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# Diagnostic Services: Usage by the Farm Women of Udaipur, Rajasthan, India

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**A B S T R A C T**

Women in Agriculture are generally not able to access extension services. The present research study was undertaken to study the knowledge and utilization of diagnostic services provided by the State Department of Agriculture, Rajasthan among farm women and also to find out the constraints faced by farm women in utilization of these. The study was conducted in four villages of randomly selected Mavli panchayat samiti of Udaipur district of Rajasthan. A sample of the study was comprised of 100 farm women. Personal interview method was used for data collection. Frequency, percentage and mean percent score were used for analysis of the data. Knowledge about soil testing was found among 74 and 30 per cent of the respondents, respectively. While good utilization of soil testing (67%) and poor usage of water testing (8%) was reported due to lack of knowledge constraint.

## Introduction

Water is used by farm families for irrigation, general use around the farm, garden and home, as a carrier for agricultural chemicals and soluble fertilizers used in agriculture and for human consumption. Irrigation water, irrespective of its source, always contains some soluble salt. The suitability of water for specific purpose depends upon the types and amounts of dissolve salts. Some of the dissolved salts or other constituents may be useful for crop but the quality or suitability of water for irrigation purpose is assessed in terms of presence of undesirable constituents. The chemical, physical and biological properties of water may affect the health of the plants or crops and the physical structure and chemical fertility of the soil. Water testing analyses water for such properties which may affect the health of crops and soil.

Soil testing is an important diagnostic tool for determining the nutrient needs of plants and for environmental assessments. It is widely accepted and used in crop-production areas of the world to determine fertilization needs for crops (Mallarino, 2005). Soil testing is a chemical process by virtue of which requirement of nutrients for plant can be analysed so as to maintain the soil fertility. It determines nutrient and contaminated content, composition and other characteristics of soil such as the acidity or pH level. It also determines fertility and the expected growth potential of the soil which indicates nutrient deficiencies, potential toxicities from excessive fertility and inhibitions from the presence of non-essential trace minerals. Soil testing is an important measure of the soil's ability to supply nutrient elements needed for better plant growth. A proper soil testing will help to ensure the application of adequate fertilizer to meet the requirements of the crop and taking advantage of the nutrients already present in the soil. The farmers will be able to know how much nutrients are already available in the soil and how much will have to be provided additionally for a particular crop. The State Department of Agriculture provide soil testing facility at Kisan Seva Kendra at a minimal cost of rupees 5 per sample.

On the one hand, women are actively involved in agriculture and urgently need assistance to improve farming practices, purchase more productive inputs, decrease their workloads, and improve the processing, storage, and marketing activities they perform. On the other hand, they have been virtually ignored by agricultural extension units, the very organizations designed to provide these services. In addition to the above mentioned facts, it has also been documented that delivery of Extension and Advisory Services has not equally benefited men and women farmers in rural areas.

Women in Agriculture are generally not able to access extension services and production assets like seed, water, credit, subsidy etc. as most of them are not recognized as farmers for want of ownership of land. Further, due to multiple roles that a woman has to perform within the family and the farm, her access to knowledge and information, is constrained and therefore her opportunities get limited (Ministry of Rural Development, 2011). Agricultural extension services provide critical access to the knowledge, information and technology that farmers require to improve the productivity and thus improve the quality of their lives and livelihoods. Efforts of State Department of Agriculture cannot become effective until farm women will remain aloof from these services. A wide gap separates the woman farmer from the basic information she needs to increase production, efficiency, and income. In order to fill this gap and boosting the agriculture production it is necessary to assess the knowledge of farm women about these services and their utilization. Thus, the present study was planned to assess the knowledge and utilization of the diagnostic services of State Department of Agriculture by the farm women. The study also explored the constraints faced by the farm women in utilization of diagnostic services.

## Materials and Methods

The present study was conducted in the Udaipur district of Rajasthan. The study was performed in the randomly selected panchayat samiti of Mavli. Totalfour villages namely Mavli, Nandwel, Gadoli and Thamlawere selected randomly from all the four direction viz. east, west, north and south to have representative sample of the Panchayat Samiti. From each selected village 25 farm women were selected purposively. Only those who were willing to participate and co-operate in the study were taken as a sample of

study. Thus the sample of the study comprised of 100 respondents. Data was collected with the help of personal interview schedule. The schedule was prepared by the researcher based on the review of literature and evaluated by the experts. For further analysis data was scored, tabulated and categorized. Frequency, percentage and mean per cent score were used for statistical analysis of data.

## Results and Discussion

### Knowledge about the diagnostic services

Regarding water testing service of the department, Table 1 denotes that only 30 per cent of the respondents had knowledge about the water testing facility and place where the service is available followed by charge for water testing (22%). It was disappointing that only 8 per cent of the respondents knew about the purpose of water testing service. Similar findings that only 13.68 per cent farmers had knowledge about water testing services were also reported by Pandey (2013).

