maintain a favourable attitude towards O.R.P. programmes and personnel.

5. O.R.P. staff is the most credible source of farm information. Mass media sources like radio, newspaper etc. are much less utilized and have poor credibility.

6. (i) All the participants have taken up programmes like high yielding paddy cultivation, fertilizer application and plant protection measures. High yielding paddy cultivation ranks first both with respect to adoption and preference.

(ii) Most of the programme items on crops and soils have no adverse effects on the community. Both duckery and poultry are considered detrimental to the community while pisciculture is felt to be beneficial to a selected group of the community.

7. (i) The constraints in the functioning of the project are not to any damaging extent. However, lack of publicity; lack of supporting field staff; lack of programme items suitable to the weaker section of the community and lack of co-ordination between different agencies working in the locality are some of the constraints worth mentioning.

(ii) To over come the constraints, it is suggested that :

(a) Measures be taken to publicize the objectives and working of O.R.P. in the area.

(b) Supporting field staff be appointed.

(c) Programme items be re-designed to suit to the needs of the weaker section of the community.

(d) Proper co-ordination of all the agencies working in the area be devised to ensure team spirit of work; and

(e) farmers' co-operatives be organized and run to help solve manifold problems inherent with the locality and with the prople.

CONCLUSION

Special development projects are planned and executed to cater the needs of some locality or a category of people of to solve some situational problems. O.R.P. is rather an experimental type of special project being executed on pilot basis in several parts of the country. This comprehensive project for the all round development of the rural people has been found to yield encouraging results under Orissa condition. However, the benefit cost ratio need to be assessed since the same has not been included in the present study. Several special projects have been worked out in the past and some are still continuing at present. But the impact of O.R.P. has been found to be much superior to any other. It is necessary that, more number of O.R.P. units be established in the country to enhance the pace of rural development— the slogan of the day. To economise the cost on such projects, each team of headquarters staff (the O.R.O. and S.M.Ss) may undertake four of five clusters and this perhaps, will ensure their full engagement. In each cluster that can be conveniently handled by the Field Assistant. Some supporting staff from other discipline like animal husbandry should be appointed to strengthen the available expertise at the grass root level.

It is not possible that, Government would extend necessary assistance in all aspects unless the people

rise to the occasion and shoulder some of the responsibilities. Individually they may not be able to do so, but through co-operatives they can. Since each cluster has people diversified in many aspects, several co-operatives be organized and run by the co-operative Department in the beginning. Once the people acquire necessary competence, then the co-operatives may be transferred to their control. A strong coordinationof all the allied agencies need be ensured for smooth functioning of the project and to avoid lapses and duplications. Further,the group approach instead of individual approach be followed not only to accelerate the progress, but also to minimise the feeling of discrimination etc. Several working methods need be devised to ensure full co-operation, participation and involvement of local people, particularly the weaker section. With these improvements and modification in the working of O.R.P., it is expected that , the project will yield results more than desirable.

The present study based on one year's observation in one cluster needs repetition for confirmation of the results.

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APPENDICES

INTERVIEW SCHEDULE

Name of the respondent _____

Respondent No. _____ Village _____

Panchayat _____ Block _____ District _____

Name of the Interviewer _____

Date _____

PART - I

1. SOCIO-ECONOMIC CHARACTERISTICS :

1.1 Age _____

1.2. Education : (a) Illiterate _____
(b) Just literate _____
(c) Primary _____
(d) Middle English _____
(e) High school _____
(f) College & University _____
including P.M.training

1.3 Caste : (a) Brahmin _____
(b) Non brahmin _____
(c) S.C./S.T. _____
(d) Non Hindu _____

1.4 (a) Size of land under farming _____
(b) Average total annual income _____
(c) Average total annual income from farming _____
(d) Average per capita income _____

1.5 Sources of income : (a) farming _____
(b) Business _____
(c) Employment _____
(d) Prestige occupation _____
(e) Wage earning _____
(f) Artisans, Priests etc. _____
(g) Any other(specify) _____
(h) Major sources of income _____

