# Constraints Faced by the Organic and Conventional Farmers in Adoption of Organic Farming Practices

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## ABSTRACT

*Due to intensive agriculture, using high yielding varieties (including hybrids), more fertilizers, chemicals and irrigation to increase yields was introduced. As the main focus being to increase production, product quality was neglected. As a result, biological diversity is lost, soil productivity is diminished, water resources are overused and polluted and climate changes have occurred and environmental problems overtook the first place in global context. The present study was conducted in the 6 selected villages of purposely selected Govindgarh Panchayat Samiti of Jaipur district. From these villages 50 organic farmers were selected by simple random sampling technique for the study purpose by proportional allocation method. Equal number of conventional farmers was also selected randomly from these selected villages. The major findings of the study were as follows : Both the organic and conventional farmers perceived with high intensity the constraints like "Inadequate availability of inputs like vermicompost, biofertilizers and organic manures", "Lack of skill about improved methods of composting" and "Lack of awareness about the concentration, time and method of biofertilizer application".There was a significant difference between the organic and conventional farmers in perceiving the constraints in adoption of organic farming practices.*

***Key words:*** Constraints, Adoption, Organic Farming, Vermicompost, Biofertilizer

Due to intensive agriculture, using high yielding varieties (including hybrids), more fertilizers, chemicals and irrigation to increase yields was introduced. As the main focus being to increase production, product quality was neglected. As a result, biological diversity is lost, soil productivity is diminished, water resources are overused and polluted and climate changes have occurred and environmental problems overtook the first place in global context.

In response, an environment friendly system called organic farming, which prohibits usage of fertilizers, chemicals and growth stimulating substances, which serve the goals of sustainable development, has been introduced. Today there is an increasing demand for organic food in the world. Thus, trend of organic food and organic farming has an increasing importance. India is also stepping up efforts to substantial share of world market of organic food.

In Rajasthan, Morarka foundation is working in six districts on organic farming namely Jhunjhunu, Sikar, Chittorgarh, Jalore, Jaipur and Tonk and has adopted 60,55,21,24,124 and 70 villages respectively in these districts for the organic farming. In Jaipur district five Panchayat Samities have been adopted by Morarka foundation *i.e.* Govindgarh, Chaksu, Amer, Phagi and Jhotwara. In each Panchayat Samiti the number of villages adopted by the foundation are 42, 8, 59, 5 and 10 respectively. Out of them Govindgarh Panchayat Samiti has maximum number of organic farmers (182), whereas Amer, Chaksu, Jhotwara and Phagi have 158, 39, 16 and 5 organic farmers respectively.

Keeping all these facts in mind the present investigation "Constraints faced by the organic and conventional farmers in adoption of organic farming practices " was under taken.

## METHODOLOGY

The present study was under taken in the purposely selected Govindgarh panchayat samiti of Jaipur district, because Govindgargh Panchayat samiti had maximum number of organic farmers as identified by Morarka Foundation so it was selected purposely. There were

42 adopted organic villages of Morarka Foundation in the Govindgarh panchayat samiti, out of which six organic villages having maximum number of organic farmers were selected for the study purpose.

From the selected villages a sample of 50 organic farmers was selected randomly in such a manner that the number of organic farmers selected from a village was proportional to the total number of organic farmers of that village. Equal number of conventional farmers (50) was also selected randomly from the selected village for comparison purpose. Thus, the total sample size would be 100.

The constraints faced by farmers in using organic farming practices were measured by a schedule prepared by the investigator in light of the suggestions of the experts. The data were classified, tabulated and inferences were drawn after subjecting the data to appropriate statistical analysis, which led to the following major findings.

## RESULTS AND DISCUSSION

In this section all the possible constraints faced by the organic and conventional respondents which hinder the extent of adoption of organic farming practices were grouped into five major categories *viz*., infra-structural, economic, technological, socio-psychological and educational constraints.

*Infra-structural constraints faced by the organic and conventional farmers in adoption of organic farming practices:* The data in table 1 revealed that "Inadequate availability of inputs like vermicompost, biofertilizers and organic manures" (98.66 MPS), was perceived as the biggest constraint by the whole respondents and was assigned first rank.

