CHAPTER - 2

REVIEW OF LITERATURE

In any scientific investigation a comprehensive of relevant literature is imperative. Besides, giving knowledge of working already done in the field and providing insight into methods and procedures. It provides a basis for operational definitions of major concepts and finally to work out a basis for interpretation of results.

Therefore, in this chapter relevant literature having direct or indirect bearing on the present study have been reviewed. In order to avoid details the latest studies were incorporated. There view has been divided into the following sub-heads.

2.1 Knowledge level of farmers about improved practices of moth been cultivation.

2.2 Extent of adoption

2.3 Factors associated with the level of knowledge and the extent of adoption

2.4 Constraints as perceived by the farmers.

2.5 Training needs of farmers.

2.6 Research and extension Linkages.
2.1 Knowledge Level of Farmers About Improved Production Practices of Moth bean:

Dattarti (1980) found that 69.03 percent farmers and 30.97 percent non-contact farmers under T & V system had high level of knowledge.

Pandey (1989) reported that all the farmers have less knowledge about seed treatment and plant protection measures where as, they know well about seed rate and recommended spacing to be used at their own field.

Jaiswal and Sharma (1990) were the opinion that lack of knowledge and technical guidance regarding proper use of plant protection measure was the first for most constraint in adoption of plant protection measures.

Saxena (1991) found in his study that there was a significant difference in the knowledge level of farmers of progressive and non-progressive village with respect to rain fed farming technology.

Sundraswamy and Bavalatti (1991) reported that majority of respondents (57%) belonged to medium knowledge category. Almost equal number of respondents were in high and low level knowledge categories of farmers.

Upadhyaya (1993) reported that there was a significant difference in the knowledge of the beneficiaries and non-beneficiaries to wards IWDP.
Mahawer et al. (1995) found that there was a significant difference in the knowledge level of beneficiary and non-beneficiary under the project, in five areas of wheat production technology viz. use of high yielding varieties, seed rate & seed treatment, fertilizer application, plant protection measures and use of improved agriculture implements. On the contrary, non-significant difference was also observed in another two areas viz. Irrigation & drainage and weed control practices.

Singh et. Al. (1996) found that 40 percent respondents possessed medium level of knowledge, 35 percent low and 17 percent high level of knowledge of improved dry land technology.

Aski et. al. (1997) shows in their study that there was a considerable variation in the knowledge and adoption level of trained sugarcane growers as compared to untrained which was found statistically significantly, indicating the impact of training. Training has positive influence on performance of sugarcane growers. The extension agency need to organise regular training both in Farmer's Training Centre (FTCs) and also a farmers field. Training can focus on complex practices and the batches of homogenous farmers can be organise for greater impact.

Nandiwal et al. (1997) revealed that about three fourth of farmers had medium knowledge and 10.50 per cent of the farmers had high knowledge on improved rice production technology.
Kumar (2001) observed maximum knowledge of adopted and non-adopted village respondents in harvesting, threshing and storage practices with MPS (82.66 and 74.60) respectively. While physiological practices has least knowledge level of in both kinds of respondents. It was also found the significant difference between adopted and non adopted village respondents, and significant different was also observed among the big, small and marginal farmers of adopted and non adopted village, farmers regarding mustard production technology.

2.2 EXTENT OF ADOPTION

Marothia (1983) reported risk of crop failure was main factor responsible for non-adoption of improved practices.

Singh & Mathur (1984) also observed that due to uncertainty of weather crop failure, farmers did not dare to adopt recommended package of practices.

Singh & Patel (1990) concluded that age factor & caste of the farmers was not associated with the extent of adoption of improved and allied practices of agriculture.

Dangi and Intodia (1992) revealed that the contact and follower farmers have shown a significant gap in the adoption of most of the improved practices of wheat and cotton cultivation. Hence the intensive
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efforts under the programme have still to be made to minimize the existing gap.

**Soni** (1992) revealed that extent of adoption was high in bajra and ber cultivation. 20 to 100 percent trainees fully adopted the bajra & ber cultivation.

**Sisodia** (1993) reported that in general 60 percent groundnut growers were in the medium adoption group and 22.5 percent respondents were in poor or low adoption group while only 7.5 percent farmers were in the group of high adopters.

**Suresh Chand** (1993) found that 60 percent trained and 40 percent untrained farmers were found in the category of high level of adoption of improved practices of mustard cultivation.