1.6 Family type : (a) Joint _____
(b) Single _____

1.7 Family size : (a) Upto 5 _____
(b) 6 and above(mention No.) _____

1.8.1 House type : (a) Kutcha _____
(b) Semi pucca _____
(c) Pucca _____

1.8.2 Number of living rooms _____

1.9 Material possession : (a) Bullock cart _____
(b) Bi-cycle _____
(c) Radio _____
(d) Automobile _____
(e) Improved agril. implements ___
(f) Bullocks _____
(g) Tractor/power tiller/ pump/power sprayer _____
(h) Any other(specify) _____

1.10.1 Social participation : (a) Membership in one organization _____
(b) Membership in two or more organizations ____

1.10.2 Tenure of membership : (a) Upto 5 years _____
(b) More than 5 years _____

1.11 Knowledge of people and places outside the locality _____

1.11.1 People : (a) Agril. University staff _____
(b) V.L.W. _____
(c) Other block/Deptt. staff _____
(d) Local dealers of Agril. inputs _____
(e) F.C.I/Bank officials _____

1.11.2 Places : (a) Block office _____
(b) District office ____
(c) State Capital _____
(d) Outside the district ____
(e) Outside the State _____

PART - II

2. Knowledge about the objectives and activities of O.R.P.

Sl.No.	Items	Know well	Know some	Don't Know
2.1	Meaning of O.R.P.	—	—	—
2.2	Year of the initiation of the programme	—	—	—
2.3	Objectives of O.R.P.	—	—	—
2.4	Area of operation	—	—	—
2.5	O.R.P. Field Asst. working in the locality	—	—	—
2.6	O.R.P. Executive staff	—	—	—
2.7	Different programme items of O.R.P. at present	—	—	—

Sl.No.	Items	Know well	Know some	Don't know
2.8	Expected role of the farmers in O.R.P.	—	—	—
2.9	Expected role supervisory and specialists staff	—	—	—
2.10	Relation between the programme and objectives of O.R.P.	—	—	—
2.11	Extent of benefits derived from O.R.P. programme			
	(a) Self	—	—	—
	(b) Villagers as a whole	—	—	—
	(c) Specially small and marginal farmers	—	—	—
	(d) Neighbouring villages	—	—	—
	(e) Landless labourers	—	—	—
	(f) Non-farmers	—	—	—
	(g) Youth and Women	—	—	—

PART - III

3. Extent of people's participation	All	Most	Some	None
3.1.1 To what extent do you feel that people in your village are well aware of the project	—	—	—	—
3.1.2 To what extent do you feel that your village people taking part in different programme items of the project	—	—	—	—
3.1.3 To what extent you are participating in different programme items of the project	All Prog.	Most Prog.	Some Prog.	No Prog.
	—	—	—	—
3.2 The village people participate in O.R.P. programmes because				
	P.A.	P.A.	D.A.	
3.2.1 They understand the meaning and objectives of the project and consider the same to be beneficial	—	—	—	
3.2.2 The programme items take in to account the needs and interests of the people	—	—	—	

	FA	PA	DA
3.2.3 The project programmes help in development and utilization of available local resources	—	—	—
3.2.4 The project personnel need the people to be involved	—	—	—
3.2.5 The local leaders influence and persuade to do so.	—	—	—
3.2.6 The people have developed a self inspired keenness to be involved in the development projects.	—	—	—
3.2.7 To fulfil the needs by solving			
(a) Indivual problems	—	—	—
(b) Community problems	—	—	—
3.2.8 There is a growing demand by them for new technology which the new project can provide	—	—	—
3.2.9 The project programmes do help in improving the production level	—	—	—
3.2.10 The project programmes do help in improving the income level both from farm and non-farm enterprises (Vocations)	—	—	—

3.3. Please reply the followings .

3.3.1 Since how long you have been partici pating in the project programme ?

(a) From the begining of the project ____
(b) After some period _____
(c) Recently(within 2 years) _____

3.3.2 If you are not participating in any of the programmes, do you like to participate in the near future ? Yes _____ No_____

3.4 Please state the reasons of your participation of your interest to participate in near future.

	FA	PA	DA
3.4.1 Exchanging the level of production	—	—	—
3.4.2 Exchanging net income	—	—	—
3.4.3 Exchanging social status	—	—	—
3.4.4 To get free input materials	—	—	—
3.4.5 To get subsidy or subsidised equipments and materials	—	—	—