**Table 1. Infra-structural constraints faced by the organic and conventional farmers in adoption of organic farming practices**

| S. No. | Infra-structural Constraints | Organic farmers (N = 50) | | Conventional farmers (N = 50) | | Whole respondents (N = 100) | |
|---|---|---|---|---|---|---|---|
| | | MPS | Rank | MPS | Rank | MPS | Rank |
| 1. | Inadequate marketing facilities | 60.00 | IV | 67.33 | III | 63.66 | IV |
| 2. | Regular information is not available regarding use of biofertilizers | 78.66 | II | 66.00 | IV | 72.33 | III |
| 3. | Lack of storage facility for biofertilizers | 60.00 | IV | 48.00 | V | 54.00 | V |
| 4. | Poor quality of biofertilizers are available | 52.00 | V | 44.66 | VI | 48.33 | VI |
| 5. | Inadequate availability of inputs like vermicompost, biofertilizers and organic manures | 97.33 | I | 100.00 | I | 98.66 | I |
| 6. | Unavailability of inputs at appropriate time | 69.33 | III | 96.00 | II | 82.66 | II |
| | Overall | 69.55 | | 70.33 | | 69.94 | |

This was followed by "Unavailability of inputs at appropriate time" (82.66 MPS), "Regular information is not available regarding use of biofertilizers" (72.33 MPS) and "Inadequate marketing facilities" (63.66 MPS) with second, third and fourth ranks respectively, in order of the severity of constraints realized by whole respondents. Whereas the constraint "Poor quality of biofertilizers are available" (48.33 MPS) was least perceived by the whole respondents and was awarded last rank.

While seeing the constraints perceived by organic and conventional farmers, the data in the table shows that "Inadequate availability of inputs like vermicompost, biofertilizers and organic manures" was the most perceived constraint by organic farmers (97.33 MPS) as well as conventional farmers (100.00 MPS) and was ranked first by both categories of farmers in conducting organic farming practices. The "Poor quality of biofertilizers are available" was the least perceived constraint by the organic farmers (52.00 MPS) as well as conventional farmers (44.66 MPS) and was awarded last rank by both categories of farmers.

*Economic constraints faced by the organic and conventional farmers in adoption of organic farming practices:* A critical examination of table 2 reveals that "Extra land is needed for growing green manure crop" (82.66 MPS) was perceived as the most important economic constraint by the whole respondents and was accorded the first rank. The other constraints like "Required biofertilizers are not available at reasonable price" (65.00 MPS), "Lack of provision of subsidy" (61.33 MPS) and "Increase in labour due to being time consuming and slow process" (57.33 MPS) were also reported important constraints by the whole respondents and were ranked second, third and fourth, respectively.

**Table 2. Economic constraints faced by the organic and conventional farmers in adoption of organic farming practices**

| S. No. | Economic constraints | Organic farmers (N = 50) | | Conventional farmers (N = 50) | | Whole respondents (N = 100) | |
|---|---|---|---|---|---|---|---|
| | | MPS | Rank | MPS | Rank | MPS | Rank |
| 1. | Uncertainty and risk prevails in organic farming | 42.66 | VI | 35.33 | VI | 38.99 | VI |
| 2. | Increase in labour due to being time consuming and slow process | 53.33 | V | 61.33 | II | 57.33 | IV |
| 3. | Extra land is needed for growing green manure Crop | 70.66 | I | 94.66 | I | 82.66 | I |
| 4. | Lack of provision of subsidy | 64.00 | III | 58.66 | IV | 61.33 | III |
| 5. | Required biofertilizers are not available at reasonable price | 70.00 | II | 60.00 | III | 65.00 | II |
| 6. | Lack of funds with farmers at appropriate time for biofertilizer purchasing | 54.33 | IV | 52.00 | V | 53.16 | V |
| | Overall | 59.16 | | 60.33 | | 59.74 | |

The constraint "Uncertainty and risk prevails in organic farming" (38.99 MPS) was least perceived by the whole respondents and was awarded last rank.

While seeing category wise analysis of the constraints the table further shows that "Extra land is needed for growing green manure crop" was the most perceived constraint by organic farmers (70.66 MPS) as well as conventional farmers (94.66 MPS) and was ranked first by both the categories of farmers in conducting organic farming practices. The "Uncertainty and risk prevails in organic farming" (42.66 MPS) was the least perceived constraint by the organic farmers as well as conventional farmers (35.33 MPS) and was awarded last rank by both categories of farmers.

