

Hon. F. W. Gershaw: Honourable senators, in continuing this debate, I wish first to congratulate with all sincerity the mover (Hon. Mr. Golding) and the seconder (Hon. Mr. Veniot) of the address on the splendid speeches they made. Also, I wish to call the attention of this honourable body to a problem that exists in the southern part of the prairie provinces, which is of national importance and, I am pleased to say, is not being altogether overlooked.

Experience over the past forty years has shown that in the section of the country I have referred to the moisture coming from the sky during the growing season is not sufficient to produce food crops. Many farmers are still living in the short grass areas, but in eleven of the past thirteen years, as a result of hot winds and drought they have met with failure and disappointment.

The Government of Canada last year paid the sum of \$14 million to 60,730 farmers, because the yield on their farms was less than 8 bushels per acre, and in many cases it was less than 4 bushels per acre.

The people of this area settled there in good faith; they worked hard and became attached to their homes; but many of them are now convinced that they must move out. They should not be forced out, as were the Acadians removed from the land of Evangeline. They should not be scattered to distant areas far away from roads and without schools, hospitals, churches and stores. They can be removed to areas where all the benefits of community life may be enjoyed, if irrigation is provided.

Irrigation is nothing new. In all ages and in many parts of the world rainfall has been fitful and even absent during the growing season. Under these circumstances irrigation had to be resorted to in order to produce crops. Irrigation farming is as old as civilization itself. It was used by the Incas in South America before the Spaniards came. In Bible days Egypt, because of the flooding of the Nile was the granary of the Roman empire. In that land of pyramids a canal that was constructed 4,000 years ago still carries water to the thirsty land. Egypt's seven and one third million acres of irrigated land has time and again saved the people from famine and economic disaster.

Canada has from one-half to three quarters of a million acres under irrigation, compared with one million acres in Australia and fifty-five million acres in India. China, as far back as her records go, has maintained an extensive irrigation system in the rice-producing area. Irrigation is employed in Africa for the growing of fruits, especially

dates. Irrigation is made use of in Asia in the growing of mulberry for the silk worms; in Spain, for oranges; and in California about 46 per cent of the great fruit crop is grown on irrigated land.

Irrigation has been most successful in the United States. About one hundred years ago the Mormons, after suffering untold hardship in their march across the continent, settled in Salt Lake Valley. It was then a desert, but by irrigating the land they turned it into a veritable paradise. They succeeded in supporting a population of 175,000 with only two acres to each individual. Horace Greeley, the editor of the *Tribune*, once said, "Go West, young man, go West". He had in mind the great benefits of irrigation in the western states. He was one of the first promoters of the Colorado scheme, away back in 1870. Since that time the canals have been extended, and the western states have become noted for their watered gardens and orchards. There are now in the United States 28,000,000 acres under irrigation—about nine-tenths by the gravity method, and about one-tenth by pumps.

Here in Canada, flowing to Hudson Bay, we have water in rivers and the streams which, if harnessed and used, would irrigate about 2,000,000 acres of land; and if that land were irrigated people would flock to it, because people will go where there is food in abundance and where food is easily produced.

I should like to indicate and illustrate what can be done by recording what has been done in a small area close to where I live. In southern Alberta there is a tract of about 25,000 acres known as the Rolling Hills. Until a few years ago it produced nothing but a few cactus plants and clumps of sagebrush. It was a grim, desolate area. The roads were dry and dusty; there was no sign of human habitation anywhere. A broken-down deserted shack, or the whitened bones of some animal that had perished, were the only signs that people had ever tried to live in that district. The land was fertile and there was lots of sunshine: what was needed was moisture. Water was turned in, and a great transformation followed. In friendly co-operation the governments brought to these irrigated lands some farmers from dried-out areas. They arranged that the land vacated would be taken out of cultivation and used for community pasturage. They provided that the lands these people were moved to would be irrigated, and the northwest quarter of each section was reserved for persons experienced in irrigation, so that proper practices would be followed. Of the first one hundred families that were moved there, only two had any