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PLANNING FOR COMMUNITY PARTICIPATION IN WATER SUPPLY AND SANITATION: ACCOUNTING FOR VARIABILITY IN COMMUNITY CHARACTERISTICS

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INTRODUCTION

Planners of community-based sanitation services at both national and local levels are faced with a paucity of meaningful data on the characteristics of the communities for which services are designed. Frequently the data available provide a global view of the problem, but little to describe aspects of potential solutions (Ref. 1). Data on proportions of the population, peri-urban or rural, with or without reasonable access to potable water or adequate sanitation, convey in fact only partially the multiple factors that must be considered in evaluating progress. White (Ref. 1), suggests that other alternative national-level statistics might include estimates of:

1) The proportion of the population in urban squatter settlements invloved in self-help projects of any kind.
2) The proportion of the rural population involved in some form of self-help community development.
3) The extent to which the user is involved in the choice of water supply service level, technology, and management policy.

Estimates of the distribution of these water and sanitation-related factors must depend upon systematic collection of data from at least a representative sample of peri-urban and rural population groups, preferably on an ongoing regional basis. Essential to this task is the development of instruments for the generation of data. The data could be used for national aggregate analysis and subsequent planning for allocation of budget and personnel to water and sanitation programs. Aside from their use in national planning, a primary benefit of such data would be the provision to field workers (assistant sanitarians, public health extension workers, agricultural extension workers) of information that they can use to decide upon the appropriateness of various technical and organizational approaches to water and sanitation improvement.

Needs for data and opportunities for using them exist, therefore, at both the national and local levels; but the means for collecting, processing, and aggregating findings do not exist in most developing countries. The probable result is not only an incomplete and mistaken diagnosis of the problem of water supply and sanitation in its ramifications and dimensions, but also a failure to identify community level resources that could be mobilized in the solution of problems.

Whatever the data collected, by whomever they are collected, to whatever use they are put in the exectution of water supply and sanitation programs, one must take account of a tremendous variability in almost every respect from community to community, even in the same country or region. Variability among rural communities is in fact a cardinal principle of community development work (Ref.2). Because communities vary, differing solutions will be appropriate in each instance.

A key question in community water supply and sanitation work is that of the the degree of readiness or preparedness of a given community to undertake all that is implied by participation in the installation, maintenance, and repair of facilities. Any data collection effort by field workers that is useful in guiding their interventions or for that matter in guiding national-level allocation of resources must address this question. The problem then is to capture in a data collection instrument and interpretative scheme those elements essential to a definition of readiness for participation. Several case examples are helpful in tracing the outlines of what should be included.

VARYING DEGREES OF READINESS FOR COMMUNITY PARTICIPATION: CASE EXAMPLES

Case examples are drawn from the experiences of the author in African countries. Several are derived from the work of the University of Pittsburgh/OCEAC Regional Public Health Training Project in the Cameroon (1972-76). This project emphasized the organization of village health committees as a means of promoting self-help health projects in villages of the Mefou Department of the South Central Cameroon. The operation of the project is described elsewhere (Refs. 3-8). One case example is form the Zaire. Material is drawn from a paper by Cooper (Ref. 9) and, from correspondence with community leaders. Still another case, where the material is derived mainly from correspondence with community leaders is from Ghana.

Levels of readiness are presented as means of analyzing the data available from these cases. The characterization of a given level depends on two estimates:

- The initial demographic, health, socio-cultural economic, and ethno-historical status of each village, to the extent these characteristics are known.

- The type of intital repsonse to any interventions.

As a confirmation of the impression of a degree of readiness, data on the concrete realizations achieved in each village are included. Of course this data is not availabe to field workers approaching communities for the first time, but they do help us to round out the characterization of each case. Communities are categorized at four levels:

1. Little readiness for participation, and none realized, amounting to a profound resistance to organizing efforts.
2. Some readiness for particpation but realization impeded or delayed by serious organizational problems.
3. High level of readiness, but only partially realized.
4. High level of readiness, and largely realized.

