supply network action proves the costliest (Lit. 10.7 billion) because, certainly, of the importance of the plant component which entails significant equipment and technology supplies by the donor country. The same explanation partly applies to waterworks although in this case, the projects' dimensions seem to be the reason for the greater weight. The average cost of action in the hydrogeology and environmental hygiene sectors, Lit. 6.5 billion and Lit. 6.3 billion respectively, appears substantially the same.

The data analysis could go further but what has been illustrated so far seems sufficient to paint a fairly complete picture of the sector under study. In conclusion, it is worthwhile providing some general information on the UTC's activities in the water supply sector. The 187 projects the Unit has considered represent the "portfolio" of three years of activity.

Of these, about half are in the preliminary/assessment phase and correspond to policy commitments still to be translated into cash pledges.

Of the remaining, about 35 per cent are projects for which fund allocations have been approved and are therefore at the stage of being assigned or implemented; close to 15 per cent of initiatives have been concluded for a total of almost Lit. 121 billion.

Facing page: Mali. Using water... back to school in the village of Kasambongon.

Niger: Natural animal troughs formed when dips in the land fill with rainwater during the wet season.

Social Activities in Support of Water Supply Projects

The fundamental social component in rural water supply programs to guarantee continuity. Increasingly committed in this sector, Italy copes with the structural problems recurrent in implementing this type of initiative with responsibility and long-sightedness.

by Rossella Belli

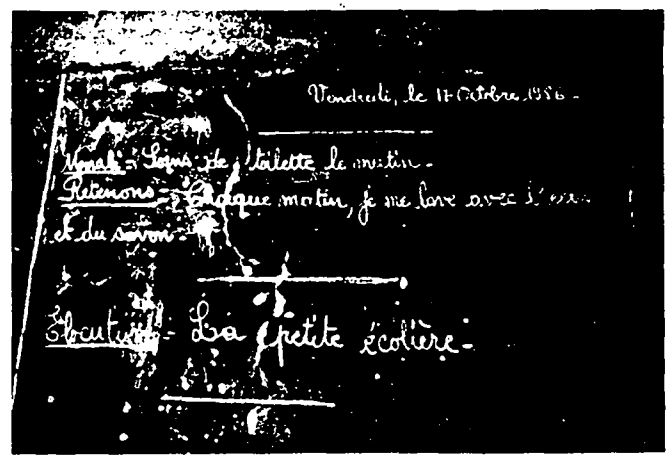
What makes a cooperation program successful? The continuation, to the satisfaction of the users, of action launched and the continued availability of materials and equipment supplied, or the recipient's own spontaneous promotion of initiatives other than the "mother" activity.

This does not always happen, sometimes because needs and possible solutions have not been correctly identified and because not enough work has been done to ensure that a specific project and its inherent operations are all desired, understood and conducted by the target communities concerned.

At this point, the importance and usefulness arise of social activities often described as "supportive" and at other times "secondary" or "parallel"; "support" often refers not to the whole program's implementation or goal achievement but rather, to the implementation of other, more technical and quantifiable activities; "secondary" implies subjection or dependence on "primary" technical activities; "parallel" finally, is self-explanatory — a precise leaning for activities that will never converge.

Moreover, social activities still suffer from an identity crisis not only because their merit is not recognized but also because they are utilized wrongly. This is partly because of an incapacity to categorize each activity precisely and appropriately. In itself, such a denomination would indicate the meaning, content and aspirations of whatever it incorporates. Cooperation programs generally harbor these problems and they are subject to continual international discussion.

In line with the most up-to-date trends in the sector, Italy works to ensure that both pastoral and village rural water supply projects contain these activities. This is why, and also because of territorial surveys, application methods are being refined. Nearly all Italy's rural water supply programs envisage a share of funding, varying between five per cent and 35 per cent, for activities aimed at developing a positive relationship with the populations.



It should be stressed in any case that much attention is required to ensure that this sector be considered an integral part of a project and not disconnected from other activities because all "social" aspects are thought to converge in it.

The program is one-off and must be guaranteed a relationship of communication between all its components in consideration of the results it seeks to achieve. In addition as a program, a rural water supply project must utilize all activities because it is in its implementation, involving the populations in each, successive activity, that the bond is forged with the new water resource which must become a collective asset.

But unfortunately, during the program's materialization in the field, other, merely "production" needs can conflict and so all other activities become subordinate to "building site productivity". Fast-rate drilling for example does not allow for the suitable implementation of all those activities aimed at enhancing the initiative, unless this has been envisaged at the start and the sector reinforced. More serious still, they create no possibility to solicit and activate all the community's existing forces and potential. The community thus remains passive in the face of what is happening around it and demonstrates furthermore an attitude between indifference and the compliance which is eventually manifest keeping an even "conceptual" distance.

