

Irrigation and Food Security

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The Food and Agricultural Organisation (FAO) define food security as follows: “When all people at all times have access to sufficient, safe and nutritious food to meet dietary needs for a healthy and active life”. The challenge is to achieve a sustainable food system, which allows increased food production while reducing poverty and hunger and over-exploitation of natural resources.

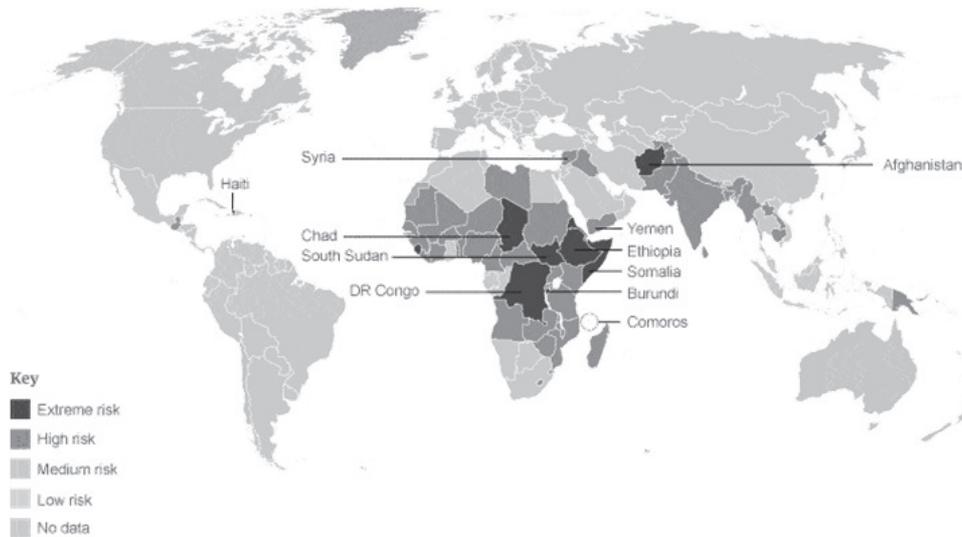
In this regard water gives life and is crucial to development all over the world. It waters the fields; nurtures the crops and stock; provides recreation; it support mines, industry; electricity generation and it provide life for plants and animals that make up ecosystems. The biggest share of water (70% in the world and 62% in South Africa) is used for agricultural production. Agriculture is also the key for rural development and poverty reduction and water use for food production is a value adding process. This water is applied artificially by means of irrigation and although the total cultivated area (1534 million hectare in the world) that is equipped with irrigation (300 million hectare), the irrigated area which is only 20% of the area, provide more than 40% of the food to assist with food security. Internationally, food security has slowly, but markedly, improved during the past years. Approximately 842m people today are estimated to be experiencing chronic hunger. The 2013 Global Food Security Index (Figure 1) provides a worldwide perspective on which countries are the most and least vulnerable to food insecurity.

Irrigation

Irrigation is an important factor in agricultural productivity. In Africa there is a potential of 43 million hectares that can be irrigated but only 13 million hectares are irrigated. Figure 2 shows the trends in the share of total cultivated area that was equipped with irrigation facilities in the SADC countries between 1990 and 2009. It was found that throughout the SADC region, only 8% of the cultivated area was equipped with irrigation facilities. SADC member states need to take serious measures to increase investment in irrigation projects, in order to tap the potential of irrigation to increase agricultural productivity and food security, and reduce poverty.

According to the Food and Agriculture Organization, the total food production in South Africa has increased over the last 40 years, mainly through improvements in productivity (see Figure 3), but the production per capita in South Africa and Southern African Development Countries (SADC) is declining (see Figure 4)

Food Security Risk Index 2013



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Figure 1: Food security index 2013 (The Economist Intelligence Unit Limited)

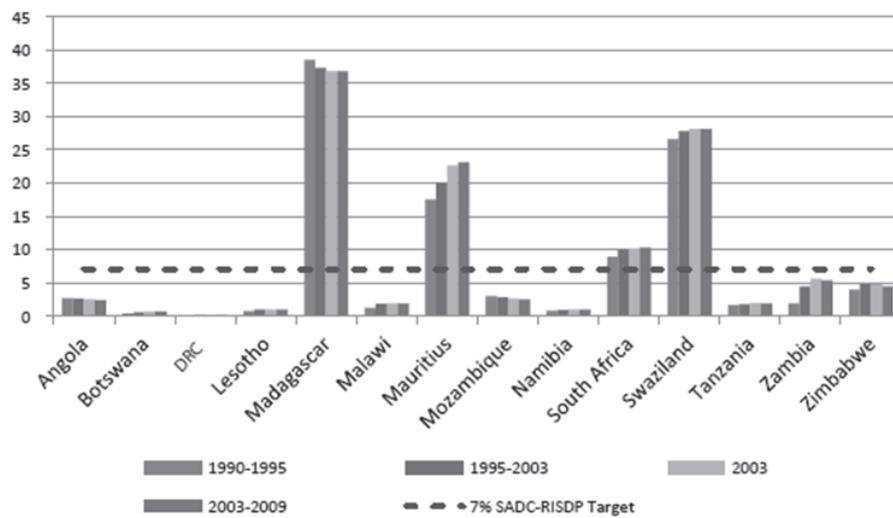


Figure 2 Percentage of cropland area equipped for irrigation in SADC countries (1990-2009).

