

LOCAL PARTICIPATION IN RURAL ENERGY DEVELOPMENT PROGRAMMES

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INTRODUCTION

A number of development programs aim to introduce new methods and technologies for better utilization of resources to meet the energy needs of the rural population. Being linked to practically all sectors of a village economy, energy programs have special importance in the process of rural development, and the active participation of villagers is sought for their successful implementation. The term "people's participation", however, has become a cliché for indicating any kind of local involvement, irrespective of its nature or contribution to the welfare of local inhabitants. It is no wonder that rural energy development projects, ostensibly founded on people's participation, often fail to provide benefits to the target beneficiaries.¹

Based on field observations and reports, especially those with relevance to hill areas, the author of this paper has tried to analyze factors constraining or contributing to useful participation in rural energy programs. The analysis suggests that there are no short-cut methods of promoting participation, which could involve promotion of autonomous local institutions, sharing of values, and imparting multidisciplinary skills to the villagers. This calls for reorientation of extension methods with greater stress on development of local

capabilities, especially among women and the economically weaker sections, and integration of energy programs with those of poverty alleviation.

THE CONCEPT OF PARTICIPATION

The importance and need for people's participation in development programs is well recognized (FAO 1973; United Nations 1974; ESCAP 1977). However, the term "people's participation" is ambiguous and often used loosely to describe any involvement of people in a program. Some researchers have tried to be more specific and have defined the term as "commitment on the part of the individual toward all forms of action by which the individual can take part in the operation without being conscious of any socioeconomic barriers to achieve certain common goals in a group situation" (Santhanam 1982), or "the involvement of a significant number of persons in situations or actions which enhance their well-being, e.g., income, security, or self-esteem" (Cohen and Uphoff 1980). For our purpose, however, it is more instructive to discuss the various dimensions of participation that explain the concept and its implications in the context of energy development programs in rural areas. For this, we need to look at three dimensions of participation: who is

participating; what kind of participation is it; and how is participation occurring?

Who is participating?

In a rural society, the principal participants in a program would comprise a minority: the rich section of the population, who often take the lead in any new venture, e.g., Dasgupta (1977). This is also true for energy programs as described earlier.² While a case can be made for subsidizing the rural rich when the new technologies have a demonstration value, participation is often sought from the economically weaker sections of the population too. Various social and institutional constraints prevent this section of the population from partaking in the benefits in the desired manner, and the bulk of benefits are captured by the less poor.³ Participation of the poor often implies a struggle to overcome constraints. For this reason, participation is also described as an evolving process accompanied by corresponding changes in economic and social relations (Bhaduri and Rahman 1983).

What kind of participation ?

This dimension of participation distinguishes between participation at different stages of a program. Every program runs through various stages, from problem identification to implementation and follow-up. People's participation can begin at any stage. It is desirable to have a process of participation and feedback from an early stage, so that no efforts are wasted due to non-acceptance of ideas later. For example, with respect to programs on improved cooking stoves, it is

suggested that women using the stoves should be directly involved in design (Shaller 1981). It is also suggested that all innovations in the cooking energy system be undertaken only in continuous interaction with women at the idea/conceptual stage itself (Batliwala 1983). This may not be possible in all situations. However, it can be appreciated that early involvement contributes to greater responsibility felt toward a program, bringing out the energies and talents of participants essential for a program's success.

How is participation occurring?

Participation generally implies voluntary involvement, though it may be coerced or disguised. With increasing targets set for diffusion of alternative energy technologies like smokeless stoves or solar cookers, such situations are quite likely unless the demand for these items comes from the villagers themselves. For example, in a survey conducted after a program to introduce the above technologies, nearly everyone considered the technologies to be "useful", but only 13 percent and 1 percent were willing to invest in the smokeless stoves and solar cookers respectively, and none did so. In fact, solar cookers were reportedly being used for storing clothes, and the mirror for shaving (Vidyarthi 1985a). In these programs, the motivation to participate had come from provision of the mentioned items free of cost.

Local participation can, thus, take different forms. While it is important to distinguish genuine and disguised participation, it is also essential to understand factors affecting participation in order to arrive at a

participatory development process.

