



# CONSTRAINTS IN ADOPTION OF MODERN AGRICULTURAL TECHNOLOGIES ON LEASED FOREST LAND

Nitesh Kumar Gupta, M. A. Khan, S. Narbaria and S. Beck

Department of Agricultural Extension, Collage of Agriculture, I. G. K. V., Raipur – 492 012 (C.G), India.

## Abstract

The success of any innovation depends upon the availability of technological inputs and other required resources. An attempt has been made to know the problems faced by the leased forest land beneficiaries in the adoption of modern agricultural technology on their leased land and collect their suggestions to minimize their problems. The present study was conducted in 12 villages of Kota and Gaurela blocks in the Bilaspur district of Chhattisgarh. A total of 144 selected tribal farmers were treated as respondents. The study revealed majority of the respondents (84.72%) faced problems in field preparation due to non availability of required implements, followed by lack of knowledge about recommended production technologies (71.52%). Non availability of seed of required varieties from government agencies, poor quality of land, non availability of manure & fertilizer at local level, non availability of insecticides in time, were found the important constraints an perceived by the respondents and majority of the respondents (88.55%) suggested that good quality of land be provided through forest lease, followed by Irrigation facility like pond etc. should be constructed (73.61%). The lease area should be more suggested by more than 71 per cent the respondents.

**Key words :** Modern agricultural technology, adoption, lease forest land, problems and suggestions.

## Introduction

An Act to recognize and vest the forest rights and occupation in forest land in forest dwelling scheduled tribes who have been residing in such forest for generations, but whose rights could not be recorded, to provide for a framework for recording the forest rights so vested and the nature of evidence required for such recognition and vesting in respect of forest land. Whereas, the recognized rights of forest dwelling scheduled tribes and other traditional forest dwellers include the responsibilities and authority for sustainable use, conservation of biodiversity and maintenance of ecological balance and there by strengthening the conservation regime of the forest while, ensuring their livelihood and food security. Bilaspur is one of most tribal populated district of Chhattisgarh Plains. Bilaspur district is situated between 21°47' and 23°8' north latitudes and 81°14' and 83°15' east latitudes. The district is bounded by Korba on the north, Anuppur and Dindori Districts of Madhya Pradesh state on the west, Mungeli on the southwest, Balodabazar on the south and Korba and Janjgir-Champa on the east. The area of the district is 6377 km<sup>2</sup>. Bilaspur is also known as the cultural capital

of the state and also boosts various cultural and social events. Bilaspur district consists of 8 tehsils. These tehsils are Bilaspur, Pendra, Gourela, Kota, Takhatpur, Bilha, Marwahi and Masturi. There are 7 blocks and total number of villages in the district is 898. It is the second largest city in the state and the seat of the High Court of Chhattisgarh. Bilaspur is famous for Kanan Pendari Zoo Park. Arpa is a river passing through the district, it is very shallow in depth, but creates havoc during rains.

As per 2011 census, 74.48 per cent population of Bilaspur district (with Mungeli district) lives in rural areas. The then Bilaspur district population living in rural areas was 1.9 lakh of which males and females were 10.0 lakh and 9.81 lakh respectively. In rural areas of Bilaspur district sex ratio was 979 females per 1000 males. The child sex ratio of the district was 972 girls per 1000 boys. Literacy rate in rural areas of Bilaspur was 65.94 per cent. The western part of the district is dominated by the tribal people. In this district Kota, Gourela, Pendra and Marvahi blocks are tribal blocks. The total population of Kota and Gourela block is known for the home to many indigenous tribal groups of the region. These tribal blocks are known for the tribal culture and dialect in the district.

**Table 1 :** Distribution of respondents according to constraints faced by them in adoption of modern agricultural technologies on leased forest land.

S. no.	Constraints	F*	%	Rank
1.	Problems in field preparation due to non availability of required implements	122	84.72	I
2.	Non availability of irrigation sources	44	30.55	VIII
3.	Non availability of manure & fertilizer at local level	69	47.91	V
4.	Poor quality of land for farming	87	60.41	IV
5.	None availability of seed of required varieties from government agencies	61	42.36	VI
6.	Machinery not available for sowing, harvesting, spray etc.	64	61.80	III
7.	Non nearby availability of insecticides in time	48	33.33	VII
8.	Poor monitoring due to distant location of lease of land	35	24.30	IX
9.	Lack of knowledge about recommended production technology	103	71.52	II

F\* = Frequency, % = percentage, \*Data based on multiple responses.

**Table 2 :** Distribution of respondents according to their suggestions for adoption of modern agricultural technologies on leased forest land.

S. no.	Suggestions	Frequency*	Percentage	Rank
1.	Complete information should be available on time to each farmer	70	48.61	V
2.	Irrigation facility like pond etc. should be constructed	106	73.61	II
3.	Provide knowledge about improved varieties	46	32	VIII
4.	Production technology without chemicals is required	51	35.41	VII
5.	Specialized training should be given	38	26.38	IX
6.	Machinery should be available on rent	19	13.19	XI
7.	Organic manure etc. be provided for improving land productivity	32	22.22	X
8.	Leased area should be nearby roads etc.	64	44.44	VI
9.	Good quality of land be provided through lease	116	88.55	I
10.	The lease area should be more	103	71.52	III
11.	Agricultural inputs be provided on subsidy/free of cost	92	63.88	IV

\*Data based on multiple responses.

