BIOGAS POLICIES IN RURAL INDIA

A CLEAN ENERGY APPROACH TO SUSTAINABLE DEVELOPMENT

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Introduction

India has always been a pioneer of renewable technologies, dating back to as early as 1897, when biogas was used for lighting at the Matunga Leper Asylum, Bombay. In the present moment, renewable energy occupies a central role in the nation's goal for holistic sustainable development. Following the ambitious target set by the 2030 Agenda for Sustainable Development (United Nations, 2015), India seeks to ensure 'access to affordable, reliable, sustainable and modern energy for all'. The country aims to increase renewable electricity production from 36 GW_{el} in 2017 to 175 GW_{el} by 2022 as part of a five-year plan that includes wind, solar radiation and biomass (MoEFCC, 2015). The Government aims to increase the shares, upgrading and expanding the renewable energies and modern clean fuels by implementing the Tariff Policy Amendment (2016) and National Energy Policy (2017) by Ministry of Power in line with Sustainable Development Goal (SDG) 7.

There are intersecting benefits to implementing biogas policy in rural and poor communities, where replacing firewood with biogas can help to protect forests (SDG 15) and reduce indoor air pollution (SDG 3). However, large-scale implementations of the policies frequently fail to understand the demands of rural and poor populations, due to the wide gap between manufacturers and the end-users. Reviewing policies according to locally-specific contexts enables better insight into the needs of end-users. The introduction of locally-informed energy policies will therefore contribute to a more holistic form of sustainable development, comprising economic, social, health and environmental factors.

EXECUTIVE SUMMARY

To achieve holistic development targets, energy policies need to be implemented to meet the needs of rural communities. At the center of this is the need to provide clean energy for sustainable development. Policy makers can improve the living standards of the poor through providing better access to renewable energy.

There is a need to decrease the gender-blind perspective in the development sector and to recognize women's needs. By attending to the needs of women and children, we can increase the living standard and well-being of the community as a whole. The increase in income generating activities through small-scale industries by men and women entrepreneurs will boost family incomes as well as local and national economies. Policies therefore need to be focused on developing public-private partnerships.

In order to achieve the Sustainable Development Goals (SDG) set out by the United Nations, policies need to be more "demand-driven" considering the needs of end-users. Incorporating local stakeholders into the process enables a "bottom-up" approach in the implementation. This means making it possible for men and women from rural communities to participate in decision-making and implementation processes.

Key Findings

1. The Indian Government has taken a "technology push" approach without due consideration of the contextual factors prevailing in rural areas, including the unwillingness of some households to shift away from traditional fuel sources.
2. Limited funding towards research and development has lowered the standard of technological innovation due to lack of market competition.
3. The technologies promoted are largely for consumption purposes and have little effect on the economic condition of the poor rural households, which often rely on free or subsidized fuels.
4. The approach of the State Nodal Agencies to disseminate technology into rural areas has been largely ineffective.
5. There is a prevailing gap between agencies and the involvement of end-users and local stakeholders.
6. There is a lack of understanding of alternative organic feedstock for the biogas plants. Limited dissemination of information is an important factor in the limited adoption of biogas technology at an individual level.

Policy Recommendations

Policy reviews need to concentrate on approaches, plans and strategies that **highlight the needs of prime beneficiaries, including end-users and local stakeholders**. A holistic approach – which involves men and women and which takes into account economic, health, social and environmental forms of development – is necessary to achieve success in the long run.

1. Energy policies must take a "demand-driven" approach, shifting away from the "technology push" agenda.
2. Encourage more small-scale entrepreneurs, including men as well as women, through initiating micro-credit. This is necessary in order to increase market competition as well as to provide economic stability.
3. Energy policies need to employ "bottom-up" approaches to decrease the gaps between manufacturers and end-users.
4. Strengthen the public-private partnership by working with private industries to support the effective implementation of affordable modern technology in rural areas.
5. Support the dissemination of information through capacity-building programs and awareness-generation programs about clean energy technologies. Information needs to be provided more effectively to women especially, who can mobilise more participation from women in the long-run.
6. Centre the issue of gender empowerment at policy level to improve the uptake of biogas as well as other renewable energy schemes amongst communities.

Implications

1. A "demand-driven" approach will attend to the needs of end-users and will therefore contribute to the increased adoption of renewable energy technologies in rural communities.
2. An increase in market competition will lead to technological innovation, cost reduction and improved facilities, which will enable better dissemination of technology.
3. An improved public-private partnership will increase the efficiency and effectiveness of policies, as they will not be the sole responsibility of research institutions and local agencies
4. Encouraging small-scale entrepreneurs, and especially women, will increase financial support for households, improving access to education and healthcare.
5. The adoption of modern and clean energy production devices results in significant health and social benefits for communities. It reduces the drudgery and improves safety for women who collect firewood. It also improves the health of women and children, who spend significant amounts of time cooking in smoke-filled kitchens.
6. Capacity-building and awareness-generation programmes, especially those that target women, will lead to increased involvement of end-users and the active participation of community members.

A policy brief for the central government of India, research institutes, multilateral financial institutions, R&D industries, banks, local self-governments, non-governmental organizations, the United Nations and its agencies.

Sources

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Authors

Prof. Amit Kumar Hazra, Professor and Head, Department of Lifelong Learning and Extension, Visva-Bharati and Co-PI, BEFWAM Project

Sreya Ghosh, Research Scholar, BEFWAM Project, Department of Lifelong Learning and Extension, Visva-Bharati

Tapas Bagdi, Research Assistant, BEFWAM Project, Department of Lifelong Learning and Extension, Visva-Bharati