FACTORS AFFECTING PARTICIPATION IN RURAL ENERGY PROGRAMS

Program stages may be broadly classified under four headings: problem description, appraisal of alternatives, project organization, and monitoring and follow-up. Although presented separately, these should not be seen as distinct stages, overlaps are easily possible in actual working conditions.

Problem description

The energy problem itself is described differently by various groups of people with opposing viewpoints, e.g., global vs. local, rich vs. poor, or male vs. female. Lack of understanding of these differences could lead to steps in the wrong direction and consequent lack of participation in a program. Continuing deforestation and awareness of the inadequacy of conventional energy sources like coal, oil, and electricity to meet the energy needs of rural areas has led to increasing concern for the introduction of technologies for utilization of new and renewable sources of energy (Parikh 1976; Reddy 1981). In contrast with these macroconcerns, it has been seen that a villager's energy problems and concerns are often related to conditions of poverty, accessibility of resources, and social organization (Briscoe 1979; Vidyarthi 1984). This often contributes to important differences in how the energy problem is described at the macrolevel vis-a-vis the village level.

Similarly, considerable differences may

exist between the energy needs expressed by the poor vis-a-vis the rich segment of village population. The distinction between "needs" and "expressed needs", or demands, is important. Although there may be a "need" for a source of energy by poor villagers, lack of resources in cash or kind may prevent them from turning it into an effective demand. A problem description based only on an understanding of needs is inadequate for generating local interest. Instead, a program centered on demands would lead to far greater participation of people. This might mean a different problem description for the poor vis-a-vis the rich. For example, although cooking fuels constitute one of the major components of energy used in a village, availability of alternative cooking fuels may not be considered a priority among the poor inhabitants, even if there is an apparent fuel scarcity in the village. As observed in a village in Uttar Pradesh, despite increasing use of less preferred fuels like spring plants, agricultural residues, and dungcakes, and significant person-hour involvement in the collection of fuel, even women had investment priorities linked to an improved irrigation system rather than alternative cooking fuel (Vidyarthi 1985b).

Similarly, it was found in the study of a village in Gujarat that "though firewood collection has become more tedious because of denudation of forests and restrictions on entry, the women do not see it as their main problem. Their principal requirements are in relation to their more basic requirements". Accordingly, the authors have concluded that "the firewood problems of the poor women will not vanish unless it is seen as part of the symptoms of poverty"

(Nagbrahman and Sambhrani 1983). Problems and priorities would, of course, vary in different situations. In an action research program in the hill regions of Nepal, it was observed that while in one village, situated at a relatively lower elevation, the community favored setting up a biogas plant for milling of rice, the inhabitants of another village, at a higher elevation, placed priority on fuel-conserving stoves for cooking (Bajracharya 1984).

It is also important to be conscious of possible differences in opinion between men and women. The subject of cooking fuels is directly associated with daily chores in the lives of women, so that the associated problems might not be given the same importance by men. There have been instances when women have protested against decisions taken by their own men⁴. It is, therefore, essential that their opinion is taken into account for ensuring their participation.

Thus the need for arriving at a proper problem description before determining program details becomes clear. An important question relates to the method of doing so in the most optimal manner. Some methods popularly known as Rapid Rural Appraisal (Chambers 1981), Gaun Sallah (Messerchmidt 1982), and Sondeo (Hilde Brand 1979) provide illustrations of alternative approaches. The essential point, however, is to arrive at ways of establishing a dialogue with villagers on subjects of common concern.

Appraisal of alternatives

Once the problems have been identified, alternative approaches must be determined and their socioeconomic feasibility assessed. Methods of desk

appraisal including social cost-benefit analysis techniques are now well established (Barnett 1978; Bhatia 1977; Smith and Santerre 1980), but these only provide preliminary criteria for the choice of a system. The final answer has to come from the villagers themselves, as the methods of appraisal followed by them determine their participation in the program.

It must be mentioned that methods of appraisal become distorted when the participants realize that a certain system is being given to them as a grant. This is often true in development programs or when there is a high subsidy content. The appraisal method then is no better than a bargaining stance to get the most out of the sponsors. The participation of the people in such projects could be undesirable from the standpoint of project objectives. Initial enthusiasm is likely to wither away with the departure of the sponsors. Grants may be necessary in certain circumstances for demonstration or infrastructural facilities. However, here the issue is appraisal of projects that are to be carried out under circumstances in which replicability would be sought. Thus grants or subsidies in the project should be counted in the appraisal only as they apply to a general situation.

