



# Problems & Issues in adoption of Biofertilizers in Agriculture by Farmers

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**Abstract:** *This research study was carried out during 2012-2013 in Limbdi Taluka of Surendranagar district of Gujarat state for ascertaining the constraints or problems faced by farmers in adoption of biofertilizers in agriculture. The research study revealed that a majority of respondents i.e. 85% reported the lack of confidence towards various biofertilizers practices and methods. More than half of the respondents of the respondents i.e. 58% reported that lack of knowledge about biofertilizers, followed by inadequate water availability i.e. 45% and lack of guidance from extension personnel are 41% of the total respondents. It is therefore, advisable that the extension agency should increase confidence level of farmers on usage of biofertilizers and also the method or practices to be used regarding biofertilizers. Information concerning utilization of biofertilizers through organizing of training programmes, expert's lectures, method and result demonstration and Krishi Mela etc.*

**Keywords:** *Gujarat, Respondents, Biofertilizer, Farmers, Information, Krishi Mela*

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## I. INTRODUCTION

Agricultural productivity depends upon availability and use of quality and quantity of farm inputs and advanced methods. The chemical fertilizers are one of the essential inputs for enhancing production of hybrids and high yielding crop varieties. It has played a significant role in enhancing agricultural production in the country since 'Green Revolution'. An uninterrupted use of chemical fertilizers however, has declined the soil fertility, destroyed soil microbial activity, disturbed environmental balance and ecological soundness.

This therefore, indicates a dismal need to use such fertilizers that are environment-friendly, sustain soil fertility and enhance agricultural productions. Biofertilizers, most of which are nitrogen fixing microorganisms, are considered to be suitable unconventional source of plant nutrition.

The increasing usage of biofertilizers is the recent attempt in increasing yield of different crops productivity as well as soil fertility by way of fixing atmospheric nitrogen, solubilising insoluble phosphate present in the soil biologically along with production of growth hormones, vitamins and also helps improve soil structure, texture and water holding capacity in agriculture sector.

The most important and contributing function of biofertilizers is considerable reduction in environmental pollution and improvement in agroecological soundness. According to Pandey and Pandey, 1995 biofertilizers are inexpensive to farmers because of low costs and they are very momentous in making available nutrients like nitrogen and phosphorus to the crop plants.

In spite of having various potential activities, biofertilizers yet did not get popularity among farmers in acceptance of it adequately. There are a variety of factors affecting the acceptance of biofertilizers to the farmers. By knowing the different constraints or problems faced by the farmers in use of biofertilizers, the extent of acceptance of biofertilizers can be increased by conquering these issues and problems. The present research investigation was therefore, aimed to determine the problems faced by farmers with the following specific objectives:

## II. OBJECTIVES OF THE STUDY

The aim of the study is to know the constraints or problems faced by the farmers in adoption of biofertilizers in agriculture. To know the availability of information regarding the usage of biofertilizers among the farmers.

### III. LIMITATIONS OF THE STUDY

This study is restricted only to the Limbdi Taluka of Surendranagar district of Gujarat State. So, the results may not be applicable to other areas of the state or country. As per the population of the study is large, a sample size of 100 sample respondents is only covered in this study. This study is based on the prevailing perceptions of farmers regarding usage of biofertilizers. But the perceptions of farmers may change time to time or a change in agriculture methods, technology, other factors affecting the perceptions of farmers.

### IV. RESEARCH METHODOLOGY

This research study was undertaken in Limbdi Taluka of Surendranagar district of Gujarat state. Limbdi taluka consist of 64 villages among these 10 villages were selected by simple random sampling method. 100 farmers were selected by proportionate random sampling method from selected 10 villages of this Taluka. These farmers were considered as respondents for this research study. On the basis of the objectives of study, and comprehensive interview schedule was designed and developed. Data were collected from these farmers by personal interview method.

In this research article, constraints refer to problems and issues faced by the farmers during the adoption of biofertilizers in agriculture. Efforts were made by the researchers to discover the constraints faced by farmers in actual use of biofertilizers. The farmers were asked to indicate the difficulties they have come acrossed, regarding the various aspects concerned with the usage of biofertilizers such as technical constraints, financial constraints and other constraints. The constraints or problems reported by the farmers were listed out then frequencies and percentage to each were worked out and the rank was given to the each constraint based on the frequencies of their encounter.

### V. FINDINGS & INTERPRETATION

The constraints generally restrict the attitude of farmers in adoption of new farm technology in agriculture. The below table shows problems faced by the farmer in use of biofertilizers.

TABLE-1  
Classification of farmers according to constraints faced by them in use of biofertilizers.

Sr. No.	Constraints Faced by Farmers	Respondents (Total 100 Farmers)		Ranking
		Frequency	Percentage	
1	<b>Financial Constraints</b>			
a.	Lack of timely availability of finance	18	18	V
b.	Lack of subsidies on Biofertilizers	15	15	VII
2	<b>Technical Constraints</b>			
a.	Lack of Knowledge about biofertilizers	58	58	II
b.	Non-availability of Biofertilizers	16	16	VI
c.	Lack of guidance from expert personnel	41	41	IV
d.	Inadequate water facility	45	45	III
3	<b>Other Constraints</b>			
a.	Lack of Interest	10	10	IX
b.	Complicated methods	13	13	VIII
c.	Lack of confidence towards different biofertilizer practices	85	85	I

It is observed from the above classification Table-1, that in case of financial constraints, majority of respondents 18% reported the lack of subsidy on biofertilizers and about one fifth of respondents 15% reported the lack of timely finance as their constraint.

In case of technical constraints, majority of the respondents (58%) reported that lack of knowledge about biofertilizers, followed by inadequate water availability (45%) and lack of guidance from expert personnel (41%). The meagre percent of respondent 16% faced problem of non-availability of biofertilizers.

The study also revealed that majority of respondents 85 reported the lack of confidence towards various biofertilizers practices in case of other constraints. A meagre percentage of the respondents reported complicated method are 13% and lack of interest are 10% as constraints.

According to the research study the major constraints in use of biofertilizers faced by the farmers were lack confidence towards various biofertilizers practices, lack of knowledge about biofertilizers, Inadequate water availability and lack of guidance from expert personnel.



It is obvious to find out that there is a need to increase confidence level of farmers on use of biofertilizers. Information regarding utilization of biofertilizers should be provided through organizing of training programmes, guest lectures, method and result demonstration and Krishi Mela.

## VI. CONCLUSION

The research study was undertaken during 2012-2013 in Limbdi Taluka of Surendranagar district of Gujarat state for determining the constraints faced by farmers in adoption of biofertilizers. The research study revealed that a majority of respondents i.e. 85% reported the lack of confidence towards various biofertilizers practices and methods. More than half of the respondents of the respondents i.e. 58% reported that lack of knowledge about biofertilizers, followed by inadequate water availability i.e. 45% and lack of guidance from extension personnel are 41% of the total respondents. It is therefore, advisable that the extension agency should increase confidence level of farmers on usage of biofertilizers and also the method or practices to be used regarding biofertilizers. Information regarding utilization of biofertilizers through organizing of training programmes, guest lectures, method and result demonstration and Krishi Mela etc.

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