# Constraints Faced by Tribal Farmers of South Gujarat in Low Cost Watershed Management

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*ABSTRACT*

*The current study is carried out to find out, to know up to what extent tribal farmers had adopted the low-cost and no-cost technologies of watershed management as well as which are the constraints faced by them and the possible remedies to overcome the same. For generating information on this dimension, this study is the modest attempt in developing sound and systematic knowledge. Keeping in view above facts present study entitled Constraints faced by Tribal Farmers of South Gujarat in Low Cost Watershed Management" was planned with specific objectives: To study the constraints faced by tribal farmers in adoption of no-cost and low-cost watershed management technologies and to seek their suggestions from tribal farmers to overcome the constraints faced by them. The important findings of the study are : Less subsidy, lack of knowledge about soil and water conservation technology, construction of field bund is costly, lack of technical guidance and lack of finance were the major problems faced by tribal farmers in case of soil and water conservation technology. While, in case of crop production technology lack of knowledge about recommended crop production technology, low market price of agricultural products, lack of technical guidance, lack of finance to purchase inputs and high cost of farm inputs were the major problems expressed by tribal farmers in adoption of no-cost and low-cost technologies of watershed management. Tribal farmers of study area suggested that; field demonstrations should be organized, loan and subsidy should be easily available, remunerative market prices of agricultural products should be provided to the farmers, farmers should be protected by crop insurance in case of failure of season and more training should be imparted to the farmers.*

***Keywords**: Community radio, Participation, Capacity building, Rural people*

## INTRODUCTION

Agriculture in India principally depends upon vagaries of monsoon causing dwindling in the production. Now a day's Watershed Management is a new avenue for developing the rain fed areas. Government has launched ambitious watershed management activities for development of rain fed areas started science from July 1986, covering 16 states of India and 99 districts of Gujarat state as a new trust to improve village economy with an objective to promote holistic growth of the agricultural and allied sector through area based regionally different strategies; to increase and stabilize the agricultural production and narrowing down regional socio-economic imbalance in rain fed areas through development of natural resource base, diversify the rain fed farming system, tapping the local resource potential to attain higher productivity and services for improving standard of living of rural poor and tribal ,Anonymous, (2014). The present study is carried out to find up to what extent tribal farmers had adoption of low-cost and no-cost technologies of watershed management. For generating information on this dimension, this study is the modest attempt in developing sound and systematic knowledge.

## METHODOLOGY

The present study was conducted in four tribal talukas of Navsari district in South Gujarat. Important and relevant low-cost and no-cost technologies of watershed management in two major areas of technologies (I) Soil and water conservation technologies, and (II) Crop production technologies were selected under study through expert opinion. With the help of random sampling method four villages were selected from each of selected tribal taluka. From each selected village, ten tribal farmers were randomly selected which constituted a total sample size of 120 tribal respondents.

The data were collected with the help of well structured pre-tested interview schedule incorporating all items pertaining to specific objectives of the study. The collected data were complied, tabulated and analyzed to get proper answer for specific objectives of the study with the help of various statistical tools to test the hypothesis under study. The statistical tools such as arbitrary method, percentage, and mean, ranking and co-efficient of correlation were used.

## RESULTS AND DISCUSSION

The information related to this study was collected from beneficiary farmers of selected watershed area, by means of structured interview schedule. The collected information was classified, tabulated and analyzed in light of the objectives of the study. The facts and findings derived after analyzing the information have been presented under following heads:

### Constraints faced by tribal farmers in adoption of no-cost and low-cost technologies of watershed management

The constraints were two fold viz., related to soil and water conservation technology and related to crop production technology. The result regarding constraints are summarized in Table1.

