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Community involvement in water supply in West Java

Britha Mikkelsen with Yanti Yulianti and Anton Barré

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I. INTRODUCTION

THIS PAPER DESCRIBES a piped water supply programme currently underway in small towns in West Java province in Indonesia which seeks to fully involve households in determining the level of provision and the location of supplies and in setting up the means to ensure that public taps are managed and maintained. It stresses that active community involvement produces not only more appropriate and effective water provision but also makes for more efficient implementation and maintenance, and greater likelihood of cost recovery.

Indonesia's overall water supply programme has the direct aim of supplying 80 per cent of the urban population and 60 per cent of the rural population with safe drinking water before the year 2000. Piped water will be a minor share of the total supply. Yet, it is a tremendous task in a country covering close to 2 million square kilometres with 13,000 islands, and with a population of 180 million.

The government has attracted considerable foreign financial and technical assistance for its programme. This paper draws mainly on experience from the "51 Ibu Kota Kecamatan (IKK) Water Supply Sector Project", which receives assistance from the Danish government in the range of US\$ 20 million for technical assistance and supplies. Since the middle of 1992, the project has been called "44 IKK Water Supply Project" after a reduction in the number of towns to be supplied from 51 to 44. Public taps and house connections will be provided in the project to reach lesser and better-off sections of the communities. The project is basically about selling water to communities in minor towns and community members are potential customers.

Administratively, Indonesia is divided into 27 provinces, 254 districts (*kabupaten*), and 3,464 sub-districts (*kecamatan*). The 66,000 villages or small towns, called *desa* (which come under the *kecamatan*) comprise the actual water supply areas of the project. West Java is administratively divided into 24 regions (including 4 municipalities), around 500 districts, 400 "urban villages" (*kelurahan*) and 7,000 "rural villages" (*desa*). The small towns included in the IKK project are the administrative centres of sub-districts. The Indonesian acronym

for these is IKK (*Ibu Kota Kecamatan*). There are more than 600 *kecamatan*s in West Java province. The 44 IKKs to be served have a population of approximately 400,000. The projected coverage of the schemes is on average 75 per cent of the population. Although the towns have this administrative function in common, there are significant differences in socio-economic characteristics.

The smallest town had 3,000 inhabitants in 1991; the largest had almost 22,500. Fifty per cent of the towns had less than 8,000 inhabitants. The level of urbanization varies significantly between towns and between villages within a town. One illustration of the major differences is that within the project towns, the proportion of the labour force who were land-owning farmers as well as day labourers varied between 10 and 70 per cent.

The 44 towns lie within nine of the 24 districts in West Java province. In most of the towns, the people are ethnic Sudanese, with the exception of some Javanese enclaves in a number of towns in the old Sultanate of Banten, west of the capital city Jakarta. Islam is by far the dominant religion, although there are significant variations in the level of religious orthodoxy. The socio-economic and cultural differences encountered call for great flexibility in community involvement approaches and, especially, motivated and qualified field staff.

Institutionally, the project set-up is complex, involving a number of authorities from national to local level. The main actors are the provincial water supply project (PPSAB) - a part of the Ministry of Public Works - the semi-autonomous Provincial Monitoring and Development Unit (PMDU) and district water agencies (PDAMs). The district level water agencies will remain in charge of day-to-day monitoring of the IKK projects and of customer relations. The decentralization policies, in which Indonesia is presently engaged, are already affecting the division of responsibilities between the authorities and may continue to pose uncertainties about the division of responsibilities for some time.

II. THE IKK WATER SUPPLY SYSTEMS CONCEPT

WATER-USE PRACTICES in Indonesia strike the newcomer as very different from what is normal practice in many other societies less well endowed with water. Ablution practices in connection with praying involve ritual washing five times a day. Personal hygiene in general seems to be an extremely important, joyful and treasured activity and a repeated daily routine. Personal washing is connected with splashing to a degree which in other societies would be considered a nuisance to others with whom the washing facilities are shared.

These water-use practices are related to traditional water supply systems and storage facilities. Running water is considered of vital importance to water quality and purity. Households with house connections for water supply have been used to a continuous water flow into a *bak mandi* - a water storage basin the size of a large bath tub.

