

What does sustainability mean?

Alejandro R. Castillo, PhD
University of California, Davis
Cooperative Extension

Sustainability and water quality are some of the high-priority core issues for the University of California Cooperative Extension. The concept of sustainability implies the reconciliation of long-term development and environmental goals. Today, sustainability is associated with other specific words like: paradigms, scenarios, growth, and sustainable development, which are important to know. A paradigm means: a philosophical and theoretical framework of a scientific school or discipline within which theories, laws, generalizations and the experiments performed in support of them are formulated; *broadly*: a philosophical or theoretical framework of any kind. The word scenario is also related with future and means: a sequence of events especially when imagined; *especially*: an account or synopsis of a possible course of action or events. The possible definitions of growth associated to sustainability are: a stage in the process of growing, progressive development, evolution, increase, expansion (the growth of the industry). In general, while growth is more “individual”, sustainability implies interdependence between the members of the system. Sustainable development is defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs. For some experts, the 21st century is considered the defining period in man’s occupation of this planet.

Some estimates of the global population growth indicate that the human population might level off in the next fifty years. One of the most possible scenarios will require double the present amount of energy, materials and water. Right now, the majority of the people on earth has limited access to clean water, basic habitation and adequate food. It is an agreement between specialists that water will be the big issue for the next 50 years. In this period, the paradigmatic shift will be not only achieving a sustainable development in developing countries, but also repaying the environmental debt in industrial countries. In other words, we need to preserve and restore the environment of this planet.

Different broad scenarios are being studied, including unimaginable possibilities. Some of these studies are exploring visionary solutions to the sustainable challenge including new socio-economic arrangements and fundamental changes in human values. Science, education and policy are the key areas to contribute the sustainable enterprise. New science to understand some of the actual biophysical process and new environmental friendly technologies are needed. The role of communication issues and public awareness is crucial. Identifying emerging problems and risks, setting social, economic and environmental goals, and designing long term appropriate actions are also essential tools for policy-induced changes.

A recent re-definition of goals and strategies was carried out by the UC, Division of Agriculture and Natural Resources. Education, good science and environmental friendly technologies are not enough to solve the new paradigms. Market forces and smart policy reforms will play a critical role on the global scenarios. Nowadays, globalization is producing winners and losers. The great transitions from economic globalization to the sustainability state will be the biggest challenge that human beings will face in the 21st century. The result should be only winners. (*Merced Sun-Star, Agribusiness, Jan. 17, 2005*)