A rural water supply project must be harmonious and labor to integrate the new water installations within the recipient community's water system.

The water-point must be recognized as a common asset, must become a part of the community's water system and as such, the community must understand that it has to be tended because if it breaks down or deterioriates, it will cause immediate harm and the benefits it derives from it will cease. All activities must take account of this end and converge in this direction.

It is the cultural approach pattern that must be modified. What is the asset provided? Is it the drilling, the water extraction system or everlasting drinking water? All are indivisible but where does priority lie?

Drilling programs for example recur to statistics as a rule to confirm a project's success in the ratio between productive and sterile wells. The same statistics are rarely extended to the use or not of pumps, to their workability at the project's conclusion, to assessing if the quantities they extract are still valid after a number of years, to the number of people served and to the volume of water distributed in the village and used, also in consideration of the seasons. This is indicative and yet the project is water utilization in general and for drinking in particular, not the productive meters drilled. Proof of this is that projects are not funded for drilling only, no matter where or to whatever depth.

So if the project is water utilization, then once the water resource has been obtained all efforts must aim at maintaining it as it was supplied: drinkable and of good quality if possible.

Since it has been reiterated that there must be no dichotomy or back-up between the so-called "technical" and "social" activities but rather integration within the framework of a unified organization, social activities must be highlighted more and coded in some cases, especially at the planning and the successive contractual stage. But with the other activities they would still maintain a constant, constructive relationship which would thus be variable to meet different, gradually emerging needs. This would be aimed at preventing liberal interpretation and possible operational mis-direction.

Rural water supply presupposes action diversification according to the community's environmental conditions and management and economic possibilities. The variations are well-cisterns, wide diameter wells or perforations with manual pump installations or other (diesel, wind-driven, photo-voltaic).

Indeed, the orientation of social activities for whatever type of water-point implemented is structured in the same way and they are adapted to the action's operational needs and rationale.

The following are social activities, presented schematically and so briefly in many respects, which today are considered to represent operations of major interest and whose application has been recognized as fundamental by those who work responsibly in the rural water supply sector, whether they be international bodies (United Nations Children's Fund — UNICEF, United Nations Development Program (UNDP) etc.), non-governmental organizations (NGOs) or cooperators from other countries.

To differing degrees but with growing determination, the following are also part of Italian cooperation's rural water supply programs.

Preliminary Sociological Enquiry

Thorough knowledge of the area where the cooperation program is to be launched is fundamental for identifying all the elements useful for planning activities.

So initially, an accurate land survey must be undertaken that researches and organizes all the necessary information and that eventually provides a profile of the community, highlighting among other features: the socio-ethnic type, social organization type in relation to labor divisions and role divisions, political, economic and decision-making power distribution, the dynamics of water management and use, beliefs, myths, preconceptions and finally, concrete needs. The same survey must paint a clear picture of the habitat (markets, roads, other initiatives, health and school structures etc.) and include precise references to policies governing the sector and potential public and private structures for action.

In brief, the study must provide whatever is necessary to define a project well adapted to the site and to social, technical and environmental circumstances and as precisely responsive as possible to the recipients' needs.

Still during the period of this preliminary study, it must be possible to list priorities agreed with local authorities, to establish reciprocal commitments, whose implementation methods are clear with the communities (eventual contract and management fund, the type of management composition structure for the water-point etc.). A supply and spare parts distribution network should also be identified or planned if necessary.

In addition, working tools should be predisposed and the equipment and materials necessary for implementing the program's social activities identified.

It is obvious that the program will adhere more closely to the local reality if the recipients themselves and the local operators who will work on the project are actively and consistently involved from the start.

The Social Activities Program Inserted Within the Executive Project

This accompanies the project during the whole implementation phase and should express itself in various forms according to the role it assumes and the intentions behind it.

The inter-relation between project and recipient community takes form and in practice, must never preclude the involvement of existing community structures.

Therefore, it must be guaranteed on one hand that the recipient populations become aware of what a new water-point will mean and that on the other, the target populations' own resources be rallied to create the conditions that would foster the water-point's durability.

Activating community participation thus proves central and as a result, the activities and the attention of much of the water program must converge on it.