It is in this context that the original IKK concept was developed. The core idea was to supply as many households as possible in a culturally acceptable way, that is with a continuous flow to a *bak mandi*. To regulate the pressure in the piped system, the design included flow restrictors to regulate the free flow of water. To keep

1. This coverage figure is still based on the assumed ten people per household.

2. Four towns with gravity systems, one with a pumped scheme. A total of 1,700 house connections and 80 public taps, total population 34,000, of which 25,000 were covered by the new water supply.

operation costs within acceptable limits, a 12-hour provision was introduced for schemes using electrical pumps. Gravity systems supply water 24 hours per day. In both types of scheme, the system allows 50 litres per house connection per day and 250 litres per public tap per day. Design criteria were based on a 10-year population projection and an anticipated average household size of ten.

Installation fees for systems implemented according to the IKK standard design criteria have varied between Rp. 15,000 and Rp. 50,000 (US\$ 7.50 and US\$ 25, respectively at 1992 values). Actual construction costs are not reflected in these fees, which are set by the district government and the district water agency.

Seventeen towns in the first group and one town in the second group, had IKK schemes implemented according to these original IKK standard design criteria. These covered approximately 100,000 people or 80 per cent of the population in the towns.⁽¹⁾ A review of the project in 1990 revealed a number of shortcomings which were later confirmed in more detail in a functionality and utilization study in the first five towns in which the scheme had been implemented:⁽²⁾

- public taps did not provide the service to the lower-income groups in the communities to the degree anticipated. The number of households supplied by a public tap varied greatly from four to 30 resulting in a variation of 160 litres/day/capita to 17 litres/day/capita;

- some public taps were hardly used at all. This pointed to serious inadequacies in their siting. Finding locations for public taps was the responsibility of contractors in consultation with the local government, but with no involvement from the community. The set-backs became evident as soon as the users had to be identified **after** the location of the public tap had been chosen;

- house connections, installed with flow restrictors to give a limited flow per hour, were tampered with, and there were complaints about water quantity and quality and about the reliability of the supply. The problems were ascribed to administrative as well as technical problems.

In practice, the inflexible standard for setting targets for connection points has in some cases meant that demands could not be met or that targets could not be reached. Some schemes had too low a capacity while in others, the capacity was not fully utilized. In both, **actual demand** was insufficiently reflected in the planning. As a consequence, the cost-effectiveness of the project in obtaining its overall objectives was reduced.

III. JUSTIFICATION FOR ENHANCED COMMUNITY INVOLVEMENT

PROJECT VIABILITY, OR rather investments in physical and social infrastructure including water supply which cannot be sustained, is of concern to national and local governments, but it seems to be even more so to the donors who provide assistance. Evidence from a mixture of development projects now supports the contention that top-down approaches may be more efficient in providing short-term outputs but they may fail in terms of the long-term sustainability of the facilities provided.

Experiments with participatory approaches over the last decade have convinced more and more planners of the merits of community involvement concerning technical, financial, institutional and environmental sustainability. The enhanced quality of life felt by the participants through their involvement must also not be forgotten. The need for community involvement was recognized from the outset in the IKK project as a reflection of experience from a number of Dutch supported water supply projects.

Lessons from other projects and from the first water schemes to be implemented have led to a significant change of approach. Some of the shortcomings described above were addressed immediately in the towns under implementation. The siting of public taps became the responsibility of the project staff and user groups were formed before construction. Better coordination of the "hardware" and "software" aspects of implementation improved the flexibility and the ability to react to actual demand. Community related activities, which were basically information **from** the project **to** the people and the involvement of customers **after** the design, have been substituted by an integrated community involvement programme. The essence of this programme is enhanced feedback from the communities to enable the project to design the schemes according to their expressed needs and interests. The customer is viewed less as a beneficiary and more as an active partner.

The role played by people themselves as the active party in undertaking a community self-survey **before** final design and construction deserves particular attention. Many water supply projects throughout the world have experienced similar shortcomings and customer dissatisfaction, leading (in numerous cases) to non-utilization of supplied facilities. Coping rapidly with the problems and adjusting concepts and time schedules often become unsurmountable bottlenecks, if problems are recognized at all. Implementation plans, once they become blueprints, tend to mastermind people rather than to be an instrument at the service of those they are supposed to benefit.