For determining local criteria for appraising a project, it is essential to ask who is doing the appraisal and under what conditions. Among different criteria, removal of drudgery is seen as important by all, but only the rich can afford to invest. Similarly, while most would appreciate savings in cost, the nature of costs could make a difference. Thus, one could expect genuine interest in projects leading to visible savings

contributed by, for example, reduction in kerosene consumption. But indirect savings contributed by improved manure from a digester may not be appreciated. Assessment of opportunity costs would be situation specific, and savings in time associated with an activity like fuelwood collection may not be seen as an important advantage by the poor, especially in terms of cash investments.

Projects with cash benefits would, of course, be accorded highest priority. Such projects would generally be appraised by the poor on the basis of net cash inflow under minimum risk conditions. For example, in an ongoing project on development of an integrated dairy system being coordinated by the author, the project components include: (1) establishment of a community center for processing of milk to ghee (clarified butter); (2) biogas for heating; and (3) fodder plantation for cattle. The participating villagers, mostly economically less advantaged families, have initially chosen to invest in the first component only, using purchased firewood for heating in the initial stage. They feel that investment in biogas and fodder plantation should be undertaken at a later stage after the principal loan for the first component has been repaid. Here too, final approval from the villagers came only after assurance from the promoters that in case of a sustained loss, the promoters would take possession of all machinery and equipment after repayment of the fixed capital component of the loan and the corresponding accrued interest. In this case, it was clear that the participants were not in a position to incur any financial risk, some being already burdened with debts and obligations.

Project organization

Project appraisal at the local level often goes hand-in-hand with exploration of organizational alternatives, especially with respect to decision-making arrangements and the organization of material and financial resources.

Decision-Making Arrangements at Local Level. It is often the case that even if a majority of the participants or beneficiaries of a project are from economically underprivileged families of a village, the decision makers are still the powerful rich or their associates. This leads to a lack of people's trust in the project activities and a disguised participation, if any. This may not be easily apparent to an outside observer unless an effort is made to probe the social relations among the participating villagers. For example, in village woodlot plantation, the normal procedure is to appoint a village committee for local decision making. Choice of local members in the committee, specified in terms of being a woman or belonging to a poor family, is often left to the discretion of the village head. Also, he is generally the sole contact person in the village for the program organizers. The head and his associates, or in effect the head himself, is thus supposed to represent people's interest in the program.

In contrast, it is worth noting the manner of involvement of villagers in microhydro projects of the National Energy Administration in Thailand.⁵ Participation of a family in the project is determined by the contribution of a stipulated amount of labor time to be shared equally by all participating families. Every participating family has

the right of a single vote for arriving at local decisions. Thus, families of all classes are able to participate on an equal basis with minimal distortion, leading to a keen sense of involvement and interest in the project often lacking in the forestry program mentioned earlier.

Organisation of Resources. The organization of material and financial resources could involve a considerable amount of persuasion and negotiation at the local level, especially in community projects involving the poor. In the absence of any meaningful precedence, the poor generally view all activities with skepticism until the results prove beneficial.

In afforestation projects, for example, fencing of the land is often resisted by a section of villagers who traditionally used it for grazing. Such a situation can only be resolved through agreement on provision of grazing rights on a different piece of land, or special permits to these families for cutting grass from the fenced land.

For labor requirements, though "Sharmdan" (voluntary contribution of labor) could be encouraged, it should not be considered a measure of the extent of participation in community projects. It should, however, be expected for certain household technologies like improved cooking stoves. For example, if the beneficiary is not willing to arrange for mud for the construction requirements, then his/her interest in the program is doubtful.

Organization of financial resources can also be problematic. Even though the participants may wish to take a position

of minimum risk, the financial institutions have their own expectations, which must be fulfilled. For example, it is necessary to provide security for a project loan. The manner in which this is shared by participants or a magnanimous supporter can indicate the nature of their participation in the program.

