Soil science and the capacity to feed the world – A historical overview

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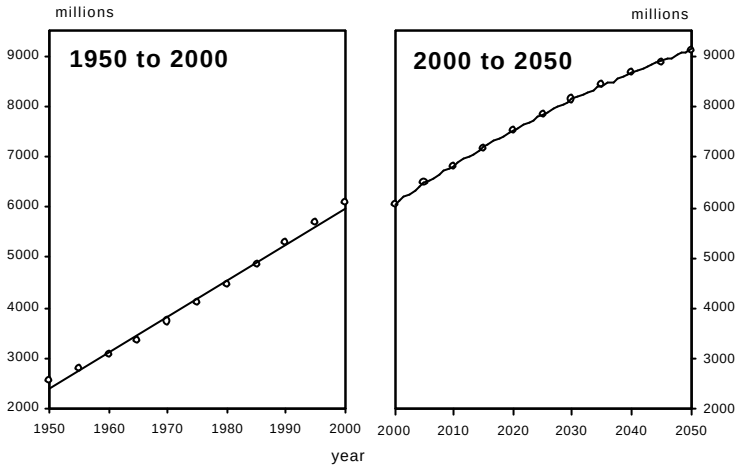
World population was slightly over 2 billion in the 1950s, and reached 6 billion in 2000. Although world food production is enough to satisfy the basic needs of the population at a global scale, about 800 million persons are undernourished, because of an unequal distribution of the agricultural produce and inadequate buying power of many persons, especially in tropical regions. It is argued since Malthus if the earth's carrying capacity has been reached, and the question raised has still not been answered, seeing the fierce debate within the United Nations and its specialized organizations, the CGIAR institutions, e.g. IFPRI, many (N)GOs, etc. Important international conferences on these issues started with the 1972 UN Conference in Stockholm and culminated 20 years later with the Earth Summit in Rio de Janeiro, where Agenda 21 was adopted. Next month, the World Summit on Sustainable Development takes place in Johannesburg.

Global population for the years 1950 to 2000 and projections for the years 2000 to 2050.



Food production and Soil science

Soil science and food production became linked after World War I. The ISSS has played a major role and the motto of the 7th Congress (Madison, 1960) was "Alleviate Hunger, Promote Peace through Soil Science". The first quantitative estimates of world food production were made in the mid-1970s, in which it was assumed that all suitable agricultural land was cropped. This was estimated to be 40 times the production in 1975. In a more recent study, it was shown that a two to fourfold increase in food production could be achieved. Many publications have shown that the world's soils are not able to provide sufficient food for the growing population, notwithstanding the increases in yields of most crops. The soil resource base is declining in quantity and quality, especially through soil mining, soil erosion and other forms of natural and human-induced degradation. Various studies have shown that there is a link between soil degradation and yield but the effect of soil degradation on agricultural production at a global level has not been made. There is a serious neglect of national and international organizations to improve soil inventories and soil degradation assessments, coupled with the possible influences of the effects of climate change. The members of the IUSS should strive to remedy this situation.

Global population and number of ISSS/IUSS members