The IKK project has been quick to respond to identified problems. In 1991, after a pilot project applying the community self-survey to test its appropriateness and to gather data on the preferred technological service level (flow restrictor or water meter), a revised plan for the remaining implementation period up to 1995 was prepared. Major adjustments to the original project concept include:

- a technical shift from flow restrictors to water meters has been decided by the Directorate of Water Supply. This is in line with consumer preferences expressed during the first feasibility studies carried out as community self-surveys;
- 24-hour supply is ensured. *Bak mandis* (tanks) are optional;
- installation fees are location specific as before but have to be within a Rp. 15,000 to 50,000 range; this is relatively cheap since, normally, water meter connections cost between Rp. 50,000 and 100,000. Monthly fees become progressive after a fixed monthly fee for ten cubic metres of water. Progressive rates are intended to discourage extensive water use; average actual consumption per day is between 90 and 100 litres per capita, the actual household consumption per month is between 10 and 15 cubic metres;
- a staggered construction schedule, which can be adjusted after feedback from the communities on their needs and preferences;
- estimates of future connections are worked into the systems

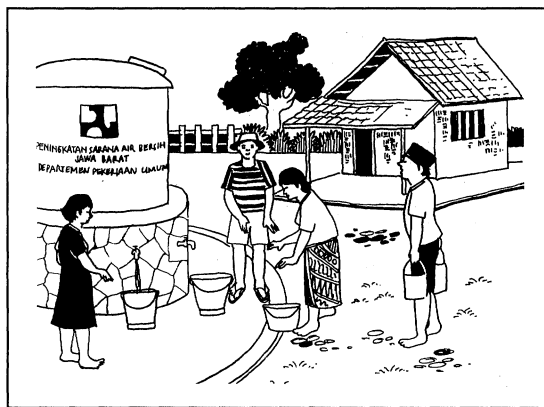
design, which is also based on a revised average household size of five to six people;

- land requirements for public taps were reduced from 16 to four square metres with a new design introduced (see Figure 1). User groups were formed before construction after an intensive mobilization campaign during the community self-survey;

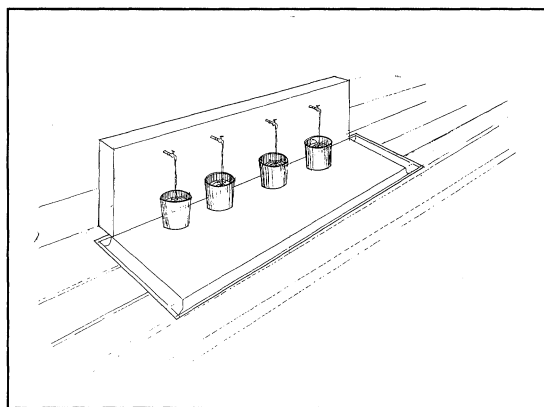
- new socio-economic and community activities are structured chronologically for each scheme and are organized in a community involvement programme. Review and modification of current IKK standard design are to follow from these programmes. What is also new is that communities themselves are involved in the collection of necessary information;

- extension and improvement of training and institutional support.

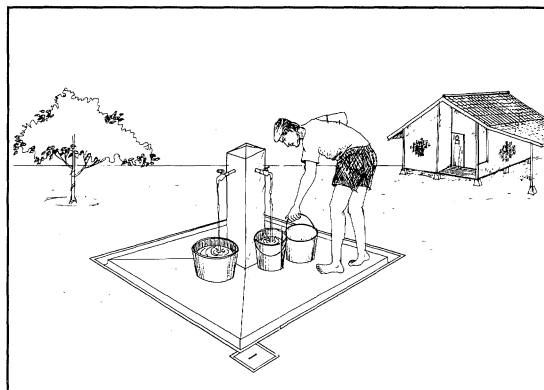
Figure 1: The different designs for public taps



The original design with water supplied to a central tank which took up an area of 16 square metres



Two alternative designs for public taps which reduce the area to four square metres



Emphasis is put on developing skills at the local IKK and district water agency levels to cope with the influx of new schemes, which is in line with the government of Indonesia's decentralization policy.

The result is a higher degree of integration between the project's technical and community activities and a more active role for the district water agencies in the marketing strategy and customer relations. The adjustment has, however, caused delays in implementation. For those who look for someone to blame, the community involvement programme is close to hand. Not all are convinced that community involvement is desirable and will improve the general performance and sustainability of the water supply schemes. It is for the community involvement programme to prove that this is the case.

As of mid-1992, the implementation of schemes based on the community self-survey were underway and the first schemes became operational. It is too early to assess the end result of the whole process. What can be discussed are the on-going procedures (sections IV-VIII below) and preliminary results, including consumer profiles (section IX).