Monitoring and follow-up

Monitoring and follow-up tend to receive the least attention in most projects. As a result, it is not difficult to come across situations where a newly introduced technology is left unused by the beneficiaries. An often quoted example is that of smokeless stoves, where inadequate follow-up after programs of training and construction has led to decline of users' interest. This can only be avoided by strengthening the follow-up component of the program.

It is clear from the above discussion that local participation in energy programs cannot be taken for granted; it depends on a number of factors associated with proper identification of problems, organization of people, determination of resource options and follow-up. This requires an innovative multidisciplinary approach, together with considerable flexibility and commitment on behalf of the extension agents or institutions. The typical extension approach is, however, quite inflexible and mechanical. As rightly observed, "in accordance with the concept of extension, (extension agents) transform their specialized knowledge and methods into something static and materialized and extend them mechanically to the peasants" (Friere 1973). Such attitudes require radical

reorientation or else development programs will continue to suffer from a lack of people's participation. Some approaches to participatory development are discussed in brief in the following section.

APPROACHES TO PARTICIPATORY DEVELOPMENT

It is evident that in the context of participatory development, energy programs cannot be seen in isolation from the overall process of rural development. Specialists tend to follow a fragmented approach to development that limits the perspective of problems, needs, and alternatives. Thus, a typical energy planning exercise involves analysis of energy consumption patterns and resources to give an estimate of patterns of demand and supply respectively.

These are sought to be balanced through available conversion mechanisms in the most optimal manner. Villagers, however, may not look at the issues in such simplistic terms. They have a better understanding of problem interlinkages at the local level, a continued faith in time-tested indigenous methods and technologies, and a keen awareness of sociopolitical implications of development alternatives.

For example, an energy planner may feel surprised at looking the amount of common land lying unused in a village, and may be tempted to suggest planting trees for better utilization. A local villager would know, however, of controversies surrounding misuse of common land, its forceful occupation by

some, and the futility of any attempt to plant trees on it in the absence of an organizational system to protect them or share its produce.

For an outsider, a complete understanding of such covert issues could mean considerable involvement of time and resources. For a participatory development process, however, it is essential to arrive at a method by which these issues could be taken into account in program development and implementation. The approach suggested here involves development of local capabilities among the villagers, including development of a suitable organization and skills to tackle various problems, leading to the fulfillment of commonly held goals and values. These are discussed in detail below.

Development of local capabilities

Organization and Leadership. The role of a suitable local organization or leadership in an energy program has to be viewed in terms of the nature of interventions, and the support required at the village level. Interventions are often organized because of the inability of poor households to master adequate resources for a project individually. The coordination of various inputs and distribution of benefits in such a program calls for a suitable organizational system with defined roles and responsibilities of the participants.

Although people's organizations are generally already in existence at the village level in the form of village councils presided over by a village head, the role and usefulness of such an organization is limited by the extent to which it represents the interest of

different segments of the village population. This also determines the nature and extent of their participation in any activity organized by the council.

An important question in the context of program implementation then is whether the program should be organized around an existing organizational framework, perhaps through formation of committees under existing leadership, or should alternative organizational structures and leadership for such a purpose be exploited? An answer of this question can only be determined by the villagers themselves, through examination of organizational alternatives that allow a democratic decision-making process.

An associated policy question here is: how long would it take to organize a program in the above manner? This answer would depend on the nature of existing organization in the village. While the existence of a well-represented organization or leadership would imply considerably reduced efforts on the part of the project initiators, its absence could imply sustained efforts at formation of a suitable organizational structure. The process could involve conflicts and contradictions at different stages. These are natural to any process of change, and associated time uncertainties should be borne in mind at the time of project formulation.

Training. A proper training program for users or operators of a technical system is essential for effective operation and maintenance of the system. For fuller development of local capabilities, however, mere acquisition of technical skills is inadequate. Instead, it is essential to impart training which leads

to acquisition of a set of skills that prepare the villagers to take up all or most of the project responsibilities. Thus, a community biogas project, for example, would also involve management of various aspects of the project and would necessitate training in management skills such as record keeping and accounting.