It is through information — diversified according to the target groups and brought into play at different times in line with needs — that the whole community must be made aware of the importance of the water-point and the benefits it can derive from it. Other guarantees must certainly be: a clear outline of the project's goals. A joint agreement on the water-point site, defined community commitments, probable management fund constitution for the water-point management body, identification of the person in charge of repairs, the correct use of the water supply and the extraction method applied strengthening the active, dynamic relationship with village members pre-identified as fundamental for transmitting correct information (religious leaders, health staff, teachers etc.).

As regards health-hygiene information (it is difficult to refer to training if the project does not envisage a substantial volume of work in this direction), attention is focussed on water and containers to transport and stock it. This information is transmitted with the support of community personnel (the village "matron", health and social workers and teachers etc.) who are able to adapt the message.

The aim is to develop community sensibility to the correct utilization of the space in the immediate vicinity of the water-point; water collecting and its conservation; prevention and treatment of dehydration caused by diarrhea; water-borne or water-related diseases; the health-hygiene features of water from different points in the village.

The community will take active part through initiatives linked to the implementation of the water-point and will provide a significant contribution as regards supplying unskilled labor for the less complicated operations. It is important that the sense of each action be clarified continuously so that the reasons for it are evident.

Encouraging repeated feed-back must lead to strengthening and support for structures and the people themselves so that community forces are activated. This can come about not only through information and training but also by supporting prompt dissemination actions.

The need to communicate with a greater number of people in the clearest, most incisive way requires special attention for message definition and coherence, for selecting communication channels and support materials, favoring the traditional to the modern, foreign to the community. Clearly, a rigid scheme must not be predisposed but social communication must be adaptable to the different situations and users. This capacity to adapt will be formed on the basis of information the community has assimilated. Indeed, the duty of social communication is not only to transmit messages but also to de-code social behavior patterns and situations and reach a point, by definite action, where such patterns and habits can to modified.

Training at any level brings improvement supplying elements of support to individual and group development.

Training activities must be specified according to the roles, tasks and aims envisaged within a project for groups and/or individuals.

The following can be generally considered the most suitable for rural water supply programs:

Homologous and Local Training in General

This offers the opportunity of re-inserting professionals who are better prepared and able to continue the activities for which they were trained, within the local administration framework.

Through appropriate courses and practical on-site application, a systematic approach must be indicated which can be utilized to consolidate project results, both for programs and for similar situations.

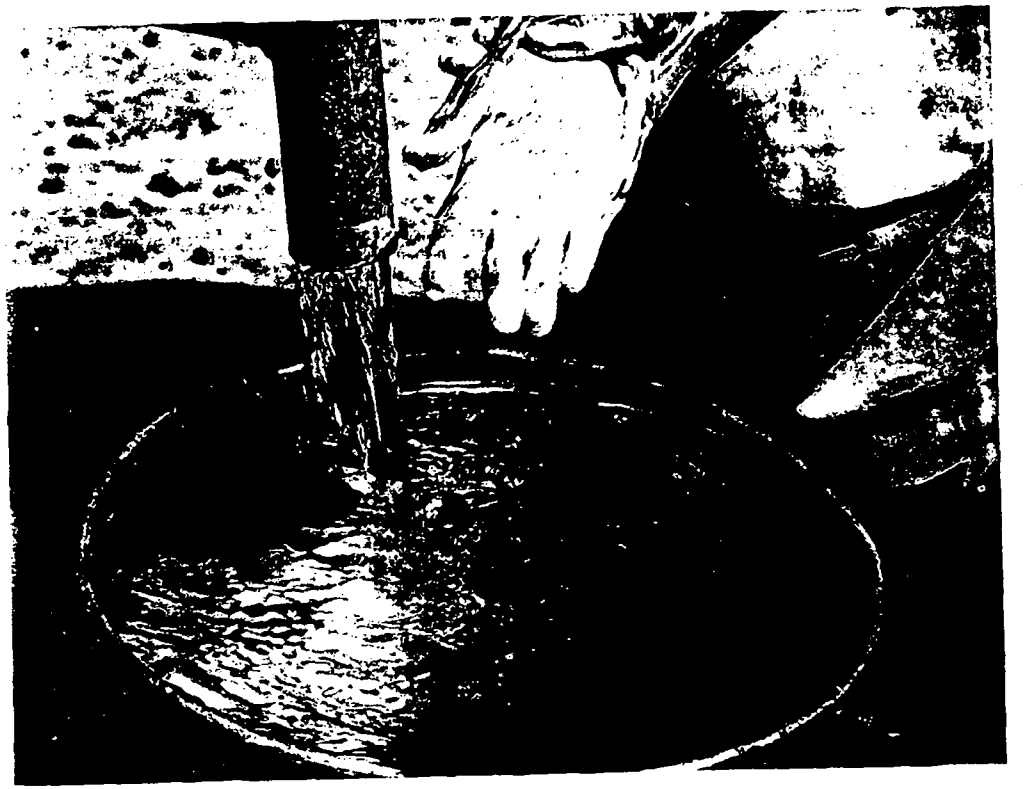
Management Structure Formation

Once the type of water-point management structure has been constituted where necessary, its members must be trained according to the tasks assigned to them. Book-keeping, registering breakdowns, repairs and stock lists of spare parts to be managed must be incorporated within special, functional and methodological didactic activities.

