

## 7. LESSONS LEARNED

Prior to an understanding of rural dynamics, the imposition of the success story of a particular place on other places should be avoided. For example, the success of the biogas programme in China prompted energy experts to replicate the programme in Pakistan, but this failed miserably.

The methodological frameworks used to evaluate various technologies were different, because most experts based their evaluation to substantiate their own technology in circumstances in which there was a lack of sufficient information. For example, on the one hand, experts working in the field of agricultural residue-based technologies, such as briquetting and biomass gasifiers, tend to carry out financial analyses assuming the cost of the input energy source to be almost zero, in order to show a high profitability; on the other hand, experts working with biogas technologies tend to carry out economic analyses which incorporate the slurry value in the analysis to make the biogas plant option attractive.

Various studies indicate that availability and/or provision of energy alone does not necessarily trigger development processes in mountain regions. For example, The Report of the Task Force on Rural Electrification Impacts in Nepal (WECS 1988) concluded that *"... in the past the impacts of rural electrification have been minimal. For strong proponents of rural electrification this conclusion may be seen as a criticism that threatens the development aspirations of Nepal..... It does not mean there is no future for rural electrification."* Similarly, the study on Linking Rural Electrification with Rural Development in Asia (ESCAP 1990) concluded that *.... electrification does not seem to induce economic development, unless as one element in a coordinated rural development effort. But ... electricity shortages can act as an important constraint to industrial growth."*

'New and renewable energy programmes' were too often 'rural biased' ignoring the fact that urban areas could have been the right choice as an entry-point for the promotion of energy development activities. For example, the 'Improved Cookstoves' programmes were designed to be implemented in the rural areas where users do not perceive the opportunity cost of collecting fuelwood; instead programmes should have been designed to cater to the needs of the urban population who were paying the price for fuelwood and would have been interested in saving fuelwood to reduce their energy budget. Another interesting example is the failure and success of solar water heating systems in Himachal Pradesh, India, and Kathmandu, Nepal, respectively. A solar water heating system in Kathmandu has become a status symbol, whereas in Himachal

Pradesh it is considered the poor man's fuel because of high subsidies received in the past.

Also, the treatment of energy as an input to the production and consumption process rather than as an important element of sustainable human development has led to the present status of unsustainable use of energy.

A review of the present energy situation, examination of barriers imposed on the energy sector, and understanding the effects on and implications for the energy sector, as a result of mountain-specific situations clearly indicate a need to change the existing paradigm of energy development, especially as the present trend in energy use patterns in the context of the HKH region is not at all sustainable.