It is quite apparent from Table 1 that regarding knowledge of soil testing service, majority of the respondents (74%) knew about the soil testing facility, place where the service is available and the cost charged for testing the soil. It was discouraging that purpose of soil testing was known to 27 per cent of the respondent viz., to ensure the application of adequate fertilizer to meet the requirements of the crop and taking advantage of the nutrients already present in the soil so that soil health remain good.

The reason behind the good knowledge of respondents regarding soil testing may be the intensive efforts made by the department personnel i.e. Agriculture Supervisor as they were assigned target for soil testing in each crop season. The findings are in conformity with Singh *et al.,* (2013) who reported that majority of the farmers 68.33 per cent had knowledge about soil testing practices.

### Utilization of diagnostic services by the farm women

This is quite evident from the data in Table 2 that only 8 per cent of respondents had utilized water testing facility and used sometime only. This might be due to reason that most of respondents were unaware about the water testing service. Further they did not have knowledge about the place where water testing service is available.

A critical perusal of the data also portray that 67 per cent of the respondents had utilized soil testing service. Regarding frequency of utilization, respondents used it regularly (32%) and occasionally (35%). Majority of respondents were utilizing it because of the good awareness about soil testing due to presence of KSK in the village and agriculture supervisor insisted them to get their soil tested in both the seasons rabi and kharif. Findings by Pandey and Solanki indicated that ATIC services *viz.* soil testing (MPS 33) and water testing (MPS 6.50) were utilized by only a limited number of respondents.

### Constraints faced by the farm women in utilization of diagnostic services

A critical perusal of data in Table 3 portray that majority of respondent (70%) didn't know how to collect water sample (MPS 78.50) and place of water testing facility is available (MPS 70). About 25 per cent of the respondent reported that water testing facility was provided far away from home (MPS 25). Few respondents also mentioned that cost of water testing is high (MPS 7) it should be free of cost. The results are in line with the findings of Pandey (2013).

**Table.1** Knowledge of the diagnostic services among the farm women

**n=100**

| S. No. | Items | Water testing f/% | Soil testing f/% |
|---|---|---|---|
| **1.** | About the test | 30 | 74 |
| **2.** | Purpose of water testing | 08 | 27 |
| **2.** | Place of water testing | 30 | 74 |
| **3.** | Charge | 22 | 74 |

**Table.2** Utilization of diagnostic service by the farm women

**n=100**

| S. No. | Items | Water testing f/% | Soil testing f/% |
|---|---|---|---|
| **1.** | Utilization | 8 | 67 |
| **2.** | Frequency of utilization | | |
| | i. Always | 0 | 32 |
| | ii. Sometime | 8 | 35 |

**Table.3** Distribution of the respondents by constraints faced in utilization of water testing

**n=100**

| S. No. | Constraints | Extent (f/%) | | | MPS |
|---|---|---|---|---|---|
| | | To great extent | To some extent | Not at all | |
| **1.** | Don't know how to collect water sample | 70 | 17 | 13 | 78.5 |
| **2.** | Don't know where water testing facility is available | 70 | 0 | 30 | 70 |
| **3.** | Facility is provided far away from home | 25 | 0 | 75 | 25 |
| **4.** | High cost | 8 | 0 | 92 | 8 |

**Table.4** Distribution of the respondents by constraints faced in utilization of soil testing

**n=100**

| S. No. | Constraints | Extent (f/%) | | | MPS |
|---|---|---|---|---|---|
| | | To great extent | To some extent | Not at all | |
| **1.** | Delay in providing soil testing result | 0 | 69 | 31 | 34.50 |
| **2.** | Don't know the method of collecting soil sample | 28 | 0 | 72 | 28 |
| **3.** | Don't know where soil testing facility is available | 27 | 0 | 73 | 27 |
| **4.** | Facility is provided far away from home | 25 | 0 | 75 | 25 |
| **5.** | High cost | 8 | 0 | 92 | 8 |

In spite of proven benefits of the soil testing service for farmers, the service is suffering from some constraints. The major constraint reported by respondents as shown in Table 4 were delay in providing results of soil test (MPS 34.50), lack of knowledge about collecting soil sample (MPS 28), lack of awareness regarding soil testing facility (MPS 27) and long distance between home and testing centre (MPS 25). Few respondents also reported that cost of soil test was high (MPS 8) which should be free of cost.

In conclusion, diagnostic services play an important role in raising better crops and improving soil fertility levels. Soil analysis is a valuable tool for farmers as it determines the inputs required for efficient and economic production. The study found good knowledge and utilization of soil testing facility among farm women but poor knowledge and use of water testing service. Constraints analysis results indicate that farm women need to be educated about method of collecting sample for test. Also there is a need to further aware and inform farm women about these services so that benefits of these services can reach to them.

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