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1990/1

CONCERN AND RESPONSIBILITY

An Evaluation of the Dodota Water Supply Project in Ethiopia

By Eva Poluha, Göran Engstrand, Annika Idemalm, Johan Melchert and Judith Narrowe

SIDA

The evaluation of the Dodota Water Supply Project consisted of five separate studies. This is the Main Evaluation Report, which integrates these studies into one. This report was written by Eva Poluha, who also acted as team leader. The different studies were carried out during the summer and autumn of 1988.

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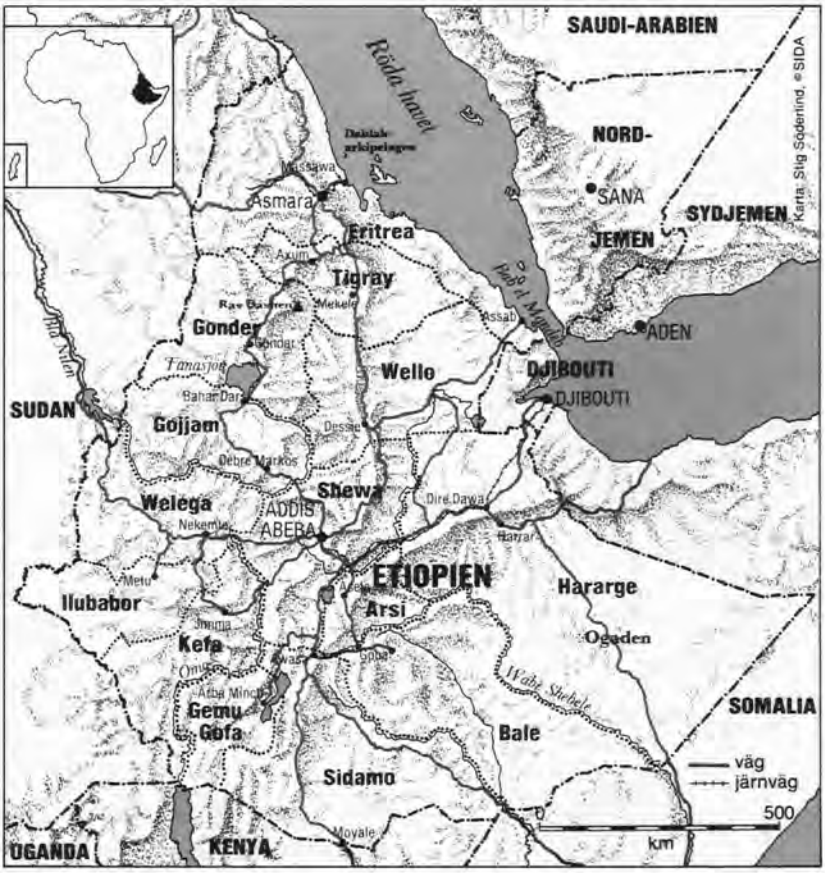
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CHAPTER 1

Executive Summary

The Dodota Water Supply Project (DWSP) is a women's project in central Ethiopia. The scheme provides clean, gravity piped water to the population in the *woreda*, or subdistrict, from two springs situated on the southern borders of the *woreda*. The peasant women had identified this need. They stated that lack of easy access to clean water was their main problem and that they wanted assistance to solve it. The main objective of the DWSP was to provide the population with gravity piped water, and to enable the women to take part in all the project's phases.

The project was implemented between 1982 and 1986. The water is expected to suffice until 1995, or for a population of 56,000 people. The cost of the project was SEK 8,744,300. SIDA met 86% of the costs (SEK 7,675,000). The population in Dodota contributed 14% (SEK 732,040) in cash and SEK 337,260 in kind. In addition to this ARDU and REWA contributed, according to the overall project budget, SEK 281,000 and 210,000 respectively, which are the amounts equal to the services provided by the permanent staff of these organizations. Thus SIDA was the main financial contributor, while ARDU was the implementing agency and REWA the owner of the project.

The evaluation focussed on two questions:

- What impact has the close accessibility of clean water had on the living conditions of the Dodota people, particularly the women?
- What lessons can be learned from the project, particularly in the light of such issues as *people's participation, sustainability and replicability*, which have proved to be essential to all development efforts?

The evaluation was conducted by a team of two social anthropologists, two economists and one water engineer. The team leader was a

social anthropologist.

The main data collection technique used was *consultations*. They are defined as the collection of qualitative information through discussions of various topics with individuals and groups of people. The information obtained is later analyzed contextually so that a coherent explanation of the phenomenon under study can be constructed. The main questions guiding the consultations were:

- What had happened?
- Why?
- Which were the effects of the project on the population?
- How did people themselves interpret the events?