IV. FROM COMMUNITY RELATED ACTIVITIES TO AN INTEGRATED PROGRAMME

TODAY THE IKK project, supported by the Danish government's bilateral agency DANIDA, is one of the major components of *kabupaten* water supply in West Java. The records of experience with water supply schemes, however, date mostly from Dutch supported water supply and sanitation schemes in operation for more than 10 years. Several conclusions are relevant to the IKK project and have inspired the form and contents of the community involvement programme. An important observation is the advantage of constructing such a programme in the early stages of a project rather than carrying out loosely connected community related activities. It gives a better chance of integrating a consumer oriented outlook into the design and implementation of a project. The IKK project was only endowed with the comprehensive community involvement programme after implementation had begun.

The community involvement programme is divided into phases and consists of the following steps in each project town:

Phase I: Planning and Organizing

- | | |
|---------|----------------------------------|
| Step 1: | Determination of the supply area |
| Step 2: | Community self-survey |
| Step 3: | Customer campaigns |

Phase II: Monitoring and Feedback

- | | |
|---------|---|
| Step 4: | Short-term monitoring - running-in of IKK schemes |
| Step 5: | Utilization assessments |

It should be noted from this brief list of the programme's main components that communities are **not** directly involved in project identification. Neither are they involved during implementation - i.e. during the construction of facilities. As the quality of contractors'

work has turned out to be one of the project's weak points, it is no surprise that the idea of involving customers in the monitoring of contractors' work is being discussed. The institutional barriers to the involvement of communities in the "supervisory" functions are, however, obvious and are not likely to be addressed immediately.

In addition, the participation of communities in operation and maintenance does not figure prominently. However, public tap consumer groups, which are organized during the pre-construction period and do have a role in maintenance **and** in cost recovery, are discussed below.

The community involvement programme understands itself as a **programme** in contrast to loosely connected community related activities, because the programme is designed to retain continuity between the activities involved in the separate steps. The connotation of the programme also lies in its attempt to integrate its activities with the project's other planning and design components.

"The Community Involvement Programme combines effectiveness, necessary for a timely implementation of the project, with a sensitivity to consumer wants, needs and habits, necessary to ensure the project's viability and sustainability" to quote from the CIP manual (page 4). **Who** participates, in **which** activities, to **what** degree, with **which** responsibilities and on **whose** initiative are important determinants of the functioning of the programme as an instrument to enhance project sustainability.

V. LEVELS AND DEGREES OF COMMUNITY INVOLVEMENT

FEW SOCIETIES ARE characterized by as high a degree of organization among its population as Indonesia. Similarly, a large number of institutions and interest groups have a significant role in local societies. There are many levels of structural organization, ranging from the *dasa wisma* (consisting of approximately ten households), *rukun tetangga* (neighbourhood units of 30-40 households), *rukun warge* (comprising some seven *rukun tetangga*), the *desa* or village, the sub-district, *kecamatan*, etc., all headed by a leader of importance in the particular unit.

Initial involvement of the local leaders in development activities is an absolute pre-condition in Indonesian society. Projects which have tried to bypass local leaders and have gone straight to the people run into trouble. The local leaders are the bridge between functional organizations and people - in this case between people, water authorities and the project staff.

Participation in the project takes two forms, narrow participation involving mostly government officials and community leaders and broad participation involving community members and including women and the poorer groups. In the project, the link between those active in the narrow and in the broad sense are *dasa wisma* cadres. *Dasa wismas* are the lowest level of the Family Health Care Organization (PKK) - a voluntary organization with semi-governmental status. A *dasa wisma* is taken to be a women's group, as the wives of government officials are often the active *dasa wisma* cadres. *Dasa wismas* are normally headed by women. Men predominate in the organizations at higher levels.

The project depends to a large degree on the *dasa wisma* cadres,

especially for collection of data in the community self-survey. The role of the project's community involvement programme field staff is primarily to make all the different levels of organizations and interest groups work together to provide input for the planning of the water scheme in their town.

VI. THE COMMUNITY SELF-SURVEY

a. Preparations for the Field Survey Data Collection

THE IMMEDIATE OBJECTIVES of the pre-construction activities are to establish the feasibility of the scheme and to provide planning figures and data for the project's planning and design section. Community self-surveys have been introduced to provide the data in the most cost-effective way. The data required are the number and types of connection points (i.e. house connections and public taps), their location and a forecast for future connections within a ten-year design horizon. This is to ensure the sustainability of the schemes through appropriate design.