	FA	PA	DA
3.4.6 To get technical guidance from the project staff	—	—	—
3.4.7 To utilize the services of the project officials for non-project purposes or fulfil the personal motives	—	—	—
3.4.8 To satisfy the ego of contact with project and other officials	—	—	—
3.4.9 To further develop the leadership ability	—	—	—
3.4.10 To manifest one's own talents	—	—	—
3.4.11 Motivated by the family members neighbours, relatives etc.	—	—	—
3.4.12 Any other (specify)	—	—	—

3.5 Please state the reasons of your non-participation

	FA	PA	DA
3.5.1 No mind	—	—	—
3.5.2 No land and other resources	—	—	—
3.5.3 No faith on new technology	—	—	—
3.5.4 Programme items not suitable to him	—	—	—
3.5.5 Lack of investing ability	—	—	—
3.5.6 Unable to bear the risk of loosing	—	—	—
3.5.7 Family members disuade	—	—	—
3.5.8 Hesitation to give up the traditional ways	—	—	—
3.5.9 Still evaluating the utility or the benefits of the programme	—	—	—
3.5.10 Project officials either do not help or discriminate	—	—	—
3.5.11 Project programmes do not yield useful results	—	—	—
3.5.12 Input materials not available as and when needed	—	—	—
3.5.13 Experience of earlier failure either in own case or neighbour's case	—	—	—
3.5.14 Personal incompetence	—	—	—
3.5.15 Any other (specify)	—	—	—

PART - IV

Change in knowledge, skill and attitude :

4.1 Do you think that there has been change in the level of your knowledge in the following technology because of your participation or functioning of the project.

	Before the project			After the project		
	K.W	K.S.	D.K.	K.W	K.S	D.K
4.1.1 High Yielding paddy cultivation	—	—	—	—	—	—
4.1.2 Groundnut cultivation	—	—	—	—	—	—
4.1.3 Wheat cultivation	—	—	—	—	—	—
4.1.4 Cropping pattern	—	—	—	—	—	—
4.1.5 Fertilizer application	—	—	—	—	—	—
4.1.6 Plant protection measure	—	—	—	—	—	—
4.1.7 Water management	—	—	—	—	—	—
4.1.8 Impements & tools	—	—	—	—	—	—
4.1.9 Poultry farming	—	—	—	—	—	—
4.1.10 Dairying	—	—	—	—	—	—
4.1.11 Pisciculture	—	—	—	—	—	—
4.1.12 Duckey,goatery etc.	—	—	—	—	—	—

4.2 There is some competency and proficiency required for doing the followings in scientific lines.Do you think that there has been change in the level of your skill (that you can do independently without any external guidance of any form) in the following technoligies ?

	Before			After		
	K.W	K.S	D.K	K.W	K.S	D.K
4.2.1 High yielding paddy cultivation	—	—	—	—	—	—
4.2.2 Groundnut cultivation	—	—	—	—	—	—
4.2.3 Wheat cultivation	—	—	—	—	—	—
4.2.4 Cropping pattern	—	—	—	—	—	—
4.2.5 Fertilizer application	—	—	—	—	—	—
4.2.6 Plant protection measures	—	—	—	—	—	—
4.2.7 Water management	—	—	—	—	—	—
4.2.8 Implements & tools	—	—	—	—	—	—
4.2.9 Poultry farming	—	—	—	—	—	—
4.2.10 Dairying	—	—	—	—	—	—
4.2.11 Pisciculture	—	—	—	—	—	—
4.2.12 Duckery, goatery etc.	—	—	—	—	—	—

4.3 Please record your extent of change in your feelings and opinions about the followings.

	Before			After		
	F.A	P.A	D.A	F.A	P.A	D.A
4.3.1 High yielding paddy cultivation helps in increased production and income	—	—	—	—	—	—