**Table 1: Constraints faced by the tribal farmers in adoption of no-cost and low-cost technology watershed management** n=120

| Sr No | Constraints | Frequency (Per cent) | Rank |
|---|---|---|---|
| **I** | **Soil & Water Conservation Technology** | | |
| 1 | Lack of knowledge about soil and water conservation technology | 82 (68.33) | II |
| 2 | Lack of technical guidance | 70 (58.33) | IV |
| 3 | Construction of field bund is costly | 80 (66.66) | III |
| 4 | Land wasted in bunds and channels | 20 (16.16) | X |
| 5 | Timely sowing is not possible | 62 (51.16) | VI |
| 6 | Land leveling is costly | 55 (45.83) | VII |
| 7 | Less subsidy | 87 (72.50) | I |
| 8 | Lack of co-ordination between field staff and farmers | 62 (51.66) | VI |
| 9 | Sowing with / without recommended spacing | 33 (27.55) | IX |
| 10 | Lack of finance | 64 (53.33) | V |
| 11 | Lack of co-operation of neighbors | 19 (15.83) | XI |
| 12 | Lack of timely and appropriate extension services | 35 (29.16) | VIII |
| **II** | **Crop production technologies** | | |
| 1 | Lack of knowledge about recommended crop production technology | 102 (85.00) | I |
| 2 | Lack of technical guidance | 92 (76.00) | III |
| 3 | High cost of farm inputs | 88 (73.33) | V |
| 4 | Low market price of agricultural products | 100 (83.33) | II |
| 5 | Risk in adoption of new technology | 69 (57.50) | VIII |
| 6 | Lack of transport facilities | 35 (29.16) | XII |
| 7 | Irregular supply of electricity | 55 (45.83) | XI |
| 8 | High rate of electricity | 56 (46.66) | X |
| 9 | Lack of finance to purchase input | 89 (74.16) | IV |
| 10 | Unavailability of sufficient labor in time | 60 (50.00) | IX |
| 11 | High rate of labor | 60 (50.00) | IX |
| 12 | Lack of communication facilities | 85 (70.83) | VI |
| 13 | Lack of timely and appropriate extension services | 70 (58.33) | VII |

Among soil and water conservation technology, the constraints viz., less subsidy (72.50 per cent) was the main constraint expressed by the beneficiary farmers followed by lack of knowledge about soil and water conservation technology (68.33 per cent), construction of field bund is costly (66.66 per cent), lack of technical guidance (58.33 per cent), lack of finance (53.33 per cent), timely sowing is not possible (51.66 %), land levelling is costly (45.83 per cent), lack of timely and appropriate extension services (29.16 per cent), stone are not locally available for gully plugging (27.55 per cent), land wasted in bunds and channels (16.16 per cent) and lack of cooperation of neighbours (15.83 per cent) were the important constraints expressed by the tribal farmers.

The constraints related to crop production technologies were concerned, it is clearly observed that, lack of knowledge about recommended crop production technology (85.00 per cent) was the main constraint expressed by the beneficiary farmers, followed by low market price of agricultural products (83.33 per cent), lack of technical guidance (76.66 per cent), lack of finance to purchase inputs (74.16 per cent), high cost of farm inputs (73.33 per cent), lack of communication facilities (70.83 per cent), lack of timely and appropriate extension services (58.33 per cent), risk in adoption of new technology (57.50 %), high rate of labour and unavailability of sufficient labour in time (50.00 %), high rate of electricity (46.66 per cent), irregular supply of electricity (45.83 %) and lack of transport facility (29.16 %) were the important constraints expressed by the beneficiary farmers. It can be thus concluded that, the major soil and water conservation technology related constraints were less subsidy, lack of knowledge about soil and water conservation technology and construction of field bund is costly. While, in case of crop production technology, the important constraints were: lack of knowledge about recommended crop production technology, low market price of agricultural products and lack of technical guidance. Jondhale et al, (2000), Kumar et al (2014) and Patel .(2005) also reported the same.

**Suggestion made by the tribal farmers to overcome the constraints in adoption of no-cost and low-cost technology of watershed management**

The tribal farmers were requested to offer their valuable suggestions for solving the problems faced by them in adoption of no-cost and low-cost technology of watershed management.

The Table-2 shows that, very high majority (91.67 per cent) of tribal farmers suggested that field demonstrations should be organized, followed by loan and subsidy should be easily available (85.00 per cent), remunerative market prices of agricultural products should be provided to the farmers (83.33 per cent), farmers should be protected by crop insurance in case of failure of season (76.66 per cent), more training should be imparted to the farmers (73.33 per cent), proper technical guidance should be given to the farmers as and when they need (72.50 per cent), farm inputs should be subsidized (68.33 per cent) and more subsidy should be granted for soil and water conservation works (66.66 per cent) were offered as important suggestion by tribal farmers. Patel,(2000), Pawar,(2004) and Rabari (2006) also reported the same.