In certain cases, it is also essential that knowledge of alternative models or designs relating to a technology be imparted so that people can choose appropriate technologies. Training is thus seen as a process of acquisition of a multidisciplinary set of skills by the villagers to organize and run a project themselves, with outside involvement limited to occasional guidance.

Linkage to goals and values

An essential feature of any development program is that it deals with human beings who have a set of goals and values guiding their behavior and attitudes toward any person or activity. Notwithstanding the existence of suitable local organizations or skills, the success of a program often depends on factors motivating the people, and extent to which program activities are built upon commonly accepted goals and values. To quote an observation made in the context of successful organization,

"The basic philosophy, spirit and drive of an organization have far more to do with its relative achievements than to technological or economic resources, organizational structure, innovation and timing. All these things weigh heavily in success, but they are transcended by how strongly people in the organization believe in its basic precepts and how faithfully

they carry them out !" (Peters and Waterman 1984).

These factors are often pushed into the background by project organizers. This fails to activate the 'human factor' (Rao 1983) essential for bringing about genuine participation. To quote another statement from the same source,

"The real difference between success and failure in cooperation can very often be traced to the question of how well the organization brings out the great energies and talents of its people. What does it do to help these people find common cause with each other ? And how can it sustain this common cause and sense of direction ?" (Peters & Waterman 1984).

An emerging question is: could there be a common cause among participants, built upon commonly held goals and values in relation to energy programs ? The answer to this question would depend on a number of factors including the nature of existing social relations in the village and the extent to which these are affected by the program.

Without going into detail, social relations in a village are often linked to class or caste associations that could easily be guided by different, often conflicting, sets of development goals.

The manner in which these relations are affected by energy programs would depend on the kind of intervention visualized in the program. In fact, on this basis, energy programs could be classified as follows:

1. No significant change in social relations is foreseen. (For example, simple household technologies for

saving fuel, like improved cooking stoves, may have little impact.)

2. A change in social relations is foreseen, but is not effected. (For example, members of the poor class may foresee reduced dependence on others due to potential availability of an alternative irrigation system powered by a community biogas plant, but the existing leadership in the village, belonging to the other class, may prefer to use the gas for cooking and may be able to manipulate events in that direction. Such a situation is not uncommon in community projects with typical bureaucratic intervention that prefers to work with existing organization and leadership, even though it may not represent the interests of the poor majority.)
3. A change in social relations is foreseen and is effected. (There is a conflict of goals and interests between members of different classes. However, in this case, a separate elected body is constituted to run the project. This body helps in giving shape to the project with special attention to the goals of the poor majority.)
4. A fourth category could include cases where, irrespective of caste or class associations, villagers may collude in a project to move toward fulfillment of commonly held goals like self-reliance or environmental conservation. This category, though relatively rare, is possible only when development agents are able to effectively share basic values such as those concerning human destiny in general.

Participatory development can, thus, be a lengthy process. Depending on the kind of intervention foreseen, it could involve sharing values, developing local institutions, and imparting a multidisciplinary set of skills to the villagers. This raises an important policy question regarding methods of doing so on a large scale. The development of Van Panchayats (locally elected Forest Councils) in the hill areas is a well known effort in this direction. The experiences associated with such a system in promoting local participation in the management of village forests is briefly examined below.

Van Panchayats

The formation of a Van Panchayat generally follows a signed agreement by one third of the families in a village with the Forest Department to take over management of a forest on village common land in accordance with the Panchayat rules and regulations. These include election of a local government body of "Panchs", headed by a "Sarpanch" who are supposed to meet regularly to decide on methods of protection, extension, and product distribution. The panchayat receives no financial support from the government. Any income accruing from the sale of products, i.e., fuelwood, timber or grass, on the other hand, has to be deposited in the Van Panchayat fund, which can be used for community welfare expenses such as repair or building of village schools or roads. The products could be distributed among the villagers, if the Panchayat decides this. Any lopping or felling is, however, regulated and can be executed with the permission of the Forest Department only, which has appointed Panchayat inspectors to

supervise the operations of the Panchayats, including holding their elections every five years.