	Before			After		
	F.A	P.A	D.A	F.A.	P.A.	D.A.
4.3.2 Groundnut cultivation is an unnecessary botheration as it does not yeild financial benefit	—	—	—	—	—	—
4.3.3 Wheat cultivation is a good practice not only to be used as a food but also a source of getting some income	—	—	—	—	—	—
4.3.4 Traditional cropping and improved cropping patterns are normally equally help ful	—	—	—	—	—	—
4.3.5 Use of fertilizers in proper manner and form normally improve the production and income of a farmer	—	—	—	—	—	—
4.3.6 Adopting plant protection measures is dangerous in many ways and need to be discouraged for use by the farmers	—	—	—	—	—	—
4.3.7 Controlled and regulated irrigation not only helps in better crop growth but also in commanding more area compared to its indiscriminate use	—	—	—	—	—	—
4.3.8 Improved implements and tools do save labour and also are convenient to work with	—	—	—	—	—	—
4.3.9 Poultry farming be discouraged and confined to lower caste Hindu and non-hindu communities	—	—	—	—	—	—
4.3.10 Dairying as a supplementary profession to farming should be encouraged.This also helps in regular flow of income	—	—	—	—	—	—
4.3.11 Pisciculture is quite profitable compared with other local enterpises	—	—	—	—	—	—
4.3.12 Goatery and Duckery etc. should be discouraged and instead preference should be given to agril. practices	—	—	—	—	—	—

4.4 Please state your attitude towards O.R.P.

4.4.1 The project personnel are :	Agree	U.D	D.A
(a) Friendly in their dealings	—	—	—
(b) Help ful	—	—	—
(c) Available as and when needed	—	—	—
(d) Provide technical guidance as necessary	—	—	—
(e) Even help in non-project activi ties	—	—	—

4.4.2 Project programmes			
(a) Fulfil the needs and interests of the people	—	—	—
(b) are profitable to adopt	—	—	—
(c) tuned to the situational demands	—	—	—
(d) covers nearly all the people in the villages	—	—	—
(e) are varied to suit to different vocations	—	—	—

4.4.3 a) project helps in development and utilization of local resources	—	—	—
(b) It has helped in social develop ment of the village	—	—	—
(c)It has proved informal education	—	—	—
(d)It has contributed in economic achievement of the people			
(e) The project has been largely responsible for changing and re-shaping the village situation towards its all round development	—	—	—

PART - V

CREDIBILITY OF O.R.P. AS A SOURCE OF INFORMATION

5.1 Do you seek advice or information matters of farm problems ?
Yes _____ No _____

(a) Friends & relatives _____
(b) Neighbour farmers _____
(c) Leading farmers _____
(d) Local leaders _____
(e) Block staff _____
(f) ORP/Univ.personnel _____
(g) Commercial agents _____
(h) Agril.Deptt.personnel _____
(i) Radio _____
(j) News paper _____
(k) Any other (specify) _____

5.2 In which sources as listed above you have relatively gather confidence. (in order of preference)

(a) _____ _____ (b) _____ (c) _____

PART -VI

6. Relative importance of different O.R.P. programmes.

6.1 Please state in which of the programmes listed below you are participating.

(a) H.Y.V.P. cultivation ____
(b) Groundnut cultivation ____
(c) Wheat cultivation ____
(d) Fertilizer application ____
(e) Plant protection measures ____
(f) Water management ____
(g) Soil testing ____
(h) Agril. implements & tools ____
(i) Poultry keeping ____
(j) Dairying ____
(k) Pisciculture ____
(l) Goat keeping ____
(m) Duckery ____
(n) Youth & women activities ____
(o) Any other (specify) ____

6.2 Which one of the programmes you feel to be most important to you ? (List 3 in order of importance)

a. _____ b. _____ c._____

6.3 Which one of the programme do you feel to

(a) not significant ____
(b) Not related to the problem ____
(c) Not related to the benefits of majority of people ____
(d) Beneficial to a selected group of individuals ____
(e) Detrimental to the community ____

PART- VII

CONSTRAINTS

7.1 Do you consider that	P.A	P.A.	D.A.
a.ORP is primarily concerned with farmers and farm problems and ignores othervocations	___	___	___
b. ORP takes into account current needs and problems of the people	___	___	___
c. ORP programmes are planned in consulation with the village people & thei representatives	___	___	___
d.ORP seeks the cooperation of the villagers for the execution of its programme in time	___	___	___
e. ORP has taken care to publicize its objectives among the villagers	___	___	___
f. ORP personnel do not take much interest in the developmentaf the people	___	___	___

	F.A	P.A	D.A
g) ORP Personnel :			
i) are adequate in number	—	—	—
ii) provide timely technical guidance	—	—	—
iii) make frequent contact at regular intervals	—	—	—
iv) usually available for consultation	—	—	—
v) do not have rapport/coordination with other allied agencies	—	—	—
vi) arrange for specialists service as and when needed	—	—	—
vii) usually work with few selected individuals of the village	—	—	—
viii) are also helpful on non project activities	—	—	—
h) Programme activities are varied suitable to different vocations	—	—	—

