

V.A.1. An Enquiry into Growing Domestic Energy Demand and Environmental Sustainability in Rural West Bengal

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Integrated rural energy planning in India has focussed on the need to build up integrated energy systems for different rural regions based on locally available sources of energy. But equally important is the aspect of environmental sustainability of such energy systems - whether they will be able to meet growing energy demand in future in an environmentally sound and sustainable way. However the crucial environmental sustainability criteria of an energy system has not received adequate attention.

The objective of the present paper is to examine from the point of view of environmental sustainability, the possibility of meeting growing domestic energy demand in selected blocks of West Bengal through (a) introduction of biomass based improved energy conversion device for cooking, and (b) by decentralised generation of electricity from gasification of biomass. The paper is based on microstudies. Two blocks-Gorubathan in the hill region and Sitalkuchi in the plain region of West Bengal have been selected.

The paper examines the sustainability of the wood fuel based energy system of Gorubathan block in respect of demand-supply gap as well as green house emission and the carbon balance. Three scenarios have been considered. Secondly the paper deals with the sustainability of the biomass based energy system of Sital Kuchi - a plain region. The question of whether the existing inefficiency energy utilisation pattern based on biomass (wood fuel and agricultural waste) can sustain the growing needs of the block in future has been studied. Here three different situations have been examined. Policy implications of the study are also discussed in the paper.