**Kothari** (1996) studied that the level of adoption of post harvest technology of maize was below average among the tribals while it was above average among non-tribals. A significant gap was found in adoption of P.H.T. of maize between tribals and non-tribals.

**Deshmukh et. al.** (1997) reported that majority of summer groundnut growers adopted such practices which involve low cost or no cost. however, the proportion of respondents adopting the practices involving higher cost and skill was meager. It is therefore recommended that on extensive campaign needs to be launched to make these practices
popular among the farmers since these practices are of vital importance and crucial inputs for increasing the productivity of summer groundnut crops.

Singh and Singh (1997) collected data on package practices of linseed from Ranchi district of Bihar. It was found that demonstrating farmers had adopted more practices than participating farmers. The extent of adoption of package of practices by participating farmers was satisfactory.

Soni and Chauhan (1997) conducted a research on moth bean in three blocks of Jodhpur district of Rajasthan that is Bhopalgarh, Phalodi and Shergarh. It was observed that majority of the moth bean growers (60 per cent) had moderately adopted the improved practices of moth bean.

Bhatkar et. al. (1998) revealed that majority of sugarcane growers had adopted practices like, improved seed, earthing up, spacing, control of diseases and irrigation scheduling. However none of the respondent undertook chemical weed control.

Chauhan et. al. (1998) reported that between 100 and 62.5 per cent of farmers had adopted sugarcane quality seed production techniques that had been demonstrated to them, with resulting increase in cane yield between 36.6 and 8.5 per cent.

Patel (1998) revealed that the respondents from participant group had relatively more adoption of recommended practices of gram than from
a non-participant group. The adoption level of participant and non-participant group of respondents differed significantly.

Singh and Gill (1998) concluded that a substantial number of recommendations relating to plant protection measures had not been adopted by the large number of farmers in spite of their innovativeness and progressive outlook. Majority of the farmers ignored the adoption of plant protection measures due to lack of knowledge.

Wankhade et. al. (1998) reported that almost all of the onion growers, adopted the recommendations on time of sowing, seed rate per hectare, and application of final irrigation about 74.67 per cent adopted the recommended irrigation schedule. However, the majority of onion growers had not adopted important practices such as seed treatment with fungicides, recommended fertilizer doses, pest and disease control measures and curing of bulb produce after harvest.

Ramashwamy, Cyntwa, Bantilan, Elangovan and Ashokan (1999) reported that the adoptability is not only across physio-geographic but also across socio economic environments.

Singh (1999) found that farmers of Bagidora tehsil had very poor adoption of improved practices of pigeonpea i.e. inoculation of seed with rhizobium culture, seed treatment, soil treatment, plant protection measures. Whereas, they had good adoption regarding time of sowing, seed rate and spacing and weed management.
Lakhera (2000) conducted a study to see the impact of First Line Demonstrations on mustard production technology in Rajasthan. It was revealed that 58.75 per cent beneficiary farmers had medium extent of adoption, 34.37 per cent had high and only 6.88 per cent of them had low extent of adoption. The beneficiary farmers had higher adoption in practices like time of sowing, seed rate, spacing and fertilizer application. They had medium adoption in practices like soil and field preparation, use of high yielding varieties, seed treatment, irrigation management and harvesting and storage. The farmers had low extent of adoption in soil treatment, plant protection and weed management practices.

Paul (2000) revealed that out of total respondents (58.04%) were medium adoption of mushroom production technology. Further the respondents who fell in high and low adopter categories were (21.42%) and (20.54%) respectively.

Singh (2000) indicated that there was significant difference between beneficiary and non-beneficiary farmers in case of mustard production technology in the operational area.

Kumar (2001) reported highest adoption level in the practices like harvesting, threshing & storage where as poor adoption had observed of the physiological practices in the adopted villages, while in case of non-adopted villages poor adoption was found in the plant protection measures regarding mustard production technology. A significant difference was
found in the overall adoption of with in and between the respondents categories about mustard production technology.

Rathore (2001) stated that majority of the farmers had medium level of adoption of improved mung bean cultivation practices in Nagaur district of Rajasthan.