An equally important aspect of the community self-survey is its contribution to mobilizing the communities into taking an interest in the water supply. Preparatory meetings between the project planners, the authorities and communities are necessary, not least to create a good working atmosphere with the local authorities involved. The district water agencies are crucial for coordinating the monitoring of the schemes since it is they who formulate the technical and institutional parameters. They are responsible for providing information on tariffs, installation fees and service level options to be given to people in the survey and in the customer campaign.

Initial meetings have to be held with local government representatives, the authorities involved, representatives of special interest organizations and informal leaders from sub-district to village level in order to establish criteria for determining the supply area. The supply area consists of the clearly defined built-up areas of the IKK and adjacent villages in need of water. The purpose is to ensure that a social balance is achieved and that all socio-economic groups are represented.

Technical, financial and social assessment are important to provide the conclusions on the proposed changes and extensions to the supply area. An estimate of investment, operation and maintenance costs and revenue is made based on the number of households and public taps enlisted in the supply area in order to establish the scheme's financial viability. The community self-survey is subsequently carried out in all areas which are found to be financially viable.

Mapping is an integral activity throughout all stages of planning and implementation. A base map of the supply area is used for the registration of consumer preferences for house connections and siting of public taps, later to be subject to detailed design, and used in the supervision of construction.

b. Participants in the Community Self-Survey

The community self-survey is conducted by local community members with guidance from the implementing agency's project staff.

The purpose of the survey is to make the community aware of their water conditions and related issues - and to provide data for detailed planning. By using the self-survey method, it is possible to include close to 100 per cent of the households in the supply area in the survey. All community members active in the community self-survey do so without payment.

The self-survey entails community involvement from sub-district level to the *dasa wismas*. The community members involved in the survey are:

- *kecamatan* work groups: staff from the community health centre (PUSKESMAS), Public Works and Irrigation Coordination Board in the role of advisors;
- village work groups which come under the responsibility of the village headman. The members come from the Village Resilience Organization particularly from the Family Welfare Organization (PKK);
- heads of neighbourhood groups (*rukun tetangga/rukan warga*);
- cadres from the *dasa wisma* women organization and youth groups;
- eminent people in the community and the muslim scholars; and,
- the community at large.

The actual gathering of data from the households is undertaken by groups of *dasa wisma* cadres and other village group representatives; Figure 2 shows staffing and responsibilities for the survey.

Planning and supervision of the community self-survey's execution is undertaken by project staff:

- a supervisor and general planner, e.g. a professional sociologist;
- a senior professional field coordinator, e.g. a customer relations specialist;
- two to three field staff;
- one to two staff from the district water agency; and,
- sub-professional field staff who fulfil a multiplicity of roles in explaining technical and financial aspects of the project to customers and prospective user groups in whose formation they are also involved.

The participation of staff from the district water agencies is central to a successful community involvement programme as these agencies are responsible for the operation and administration of the schemes. It is in the mutual interest of the communities and these agencies to meet. Yet it is at this level that many bottlenecks exist: ideological resistance from the district water agencies but also their lack of institutional capacity and lack of qualified staff for community involvement programmes.

c. Tools and Techniques for the Community Self-Survey

Preparatory training for the community self-survey team determines the quality of the results to be obtained. The project has developed an approach which gives an entertaining flavour to what might otherwise be tedious training and interviewing. For example, games are frequently used as a way of presenting training material and to exercise certain attitudes and skills, e.g. planning, communication and coordination skills. Games used for training are the "group drawing game" and the "great water supply poster puzzle".

Figure 2: Staffing and responsibilities for the Community Self-survey

| LEVEL | STAFF | COUNTERPART | RESPONSIBILITIES |
|-------|---|---|---|
| | | | Levels 1 and 2 |
| 1 | Supervisor and Planner | Provincial water supply project Provincial Monitoring and Development Unit | <ul style="list-style-type: none"> - general planning - time schedule - staffing - check survey material, formats, lists - make detailed appointment plan - supervise the Community Self-survey - train community members - administration of results |
| 2 | Field Coordinator and Team Leader | Provincial water supply project District Water Agency senior staff | <ul style="list-style-type: none"> - prepare output for design, procurement and supervision - convey results to agencies involved |
| 3 | Field Staff (one public tap specialist) | District Water Agency/IKK staff (customer relations) | Level 3 |
| | | | <ul style="list-style-type: none"> - list prospective house connection/public tap customers - identify public tap groups - discuss land issues - data processing & administration |
| 4 | Camat, Desa RT/RW heads Village work groups Dasa Wisma cadre | | Level 4 |
| | | | <ul style="list-style-type: none"> - execute the Community Self-survey - gather data |