Not only must this training allow for village structures to be adapted to absorb the new water-point but it must ensure its management through time.

Training Local Maintenance Workers

The adequate preparation of village/zone maintenance workers implies the sustainability of the water-point in



[illegible]nking Water-Points Implemented in the Sahel between 1983 and 1989

	Water-Points	Villages Served	Pop. (thous)
Burkina Faso	527	450	300
Mali	1,230	879	533
Mauritania	100	65	40
Niger	426	323	356
Senegal	293	118	66

[illegible] of easily reparable break-downs. In[illegible], this training allows for prompt main[illegible] and repairs of minor damage.

[illegible] Training

Each organized and/or spontaneous [illegible] and any information disseminated [illegible] training of which the recipients are [illegible] always aware but which nevertheless [illegible] chain reaction effects that are [illegible] to quantify. This category could in[illegible] training for representative and im[illegible] members of the community who [illegible] the best propagators of "instructive" [illegible] in that community.

Evaluation

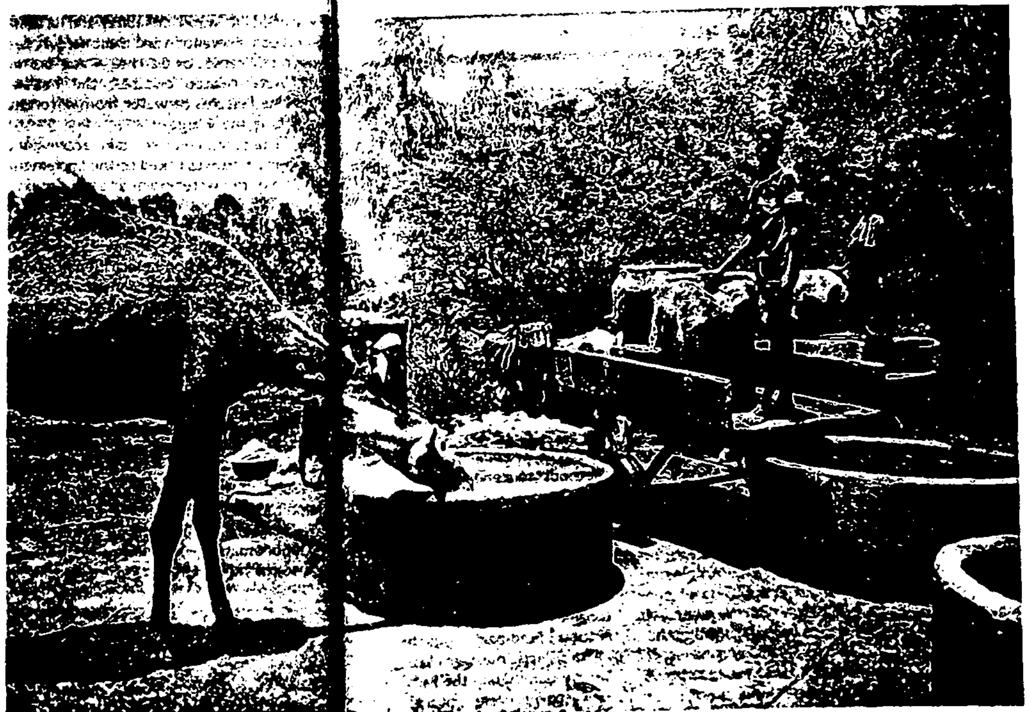
[illegible] with the recipients' involvement, [illegible] must be made of the initia[illegible] implemented and results achieved to effect constant modifications and checks of action methods, to reinforce successes where they have been registered and to intervene to correct obvious errors. If an evaluation is to be valid and "enlightening", useful, measurable and comparable indicators must be found: technical, economic, social, organizational and functional. These specific indicators must be sought through direct observation, the examination of existing data, meetings with individuals and groups and through surveys.

Some such indicators might be: pump system workability; the quality of daily maintenance of the water-point and its immediate surroundings; management capacity related to the water extraction system; the new water-point's effective number of users; eventual changes in community behavior patterns as regards water use and collection and health-hygiene activities (vegetable plots, small stockraising etc.).