Level 1 - Low readiness, low realization

Melen, Cameroon

This village in the South Central Cameroon with a population of about 400 was one of four pilot villages in which the University of Pittsburgh/OCEAC Project initiated its work in early 1972. At first glance one would have supposed a high level of readiness. There was in existence already a protected, although not well-maintained, spring. There were many latrines, although few were of adequate construction. Community leaders were cooperative with the initial survey and organizing efforts and turned out in large numbers at the first several meetings of the village health committee. The survey revealed, however, a strikingly large proportion of the population (22%) holding essentially pessimistic attitudes toward the preventablility of disease in general and low level understanding of the water and excreta-related origins of gastrointestinal infections.

Other indicators of unpreparedness were in retrospect more subtle. For example, the protected spring, it was learned, had been a project of the local Catholic mission. It had been constructed to serve the needs of the mission elementary school. There were no other protected springs and only one latrine. Further, investigation of the social organization revealed a strong dependence upon the church for leadership with a consequent diminution of the influence and authority of traditional leaders. The abby, for example, became chairman of the health committee. Despite four years of Project inputs in the form of health education and community organization virtually nothing was accomplished in terms of water supply and sanitation improvements. The diagnosis of a low level of community readiness which might have resulted from an adequate community assessment at the beginning would thus have been confirmed.

Level 2 - Some readiness, but serious organizational impediments

Nkolnguet, Cameroon

Another South Cameroonian village with a population of about 250 exhibited much the same initial behavior. Community leaders cooperated well with both the survey and the organizing. A village health committee was readily formed. Community leadership was strong in that both the traditional chief and the party representive* were young literate and enthusiastic. There were several skilled persons in the village. Two resident elementary school teachers became active members of the committee. Several influential women were identified.

What was not initially apparent, however, were the deep divisions existing among the clans and subclans making up the population. Like so many Central African populations, the inhabitants of this village traced their origins to hamlets deep in the equatorial forest. During the colonial era, these dispersed populations had been forced to agglomerate in villages along the roads, where tax collection, census-taking, conscription, disease surveillance and forced labor could be facilitated. Not erased, however, were clan and sub-clan identities. At Nkolnguet, in fact, the chief was from one clan and the health committee president from another. At least two other clans were represented. Embedded in these divisions were historical animosities known to most of the villagers.

It was not surprising then when what had been good progress on four protected springs and over 25 latrines for over a year, came to an abrupt halt with the outbreak of open hostility between two of the clans. Because both the chief and the village health committee president were involved, the committee itself was severely damaged.

Despite many positive signs of readiness for participation, therefore, certain factors of a socio-cultural nature served to severely compromise realization of this potential.

Okoa, Cameroon

At first, this village (also one of the original four served by the University of Pittsburgh/OCEAC Project) seemed an unlikely place for a significant degree of participation to occur. Income, education, and manual skills were the next lowest of the four pilot villages (only 6.7% professional, skilled laborers, or businessmen). The proportion of elderly persons was the highest (25% over 50 years). One was struck by the frequency in the initial survey of anemia, splenomegaly, skin diseases, and childlessness. Subjec-

*Union Nationale Camerounaise

tively, an atmosphere of depression and lethargy prevailed.

Despite Project imputs during the first year, very little was realized in improved water supply and sanitation, seemingly bearing out initial impressions. In the second year, however, a young itinerant health worker was assigned to this village as well as to several others in a curcuit. Through patient encouragement, provision of technical information, and working side-by-side with the villagers on spring protection and latrine construction he was able to elicit a participatory response. Three permanent spring boxes were constructed and over twenty households built and used semi-permanent pit latrines.

It became apparent that some communities giving an initial appearance of low readiness to participate should call forth not a delayed, but a more intense intervention. The factor of age in this population proved to portend a favorable rather than an unfavorable prognosis for participation (Ref. 4).

Level 3 - High readiness, but only partially realized

Kpandu-Dafor, Ghana

The village illustrating this degree of readiness is in the Volta Region of Ghana. As a result of the construction of the Akosombo Dam and the subsequent formation of the Volta Lake, the residents of several villages along the eastern bank of the river were cut off from their traditional markets and other sources of goods and services. Particularly acute became the diminished access to medical care. In response to this situation and at the suggestion of an outside consultant, a village health committee was formed early 1978. The effort drew the support of nearly every family head as well as the stool fathers in each of the five villages of the area. One woman donated a house to be used as a clinic; others donated funds from their cocoa and palm wine earnings to equip the clinic and to support the training of two village health workers. Several citizens, originally from the village but residing in Accra, pledged their support. The level of education and/or manual skills among these people was unusually high. Women particpated in large numbers. Plans were laid not only to support primary care services but also a transportation link to the local market town, improved food production, and improved water supply and sanitation.