Earlier, these people were lived inside and fringe areas of forests for their livelihood sustainability, but they were known as the encroacher of the forest land. With the enforcement of FRA in Chhattisgarh, a total of 15786 identified tribal families were provided lease of nearby forest areas in Bilaspur district, maximum among them were belonging to Kota and Gourela blocks.

## Materials and Methods

### Location of the study

The study was conducted in Bilaspur district of Chhattisgarh State during the year 2014-15. Chhattisgarh State has 27 districts *i.e.*, Bijapur, Sukma, Dantewada, (Dakshin Bastar), Bastar (Jagdalpur), Kondagaon, Narayanpur, Kanker (Uttar Bastar), Kawardha, Rajnandgaon, Balod, Durg, Bemetara, Dhamtari, Gariyaband, Raipur, Baloda Bazar, Mahasamund, Bilaspur, Mungeli, Korba, Janjgir-Champa, Jashpur Raigarh, Koriya, Surajpur, Surguja (Ambikapur), Balrampur. Out of these, Bilaspur district was purposively selected for this study

because of no insurgency, tribal domination and maximum beneficiaries of leased forest land in Chhattisgarh plains. Two blocks *i.e.* Kota and Gaurela were selected purposively for this study because of maximum number of lease forest land allotted in these blocks of Bilaspur district Six villages were selected purposively from each of the selected block according the maximum allotment of lease on forest land make a total of 12 sample villages namely, Karhikchhar, Barr, Bhelwatikra, Lufa, Manpur, Sktibehra, Khodri, Sharbahra, Keonchi, Semara, Newsa and Lata. A list of tribes, who were benefited by the lease of forest land was prepared for each selected village. A total of 12 tribes were selected randomly from each selected village. In this way, a total of 144 tribes were considered as respondent.

### Method of data collection

The data were collected personally by the researcher in cooperation with RAEs and other officials of the blocks by using pre-tested interview schedule.

## Results and Discussion

### Constraints faced by the beneficiaries tribal farmers in adoption of modern agricultural technologies on their leased forest land

The constraints as perceived by the respondents in adoption of modern agricultural technology on leased forest land are given in table 1.

Regarding problems found by the respondents in adoption of modern agricultural technologies, majority of the respondents (84.72%) facing problems in field preparation due to non availability of required implements. Lack of knowledge about recommended production technology was reported by more than 71 per cent respondents as a main constraint for adopting modern technologies about 62 per cent faced the problem of machinery for different operations, 60.41 per cent have poor quality of land for farming, 47.91 per cent none availability of manure & fertilizer at local level as important constraint. About 42 per of them faces the problem of none availability of seed of required varieties from government agencies, 33.33 per cent respondents reported that non availability of insecticides nearby, 30.55 says that irrigation facilities not available and 24.30 per cent of respondents faced problem of poor monitoring due to distant location of land. Painkra (2014) and Pradhan (2014) also found similar findings on their studies.

### Suggestions obtained from the respondents to overcome the constraints for adoption of modern agricultural technologies on leased forest land

The findings related to the suggestions given by the respondents to overcome the constraints in adoption of modern agricultural technology on leased forest land are presented in table 2. The data revealed that majority of the respondents (88.55%) suggested that good quality of land be provided through forest lease, followed by Irrigation facility like pond etc. should be constructed

(73.61%). The lease area should be more suggested by more than 71 per cent the respondents. About 64 per cent of the respondents suggested agricultural inputs be provided on subsidy/free of cost, while 48.61, 44.44, 35.41, 32, 26.38, 22.22 and 13.19 per cent of them suggested complete information should be available on time to each farmers, leased area should be nearby roads etc., production technology without chemicals is required, provide knowledge about improved varieties, specialized training should be given, organic manure etc. be provided for improving land productivity and machinery should be available on rent, respectively. Khan (1996) found similar findings in his study.

## References

- Anonymous (2011). Forests right act in Madhya pradesh and chhattisgarh : challenges a way forward (final Report July 2011).
- Anonymous (2015). [https://en.wikipedia.org/wiki/Bastar\\_district](https://en.wikipedia.org/wiki/Bastar_district).
- Anonymous (2013). The scheduled tribes and other traditional forest dwellers (recognition of forest rights) act, 2006, Chhattisgarh govt. 2012-13, 1-12.
- Anonymous. www.Chhattisgarh tribal development programme
- Anonymous. www.Bilaspur.gov.in
- Khan, M. A. (1996). A study on tribal farmer of Dantewara block of Baster District, M. P. with reference to adoption of selected agricultural technology. *M.Sc. (Ag.) Thesis*, Indira Gandhi Krishi vishwaidyaia, Raipur.
- Painkra, V. K. (2014). Assessment of technological gap in production of black gram among tribal farmers of jashpur district (Chhattisgarh). *M.Sc. (Ag.) Thesis*, Indira Gandhi Krishi vishwaidyaia, Raipur.
- Pradhan, S. K. (2014). Study on biotic factors affecting the productivity of scented rice varieties amongst the tribal farmers of jashpur district (Chhattisgarh). *M.Sc. (Ag.) Thesis*, Indira Gandhi Krishi vishwaidyaia, Raipur.