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## Workshop on Drought-Related Issues in Fars Province, Iran: Critical Points and Resolutions

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# Workshop on Drought-Related Issues in Fars Province, Iran: Critical Points and Resolutions

As a result of the occurrence of overwhelming severe drought over most parts of the Islamic Republic of Iran, an educational/professional workshop on drought issues was held at the College of Agriculture, Shiraz University in Iran, October 18–19, 2000. The workshop was sponsored by the College of Agriculture, the office of Fars Provincial Government, the Agricultural Bank, and Shiraz Abfa Company. The workshop was mainly focused on the assessment of drought impacts and severity in Fars province, in the southern part of Iran.

The inauguration ceremony was attended by some of the parliament members (from Fars province), the Chancellor of Shiraz University and his deputies, the construction deputy of Fars Government, the director of the National Disaster Office (NDO), the NDO staff in Fars Province, general managers from various departments of the province, postgraduate students, and about 400 professional staff from various disciplines. All sessions, including the closing session, were well attended by the participants.

In addition to the presentation of 22 papers, the workshop provided a good opportunity for executive managers to discuss some of the ongoing drought policies and the related problems influencing their individual organizations. Some specific outcomes of the meeting were:

- 1 Drought is a natural, frequently occurring event in our ecosystem that should be managed properly.
- 2 A number of important indices (e.g., Palmer Drought Severity Index, Standard Precipitation Index) were introduced as suitable indicators for evaluating drought intensities in Iran. As a follow-up, it would be essential to combine such indices and apply them in modeling procedures for a more realistic analysis of drought conditions.
- 3 Considering the importance of ground water as the major water resource for urban and agricultural applications, opportunities should be provided for professionals to study and develop realistic methods for utilization of ground water without sociopolitical concerns. In such a case, it would be possible to counter drought crises by using static and dynamic storage capacities of ground water resources.
- 4 It was shown that occurrences of drought and excess rainfall in Fars and Khoozeston provinces are influenced by the El Niño/Southern Oscillation (ENSO) phenomenon. Further research on the relationships between rainfall and large-scale climatological indices was recommended.
- 5 A computer model for determining optimal water allocation from the storage dams was introduced. It was emphasized that without detailed studies and computer modeling, it would not be possible to optimally allocate water demands from large storage dams such as Doroodzan in Fars Province.
- 6 Because of the limited water supply and the diversity in crop types over the regions irrigated by Doroodzan Dam, a computer model was introduced to determine the optimal irrigation depth for achieving maximum benefit. Such a model is useful for determining the land area that could be irrigated by the dam during drought events. The application and development of this model is recommended.
- 7 The rules and regulations set by the Farmers Insurance Plan (affiliated with the Bank of Farming) for insuring drought-affected crops were praised by the audience as practical and lawful procedures to assist needy farmers. This is the first time that drought-affected farms have been officially insured by the Bank. Shiraz University announced her willingness to assist with the plan as required.
- 8 The criteria considered for the allocation of drought funds (in Fars province) were discussed by the representatives from the Fars NDO. Shiraz University, while grateful for the previous efforts,

indicated her willingness to evaluate the present proposal as well as provide suggestions for modification of drought and flood budget resources in the form of research proposals.

9. The weather situation of the 1999–2000 agricultural year was compared with corresponding long-term values. It was shown that, in this year, Fars province experienced a reduction of normal rainfall anywhere from 35% to 90%. The figures indicate the occurrence of an exceptional drought event for this year.
10. The devastating effects of drought on wetlands and ecological zones of Fars province, including Lake Bakhtegon, Lake Kaftar, and Lake Parishon, were evaluated, and the present critical and sad situation was described for the audience. It was suggested that in cooperation with the executive organizations, alternative solutions should be studied to avoid any future problems as a result of drought events on wetlands and in ecological zones of the province.
11. An analysis of the long-term rainfall data of Shiraz was presented. The general viewpoint was that the recent drought was preceded by several droughts. However, the population increase was the main reason this recent event turned into a national crisis. It was pointed out that drought is a natural phenomenon that should be separated completely from improper management of water resources in arid zones.
12. It was noted that forage production last year was reduced anywhere from 10% to 70%, causing the elimination of about half of the animals from the rangelands within the province. Most losses were concentrated around the cities of Firoozabad, Lar Shiraz, Darab, and Noorabad.

### **The Resolutions of the Workshop**

In the closing session of the workshop, the presented papers and viewpoints were discussed and approved by the participants. The following is a summary of the conclusions of the workshop, as approved:

1. For the sake of continuity in drought-related research, organizing an international conference (in 2002) at Shiraz University was emphasized. The topic and themes of the conference would be fixed later.
2. Realizing the socioeconomic side effects of drought, the need to support affected farmers was emphasized. The implementation of lawful supportive approaches such as agricultural crop insurance on a cooperative basis, in addition to the government support, was noted.
3. The establishment of a Drought and Flood Research Center at Shiraz University was emphasized and approved.
4. Study and evaluation of the influence of large-scale oceanic-atmospheric events (such as ENSO) on Iranian climatological conditions were emphasized.
5. Since the wetlands and lakes are strongly affected by drought events, water resources should be used in a way that will minimize drought damage.
6. The formation of a committee (with members from the university, executive branches, agriculture, industry, water resources, and social services) to help with the minimization of drought-related damages was emphasized.
7. With reference to the research results by Shiraz University, Jihad Sazandegi Research Center, and Fars Province Meteorological Department, it was recommended that funds be allocated for the development of a Fars drought atlas. The information gained from this project could facilitate the evaluation of drought issues.
8. The organization of educational/professional short courses on drought management for professional staff and managers and public educational programs to deal with drought problems were emphasized.
9. Since a majority of the streams are affected by agricultural and industrial pollutants, it was suggested that the Ecological Organization should have more power to control water pollution, especially during drought periods.
10. Because of the natural limitation of available water

resources, and the fact that a country's population is the main consumer of water resources, population control projects are of prime importance.

### **Coordinator's Message**

Readers with suggestions or comments about the workshop are kindly requested to contact Dr. M. J. Nazemosadat, the workshop coordinator, at the addresses below.

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