

## What is Appropriate and Sustainable Technology (AST)?

*“Poverty relates primarily to the limited access of poor people to the knowledge and resources with which to address their basic human needs and promote sustainable development in such areas as water supply and sanitation, food production and processing, housing and construction, energy, transportation and communication, income generation, and employment creation.” (UNESCO, 2003)*

*“Appropriate technology is usually characterized as being small scale, energy efficient, environmentally sound, labor-intensive, and controlled by the local community. It must be simple enough to be maintained by the people using it. Furthermore, it must match the user and the need in complexity and scale and must be designed to foster self-reliance, cooperation and responsibility.”(Adapted from Hazeltine and Bull, 1999)*

*Sustainable development is defined as “... improving the quality of life while living with the carrying capacity of supporting ecosystems.” (Chambers et al., 2002)*

*Sustainable development is defined as “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” World Commission on Environment and Development or Brundtland Commission (1987)*

*“Sustainable development is the challenge of meeting human needs for natural resources, industrial products, food, transportation, shelter, and waste management while conserving and protecting environmental quality and the natural resource base essential for future development” (Policy Statement, ASCE TAC Subcommittee on Sustainability, 2001)*

Technology is a double edge sword: it has potential to contribute to social justice, poverty eradication, and environmental integrity on the one hand, and can do great harm to people and their environment on the other. Evidence suggests that technology, whether large or small, has a better chance of reducing poverty if (UNESCO, 2003):

- It is based first on respect for existing knowledge, skills and resources
- It is decided first by poorer people themselves when attaining dignity and freedom
- It takes into account sustainability (economic, social, environmental) and inclusion
- It is based on creativity, learning and adaptability in innovation

**Question 1:** Describe the positive and negative impacts of so called “modern” or “advanced” technology.

**Question 2:** Explore first the Intermediate Technology Development Group web site [www.itdg.org](http://www.itdg.org) and answer the following questions:

- a) What would be your own definition of Appropriate and Sustainable Technology?
- b) What are the important factors in determining if a technology is “appropriate” and “sustainable”?
- c) Find an example of an appropriate and sustainable technology which has been used to help a developing community (in the US or abroad).
- d) Find an example of in-appropriate and un-sustainable technology and some of its consequences.

Be prepared to share and discuss your examples in class!