Solanki (2001) investigated in a study conducted on farm women that the overall mean percentage score in case of gram for beneficiaries was 38.96 as compared to only 13.85 in case of non beneficiaries, this indicating an overall adoption gap of 25.11 per cent between both the categories of respondents. The beneficiaries were good adopters of plant protection measure and irrigation management practices with mean per cent score 60.0 and 56.0 respectively. In rest of the components, the beneficiaries had poor adoption, however it was more than the non-beneficiaries. As regards mustard production, majority of the beneficiaries (67.03 per cent) were in the category of very good adoption. Component wise adoption revealed that the beneficiaries were good adopters of recommended practices of gram.

2.3 FACTORS ASSOCIATED WITH THE LEVEL OF KNOWLEDGE AND THE EXTENT OF ADOPTION

Ramegowda et. al. (1987) reported that except age, all other characteristics like education, farm size, social participation, extension
contact, innovation proneness, cosmopolite orientation, individualism and scientific orientation positively and significantly related with innovativeness of farmers in adopting M.R. 301 paddy variety.

Singh and Prasad (1990) reported that demonstration and meeting with extension personnel were most important source of information and very little role was played by locality source for information for afforestation and salt affected soil.

Singh & Patel (1990) concluded that age factor and caste of the farmers was not associated with the extent of adoption of improved and allied practices of agriculture.

Bhatia et. al. (1994) revealed that there was no significant association between the adoption of sugarcane production technology and the background variables of the farmer.

Kumawat (1994) observed that level of education, social participation, extension contact, achievement motivation, attitude and aspiration of respondents towards Nirman Sansthan were significantly associated with knowledge, adoption and socio-economic status.

Deshmukh et. al. (1995) observed that characteristics viz., education, annual income, socio-economic status, risk preference, source of information utilized and facility were positively and significantly correlated with the knowledge possessed by the respondents.
Kumari and Sinha (1995) found positive and significant association between self education, family education, social participation with knowledge, could be interpreted as higher the educational level of home makers, higher family education and higher mobility in society more could be the knowledge about improved home management practices.

Desai et al. (1996) observed that antecedent variables like education, size of land holding, size and type of family, social participation and socio-economic status of the respondents has not significantly associated with adoption of cumin production technology.

Gurav and Kamble (1996) reported non-significant association between knowledge and age of respondents, whereas, education was positively related with the knowledge of farmers.

Hazarika et al. (1996) reported that in plain areas, 13 independent variables viz. education, social participation, cosmopolite localities, attitude toward dairy farming, aspiration, economic motivation, risk preference and radio listening were found to be highly significant and positively associated with their knowledge gain immediately after the radio Broad cost. Similarly in hills, source utilized was also positively & significantly associated with their knowledge gain.

Kasana et al. (1996) reported that education, participation in training, credit facilities, communication sources, number of information
sources have a significant association with level of knowledge and adoption of wheat production technology.

Rao and Rao (1996) revealed in their study on tribal farmers that extent of adoption of rice production technology was positively and significantly associated with age, farming experience, training received, socio-economic status, cropping intensity, aspiration, economic motivation, innovativeness, information source utilization and its credibility.

Waman et. al. (1996) revealed that the age and size of land holding have non-significant effect on knowledge whereas, education and size of family were significantly related with knowledge gained by the respondents.

Hanumanaiakar et. al. (1997) observed highly significant relationship between age, education, land holding and annual income with adoption of recommended cultivation practices of sunflower production technology.

Ladebo, et. al. (1997) revealed that there was no significant association between farmers personal characteristics and the knowledge of improved agricultural practices.

Meti et. al. (1997) was observed in his study that except annual income all the selected characteristics namely age, education, land holding, social participation, extension contact and mass media participation were
significantly associated with adoption of groundnut production technology by the farmers.

Malik and Arya (1997) reported that six factors which particularly influential in adoption of sugarcane production technology were: farmers’ education, extension contact, mass media exposure, attitude towards change, profitability and technical know how.

Singh and Chaudhary (1997) reported that size of land holding, innovation proneness and level of aspiration were found to exert a direct influence on the change in symbolic adoption of pulse production technology.

Vyas et al. (1997) concluded that the small farmers could not set neither information of the development varieties nor the sufficient quantity of seeds and cultivation are using these agro-chemical which are being delivers by their local dealers. They are not using the recommended dose.

Bhople et al. (1998) indicated that among tribal farmers variables like family size, land holding, annual income, social participation, source of information and extension contact were positively associated, where as age and conservation were negatively associated with awareness about agricultural development schemes.

