



More than 99% of the estimated two billion people who have no access to electricity live in developing countries, and four out of five live in rural areas.

# Poverty and Environmental Mission

**Today, over 100 years after Edison's seemingly forward-looking statement –“We will make electricity so cheap that only the rich will burn candles” – the promise of cheap, abundant electricity seems to hold true only for industrialized countries.** Who could have anticipated that today more people have no light in their homes than the entire world population in Edison's time?

There is a clear relationship between poverty and access to electricity. The more remote the community, the greater its poverty level, and the higher the costs for electrification and other development projects. Approximately 80% of Nepal's 29.5 million people live in the rural areas, and about half of these live in such remote areas that neither a road nor the national electricity grid will reach them for decades to come. Nepal has no fossil fuel resources, so families in the remote areas use precious trees for firewood for cooking, room heating and light. Villagers – mainly the women and children – spend up to seven hours every other day gathering the needed wood. This dependence upon firewood, and especially the indoor cooking on open fireplaces, has a direct chronic impact on people's health and is a major factor in the extremely low life expectancy for

women and the high death rate of children under five. In some places families do not even name children under five, since child mortality is so high. Deforestation is alarming in these regions. The once picturesque, biodiverse forests and valleys are being stripped of their resources in unsustainable ways.

I have been working amongst these remote high altitude mountain communities since 1996, first with United Mission to Nepal and then, from 2001, as co-founder and director of a non governmental organisation, RIDS-Nepal (Rural Integrated Development Services), and as lecturer and researcher in renewable energy technologies at the Kathmandu University. The vision of RIDS Nepal is to improve, in partnership with individuals and communities, their living conditions and livelihood through long-term holistic community development.

In poverty-stricken mountain villages in Humla in northwestern Nepal, RIDS-Nepal is working on utilizing local renewable energy resources in more affordable, sustainable and appropriate ways. Over the past twelve years, four issues have again and again been identified by the local people as their most urgent needs for their holistic

and sustainable development: latrines, smokeless stoves, basic indoor lighting and clean drinking water. This led RIDS-Nepal to develop a holistic community development (HCD) strategy named the “Family of 4”, which is implemented in close partnership with the whole village community.



The “Family of 4” HCD begins with the building of a pit latrine for each family. Next, each family purchases a (highly subsidised) smokeless metal stove for cooking and heating, specifically designed and developed to meet these villagers’ needs while consuming only about half the firewood of an open fire. The next step is a highly subsidised home electrification system for basic indoor lighting. The power is generated from local renewable energy sources, most often through solar energy or small scale hydro power plants. Finally, the commonly-owned village drinking water system is designed and built. Because the local people are involved in each step of the process, it creates in them a strong feeling of ownership, and a greater interest in keeping each project running.

It is crucial to understand that the local community is at the centre of any HCD project and that the contextualised technologies developed and applied are to serve and support their struggle for a better life. Therefore, any project has to be based on a thorough understanding of the local context and culture, and must include an understanding of the “invisible” causes of poverty, and the impact on the community of decades of deprivation. This approach demands time, compassion and dedication. These more “human” aspects of an HCD project are crucial factors that need to go

alongside the technical aspects. In this way the people are recognized from the beginning as equal partners and not as receivers of imposed ideas. This time-intensive, often frustrating process is central to a HCD project.

As the “Family of 4” brought about positive change for families and their communities by addressing basic needs, other needs began to be identified by community members. RIDS-Nepal and the Kathmandu University, supported by the ISIS Foundation, worked together to create contextualised technologies to meet those needs through the “Family of 4 PLUS”, which has the following elements: increased food security (through greenhouses, solar driers and a nutrition programme), non-formal education (for mothers and out-of-school children), slow sand water filters (for indoor use), and solar water heaters (for improved personal hygiene and health). The greenhouse contributes to food security by extending the growing season from 3-4 months to up to 10 months per year; the solar drier provides a hygienic, effective method of preserving food whilst still keeping its nutritional value; and the solar parabolic cooker provides a wood-free cooking alternative. Approximately 65% of children under five in Humla are malnourished, so an intensive nutrition programme has been established, that uses only locally grown and available products.

Periodic surveys and evaluations are part of every long-term HCD programme, so that problems and needs can be identified, and adjustments made accordingly. Our aim is to partner with each village community for two generations (about 20 years), in order to bring about relevant, sustainable and holistic change.

It is our hope that as we listen to, live and work with the local people, over time our mutually identified solutions to their needs will “get under their skins” and become indigenous to their culture. This journey – somewhat like the 17-day trek through harsh Himalayan mountain ranges to reach Humla – is neither short nor easy, and there is no guarantee of success, but we believe the end result will be worth every steep hill we had to climb to achieve it.

**Alex Zahnd is a partner with Interserve Switzerland. For more information on any of the projects, go to [www.rids-nepal.org](http://www.rids-nepal.org)**

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