TECHNOLOGY AND COMMUNITY DEVELOPMENT BCD 216

LECTURE 7

APPROPRIATE TECHNOLOGY

Appropriate Technology in the Community

Small Is Beautiful: A Study of Economics As If People Mattered is a collection of essays by British economist E. F. Schumacher. The phrase "Small Is Beautiful" came from a phrase by his teacher Leopold Kohr. It is often used to champion small, appropriate technologies that are believed to empower people more, in contrast with phrases such as "bigger is better".

Appropriate technology is an ideological movement (and its manifestations) originally articulated as intermediate technology by the economist Dr. Ernst Friedrich "Fritz" Schumacher in his influential work, Small is Beautiful. Though the nuances of appropriate technology vary between fields and applications, it is generally recognized as encompassing technological choice and application that is small-scale, decentralized, labor-intensive, energy-efficient, environmentally sound, and locally controlled. Both Schumacher and many modern-day proponents of appropriate technology also emphasize the technology as people-centered (Wikipedia). It can therefore be defined as technology that is suitable to the social and economic conditions of the geographic area in which it is to be applied, is environmentally sound, and promotes self-sufficiency on the part of those using it.

Poverty seems to persist in areas even where the population has been identified as rational, efficient, entrepreneurial, technologically adaptive, creative, and value conscious. In an attempt to elucidate what otherwise appears to be a paradox, Ernst F. Schumacher introduced the concept of inappropriate technologies. This idea suggests that technology must be tailored to the unique situations present in the countries to which it is brought. How the technology is distributed and used strongly depends on the skills and consumption needs of the country's people, and especially the poor, since they constitute the majority of the population in low-income nations. Appropriate technologies account for the capabilities of the underprivileged in relation to the country's economic status and are thus highly responsive to their needs. The goal of Appropriate Technology (AT) is to increase the standard of living for the developing world without condescension, complication, or environmental damage. Typical AT inventions are more labor

intensive, require fewer resources, and use low cost or readily available materials wherever possible. Special attention is paid to the social, cultural, and ethical aspects of the communities the technology is intended for.

Communities around the world face problems, whether it's a lack of clean water or finding affordable and sustainable ways to heat and cool their homes. Using appropriate technology to solve such problems means taking each community's unique situation into account when devising a solution. The definition of "Appropriate Technology" changes with each situation. It's not appropriate to install solar modules in a place with very little sun, a wind generator in a place with little or no wind. What's appropriate in a large urban location is very different from what's appropriate in a remote, isolated environment. One quality that remains the same, however, is taking care of things.

Looking into a community from the outside, it may seem obvious what the problems are and how to solve them. Many well-meaning groups put a great deal of time, effort, and money into projects that they think will benefit a community. But, unless the people of that community have been an active part in defining the problem and designing the solution, the result can end up missing the mark and frustrating everyone involved.

In general, appropriate technologies can be said to be simple to apply;

- Not capital intensive;
- Not energy intensive (requiring little non-renewable energy to do, build, or maintain);
- Use local resources and labor;
- And nurture the environment and human health.

Case Study I: Rwanda

The Science, Technology, and Innovation (STI) Capacity-Building Technical Assistance Program was established in 2006 by the World Bank and government of Rwanda in order to "implement practical solutions to a series of everyday practical economic and social development problems." The program focuses primarily on reducing poverty by improving the living conditions of the poor and generating wealth by diversifying the economy and supporting

private sector initiatives. The following describes the status of some simple technologies that have been identified by the program as appropriate for the country.

- Rural energy
- Efficient stoves for urban areas: national program ongoing
- Solar water heating: technology available but slow market
- Biofuel: currently no national program or policy
- Agricultural technologies and transport
- Rice threshing and winnowing: few machines available and locally produced
- Maize milling: machines imported and locally made
- Oil presses for sunflower, soya, essential oils: starting

Low-cost building

Rice and coffee husks and peat for brick burning: some use

Hand brick press machines: locally made and imported