Bhatkar et al. (1998) indicated that variables like occupation, annual income, land holding, sugarcane cultivation experience, social participation, socio-economic status, agricultural progressiveness, source of
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Bhatkar et al. (1998) indicated that variables like occupation, annual income, land holding, sugarcane cultivation experience, social participation, socio-economic status, agricultural progressiveness, source of
fertilizer followed by lack of proper technical guidance and unavailability of credit.

Kher and Halyal (1988) reported that most important constraints identified regarding the adoption of improved sugarcane production technology were irregular and insufficient electric supply, small size of holding for green manuring, intercrop not convenient due to weeds, high cost of farm fuel, scarce irrigation facilities, absence of location specific recommendations for earthing up. Lack of drought resistant varieties and lack of technical knowledge about plant protection and chemical fertilizers.

Jagdale and Nimbalkar (1993) observed that major constraints towards adoption of recommended dry land farming technology regarding non-availability of improved seed, lack of knowledge of plant protection measures and high cost of fertilizers were major constraints for all of the three categories of farmers.

Tyagi (1995) found that in general farmers fell three major constraints i.e. lack of knowledge 64.23%, Lack of technical guidance 59.73% and low cost benefit ration 36.73 percent.

Hossain et. al. (1995) in their study reveled that non-availability and untimely supply of inputs. The traditional attitude of farmers and the sharp rise in form input prices were main obstacles in diffusion of farm and allied technology.
Trivedi & Patel (1996) revealed that inadequate crop protection, lack of inputs, finance and less irrigation facilities were the major constraints associated with technological gap among tribal farmers.

Gupta and Kalla (1997) revealed that the unavailability of credit for fertilizer, high cost of fertilizer and non-availability of fertilizer in time were the most important constraints perceived by farmers in use of chemical fertilizers. He also suggested that extension activities must be given greater emphasis on demonstration and field visit to educate the farmers about the efficient and balanced use of fertilizers.

Kharde and Nimbalkar (1997) concluded that major problems faced by the sugarcane growers in adoption of improved practices of sugarcane cultivation were high cost of fertilizer, shortage of labour for farm operation, irregular supply of canal irrigation water, high cost of seed and uneconomic condition of improved implements for small holding.

Sharma et al. (1997) revealed that adaptability of improved cotton cultivation practices was hampered by the untimely supply of seed and chemical fertilizers for high adopters, inadequate credit facilities & non-availability of reliable seed for medium adopters, whereas, non-availability of reliable seed & high cost of chemical fertilizer for low adopters.

Soni and Chauhan (1997) stated that moth bean growers were facing much ecological problems like long dry spell, erratic rainfall, more infestation of insect pests and diseases due to cloudy weather and heavy
rainfall at the time of flowering. Secondly, they had identified plant protection measures as the second important problem. Soil treatment was also among the major problems as they were unaware about proper chemicals and their cost was also very high.

Kushwaha, Pal and Ramcharan (1998) found that problem of insect pest and disease control had been indication as the most seven constraints and it stand, first on the rank order scale in the opinion of contact farmers lack of availability of disease resistant varieties; ranked second in adequate improved seed supply; selection of poor land; sowing of poor quality seed; lack of fertilizer application un awareness about use of rhizobium culture; improper method of sowings, inappropriate time of sowing; were other important constraints descending order respectively.

Meena (1998) reported the constraints as perceived by the members of Oil Seed Co-operative Societies in increasing important oil seed crops were negatively and significantly related to the independent variables viz., education, social participation. Socio economic status, credit behaviour, irrigation potentiality knowledge about societies. However the variable "size of land holding" was positively and significantly related with the constraints of oil seed growers co-operative members in increasing the production of important oil seed crops.
Singh (1999) found that major constraints faced by the farmers were lack of knowledge, high cost of input, lack of skill and low socio-economic status of farmers.

According to Singh (1999), the major constraints faced by the farmers in accepting improved pigeon pea technology were:

I. Constraints pertaining to lack of knowledge
II. Constraints pertaining to high cost of inputs
III. Constraints pertaining to lack of skill
IV. Constraints pertaining to low socio-economic status of farmers.