NOTES

| | |
|-------------------|--|
| <i>Camat</i> | <i>head of sub-district</i> |
| <i>desa</i> | <i>village</i> |
| <i>RT/RW</i> | <i>Rukun Tetangga/Rukun Warga (neighbourhood organization)</i> |
| <i>Dasa Wisma</i> | <i>women grassroots organization</i> |

To carry out the field data collection, the "surveyors" must be provided with information about the project and be equipped with the necessary tools. Prospective customers will be keen to know things such as:

- **when** the facilities are to be installed;
- design details;
- type and location of water source, type of technology used for house connections and public taps and the service level; and,
- monthly tariffs and installation fees for house connections (there is no installation fee for public taps).

After the project revision, house connections with water meters are installed inside the house, including one tap. Public taps are stand posts with four taps and a water meter. Today, as noted earlier, the land area required for a public tap is only four square metres since no reservoirs are used, compared to the 16 square metres required for the old model.

For such information, the community surveyors are equipped with model drawings and with a letter from the district water agency containing detailed information about fees and tariffs. The use of other tools has to be taught and materials provided before data collection can start. These tools are a questionnaire, an information folder, and maps of the settlement and the supply area.

VII. CONSUMER RELATIONS

THE PROJECT IS basically about selling water to communities in small towns. This should not be forgotten. Hence, community members are potential customers. Active community involvement is in the interests of the water authorities. The surveys conducted by the communities establish the best obtainable assessment of interested customers and normally result in a higher number of subscribers than would otherwise be obtained. The time spent in building up good customer relations is returned in more and better motivated customers. Time is also saved in mobilizing customers for signing contracts as they have already developed a high level of awareness of the project during the community self-survey.

The results of the self-surveys are discussed with community members. The meeting is in fact the start of the customer campaign, which is the logical follow-up to the self-survey activities. Agreement has to be reached on the location of public taps. Long discussions tend to arise on location and distance to users. Land for the public tap has to be provided by the owner free of charge.

Although only four square metres is required for the new design, land scarcity in densely built-up areas still causes concern. Allowances must be made for possible changes of mind and incorporated in the list of prospective customers on which the project's design and planning section bases its preparation.

The ultimate aim and output of the customer campaign is a list of customers and a detailed map showing the location of the customers. Customer contracts are signed between households and the district water agency and public tap user groups are tentatively formed. As an element in the public relations work, customers who have signed contracts for house connections or public taps are given placards to stick on their house. The practical purpose is to ease the work of contractors and supervisors, but it also assures customers that the project is serious.

The active role of district water agency and IKK staff in the customer campaign is paramount. Project staff and consultants are facilitators

only. The staff from the water agencies and IKK remain responsible for the day-to-day work in which good personal relations with their customers are important. Public tap coordinators and the water agency representatives need to communicate on matters concerning installation, operation and maintenance and payment long after the customer campaign.

The formation of public tap user groups is vital to sustainable supply. Several requirements have to be met by the groups. Consent by the public tap group members is required for:

- the provision of four square metres of land at no cost;
- a minimum of eight and a maximum of 15 households to be members of the group (to optimize the utilization of water supplied);
- a public tap coordinator, acceptable to all members;
- agreement on payment system;
- location of the tap; and,
- water utilization rules.

A general rule applied to public taps is that washing and bathing are not allowed on site - a rule difficult to enact in practice. Neither are public tap users supposed to draw hoses from the tap to their private houses - another rule difficult to enforce, when customers agree between themselves to bypass the regulation! These rules are frequently broken so that the project seems to be faced with the challenge of changing its rules to accommodate people's practices. Provision of washing facilities might be considered but requires proper preparation (with community involvement) to justify further investments.

