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Sustainable Rural Livelihoods and Urban Environment: an Assessment of Bio-fuel Promotion in Andhra Pradesh, India

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Abstract

Bio-fuel plantations are considered as one of the options to rehabilitate degraded lands and to enhance employment generation for the rural poor in India. The state government of Andhra Pradesh implements a programme for the production of bio-fuel from *Jatropha curcas* and *Pongamia pinnate* plantations in rain deficient areas.

The objectives of this study are a) to examine the bio-fuel policy environment, map the involved institutions and analyse their role in the implementation of the bio-fuel programme b) to conduct an impact assessment of the programme on securing rural livelihoods, improving urban environment and energy security.

For empirical evidence, a model plantation on 300 ha common property resources was selected. Both primary and secondary data for the quantitative and qualitative analysis were collected.

The findings show that although 100–130 days of guaranteed employment could be provided, the involved poor households could not cross the poverty line. For example, their microfinance schemes were confined at subsistence levels to plantation and seed activities resulting in low incomes. High income economic activities need promotion of technology skills improvement in infrastructure and marketing facilities. Concerning property rights and ownership of assets by the poor, it is highly necessary that the usufruct rights provided are bundled with other promotion activities such as free from tax payment, long term use guarantee and compensation rights for land.

Most importantly, this programme has high potentialities to positively influence the urban environment of Hyderabad city. About 3000 buses operate in the city as a major public transport system consuming only fossil fuel and thus being one of the major pollution sources. Close studies of the trials run by the Road Transport Corporation of Hyderabad for six months with 20 % bio-fuel mix have shown very positive results. There is also a high scope to integrate carbon credit programmes of international agencies as there is no net addition of CO₂ to the atmosphere due to bio-diesel use. Further, long term comprehensive policies, institutional innovation and improved governance structures at village level play an important role to reduce rural-urban migration in order to more effectively contribute to poverty alleviation.

Keywords: Biofuel plantations, institutional arrangement, land degradation, poverty alleviation