Singh (1999) reported non-availability of high yielding varieties at proper time was main constraint in adoption of high yielding variety of Moth bean crop (84%), poor knowledge was the main constraint (88.75%) followed by high cost (61.25%), non-availability of pesticide (35%) and lack of money (21.25%) in adoption of seed treatment, lack of knowledge (55%) in adoption of recommended seed rate and lack of moisture (45%), lack of knowledge (37.50%) and lack of sowing implement (25%) in adoption of timely sowing of moth bean.

Chaturvedi (2000) found that non-availability of improved seed at the time of sowing and lack of operational skill in the plant protection measures were the most important constraints faced by the IGNP farmers in adoption of improved cotton cultivation technology. Whereas high cost of
seed and lack of knowledge about weedicide were expressed most important constraints by the non-IGNP respondents. 

Lakhera (2000) conducted a study on impact of Frontline Demonstrations and saw that the problems experienced by the farmers in adoption of practices like weed management, soil treatment, plant protection measure and fertilizer application were more as compared to adoption of practices like spacing, time of sowing and seed rate. In case of weed management, high cost of herbicides whereas high cost of chemicals, lack of money and inability to bear risk were major constraints reported by them in application of recommended soil treatment measures. Regarding plant protection measures, the beneficiaries reported that high cost of chemicals, lack of money and non-availability of chemicals in time were the main problem. For practicing the recommended fertilizer dose, they highlighted constraints like high cost, lack of credit facility and high risk involved in their use.

Soni et. al. (2000) concluded that knowledge was major constraint in adoption of improved varieties of crops and plant protection measures. As far as fertilizer application was concerned, the majority of the farmers expressed that the high cost of fertilizers was the main reason for non-adoption. The results were obtained by interviewing the farmers of district Sagar of Madhya Pradesh.
Shiyani et al. (2000) on the basis of their study conducted in Panchmahal district of Gujarat reported that the farmers had constraints in selling their produce and also availability of seed of new varieties was a major constraint particularly in areas where the seed sector does not exist.

According to Kumar (2001) the overall critical constraints faced by the farmers of Bharatpur district of Rajasthan were high cost of inputs, occurrence of frost, cloudy weather at flowering time, malpractices of merchant, mandies, lack of irrigation facilities, adulteration of chemical fertilizers and seeds by the input-dealers.

Rathore (2001) revealed that among all the constraints, marketing constraints were perceived with relatively high intensity by the mung bean growers of Nagaur district of Rajasthan.

### 2.5 TRAINING NEEDS OF FARMERS

Singh (1966) strongly suggested that training of farmers is of almost important to make farming a sustaining and attractive profession.

Mathur (1967) stated that the training is an input. The farmers training and education should be organized at least in those areas where specified and intensive programme of agricultural production are being taken up.
Patani (1977) the training if it is to be useful has to be considered as one of the inputs along with seed, fertilizers, pesticides etc. The training for skill is the input which serve as catalytic agent for use of other inputs.

Sharma and Jogdand (1983) concluded that majority of the respondents preferred short duration on campus need based training in small group. They wanted training on improved agricultural practices like HYV's, fertilizer application with improved implements. They were also reported that some of the respondents wished to go for installing cottage industry and private business other than farming.

Ganesan et. al. (1992) concluded that the small rice growers need appropriate and timely training need in the major area of plant protection measures, manures and manuring, seeds and sowing.

Nikam et. al. (1992) concluded that the tribal paddy cultivators training needs were mainly focused on plant protection, weed control, seed treatment, drying of paddy, marketing, storage, nursery raising transplanting, soil testing, water management, application of fertilizers and improved varieties.

Patel (1992) assessed that the impact of institutional training programme conducted by KVK Devatas of Gujarat. They concluded that technical guidance about recommended practices should be provided through method demonstration as well as institutional programmes.
Urade et. al. (1992) concluded that the respondents of watershed programme needs more of practical training on soil preparation, intercropping, insects & disease control, improved varieties, seed treatment, soil treatment, use of fertilizers and irrigation.

Khan et. al. (1993) observed that the highest mean score of 2.88 was obtained for training in plant protection measures against pest and diseases and improved varieties. The other training needs which were perceived as most essential were use of fertilizer and manures application water management, harvesting storage and drying of paddy, respectively.

Hanuman Lal and Panwar (1994) concluded that the training was the useful extension technique for transfer of technology for trainees.

