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1. The development of modern irrigation in Yugoslavia is just in its beginning. In the past four decades some irrigation works have been constructed but they are now entirely inadequate and are only of minor importance.
2. Because of the salinity of underground water in the plains, rivers and streams are the only sources of irrigation water. In the past no important efforts have been made to provide irrigation water on a large scale. The government, through the Department of Irrigation, has recently embarked upon the creation of a number of large irrigation projects in the plains along the Dunar, Lava, Drava, Tisa, Morava, and Vardar Rivers.

Land Use

3. Of the 25 million hectares of land in Yugoslavia, about seven and one-half million hectares can be considered crop-land. Of the crop-land about three-fourths requires irrigation, and of the total land area about two-fifths is not suitable for irrigation. About 50 thousand hectares of land are irrigated, and of this amount about 90% depends on gravity flow irrigation systems and only 10% uses irrigation water that has been pumped. Of the 15 million acres of land which are now dry-farmed, about 75% should be irrigated since dry-farming on this land is exceptionally risky. About five per cent of the total land area is used for grazing.

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4. Production figures for dry-farmed land average about as follows:

Wheat	1,200 kilos per hectare
Corn	1,700 "
Potatoes	5,000 "
Hay	3,000 "

Under adequate irrigation and proper drainage, it is estimated that production will be increased from 65% to 75%.

Land Ownership:

5. About 25% of all the land is owned by the state or by farmers' cooperatives. The balance is held under private ownership. The average privately owned farm consists of about three to seven hectares. The maximum amount of land that can be held under private ownership is 10 hectares.
6. There are numerous cooperatives for farming which have been formed by the voluntary association of many farmers in an area. Under this system advanced farming procedures can be better followed, expensive equipment can be easily purchased, and marketing advantages can be secured. These farms are much larger than any other farms in Yugoslavia.
7. The government has outlined a program to create a better system of land distribution and ownership than the one now in use, but as such matters affect the very roots of the national life, all aspects must be thoroughly studied before the plan is put into operation.

Credit

8. The government guarantees [loans for] the acquisition of equipment, machinery, and various materials by farmers. [the loan] in installments.

Equipment

9. Pumps, pipes, tubing, and other irrigation equipment needed are produced in Yugoslavia. The only irrigation equipment which must be imported is that used for sprinkling systems.

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Irrigation Organizations

10. The government has a section, the Direction for Water Resources, which is devoted to irrigation matters and whose task it is to solve all problems relating to water.
11. There are many cooperative water undertakings which have been developed by committees. These organizations are under the supervision of the government.

Projects

12. Water resource developments in the past have been designed to produce electric power only. The projects to be constructed in the future will all be multi-purpose projects to produce electricity, store water for irrigation, and for flood control.
13. Plans are being prepared for the construction of a great irrigation system in the Vojvodina, the large plain in northern Yugoslavia. This project, to be called "Grand Canal Danub-Elbe-Danub System," will provide irrigation water for about 500 thousand hectares of the best crop-land in

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
the country. The high water table of saline water in this area presents the greatest problem in connection with this proposed project as water is encountered at 1.5 to 2.5 meters below the surface of the ground. All canals in connection with this project must be lined and the use of water for irrigation will have to be very carefully managed. Irrigation practices must be improved to a point of great efficiency before irrigation will become feasible in this area.

- 14. The full details of the government's proposed plan to increase irrigation facilities have not yet been worked out and only broad phases of the plan have been conceived. The government hopes to bring 800 thousand acres of land under irrigation in the next 10 years, and eventually six million acres will be under irrigation in Yugoslavia. When all proposed irrigation improvements are completed, it is estimated that production of agricultural products will be increased from 60% to 75%.

Drainage

- 15. Drainage of underground water is almost as great a problem as provision of water for irrigation. Precipitation is not evenly distributed throughout the seasons nor in various areas of the country. Spring rains, coupled with melting snows, cause severe floods and uncontrolled runoffs which, coursing over the chalk formation areas of much of the mountain land, ruin a great deal of productive soils. The low-lying river valleys are in many instances only slightly above sea level, and due to improper drainage the water tables in these valleys are often so high that the ground is waterlogged most of the year. As a result, it has been determined that storage of water can be done only in the upper river basins.

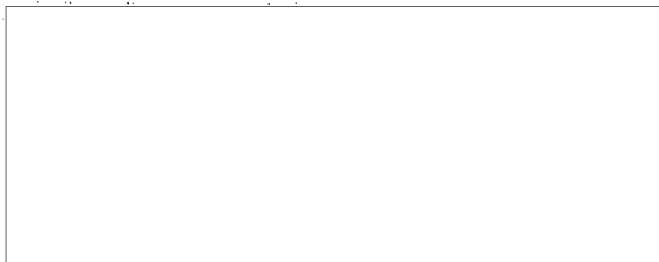
- 16. Drainage of some of the closed mountain valleys is a difficult problem as the only feasible method is to construct drainage tunnels. In the low-lying river valleys, dikes and levees have been built in order to reclaim some of the lands and protect them from floods.

- 17. Organizations created to provide drainage facilities are numerous in Yugoslavia, and some of the organizations are well over 100 years old. All of these organizations are supervised by the government.  about two and one-half million hectares of land have been drained in Yugoslavia. In areas where drainage has been feasible, about 70% of the land has been drained. Construction of drainage facilities is financed by the government.

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