

## **DEVELOPMENT ISSUES IN FOOD AND AGRICULTURE**

**Olaf Christen**

*Institute of Agronomy and Crop Science, University of Halle-Wittenberg, Germany*

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### **Summary**

The development of specific agriculture and food supply systems are closely related to general developmental trends of humankind. In this context technology and economic development as well as socio-cultural developments affect productivity and a secure supply with food. For all those factors, however, the relation to agriculture works in two directions. This is obvious for economic development but also socio-cultural development affects agriculture and is vice versa influenced by agriculture production. In recent years scientists have established indicators to measure and quantify the human development with all different aspects. This provides baselines for a country by country comparison and is a basis for political decisions.

### **1. Introduction**

Food supply and agriculture production are integral parts of various aspects of development of humans. From a historical point of view the link has been very strong since with few exceptions, societies have relied almost completely on their agricultural production for survival. This has obviously had a tremendous effect on human, economic, social, cultural and technological development. But this link has never been a one-way influence. The availability of a secure food supply has affected countries and societies to reach particular social, economic or technological achievements. For example the great cultural achievements of ancient Egypt have only been possible with a secure food supply and a strictly organized agricultural production. Other similar examples from history include the ancient Greek and Roman Empires. On the other hand, empires collapsed following problems with food supply, which is evident for Babylon after the long term non sustainable irrigation and the salinization of the top soils. In the modern world with global trade of agricultural commodities such relations seem to have smaller importance, however, in a lot of countries in Africa, Asia and South America the link between agriculture and development is still very strong.

## 2. Human Development, and Food and Agriculture

Human development is a complex concept which incorporates various aspects of well-being and opportunities for people. The Pakistani economist Mahbub ul Haq has defined human development the following way: "The basic purpose of development is to enlarge people's choices. In principle, these choices can be infinite and can change over time. People often value achievements that do not show up at all, or not immediately, in income or growth figures: greater access to knowledge, better nutrition and health services, more secure livelihoods, security against crime and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives." In this understanding human development is an economic theory which merges ideas from ecological economics, sustainable development, welfare economics, and feminist economics. It seeks to avoid normative politics and judgments by only justifying its theses strictly in ecology, economics and sound social science, and by working within a context of globalization. Accordingly, human development theory is a major synthesis that is probably neither confined within the bounds of conventional economics or political science, nor even the political economy that relates the two.

The most prominent and world wide recognized attempts to measure human development in recent years have been made by the United Nations Development Program (UNDP) in the Human Development Index (HDI). The (HDI) is a comparative measure of life expectancy, literacy, education, and standard of living. The different parts are summarized in a single measure. It is thus a standard means to measure the impact of economic policies on quality of life. The index was originally developed in 1990 by Mahbub ul Haq and has been used since 1993 by the United Nations Development Programme in its annual Human Development Report. The HDI measures the average achievements in a country in three basic dimensions of human development:

- A long and healthy life, as measured by life expectancy at birth.
- Knowledge, as measured by the adult literacy rate (with two-thirds weight) and the combined primary, secondary, and tertiary gross enrolment ratio (with one-third weight).
- A decent standard of living, as measured by gross domestic product (GDP) per capita at purchasing power parity (PPP) in USD.

Since agricultural production and the supply with a sufficient amount of high quality food is a major prerequisite in human development, these topics have been included in recent reports. As stated in the last report: "Poor people in agriculture experience the link between water and human development as a living reality. An Indian finance minister once famously declared that his country's budget was a "gamble on the rains". For millions of small farmers, pastoralists and agricultural laborers the stakes in the gamble are far higher. Variations in rainfall, or disruptions in water supply, can make the difference between adequate nutrition and hunger, health and sickness and—ultimately—life and death. Water security in agriculture pervades all aspects of human development. Land and water are two key assets on which poor people depend for their

livelihoods, usually far more than do people who are better off. Water cannot be considered in isolation from wider capabilities such as health and education, or from access to other productive assets, including land, capital and infrastructure. But water insecurity represents a powerful risk factor for poverty and vulnerability. Livelihoods comprise the capabilities and assets that people need to make a living and maintain their well-being. In rural areas water plays a crucial role for some obvious reasons. Like land, it is part of the natural capital base that underpins the production systems that sustain livelihoods. Access to a reliable supply of water makes it possible for people to diversify their livelihoods, increase productivity and reduce the risks associated with drought. It enables producers to enter higher value-added areas of production and creates income and employment, and it gives people the security to undertake investments. The links between rural livelihoods, water and global poverty reduction efforts are immediately apparent. Some three-quarters of all people surviving on less than \$1 a day live in rural areas, where their livelihoods are dependent on agriculture. Smallholder farmers and agricultural laborers also account for about two-thirds of the world's 830 million malnourished people. The water security-livelihood nexus helps to explain the widely observed relationship between water and poverty. In Ethiopia distance from a water point is one of the most accurate indicators for vulnerability and poverty.”

The increasing population in the developing world will inevitably dramatically increase the demand for food and thus put strong pressure on agriculture to increase production, which can be either done by using a greater proportion of land or by increasing productivity per area. The supply with sufficient water is only one aspect of the relation between human development on the one hand and food and agriculture on the other. Another strong link, underlined by the Millennium Development Goals of the United Nations, which in 2000 adopted the Millennium Declaration, is a renewed commitment to human development. The Declaration includes eight Millennium Development Goals (MDGs), each with quantified targets, to motivate the international community and provide an accountability mechanism for actions taken to enable millions of poor people to improve their livelihoods.

“The MDGs are as follows:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS), malaria, and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development.

About 70 percent of the MDGs' target group lives in rural areas, particularly in Asia and Africa, and for most of the rural poor agriculture is a critical component in the

successful attainment of the MDGs. Even though structural transformations are important in the longer term, more immediate gains in poor households' welfare can be achieved through agriculture, which can help the poor overcome some of the critical constraints they now face in meeting their basic needs. Thus, a necessary component in meeting the MDGs by 2015 in many parts of the world is a more productive and profitable agricultural sector. While the linkage with agriculture is particularly strong for the first MDG, or MDG 1—halving by 2015 the proportion of those suffering from extreme poverty and hunger—all MDGs have direct or indirect linkages with agriculture. Agriculture contributes to MDG 1 through agriculture-led economic growth and through improved nutrition. In low-income countries economic growth, which enables increased employment and rising wages, is the only means by which the poor will be able to satisfy their needs sustainably”.

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#### **Biographical Sketch**

**Olaf Christen**, born in 1961, has studied agriculture science at the Christian-Albrechts-University in Kiel, Germany and earned a PhD in Agronomy in 1990 with the focus on preceding crop effects on winter cereals. From 1991 to 1992 Olaf Christen has worked as a postdoctoral fellow in the Department of Agronomy and Soil Science, at the University of New England, Armidale, Australia. Since 2000 he holds the chair of Agronomy and Organic Farming at the Martin-Luther-University in Halle-Wittenberg, Germany. His main research interest includes farming and cropping systems, sustainable agriculture, biodiversity in agricultural landscapes and oilseed rape agronomy.