Findings

Impact on Dodota population

The Dodota Water Supply Project is not yet completed. The scheme incorporates approximately 40,000 people or two thirds of the present population. The rest, many of whom have paid their contributions and dug trenches for the pipes, have not yet been reached by the project. The reason for this is a readaptation of the scheme to the government's changing re-settlement and villagization plans. As these plans now appear to be finalized and the population is expecting to receive water, the time has come for the scheme to be completed.

For those people living within the scheme the objectives set in the Plan of Operations have been achieved. They now have close access to safe drinking water. The consumption of water is steadily increasing. It is used both for drinking purposes and personal hygiene and has had a positive impact.

According to people's own perceptions of their health, it has greatly improved since the water came. Diarrhoea and stomach problems have been reduced, children grow better and women are stronger and healthier from having less distance to walk to obtain water.

As a result of time saved, women can perform their other tasks better. Time saved has also added to their opportunities for intellectual and personal development, e.g. through education and social gatherings.

The price of water is in no way an obstacle to increased consumption. On the contrary the water from the Scheme has improved many people's economy by being cheaper than it used to be, and has led to better

health and savings in labour time. It has also made gardening and the raising of small stock possible.

In combination with the villagization programme and the establishment of Producers Cooperatives, the water scheme has in many ways improved the living conditions for the people in Dodota. The roles of both women and men have been changed. Women feel freer to express themselves at home and elsewhere, and they get more respect from their husbands. The role of men has also changed, particularly with regard to their status and general self-esteem in society. Having been tenants and dependants, they now appreciate their independence and right to act in community affairs. The work men and women now perform is experienced as much lighter than before. The time people spend on their work, however, has not been reduced.

Training Impact

The project has not only fulfilled the objectives set out at the start but it has had even more positive effects than was expected. The role of the female technicians is a case in point. They have come to act as a model for the other women in the community. The latter now see training and subsequent employment as something worth striving for.

The training of the women employed by the Dodota Water Supply Project can be seen as an example of successful pedagogics: there was a close and identifiable connection between course and work; and although the training implied the acquisition of new skills it still concerned the provision of water, a task with which women were familiar. The training department also made use of segments of the local system and organization to communicate with the trainees.

The water supply system in Dodota points to what might become a new model in the area. First, there was local recognition or acknowledgement of the need for change. Second, the responsibility for change was delegated to those most directly affected. Third, a training component was introduced which enables those who were responsible to carry out their responsibilities. Fourth, it made change "pay", providing jobs and salaries for those taking the responsibility.

Technical Impact

Technical deviations from the project plan have been found to be appropriate to prevailing conditions and requirements. Future extensions can be easily accomplished if required. Changes due to the villagization

programme have led to a less widespread distribution net than planned. Where completed, the programme has led to a considerable rise in water consumption.

In Dodota, both preventive and corrective maintenance are functioning well enough to provide an outstanding example from African countries. Maintenance and operation are as simple as possible and the project personnel well trained, thereby ensuring technical sustainability.

Financial Impact

The professionalism in evidence on the technical side, however, is missing with regard to finance. Project personnel have not fully realized that resources are scarce and need to be replaced. There is, at present, no adequate budgeting system for the DWSP. If the present trend continues the project will not be able to cover its costs after two years.

On the other hand, the DWSP may be among the most cost-efficient water projects that SIDA has been involved in. The total cost was SEK 210 per person, including both the Swedish and Ethiopian contributions. Disbursements were also kept within the budget frame. The project was, in fact, less expensive than was anticipated in the revised budget presented in the Plan of Operation.

Main Lesson

Those factors which directly and indirectly contributed to the success of the project are related to responsibility and concern, the importance of which cannot be overestimated. The main lesson, then, that can be learned from the Dodota project is that although responsibility and concern cannot be created by fiat or planned into a project, they are vital to its success.

It is, therefore, recommended that, at the inception of a new project, attempts should be made to enable different categories of beneficiaries both to make priorities with which they can identify and to shoulder the responsibility for the project once started.

CHAPTER 2

Introduction

2.1. Scope and Focus

The Dodota Water Supply Project (DWSP) is a women's water project in central Ethiopia. The project was initiated in 1980 and implemented between 1982 and 1986.

Before this, the population in Dodota had suffered from an acute and continued water shortage. Women used to spend two to six hours every day carrying the necessary household water. Previous attempts to solve the problem had failed.

The new scheme involved the provision of gravity piped water to the whole population from springs at the *woreda*'s southern border. SIDA contributed SEK 7.6 million and the Dodota population SEK 1 million to the realization of the project.

The main objectives of the Dodota Water Supply Project, as stated in the Swedish Plan of Operation, were to provide the population of Dodota *woreda* with gravity piped water, and to enable the women of the *woreda* to take an active part in the planning, execution, operation and maintenance of the project.