Despite this high level of readiness and seeming good start, water and sanitation objectives have not as yet been reached. Lack of appropriate technical assistance appears to be a key bottleneck in this failure to reach these objectives, but one cannot overlook the fact that the provision of primary medical care was a first priority.

Djalu, Ziare

A similar situation prevails in this community in the highlands of the central plateau. Readiness for participation in water and sanitation is at a high level. The very existence of the community created as it was out of the confusion of the years 1959-61, attests to a certain level of commitment by every community member. School, churches, and clinics have been built, started, equipped, and maintained. An airstrip exists, and enough rice is produced for export to the rest of the country. Income is relatively high, as is literacy.

Yet, water is still drawn from a nearby river; and in the dry season, from one farther away. Citizens sensitive to the problem have asked for technical assistance. Willingness to share in the cost and the labor seem to pose no difficulty.

Level 4 - High readiness, and largely realized

Ekali I, Cameroon

This case is illustrative of the principle that in community development work one frequently reaps results where another has sowed. Ekali I had been the site of intensive work by Canadian missionaries for nearly four years. This work, aimed at resolving the long-standing estrangement of the older and younger generations that had led to a sizeable out-migration of youth, had contributed to a coalescence of purpose among the inhabitants, a wide degree of participation across age and sex categories, and a vigorous cadre of leaders.

Counting a number of dependent hamlets, Ekali I numbers about 1500 inhabitants, the central hamlet having just over 400. This village gave by far the most positive response to the educational and community organization efforts of the Pittsburgh/OCEAC Project. Not only did the health committee organize easily, but soon took on the intitiative for planning successive local projects: three springboxes in the central hamlet, one each in two of the peripheral hamlets, over sixty households with well-constructed well used latrines, and a functioning village pharmacy for simple drugs and supplies (Ref. 10).

By 1978, two years after the end of the Project, the committee was planning the construction of a water tower with a pump and gravity distribution to a central standpipe. Additional springboxes in peripheral hamlets were also in the plans. Clearly, the health committee had taken on a life of its own and was functioning as a community planning mechanism.

Communities do vary then in their ability to participate in the planning, installation, maintenance and repair of water and sanitation facilities. As the foregoing cases attest even the categories of factors responsible for the variance in each case may be different, It may, nonetheless, be possible to develop a means of both collecting data relative to readiness to participate and to classify and interpret this data in such a way as to guide both technical and organizational

interventions.

TOWARD A SYSTEMATIC AND CONTINUOUS ASSESSMENT OF COMMUNITY READINESS FOR PARTICIPATION IN WATER AND SANITATION PROJECTS.

The purpose of any assessment of this type is two-fold: to provide a basis for a rational allocation of national resources, and to guide field workers in appropriate interventions of both a technical and organizational nature (Ref. 11).

The first can be discussed very briefly. National planners of both urban and rural water and sanitation services need to know how best to distribute the limited financial, material and personnel resources at their disposal, no matter what Ministry in fact houses water supply, or sanitation services or both. Knowledge of the needs of communities, aggregated by region and by district and subdistrict, taking account not only of the need for financing, equipment and technical support, but also for assistance in strengthening their ability to manage water and sanitation facilities, would enable planners to provide for proper training of personnel as well as the purchase of appropriate equipment and material and the development of useful field guides and other instructional material. In a word, areas of the country with the greatest needs could receive priority attention while those whose needs are less could simply be monitored.

At the periphery the use of the information could be more immediate. By means of a simple data collection instrument containing key questions such as those suggested by the case material above, the agent could achieve an impression of community readiness that would enable him to intervene appropriately. The use of some sort of algorithmic decision-making scheme might be appropriate.