Investigations of the system indicate that people's participation in Panchayat activities is constrained for several reasons. Restrictions on the utilisation of Panchayat funds, along with the lengthy procedure for obtaining sanction for these, serve to alienate the villagers from the forests. On account of the forest being looked upon as government property, the Forest Department is expected to assist in its management, especially in the punishment of encroachers. Any lacunae or indifference on behalf of the department serves to propitiate mismanagement and corruption. These are accentuated by irregularity in the holding of Panchayat elections. People's trust and participation in management is thus severely eroded.

An ordinary villager's interest in the Panchayat lies in sharing of the products in the form of fuelwood, timber or grass. The management, however, finds it easy to auction the products and obtain ready cash for meeting various administrative expenses. This often leads to discontent among the villagers, especially the economically disadvantaged groups who are unable to benefit from this practice. It is also significant that women play little or no role in the management of the Panchayat.

A Van Panchayat, or any other local institution, can serve a useful purpose only to the extent it develops controls and procedures in the institutional functioning and governance that ensure democratic decision making and

adherence to rules and regulations. This also implies strengthening local capabilities, especially of the poor majority, to enable them to participate in decision making effectively.

POLICY PERSPECTIVES

To enhance local participation in energy programs, energy development must be seen in the context of overall development. This implies that even if planning for energy continues to be based on a sectoral approach, local development efforts should have a holistic approach built on development goals and priorities set by the local population. Furthermore, as noted previously, it is important to know who among the local population is participating. If the target beneficiaries constitute the economically weaker sections of the population, local institutions and leadership must be representative of that section. Development of capabilities of such an institution would consist in imparting a multidisciplinary sets of skills, so that the programs are eventually managed by the participants themselves.

From a policy perspective, this implies a need for intermediary agencies and persons having the necessary orientation, flexibility and capabilities to match current macroconcerns and technological achievements to local development requirements. In some countries, like India, an extension mechanism of this nature was visualized in the setting up of block development centers supported by village level workers. The past several years of experience has, however, shown that this has functioned simply as a delivery system for centrally

designed programs and targets (Rao 1983). Apart from the absence of a proper feedback mechanism, the system works through local organizations and leadership (gram panchayat and pradhan) often unrepresentative of the interests of the poor majority. It is not surprising, therefore, that program benefits seldom reach this latter section of the population.

Alternative institutions like Van Panchayats in hill areas could play a useful role in promoting local participation in energy programs, provided they are backed by proper regulatory mechanisms that ensure democratic decision making at local levels and adherence to associated rules and regulations. For this, it is essential that extension methods are reoriented to strengthen the abilities of disadvantaged villagers, especially the poor and women, enabling them to participate in decision making more effectively. This is possible only through well trained and motivated staff working at the village level, supported by a system of information feedback and processing that can lead to rapid action, if necessary, inclusion of women extension workers would also go a long way in promoting women's participation in these programs.

Alternatives also exist in working through informal groups and voluntary non-governmental organizations active in similar or associated fields. Voluntary non-governmental organizations have displayed the ability to work as efficient intermediaries between the government and people, with personnel having multidisciplinary skills and values congenial to participatory development. Such

organizations can act as effective supplements to the existing extension channels.

CONCLUSION

Participation is not something uncertain or exogenous to a development program. It can be cultivated by adopting an approach that helps to fulfill the goals of the community in question. Energy programs can have varying degrees of

contribution towards the fulfillment of such goals. They attract greater participation if integrated with programs for mitigation of poverty and unemployment. Local participation is also facilitated if work is carried out through local institutions and leadership truly representing the interests of villagers. Widespread adoption of such an approach calls for reorientation of extension practices and involvement of voluntary organizations having the necessary capabilities and commitment.

ENDNOTES

1. For example, social forestry programs have been seen to benefit industry with negative effects on the poor (Shiva et al 1982). Biogas program also have essentially benefitted the rural rich (Moulik et al 1978).
2. Such tendencies have been variously described as the 'talents effect' (Pearse 1980) or the 'refraction effect' (Morehouse 1981).
3. As in the case of the women of Dongri Paintoli fighting for forest conservation (Jain 1984).
4. Field notes of the writer.
5. Based on ongoing project on participatory evaluation of fuelwood programs being coordinated by the author.
6. For example, Yuvak Mangal Dals or Mahila Mandals (Youth or Women's Councils).

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