

News from IEI's Asian Regional Initiative in Bangalore (India) – March 2014

Clean fuel from the residues of farm-based activities

We at IEI's Asian Regional Initiative, located in Bangalore, continue to be involved with the design, development and propagation of rural development systems in which increased farm produce through resource-efficient methods, and the associated benefits, such as better livelihood, are linked with improved energy services derived from the residues of those farm activities.



For example, cattle-rearing was introduced in a village where natural fodder could be obtained, resulting in increased employment, income, and milk availability. Simultaneously, biogas digesters were constructed, so that the animal waste could be deposited daily, enabling a regular supply of biogas for stove-fuelling in all the homes.



In another village, cattle-rearing and biogas generation, as in the earlier case, were linked instead to a biogas-fuelled engine generator for the supply of electricity to all the households.



In yet another case, banana cultivation was introduced with efficient micro-irrigation. The pseudo-stems from the plantations are being digested for biogas generation and use as stove-fuel. The net revenue from banana sales is helping to recover the investment.



While a few cases have been demonstrated, efforts are on to replicate these proven systems on a larger scale.

Application of IRP for improved planning at state power utilities

As applied to the power sector, integrated resource planning (IRP) is an approach through which the estimated requirement for electricity services during the planning period is met with a least-cost combination of supply and end-use efficiency measures, while incorporating concerns such as equity, environmental protection, reliability, and other country-specific goals¹.

IRP has been regularly used and even mandated for the power sector in some parts of the world. But in India, while used to a small extent in research efforts, IRP has not been actually carried out by power utilities. Hence, attempts are now being made to encourage IRP at state power utilities and their generating, transmitting and distributing companies. For the purpose of enabling IRP in practice, we suggest drawing up a framework that assesses the necessary elements of a power sector IRP, in particular, the estimation of and comparison between the life-cycle-costs of alternative options of meeting the demand-supply gap. In addition, the expected benefits from an IRP exercise, the likely obstacles to effectively conducting IRP, and possible ways of surmounting these barriers should be considered.

¹ A. D'Sa, 2005. "Integrated resource planning (IRP) and power sector reform in developing countries", *Energy Policy*, 33, pp.1271-1285.