What is Appropriate Technology?

Overview of Appropriate Technology

Appropriate Technology (AT) is best described as small-scale, locally resourced, user-centric technology. It is generally technology designed to support basic human needs such as energy, light, water access, living space and conditions. We define technology as the techniques, skills, processes, and products designed to improve our lives and to help us solve problems. Every new technology has consequences for society; a paramount goal for AT is for positive consequences to outweigh any unintended negative consequences.

Appropriate technology, or technology designed with people as its focus, has been around for a long time. It became a "movement" due to the work of E.F. Schumacher who wrote *Small is Beautiful* in 1973. Schumacher argued that technology should not be regarded only as a means to an immediate end, but that it must be evaluated in terms of its contribution to a process of production or activity beneficial not only to its immediate users, but also to the society at large. Due to globalization, innovative financing, and the increasing focus on sustainability and social justice, AT has made meaningful strides since the turn of the century. More recent advocates have included Victor Papanek (*Design for the Real World)* and Amy Smith (MIT dLab).

Characteristics of Appropriate Technology

Some criteria and attributes of Appropriate Technology include:

- ✓ Compatible with local cultural and economic conditions
- ✓ Small scale -the community shouldn't have to rely on heavy industry or corporate wealth
- ✓ Tools and processes should be under maintenance and control of local population
- ✓ Use of locally available resources; if imported, control made available to locals
- ✓ Uses local energy sources
- ✓ Ecologically and environmentally sound
- ✓ Minimizes cultural disruptions
- ✓ Not lock a community into systems which later prove inefficient and unsuitable
- ✓ Maximize local creativity, the participation of the local inhabitants in technological developments, and the improvement of processes and products
- ✓ Easy to understand and use – the technology shouldn't require a lot of complex and specialized training to use.

Labor and Energy Resources

Some other key ideas to keep in mind about AT is that it may often appear fairly labor-intensive. Industrialization has led to the development of fossil fuel based manufacturing that comes with a high energy cost and decreased labor needs. Many parts of the world are labor-rich and resource-poor. Replacing fossil fuels with human power and energy sources such as solar, wind, and water is often more effective and sustainable.

AT versus "technology transfer"

In many cases, AT replaces and is more effective than many attempts at traditional technology transfer – a "one size fits all" approach of moving technologies from highly developed countries to those in early stages of development. It is often easy for us to forget that many of our 21st century technologies are underpinned by extensive infrastructure that may not be present or possible in many parts of the world. AT practitioners focus on developing technology to fit life, whereas as technology transfer often asks life to mold to the technology. Recent developments in AT have taken the idea of supporting life one step further through the creation of micro-enterprises and ownership plans.

Foundations of AT

Although simplicity is a hallmark of AT, its development and success often comes from extensive scientific knowledge and experience with more sophisticated technologies. Wind turbine are more efficient and can be designed to meet more energy needs due to better understanding of performance developed through computational flow analysis. The availability of photovoltaic cells is a result of extensive research and development in the late 20th century. Being a bit later in adopting a technology often brings the opportunity to "leapfrog" over stages of development, particularly in regard to the infrastructure mentioned above. Mobile phones are ubiquitous in many parts of the world that have never have landlines. They now have little need for such fixed communications infrastructure. The LED and small scale energy supplies have brought light to countless households that are "off the grid" if any grid even exists.

AT as a way of thinking

Another point to keep in mind about AT is that it can be a process, set of skills, or a way of thinking. It does not have to a process. Creating awareness of a better process for hand-washing is an example of Appropriate Technology – if it is people-centered, culturally sensitive, and easy to understand. Technology is really about whatever means we employ to solve a problem and improve our lives. AT reminds us that everyone's daily life is not the same but even though we all live in different conditions, we all deserve a healthy, safe, and comfortable life that is sustainable.