Follow-up on the community self-survey and the subsequent formation of public tap user groups take place after the tap has been installed. As part of the post-construction community involvement programme activities, training materials have been developed to prepare the water agency staff for the demanding task of dealing with public tap coordinators and user groups. As user groups themselves discuss the internal organization of payment and maintenance, almost every public tap is organized in a unique way. Some general pattern can, however, be discerned. The organization of water fee payment is a) equally shared by all households; b) the fee per household varies based on a mutually agreed ranking and assessment of affordability; or c) a fee is calculated per household member so that larger households pay more.

Another factor in dividing the bill is "hosing systems". Using a hose from the public tap to individual houses is officially not allowed, but often groups make their own arrangement. It is not uncommon that "better-off" group members (often the coordinator) have a "hose connection" and cross-subsidize by paying for the privilege. Too rigorous an enforcement of the no-hoses rule would thus be counter-productive in these cases.

VIII. ENSURING SHORT AND LONG-TERM RESPONSIBILITY

THE COMMUNITY INVOLVEMENT programme was introduced to contribute to a solution to the problems encountered in water supply systems implemented with the IKK standard criteria. The main

weakness of these criteria is that a technically vulnerable system is implemented in towns where the institutional capacity of the district water agency is weakest. These water agencies are situated in the district capital; IKK systems are implemented in sub-district capitals where less experienced staff often become responsible for customer relations and for operations and maintenance.

The new design criteria have solved the acceptability problems with the technically vulnerable flow restrictor systems. The new schemes are relatively less demanding on customer relations as water meters are generally more acceptable to customers. However, the institutional capacity of the district water agencies remains a critical factor in ensuring sustainability. For this reason, ensuring long-term responsibility for house connections and the technical installations is part of the project's training and institution-building activities. However, the first steps in this process are made during the community involvement programme, when the district water agencies are more involved, and in an earlier phase of the project than previously.

The increased involvement of these agencies reflects the decentralization policies of the Indonesian government as well as their increased capacity to perform this role. After several years experience with often disappointing IKK projects, these agencies are eager to have more influence in planning and other aspects of new projects.

The new design criteria introduced in the IKK project are a major stimulus for the water agencies as the new systems are more likely to yield a profit. The community involvement programme provides them with an opportunity to have an influence on the size and capacity of the water programme through effective consumer information and applying social marketing principles: better customer information (community self-survey and training) and a more attractive product (low connection fee and water meters). This results in more house connections constructed during the project for the agency to take over after construction.

The new feasibility criteria for public taps, that public tap user groups have to be formed before construction and that a site for the tap be agreed upon by the user group, are designed to increase the sustainability of the public taps in two ways. Increased community involvement in the planning phase should result in public taps which are better sited in places where user groups feel a genuine need for the facility. An increased sense of ownership and responsibility should be the result at grassroots level.

Already, it is clear that there is a need for post-construction follow-up on the work done during the pre-construction community involvement programme. After commissioning of the schemes, public tap user groups must receive practical guidance in day-to-day organization and problem-solving. The public tap coordinator plays a crucial intermediary role between the group and water agency staff. New training manuals and activities to train water agency staff to train public tap coordinators have been made and implemented.

During the community involvement programme, water agency staff are thus involved in identifying user groups and organizing and guiding them during the running-in of the scheme. The assumption made here is that this will increase the capacity and motivation of the water agencies to perform public tap user group oriented customer relation tasks.

IX. RESULTS, DIFFICULTIES ENCOUNTERED AND PROSPECTS FOR THE FUTURE

THE FIRST IMPORTANT result of the new approach was that the government of Indonesia accepted the principle that new schemes should be planned and designed from the bottom up. To date, 14 IKKs have been covered by the community self-survey. The immediate results indicate an increase of, on average, 30-40 per cent in the number of house connections planned and sold. In some cases, the capacity of the water supply system originally planned had to be doubled to accommodate the interest expressed during the community self-survey.

The result of the new procedures and the incorporation of community involvement programme data in project activities is that the new schemes fulfil consumer needs to a much greater extent. The social balance in supply has been improved significantly through bottom-up planning in the supply area. The scheme covers both richer and poorer parts of the IKK. Public taps will get a better start than previously and the awareness and knowledge of their users has been increased.

These preliminary results are major improvements but some fundamental problems remain. At present the following issues are being addressed:

- embedding the new planning procedures in the planning cycle of counterpart institutions;
- improving ways to increase the project's ability to provide according to demand and to reach the poor; and,
- developing ways to ensure that the supply of clean water is followed up by local governments with improvements in sanitation.