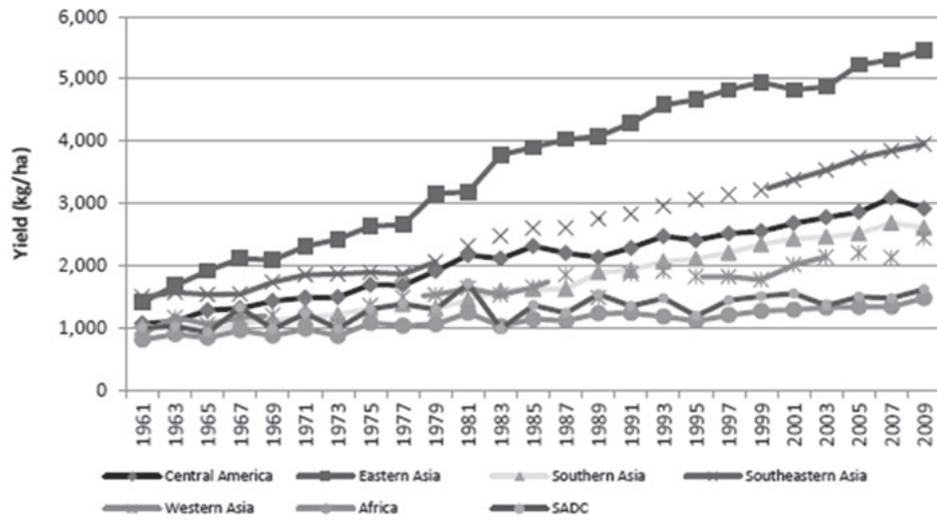


Figure 3 Trends in cereal yield in the SADC region relative to other regions

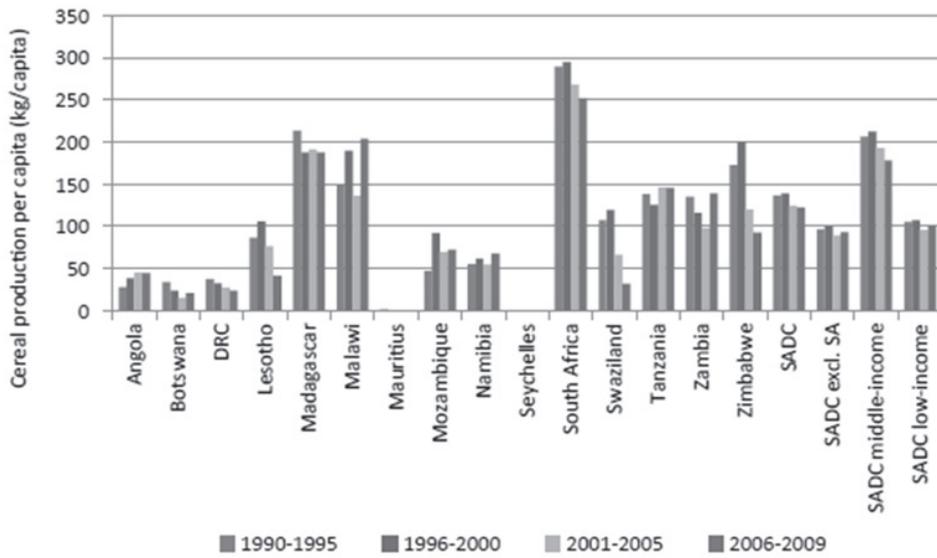


Figure 4 Per capita cereal production in the SADC region.

Feature

Summary

There have been large drops in production that coincided with major droughts followed by periods of recovery. But these recovery periods have not been sufficient for food production to keep up with population growth. This could become an area of concern as it may have an impact on food security, not only in South Africa, but in the region also.

In the integrated food security strategy for South Africa it is stated that: “Food security is part of the section 27 Constitutional rights in South Africa. On these rights, the Constitution states that every citizen has the right to have access to sufficient food and water, and that the state must by legislation and other measures, within its available resources, avail to progressive realisation of the right to sufficient food” In this regard the application of the correct irrigation equipment and systems is imperative for optimal food production and productivity.

Irrigation play an important role in food security because water is crucial to food production and development and can:

- ensure that enough food is available to all;
- ensure access to sufficient food;
- make optimal choices for nutritious and safe food;

References

Agricultural Growth Trends and Outlook for Southern Africa, Annual Trends and Outlook report ReSAKSSSA 2011
Global food security index: A report from The Economist Intelligence Unit

