

Spate irrigation in Algeria

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1. Introduction

The cultivable area in Algeria is about 7.5 million ha in addition to forests and rangelands. Development of irrigated agriculture constitutes an important aspect of in the planning for agricultural self-sufficiency.

Areas already irrigated have reached 300 000 ha, and the programme for 1988 includes an additional 60 000 ha.

Algeria has a varied geography. The coastal areas have sufficient water resources but in the plains the situation is less favourable and the resources are just enough to provide some water for irrigation. Several grain and forage crops are grown here and considerable range management areas can be found next to arid lands.

The population is mostly scattered around the wadi deltas, and agriculture there depends on production of grain and forage crops in addition to date palm cultivation which is considered essential for oasis economy. The government is paying urgent attention to developing all possible water resources, especially in the southern parts. Land reclamation programmes have been executed, making full use of both surface and underground water. So far, an area of 100 000 ha has been reclaimed.

2. Spate irrigation

The annually spate-irrigated area is estimated to be 70 000 ha. Floods are one of the principal traditional resources for irrigation in the southern areas, where date palm oases are watered by spates and seasonal agricultural crops such as grain crops are grown, in areas called "Al-dhyat", located on wadi deltas. Yields of such crops are, however, below average.

In most cases floods are severe and the flow can exceed 350 m³/s, but they are characterized by their irregularity, and droughts may last for several years.

For controlling spate water, most wadis are equipped with weirs and protection works; first, to protect the wadis from flood damage; secondly, to feed the catchment areas; and, thirdly, to control spate water for agricultural purposes.

As spate water used for irrigation purposes is not sufficient for continuous cultivation of crops, groundwater is used as an additional source and the different techniques used include:

- traditional irrigation;
- drip irrigation and, more recently,
- pivot irrigation.

3. Conclusion

The government of Algeria pays utmost attention to spate irrigation systems, because agriculture in the southern parts of the country still depends on them. The government is also developing a programme to introduce new techniques to improve water supplies for agriculture.