7.2. What in your opinion are the major weaknesses(if any) in the present working of ORP ?

(In order of importance)

(a) _____

(b) _____

(c) _____

7.3. What do you suggest or think appropriate to eliminate the weaknesses and to make the project more realistic and helpful to the people .

a) _____

b) _____

c) _____

d) _____

_____0 _____

APPENDIX - II

Inter-relationship of present level of knowledge, skill and attitude of the participating respondents with their socio-economic characteristics

Knowledge level	Age				Education				Per capita income			
	Upto 50 years	51 years & above	Total	χ^2	Illiterate	Literate	Total	χ^2	Upto Rs.400	Rs.401/- & above	Total	χ^2
a. Poor knowledge	38 (64.40)	15 (71.42)	53	0.234 (NS)	11 (91.67)	42 (61.76)	53	2.851 (NS)	12 (85.72)	41 (62.12)	53	3.965* (S)
b. Good knowledge	21 (35.60)	6 (28.58)	27		1 (8.33)	26 (38.24)	27		2 (14.28)	25 (37.88)	27	
Total	59 (100)	21 (100)	80		12 (100)	68 (100)	80		14 (100)	66 (100)	80	
Skill level												
a. Poor skill	35 (59.32)	14 (66.66)	49	0.366 (NS)	10 (83.33)	39 (57.35)	49	1.909 (NS)	7 (50.0)	42 (63.64)	49	0.421 (NS)
b. Good skill	24 (40.68)	7 (33.34)	31		2 (16.67)	29 (42.65)	31		7 (50.0)	24 (36.36)	31	
Total	59 (100)	21 (100)	80		12 (100)	68 (100)	80		14 (100)	66 (100)	80	

Figures within the ( ) indicate the % of the vertical total

Appendix- II continued

Attitude level	Age				Education				Per capita income			
	Upto 50 years	51 years & above	Total	χ^2	Illiterate	Literate	Total	χ^2	Upto Rs.400/-	Rs.401/- & above	Total	χ^2
a. Poor attitude	5 (8.47)	1 (4.76)	6	0.003 (NS)	1 (8.33)	5 (7.35)	6	0.226 (NS)	2 (14.29)	4 (6.06)	6	0.252 (NS)
b. Good attitude	54 (91.48)	20 (95.24)	74		11 (91.67)	63 (92.65)	74		12 (85.71)	62 (93.99)	74	
Total	59 (100)	21 (100)	80		12 (100)	68 (100)	80		14 (100)	66 (100)	80	

Figures within ( ) indicate % of the vertical total

APPENDIX- III

1. SOCIO-ECONOMIC CHARACTERISTICS

Cosmopoliteness :

(i) Localite - Knows people and places upto 3
(ii) Moderately cosmopolite - Knows people and places 4-7
(iii) Highly cosmopolite - Knows people and places more than 7

2. KNOWLEDGE ABOUT O.R.P

Maximum score	34 points
Minimum score	0 point
(i) Poor knowledge	Upto 11 points
(ii) Average knowledge	12 - 22 "
(iii) Good knowledge	23 - 34 "

3. BEHAVIOURAL CHANGES

Knowledge on some technology :

	Knolw-ledge before the project	Present knowledge
Maximum score	12 points	21 points
Minimum score	0 "	2 "
(i) Poor	Upto 4 points	Upto 8 points
(ii) Average	5-8 points	9-14 "
(iii) Good	9-12 "	15- 21 "

Skill in some technology :

	Skill before the project	Present skill
Maximum score	11 points	15 points
Minimum score	0 "	0 "
(i) Poor	Up to 4 "	Upto 5 "
(ii) Average	5-8 "	6-10 "
(iii) Good	9-11 "	11-15 "

Attitude on some technology :

	Attitude before the project	Present attitude
Maximum score	22 points	24 points
Minimum score	8 "	14 "
(i) Poor	Upto 13 "	Upto 17 "
(ii) Average	14-18 "	18 -21 "
(iii) Good	19-22 "	22-24 "

———0———