Manjula et. al. (1994) find out the adoption levels were measured with references to 11 selected recommended groundnut cultivation practices. For the training to be more effective, resulting in better adoption, it is important to select farm women who are the older members of the family as they have higher achievement motivation. There is also a need to follow up the training with extension support on the farm. In order to promote adoption among untrained farm women, there is a need to enhance their organizational participation and extension participation as there factors were found to have a bearing on their adoption behaviour.
Dubey et al. (1995) in their study found that knowledge of the complete farm practices like use of duster and sprayer, control of insect pest and diseases, of trained farmers were more than untrained.

Garva and Lamble (1995) found that training was perceived by the respondents were seed treatment, processing of agricultural produce, improved varieties of crop disease and pest control measures and tillage operations.

Chandawat (1997) reported in his study that farmers training need in the area of seed treatment and use of chemicals of cumin crop cultivation.

Singh and Singh (1999) revealed that all categories of farmers perceived training needs in high yielding varieties and fungicidal seed treatment as most needed. Whereas, small and medium farmers perceived the training need in the above two area; i.e. high yielding varieties and fungicidal seed treatment. Training need plant protection measures was perceived as most needed in case of small farmers. Training in weed management and storage was perceived as needed by all the categories of farmers.

2.6 RESEARCH AND EXTENSION LINKAGES

Sabir (1985) studied the research extension linkage and concluded that it has been quite successful in solving farmers’ production. Adaptive
research has been able to identify and solve problems and its linkage with extension was quite impressive. Nevertheless, the research extension system needs strengthening in order to be able to meet the needs of all Punjabi farmers, particularly small holders.

Zaman (1985) found that most agricultural research institutes in Bangladesh are shown to suffer from lack of well trained staff, finance, physical facilities and mobility needed to administer outreach programmes. Despite various administrative and organizational problems, there are signs that co-ordination and linkages are developing well between research and extension for the benefit of farmers.

Shao (1987) reported that poor research-extension-farmer linkage and poor extension services prevailed in small scale farming sector in Tanzania.

Kim et. at. (1988) explains that the Korea Republic has a relatively efficient system of research-extension linkage, still it has some weaknesses and so it is suggested that there should be more interaction between researchers and extension workers.

Asmuni and Kumori (1993) examined the features of the strong built in-research and extension linkage in Japan which consisted of specialized extension agents in technology and management, large manpower at grass root level rather than at headquarter level, little direct influence by top management in daily extension activities on the ground,
self development and training and freedom of extension agents, emphasis on developing farmers' self development and interdependency.

Subair (1994) examined the importance of extension linkages in developing countries and suggested the bottom-up approach to extension processes and identified four principal groups who were involved in it: researchers, extension staff, chiefdom farmers groups and the individual farmers. Each plays a crucial role at different stages in the transfer of technology from institution to rural community.

Wijeratne (1994) reported that the field situation in research and extension requires modifications in Sri Lanka as the increasing agricultural knowledge ensuing from national and international research results is only insufficiently transmitted to the farmers via the extension services and thus is utilized inadequately.

Intodia (1998–99) found that though the formal mechanism of linkage exists at various levels, the linkage was not so effective in actual sense. There was hardly any direct contact of research scientists with the farmers. Thus, in general the zonal meetings were the only platform for getting the feedback on farmers' problems by the NARP (National Agricultural Research Project) Scientists of Rajasthan.

Apantaku (1999) identified the strength of the linkage mechanism between the university's researchers, extension agents and intended users of their technologies. Results indicated poor awareness of extension agents
and subject-matter specialists. The linkage between the researchers, extension agents and users was found to be weak and ineffective in Nigeria.

Sharma (1999) noticed that there was no linkage of field functionaries and farmers of tribal and non-tribal areas of Rajasthan with other line departments at any level. Consequently, the farmers and field functionaries got little or no guidance from other departments like soil and water conservation department, irrigation department, Panchayat etc.

Upadhyay (1999) concluded that the linkage and co-ordination of Integrated Watershed Development Project with other line departments was poor. Only with few departments like agriculture, animal husbandry and World Bank, the linkage was maintained through meetings, visits, training and budget only, while the linkage was very poor in terms of demonstration, publication, staff deputation, evaluation etc. with the departments like Directorate of Extension Education, Forest, District Rural Development Agency, Non-Government Organizations linkage was negligible. Most of the linkage and co-ordination was maintained at only senior officers level.