Technological constraints faced by the organic and conventional farmers in adoption of organic farming practices: The Table 3 revealed that "Lack of technical information and skill about the biofertilizers application" (86.33 MPS) was perceived as the biggest constraint with high intensity by the whole respondents as indicated by first rank assigned to it. This was followed by "In case of problematic soil (acidic, saline and alkaline), the biofertilizers cannot be used due to decrease in their efficiency" (63.66 MPS), "In case of high temperature biofertilizer application is not successful" (59.00 MPS) and "Poor application of biofertilizers due to unfavourable phosphorus" (58.33 MPS) which were ranked with second, third and fourth, respectively by the whole respondents. Whereas the constraint "Lack of spare time for applying biofertilizers at sowing time" (47.99 MPS) was least perceived by the whole respondents and was awarded last rank.

The table further shows that "Lack of technical information and skill about the biofertilizers application" was the most important technological constraint faced by organic farmers (74.66 MPS) as well as conventional farmers (98.00 MPS) and was ranked first in conducting organic farming practices by both categories of farmers.

The "Seed coat is removed from seed due to rubbing the seed with the biofertilizers solution, resulting in poor germination" (50.66 MPS) was the least perceived constraint by the organic farmers whereas "Lack of spare time for applying biofertilizers at sowing time" (44.66 MPS) was the least perceived constraint by the conventional farmers.

**Table 3. Technological constraints faced by the organic and conventional farmers in adoption of organic farming practices**

| S. No. | Infra-structural constraints | Organic farmers (N = 50) | | Conventional farmers (N = 50) | | Whole respondents (N = 100) | |
|---|---|---|---|---|---|---|---|
| | | MPS | Rank | MPS | Rank | MPS | Rank |
| 1. | Lack of technical information and skill about the biofertilizers application | 74.66 | I | 98.00 | I | 86.33 | I |
| 2. | In case of problematic soil (acidic, saline and alkaline), the biofertilizers can not be used due to decrease in their efficiency | 60.66 | II | 66.66 | II | 63.66 | II |
| 3. | Poor application of biofertilizer due to unfavourable pH | 54.66 | IV | 62.00 | III | 58.33 | IV |
| 4. | In case of high temperature biofertilizer application is not successful | 56.00 | III | 62.00 | III | 59.00 | III |
| 5. | Lack of spare time for applying biofertilizers at sowing time | 51.33 | V | 44.66 | VI | 47.99 | VI |
| 6. | Seed coat is removed from seed due to rubbing the seed with the biofertilizers solution, resulting in poor germination | 50.66 | VI | 58.66 | V | 54.66 | V |
| 7. | Clods are made after mixing the biofertilizers solution with seeds, which cause problem in maintaining proper spacing | 56.00 | III | 60.66 | IV | 58.33 | IV |
| | Overall | 57.71 | | 64.66 | | 61.18 | |

*Socio-psychological constraints faced by organic and conventional farmers in adoption of organic farming practices :* A critical examination of table 4 reveal that "Lack of motivation from extension agencies" (72.66 MPS) was perceived as most important socio-psychological constraints by the whole respondents was assigned first rank to it. The other constraints like "Low credibility of source from purching compost and biofertilizers" (66.66 MPS), "Farmers think that chemical fertilizers are more effective than biofertilizers" (56.66 MPS) and "Biofertilizers are not used by fellow farmers in village" (37.66 MPS) were also reported important constraints and ranked second, third and fourth, respectively by the whole respondents.

