engineers without borders
ingénieurs sans frontières

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Hidden Heroes – Engineers in development

Engineers are traditionally an un-remarked bunch. Hippocrates may be the founder of modern medicine, the Magna Carta may be the bedrock of today's legal system, and Adam Smith's 'dismal science' may have its place the Nobel Pantheon, but few people could name even one leading engineer.

This, in spite of the fact that much of humankind's development came from the hands of the first engineers. Since the dawn of time, we have been using our ingenuity to create tools to harness the power of nature around us – to escape the vagaries of drought and disease, to gain more control over our lives.

In today's development debates, revolving around concepts like social capital, institutions and governance, engineering also remains un-remarked. But every hand pump that will be built for the billion people without access to clean water, every irrigation project to help the 800 million people who go hungry, every manufacturing company that will be the backbone of economic growth, every electrification initiative for the 2 billion people lacking electricity – all involve engineering.

Engineering's contribution

Engineering is the application of scientific knowledge to solve practical problems. These problems, though, involve much more than just engineering. Take the fourth Millennium Development Goal: reducing infant mortality.

One major source of child illness is water-borne disease. Reducing morbidity requires a three-pronged approach addressing water quality, sanitation, and hygiene practices. The installation of a handpump won't do much if dirty hands contaminate the clean water. And likewise, a handpump won't function for very long without a village committee to maintain it, and a local repair person who can service it periodically.

In trying to meet this particular goal, then, engineering, social marketing (for hygiene promotion), community building and micro-economics all play an inter-related role.

Our Role

But let us turn our thoughts closer to home. Many of us – engineers and otherwise – living in the comfortable west see a world where billions struggle to build their lives in the face of much adversity. We ask ourselves: what can we do to help?

The immediate and understandable desire, in many cases, is to go where we feel we can help best – overseas. While certainly laudable, the context must be right. It is quite possible that the western engineer is actually performing a job that a local engineer could do, thereby costing him or her a job.

Engineers Without Borders

To address this concern, Engineers Without Borders focuses on building capacity with the technical sector – small NGOs or entrepreneurs. The goal is to ensure that affordable, appropriate and sustainable solutions to people's problems become locally generated and

available. This could, for example, involve working with a technician who builds food processing equipment such as a grain mill or vegetable dryer.

In this work, we recognise that technology is embedded in the local social, cultural, economic and political context, and that our training here in the west must frequently be "unlearned". Consequently, the assets we seek in our members are not technical skills as much as humility, patience and the ability to listen and learn.

Secondly, we know that our actions at home are as important as work overseas. We promote, among our fellow citizens, awareness and knowledge of world development and global sustainability, and link these issues to actions that people can take here. This, indeed, is one of the greatest contributions that a westerner can make – to remove the barriers to human development that are rooted in our own country's policies and practices.

Meeting the MDGs is humanity's most pressing work in the next dozen years. And, while there may be few engineers in the spotlight, our brother and sister engineers will keep building those handpumps and starting-up those small businesses. And we at EWB will keep trying to support and foster them until we've worked ourselves out of a job.

Parker Mitchell and George Roter are the Co-CEOs of Engineers Without Borders Canada. Two of their Advisory Board members are involved in the Millennium Project: Dato Lee Yee Cheong is the co-chair of, and Sakiko Fukuda-Parr is a member of, the Millennium Project's Task Force on Science and Technology. More information can be found at www.ewb.ca.