The very flexible planning procedures based on community self-survey and the incorporation of consumer wants in the design of the water supply system are not equalled by a similar flexibility in budget planning in the Indonesian counterpart structure. The results of the survey indicate a significantly increased interest in having access to the water supply. Ensuring additional investment and timely allocation of funds are problematic.

Predictions of consumer interest are tentative and based on the experience that on average 40 per cent of respondents are interested in house connections, 10 per cent in public taps and 50 per cent are not interested. These figures have been used to predict the total number of connection points to be implemented by the project in the 27 IKKs to be covered by the community self-survey. There are, however, variations in this general pattern. These variations can significantly influence the investment costs in a particular town if, for example, new boreholes have to be drilled.

However, while budget and bureaucratic constraints can be solved, it is not always possible to honour the implicit water supply. Sometimes, the interest during the survey is not matched by water availability. Water source problems can sometimes not be solved. Therefore, the community involvement programme has an inherent risk of promising too much. People do not always understand the difference between expressing an interest during a survey and later being told that a consumer contract cannot be signed since insufficient water is available. To avoid such frustrations, it is of utmost

importance that the programme's technical planners continuously participate and the community involvement programme does not develop in isolation.

The service level provided has been significantly improved (water meter, 24-hour supply), but still the project has difficulties reaching the poor. Payment is according to public tariffs. Hence, the level of cost recovery is incidental rather than a clear-cut project impact, though improvements in cost recovery are expected as project efficiency increases.

As stated above, a significant part of the population is not interested in clean water supply from the project. At present a study of the consumer profile of this group of respondents and the reasons for their lack of interest is being conducted. The question to be answered is: why are more people not interested in public taps? Preliminary results suggest that middle and upper-class people find it easier to express a need or interest in clean water supply than poorer strata, during the community self-survey. Does mobilization of poorer strata require a different or longer mobilization period than presently included in the community involvement programme?

The pre-construction survey registers interest in water supply during a period of two to three weeks. If mobilization requires more time for the poorer strata (and there are strong indications that this is the case), a number of alternative or additional courses must be considered. To reach a larger proportion of the poorer people, it is not enough to give people a chance to say yes or no to water supply and then build the system based on that. A longer preparation period, better extension material, more adequate mobilization methods and changes in water tariffs are all options which must be considered to reduce identified obstacles and to ensure that poorer people have a greater chance to participate.

As a focus on water supply to the poor is one of the overall objectives of the project, ways must be found to improve the community involvement programme in order to do so. As a longer preparation time will delay implementation, at present the project is discussing whether increased post-construction activities can contribute to a solution. The idea is that the key target group is easier to motivate after the system has been built and motivation activities can include visits to functioning public taps in the IKK. The system must therefore be flexible enough to provide water to new public taps.

In principle, organizing new public taps is the responsibility of the district water agencies but these lack an economic incentive to do so.

More personnel are needed to organize user groups and the profit return is lower for public taps than for house connections. Follow-up activities should therefore be instigated by another agency. One could consider NGOs. Similar approaches have been carried out on a pilot basis by other projects with good results.

The most fundamental problem is that the IKK project has been designed as a water supply project only, and environmental sanitation is outside the project scope. Especially for public taps, this is a serious flaw in the design of the project seen from a consumer perspective. Utilization studies have shown that public taps are almost universally used for bathing and washing when enough water is available.

This has prompted the project to initiate a pilot environmental sanitation project in one IKK where public tap user groups have been involved in defining what facilities they want to add to the existing public tap design. The intention of the pilot project is to involve

district level agencies responsible for environmental sanitation and health in improving the sanitary conditions around public taps.

The community self-survey methodology was developed in Indonesia to promote bottom-up planning of development. An important aspect of this method is that the community sets the priorities: do they need a new road, a mosque, a school or a water supply system? Rarely does a bottom-up planning process start at this overall planning level. The IKK project has indeed made use of the effective way the community self-survey mobilizes the community to provide good quality data for bottom-up planning. The project has from the start made it clear that the choice people have is limited to water from a house connection or water from a public tap, provided they are willing to pay the costs incurred.

The community involvement programme makes effective use of community participation as a means of reaching a stated goal. Community participation is required and organized in user groups, but it does not focus on community participation as a potentially empowering process for human development. As a methodology, this community involvement has a human development potential that has not yet been exhausted, for example in sensitizing people to environmental sanitation aspects of water use. A shift of focus is a matter of policy.

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