In the final analysis, it should be stressed that since the project and its aims are single-minded, the technical and social coordination of all the activities is not of secondary importance. This is why the personal experiences, past or acquired during the project of all the outside personnel and the locals must converge with the whole program of activities in an operational and theoretical inter-change.

The recipients really view all the project operators as bearers of the same assistance rather than professionals, each with his own separate duties: the "pure" technician predominates (the driller, for example) who has more opportunity to attract the community's attention since his is an image of one with incomprehensible power.

Consequently, the activities must be correlated; each activity must be explained and brought within the community's own reach; all project technicans must be trained for this purpose; all local personnel can (and must) act as interpreters and know the scenario at hand.



On p. 35: The essential service of clean water.

Niger: Drinking water supply near an artesian well.

A Verification of Acquired Experiences

"Village water supply" [illegible] that combination of [illegible] and works aimed at [illegible] the need for drink[illegible] water in settled rural [illegible]ties.

In the village water sup[illegible] sector, the projects [illegible] and terminated are [illegible] as are those under [illegible] nearing completion. They are structured, [illegible] projects and ac[illegible]. Therefore, the need [illegible] emerged to verify [illegible] so far in this sector [illegible] a common basis [illegible] to formulate addi[illegible] work that considers [illegible] acquired ex[illegible].

[illegible], for every village [illegible] supply program, a con[illegible] of reference [illegible] indispensable, specif[illegible] the aspects more strictly connected to implementation as well as for launching debates on themes representing the prerequisite and basic point of departure for all projects in the sector.

The Istituto italoafricano (IIA) has carried out research on this issue in the Sahelian zone. This area was chosen because of the high number of village water supply projects which Italian cooperation finances and implements in this part of Africa, a region where considerable experience has been registered and ample documentation compiled.

Research was begun from an analysis of programs stipulated to date by Italian cooperation to implement studies and works which in this specific sector, represent the result of many articulated contributions. The research method consisted in *computerizing data on works* implemented with the possibility of comparing the single sociological, technological and commercial items both in terms of quantity and quality.

In a bid to extract pertinent data and information representing sound points of reference for a complete informative base on the sector, *all the activities connected* with identifying, formulating and implementing village water supply projects were examined.

Indeed, one of the principles behind the research was to consider all the aspects, more or less evident, which directly or indirectly help characterize village water supply initiatives in LDCs.

From an analysis of the process that must be respected to respond to the aims for accomplishing the goal of cooperation, the research focussed on the phases of identification and implementation of the general and executive project and then proceeded to a series of suggestions and indications on conditions and deployable tools. Needs were considered, item by item and an answer indicated for each, adapted to the diversities of application.

It must always be remembered that if on one hand the necessity of satisfying a basic need (water) through an adequate supply system (wells) finds a precise response in the now consolidated *implementation work* techniques, the methods and action techniques require a highly structured and specialized interdisciplinary approach. Village water supply concerns different geographical scenarios, each in turn varying greatly in social and economic terms. Relative considerations therefore require thorough examination incorporating the physical, human and historical variations. Research has made it possible to verify that while reconnaissance and cataloguing of the more physical aspects can be promptly organized, socio-economic *scenarios are difficult to* reduce to representative charts of such a complex, multifaceted reality. An analysis of the documentation available and direct on-site experience has enabled several interesting points on the whole issue to be highlighted.

From the research it also emerged how physiographical aspects could be applied to a few contexts, even considering the notable *differences in landscape*. The initiatives concern geographical areas ranging from level or sub-level tropical forest to sand or rock desert in many forms, some harsh, others less so but all featuring geological outcrop of limited variability and few morphological aspects. Each Sahelian country is also characterized *by a climate presenting* recognizable and definite conditions. As regards the methods and technology deployed and the results achieved, this general overview allowed a cognitive picture of the whole to be drawn. This enables the provision of precise indications on action means, by coding the criteria and methods to deploy as well as schedules and the type of structure to utilize while respecting the needs of each area projects concern.

A framework was found for social activities which also made it possible to verify how sufficiently complete procedures can be indicated in defining the relative point of reference even considering the aforesaid schematic impossibility.

Using the same method for implementation works data, the prevalent aspects of this sector with repeated characteristics were extracted. All the elements were inserted in a specific computer system. In this type of data bank, new projects and the characteristic elements of new implementation works should converge, thus integrating the information, now more rapidly accessible, on each country and each geographical and socio-economic situation. The research paid special attention to simplifying terms of reference for easy consultation comparison by processor.

Gianni Gurnari