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Impact of climatic conditions on the design of a water treatment plant

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The abundance or scarcity of resources causes enormous problems for populations and societies. They mark the direction of the development that a society will take. Water imbalances, may distort optimal environmental and socioeconomic conditions of the food production.

Water scarcity may limit food production and supply, putting pressure on food prices and increasing countries' dependence on food imports. Rising demand for food caused by growing populations and shifting diets, production shortfall in some countries, increased costs for key agricultural inputs and meat supply (driven in turn by energy costs), bioenergy-related incentives in some countries and possible financial speculation have all contributed to the steep rises in food prices.

According to United Nations Over the past century world water withdrawals increased almost twice as fast as population growth and an increasing number of regions are chronically water short. *Climate change* has been defined as a change in the statistical properties of the climate system when considered over long periods of time, regardless of cause. Different factors can shape the climate forces or mechanisms and impact the food production system such as the cattle production field.

This paper considers the step by step design and implementation of a water treatment plant of a community cattle farm located in Jadacaquiva under changing climatic conditions. The byproducts of the cattle, as well as the community can also have an impact depending on the decisions taken for the plant.

Keywords: water, climate change, treatment plant, food scarcity