

It goes without saying that agricultural food production depends on the suitability of land utilised for that purpose, with the crop productivity of any given region estimated on the basis of crop growth models, meteorological parameters and satellite observations. It is this last means of data collection that served as investigative matter for Prof Theo Kleynhans of the University of Stellenbosch's Faculty of Agricultural and Forestry Sciences and his collaborator Dr Pol Coppin from the Faculty of Agricultural and Applied Biological Sciences of the Leuven Catholic University in the course of their 2000 joint project aimed at using digital data on land resources in the Southern Africa Development Community (SADC) region in order to assess the suitability of the area's land resources for the cultivation of various agricultural and forestry crops.

In this regard, the challenge lay in processing the coarse data sets available using methodologies that would deliver maximum accuracy and reliability, and in such a way contribute not only to the data processing capacity of the SADC countries but also to regional cooperation through joint participation in data collection and processing as well as scenario planning aimed at specialisation of production and intra-regional trade. The reason for this is that at the time existing SADC data sets suffered from inaccurate spatial resolution, widely-varying format and uncertain numeric quality, while climatology data was too interpolated owing to the wide dispersal and erratic placement of measuring stations across the area.

At the same time, however the concept of land suitability assessment had already been recognised by the SADC Council of Ministers and endorsed by the Sector Coordinators of the various Agricultural, Food and Natural Resources Sectors belonging to member states, thus assuring that the researchers would benefit from the collection and assimilation of SADC country data sets into a master regional data set,

allowing them to create a central information source for land use activities existing at the time and vegetative parameters that could be correlated to production potential in general. In addition, they envisioned the creation of more sophisticated modelling for land assessment, building local capacity with respect to spatial data analysis and the creation of a regional centre of land assessment expertise and a decision support system capable of serving as an advisory agent for SADC policy makers.

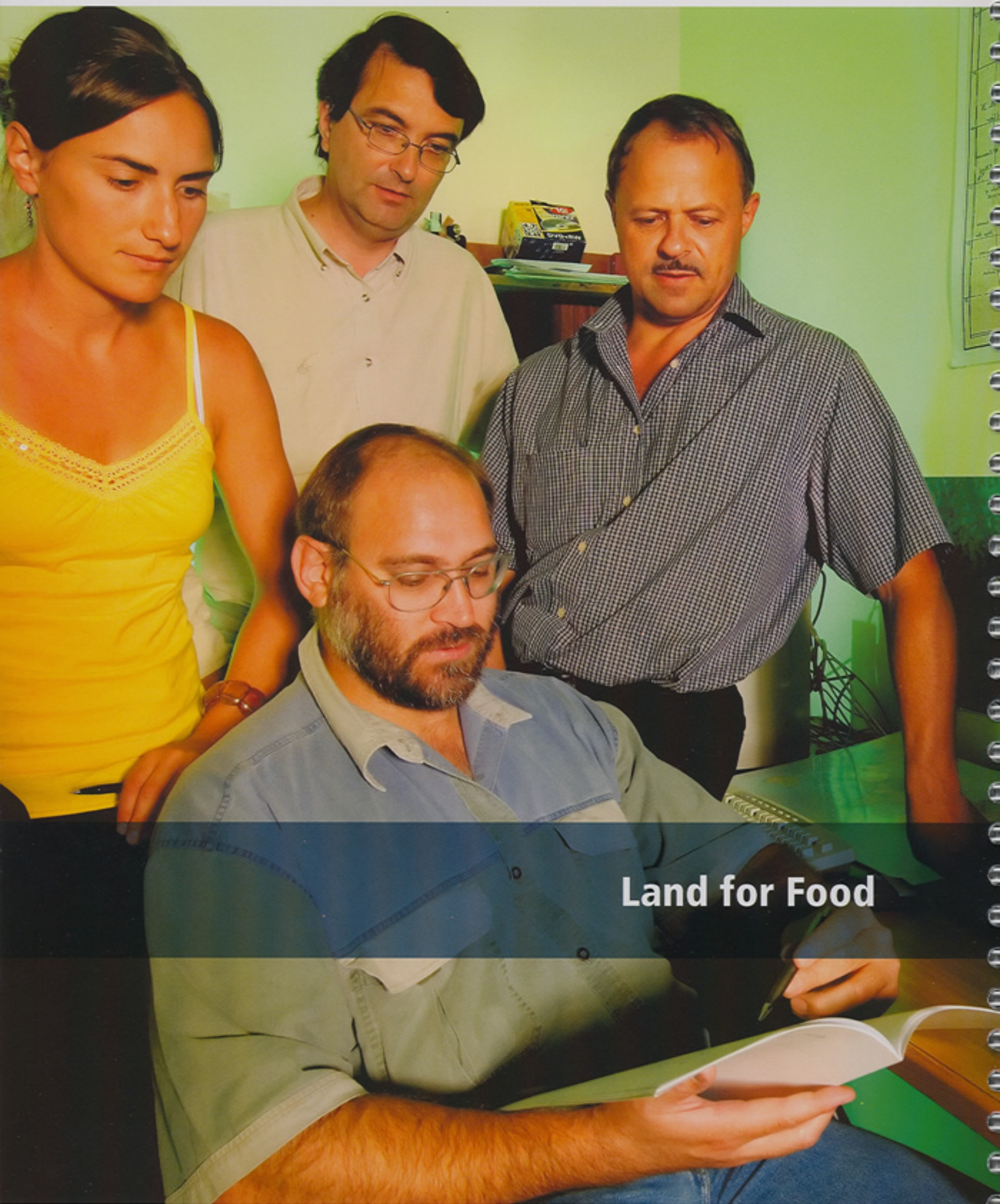
Food security is not only a priority area for much of the African continent, but it is also a constant concern for all the countries belonging to the SADC, these being Angola, Botswana, the Democratic Republic of the Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, the United Republic of Tanzania, Zambia and Zimbabwe. Despite improved rainfall in certain areas in recent years and specific measures taken by member states to improve their domestic food security situation through boosting production, countries having suffered food crises in the years 2002 to 2003 are still affected by food shortages and continue to require foreign aid in order to ensure an adequate supply of nourishment for their people.

Assuring that such aid is requested in a timely fashion requires an effective means of projecting coming crop yields, which is why the SADC created the Regional Early Warning Unit (REWU) to provide advance information on the food security and nutrition situation in member states through analysis and monitoring of food crop production prospects, food supplies and requirements and food access in order to alert them of impending food shortages in sufficient time for appropriate interventions to be made. This function of vulnerability analysis is achieved through a Regional Vulnerability Assessment Committee (RVAC), a multi-agency body that spearheads critical improvements in food security and vulnerability analysis at regional and national level.

In addition, the SADC efforts at boosting food production have taken the form of a number of additional measures, including sensitizing the public to the importance of agriculture, the provision of subsidized inputs to targeted vulnerable groups, cost



sharing by government and farmers, initiation of public-private partnerships, commodity cross substitution, winter cropping and cross-border trade. As a result, the number of people requiring food aid has been in steady decline owing to an increase in cereal and maize production, though continuing shortages means that some households may still have to resort to the use of tubers such as cassava, sweet potatoes and plantains to meet the shortfall.



Land for Food