**Table 4. Socio-psychological constraints faced by the organic and conventional farmers in adoption of organic farming practices**

| S. No. | Socio-psychological constraints | Organic farmers (N = 50) | | Conventional farmers (N = 50) | | Whole respondents (N = 100) | |
|---|---|---|---|---|---|---|---|
| | | MPS | Rank | MPS | Rank | MPS | Rank |
| 1. | Farmers think that chemical fertilizers are more effective than biofertilizers | 49.33 | III | 64.00 | II | 56.66 | III |
| 2. | Biofertilizers are not used due to killing of living organism in biofertilizers | 33.33 | VI | 34.00 | V | 33.66 | V |
| 3. | Application of biofertilizers is not permitted in farmer's culture | 34.00 | V | 33.33 | VI | 33.66 | V |
| 4. | Biofertilizers are not used by fellow farmers in village | 40.66 | IV | 34.66 | IV | 37.66 | IV |
| 5. | Lack of motivation from extension agencies | 69.33 | II | 76.00 | I | 72.66 | I |
| 6. | Low credibility of source for purchasing compost and biofertilizers | 70.00 | I | 63.33 | III | 66.66 | II |
| | Overall | 49.44 | | 50.88 | | 50.16 | |

The constraints "Biofertilizers are not used due to killing of living organism in biofertilizers" and "Application of biofertilizers is not permitted in farmers culture" were the least perceived by the whole respondents with equal MPS 33.66 and was awarded last rank.

The table further shows that "Low credibility of source for purchasing compost and biofertilizers" was the most perceived constraint by organic farmers (70.00 MPS) whereas the "Lack of motivation from extension agencies" (76.00 MPS) was the most perceived constraint by the conventional farmers.

The "Biofertilizers are not used due to killing of living organism in biofertilizers" (33.33 MPS) was the least perceived constraint by the organic farmers whereas "Application of biofertilizers is not permitted in farmer's culture" (33.33 MPS) was the least perceived constraint by the conventional farmers.

*Educational constraints faced by the organic and conventional farmers in adoption of organic farming practices :* The data given in table 5 indicates that "Lack of skill about improved methods of compost making" (89.66 MPS) was perceived as the major constraint with first rank by the whole respondents. This was followed by the other constraints like "Lack of awareness about the concentration, time and method of biofertilizer application" (89.33 MPS), "Lack of proper training about organic farming" (76.99 MPS) and "Inadequate knowledge of field functionaries about organic farming" (72.66 MPS) were considered as important constraints

**Table 5 : Educational constraints faced by the organic and conventional farmers in adoption of organic farming practices**

| S. No. | Educational constraints | Organic farmers (N = 50) | | Conventional farmers (N = 50) | | Whole respondents (N = 100) | |
|---|---|---|---|---|---|---|---|
| | | MPS | Rank | MPS | Rank | MPS | Rank |
| 1. | Lack of skill about improved methods of compost making | 80.00 | I | 99.33 | I | 89.66 | I |
| 2. | Lack of awareness about the concentration, time and method of biofertilizer application | 80.00 | I | 98.66 | II | 89.33 | II |
| 3. | Lack of proper training about organic farming | 74.66 | III | 79.33 | III | 76.99 | III |
| 4. | Inadequate knowledge of field functionaries about organic farming | 75.33 | II | 70.00 | IV | 72.66 | IV |
| 5. | Lack of knowledge in farmers about different biopesticides | 71.33 | IV | 66.66 | V | 68.99 | V |
| 6. | Unavailability of organic farming literature in the village | 68.00 | V | 65.33 | VI | 66.66 | VI |
| | Overall | 74.88 | | 79.88 | | 77.38 | |

in the adoption of organic farming by the whole respondents and ranked second, third and fourth ranks in order of educational constraints faced by the whole respondents. The constraint "Unavailability of organic farming literature in the village" (66.66 MPS) was least perceived by the whole respondents and was awarded last rank.

The category wise analysis of the data shows that "Lack of skill about improved methods of compost making" and "Lack of awareness about the concentration time and method of biofertilizers application" were the most important constraints perceived by the organic farmers with equal MPS of 80.00 and were awarded first rank. Whereas the "Lack of skill about improved methods of compost making" was the most perceived constraint by the conventional farmers (99.33 MPS) and was ranked first in conducting organic farming.

The "Unavailability of organic farming literature in the village" (68.00 MPS) was the least perceived constraint by the organic farmers as well as conventional farmers (66.33 MPS) and was awarded last rank by both categories of respondents.

## CONCLUSION

Both the organic and conventional farmers had highest perception of the constraints like "Inadequate availability of inputs like vermicompost, biofertilizers and organic manures", "Lack of skill about improved methods of composting" and "Lack of awareness about the concentration, time and method of biofertilizers application".

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