

# **The Influencing Factors on Farmers' Behaviors and Their Reactions against the Crisis Relating to Underground Waters** *Archive of SID* **(Case study: Dayer City)**

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## **Extended Abstract**

### **Introduction**

A group of international centers have recently paid attention to natural disasters due their effects on humans' society, specially farmers. Drought leads to water crisis, which is among the most important natural disasters. Iran, due to its geographical and climatic situation in the temperate northern hemisphere, is always faced with water problems, like many countries in the Middle East and North Africa. Among 116 countries, Iran is the 14th. In connection with water crisis and it indicates that the quantity of water resources is not adequate. Southern areas of Iran, such as Bushehr province, encounter a critical situation, in comparison with the national

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average. On the other hand, the groundwater is among the reliable resources for agricultural water supply. The world's largest source of agricultural water supply is groundwater. Moreover, in Iran, about 53% of total water usage comes from groundwater supplies. In such conditions, the ability of farmers for dealing with drought is becoming progressively dictated by the resilience of their agro-ecosystems; the diversity of livelihood options; and whether or not they have access to resources. The reactions of farmers in the groundwater crisis are very effective in reducing injuries. Based on the various studies, farmers have diverse behaviors for adapting with new situations, and therefore more than 70 mechanisms which are used by farmers, have been identified in this regard. Generally the mechanisms of drought adaptation include very complex strategies to overcome basic needs for short or long periods.

### Methodology

Accordingly, the main goal of this study is assessment of farmers' adaptive behaviors in the city Dayer city for facing with the crisis of ground water sources and identify factors affecting these behaviors. The Geographical area of this study is Dayer region in southwestern of Bushehr province. The research population were all farmers in Dayer city (1100 individuals). Geographically, Dayer city is located in these three regions: Dayer, Abdan and Bardkhon. Moreover 285 cases were calculated as the sample size, by using the table Takmn, selected by stratified random sampling method. A questionnaire was designed for data collecting. The Content and face validity were established by a panel of experts consisting of faculty members and some specialists. A pilot study was conducted with 30 farmers, outside the statistical population. Cronbach alpha score was between 0.71 to 0.86%, which indicated reliability of the questionnaire. The data were analyzed by using the Statistical Package for the Social Science (SPSS) program. The responses were coded before being transferred into the SPSS based format.

## Results

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Findings showed that the average age of the respondents was 45.3 years; the oldest was 80 and the youngest 19. Based on the results, most farmers (83%) were able to read and write, and only 17% of the farmers were almost illiterate. The results also indicated that only about 4% of farmers, work record are less than 6 years. Moreover, about 12% of farmers have professional experiences in agriculture between 10-6 years. Findings about ground water sources situation showed that only 5% of the total wells in the city are in ideal conditions. The findings showed that only 5% of the total wells in the studied area were in ideal conditions. The findings showed that only 5% of the total wells in the studied area were in ideal conditions. These wells were faced with almost no limitation regarding to production of tomatoes and the farms with such wells have the regarding performance and quality. Based on the results, there were significant differences ( $F=52.318$ ,  $P=0.000$ ) among the three regions in terms of water crisis. Tukey post-hoc test showed that there were significant differences among all three regions 0.01 level. Overall, the most critical condition of groundwater was related to the Abdan area and Dayer was the second one. In this regard, Bardkhon region was at the best situation. Results of this study about the tendency of farmers to adaptive behaviors showed that the studied farmers usually used farming adaptations. But among non-farming adaptations, most of the studied farmers welcomed to the assistance received from various public and private channels, respectively.

## Conclusion

Regression analysis revealed that six variables of vulnerability of farmers, quality of life, membership in social groups, and status of agricultural wells, natural capital, and type of farm ownership which entered to equation totally explain about 80% of the non-farming adaptations variance. These findings also showed that the variables of vulnerability and quality of life had greater role in explaining the changes of dependent variable.

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**Keyword:** Drought, Groundwater sources crisis, Farmers' adaptive behaviors, Dayer City.

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