In order to avoid some of the pitfalls recounted in the cases the agent would have to be armed with additional questions to pose as the community intervention proceeds. Such questions would relate particularly to ethnohistorical data, details of inter-personal inter-clan relationships, and more detailed descriptions of economic factors, all of which are sensitive issues not readily explored, yet which have a profound influence on the success of participation. In any case, the process must not be perceived as ending with an initial data gathering effort, even if 70% of needed information could be obtained, but rather as an iterative process requiring a continued sensitivity to socio-cultural nuances.

What variables should be included in an instrument developed for use in the initial community assessment? The following would appear as a group to be the minimum to address without limiting the informational value of an instrument to field workers:

Physical Characteristics
- Topography
- Types of soil
- Water table
- Types and locations of water sources
- Meteorologic and climatic variations
- Availability of natural resources

Biologic Characteristics
- Water quality
- Common disease vectors
- Prevalent water and excreta-related diseases

Economic Characterstics
- Assets
- Liabilities
- Economic infrastructure

Demographic Characteristics
- Distributions
- Ethnic composition

Socio-cultural Characteristics
- Beliefs about water and excreta
- Water use
- Excretion patterns
- Local skills
- Existing Local organizations
- Leadership patterns
- Communication patterns
- Decision making patterns

The case material suggests, however, that the most needed information should be mostly of a socio-cultrual nature. Even where technical skills and abundant natural resources exist in a community, such factors as inter-clan dissension or the absence of decisive leadership may interfere significantly with the realizaton of participatory objectives. As a first example, the dependent relationship involving mission and community at Melen, or the Mission-initiated mobilizing activities of Ekali I indicate the need for becoming aware of the types of interventions communities have experienced in the past and especially the kinds of relationships that were established between community and the intervening agency.

As a result of this assessment, a field worker might adopt organizing efforts to promote self reliance, where dependence exists; but where a population is already mobilized, efforts to capitalize on existing self-reliance. Thus at Melen a painstaking step-by-step process of demonstrating what the village could do by itself to improve its water supply and sanitation facilities would have been necessary. At Ekali I or at Djalu, existing self-reliance could be built upon. The implication is for more community organization resources for populations like Melen than for populations like Ekali I and Djalu.

A second set of socio-cultral considerations seem to revolve around the ethnic history of the population in question. A village like Nkolnguet, for instance, where segments of the population have differing historic identities may require the formation of several structures, each corresponding to a segment,

to look after water and sanitation improvements, rather than an unwieldy dissension-prone health committee organized at the level of the entire village. Localities such as Kpandu-Dafor on the other hand, with a well-defined series of mutually dependent chiefs and stool-fathers, can tolerate a committee covering several villages. The essence is to tailor the organizational approach to historical social structures.

Lastly, the case material suggests that the factor of the age of a population, in and of itself, is not necessarily unfavorable to community participation. At Okoa for example, the aged population responded readily to carefully applied organizational efforts, in contrast to previously held impressions of population-wide depression and lethargy. Age in fact correlated rather highly with participation in household based survey carried out in this community (Ref. 4).

CONCLUSION

Community assessment must therefore be both systematic and continuous. Systematic assessment includes an intial screen suggested by the list of characteristics given earlier. A simple assessment tool built around these characteristics should be designed for use by field workers. From applying it these same field workers should be able to design more effective organizational and technical approaches to water and sanitation improvements.

On a continous basis, however, the cases recounted suggest a series of more restricted but more penetrating questions of a socio-cultural nature to be asked in order to avoid pitfalls. These questions pertain to

- the history of self-reliance vs. dependence in the population
- the historic social sturctures of the population
- the age structure of the population

As the cases illustrate, a history of self-reliant behavior bodes a favorable prognosis for participation, whereas a history of dependent relations with intervening agencies indicates a need for carefully planned organizational inputs. Organization of structures for overseeing water and sanitation improvements must be cognizant of the existing organization of the population. Rather than risking the breakup of a village-level health committee in a population with several ethnic subunits, it would be better to organize a committee for each subunit. Lastly, relatively aged populations may have a better rather than a worse participatory outcome under conditions of adequate community organization inputs.

In these ways some account can be taking of the wide variability in community characterisitics in planning for community participation in water and supply and sanitation.

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