From the above discussion, it can be concluded that the important suggestions made by the tribal farmers to overcome the constraints were field demonstrations should be organized, loan and subsidy should easily available, remunerative market prices of agricultural products should be provided to the farmers and farmers should be protected by crop insurance in case of failure of season. Soleiman and Saeid , (2015).

**Table 2 : Suggestion made by the tribal farmers to overcome the constraints in adoption of no-cost and low-cost technology of watershed management.**

| Sr. No. | Suggestions | Frequency | Percentage |
|---|---|---|---|
| 1 | Farmer should be protected by crop insurance in case of failure of season | 92 | 76.66 |
| 2 | Field demonstration should be organized | 110 | 91.67 |
| 3 | More training should be imparted to the farmers | 88 | 73.33 |
| 4 | Proper technical guidance should be given to the farmers as and when they need | 87 | 72.50 |
| 5 | Loan and subsidy should be easily available | 102 | 85.00 |
| 6 | Farm input should be subsidized | 82 | 68.33 |
| 7 | More subsidy should be granted for soil and water conservation work | 80 | 66.66 |
| 8 | Remunerative market prices of agricultural products should be provided to the farmers | 100 | 83.33 |

**CONCLUSION**

Less subsidy and lack of knowledge about recommended crop production technology were the major constraints faced by the tribal farmer in rain fed farming. Field demonstration of various innovative no-cost and low-cost technologies of watershed management and loan & subsidy should be easily available for rainfed farming were the major suggestions offered by the tribal farmers.

**REFERENCES**

Anonymous, (2014). Tribal development department of Gujarat, Govt. of Gujarat., Agricultural data of Gujarat, Indian Agricultural Census report and World Statistical Data.

Bhagat, P.R. (2004).Indigenous and scientific knowledge and adoption level of women for various use of neem in Vadodara taluka of Gujarat state. Thesis, (unpublished.) M.Sc.(Agril.) special problem A.A.U.,Anand.

Bhutia, khorla (1993). A study on adopted and non adopted farmers toward watershed development programme in Sikkim. M.Sc. (Agri.) thesis (unpublished.), Guj. Agri.Uni., Anand campus.

Chauhan,V.P. (2008). A study on adoption of watershed crop production technology by beneficiaries under National Watershed Development Project for Rainfed area in Ahmedabad district of Gujarat state,M.Sc.thesis.(unpublished) AAU, Anand

Jondhale, S.C.;Jadhav, S.R. and Fatak U.N. (2000) Reason for no-cost and low-cost technology in watershed development programme. M*aharastra.J.Ext.Edu.,* XIX : 20.

Kumar R; Sheoran, D. K. and Singh, J. (2014). People's participation in integrated watershed management programme in Haryana. *Annals of Biology.* 30(4): 754-757.

Patel, B.S. (2005). A study of peasantry modernization in integrated tribal development project area of Dahod District of Gujarat State, Ph.D. thesis (unpublished) AAU, Anand.

Patel, R.C. (2000). A study on consequences of adoption of watershed management technology by beneficiary farmers in watershed area of kheda district of Gujarat state,Ph.d. thesis

Pawar, K.P. (2004).Indigenous resources management by tribal farmwomen in Dangs District of Gujarat state Unpublished Ph.D. (Agri.) thesis, AAU, Anand..

Rabari, S.N. (2006). A study on adoption of tomato recomonded technology of tomato growers in Anand District of Gujarat State.M.sc.(Agri.) Thesis (Unpub.)AAU, Anand.

Shinde, M.G. (2011). A Study on extent of adoption of improved cotton cultivation practices in Bellary district of A.P. M.sc.(Agri.) Thesis (Unpub.) UAS, Dharwad.

Soleiman R. and Saeid F. (2015). Effective Factors on Rural People's Non-Participation of Mahabad's Dam Catchment in Watershed Management Projects. *International Journal of Agricultural Management and Development* 5(1): 19-26.

Yadav, M.; Singh K. C.;Chouhan A.S. and Singh C.J. (2013). Techno-Economic Changes among the Farmers in Relation to Watershed Development Programme. *Indian Res. J. Ext. Edu.*13 (1): 31-34.

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