In the proposal put forward by REWA in March 1982, the objectives were stated as follows:

- To supply clean water at a reasonable walking distance of up to 2.5 km.
- To partly release about 8,000 women from the burdensome task of drawing water and thereby allow them to participate actively in more productive work.
- To provide an adequate supply of water in order to encourage

personal and household hygiene.

The objectives were decided before people's participation, sustainability and replicability had become key words in the development debate. The fact that these key concepts or ideas, although implicit, were part of the project design, encouraged the Women's Division at SIDA to request an evaluation of the project.

According to the terms of reference (see appendix), the present evaluation of the Dodota Water Supply Project had two questions in focus:

1. What impact has the close accessibility of clean water had on the living conditions of the Dodota people, particularly the women?

2. What lessons can be learned from the project, particularly in the light of issues as peoples' participation, sustainability and replicability, which have been proved essential to all development cooperation efforts?

The evaluation, which emphasizes the socio-economic aspects of the project, has been carried out as five separate studies:

- A Study of the Technical Aspects by Johan Melchert, during June, July, 1988.
- A Study of the Organizational Aspects with particular focus on SIDA, by Annika Idemalm, during the autumn of 1988.
- A Study of the Economic Aspects by Göran Engstrand during the autumn of 1988.
- A Study of the Education and Training Aspects by Judith Narrowe, during October and November 1988 and
- A Study of the Impact of the Water Scheme on the lives of the Dodota population as well as A Study of the Organizational Aspects of the Project from an Ethiopian perspective by Eva Poluha, during the autumn of 1988 (main report).

Each study was conducted according to its own Terms of Reference. The two questions mentioned above, though, were central to them all.

The present study is the main rvaluation report which integrates all the separate studies. The person responsible for this report is Eva Poluha, who also acted as team leader. Nevertheless, the report is a synthesis of the combined experiences and concerted efforts of each of the members of the team, and their long and fruitful discussions.

The report starts with a presentation of the scope and focus of the evaluation and of the methods used for collecting and analyzing the data. The evaluation is then divided into four chapters:

Chapter three contains a *description* of the project area and the project itself, and an introduction to Dodota. Social, economic and ecologi-

cal information on the project area is presented together with an outline of the main events of the project's history. Technical, economic, training and organizational aspects are given special emphasis. This chapter, as well as those following, ends with a sub-section called "Observations". The observations are short paragraphs summarizing the main points presented and commenting upon the implications of these points for the project as a whole. Emphasis is on issues connected with sustainability and replicability.

Chapter four is an *impact analysis* of the project. The technical, economic and training aspects of the project, as well as the effects that accessibility of water had on people's lives, are analyzed in relation to the evaluation criteria set out at the beginning of the chapter.

In chapters five and six, entitled "Project Sustainability" and "Project Replicability", the main experiences and possible lessons to be drawn from the project are presented. These chapters represent the summary and conclusions of the evaluation.

2.2. Method

There are basically two types of analysis in the social sciences — qualitative and quantitative. *Quantitative analysis* is based on data collected at one point in time in the form of a sample representative of a parent population. On the basis of this sample, conclusions can be drawn about two or more characteristics in the parent population through statistical inference. No inferences can be made about relationships between these characteristics, however, since quantitative data by themselves cannot explain how factors or events affect each other. Such data are usually collected through surveys.

Qualitative analysis is based on other kinds of data. Qualitative information is usually collected over a long period of time, using a method known as participant observation. This kind of data allows for a processual analysis of human interaction, and makes it possible to understand how human behaviour can change due to different factors. The basis of the qualitative analysis can be said to be the logical consistency between the observations made.

During the first phase of a qualitative analysis, contextual data are collected. Secondly, statements and observations are analyzed, and a "coherent picture" of the phenomena studied is constructed. Lack of consistency means that something is wrong or has been misunderstood.

Therefore, the demand for coherency requires that when a statement, act or event does not fit in with the general description, a re-interpretation of the observations must be made. This approach can be compared to laying a jig-saw puzzle where all the pieces have their place and, therefore, cannot be fitted or forced into the wrong position.

Thirdly generalizations covering a wider context are tried. Unlike statistical inferences, where the generalizations are dependent upon the sample's representativity of its parent population, these *logical inferences* in a qualitative analysis are based upon the plausibility or logicality of the connection between the two characteristics. Extrapolation from case studies is thus based on the validity of the analysis rather than upon the representativeness of the events. *Logical inference is in this way epistemologically different from and independent of statistical inference.*

Qualitative information can be obtained in different ways. Sometimes information is obtained from un-structured or open-ended interviews following a questionnaire. The answers in such interviews contain information that cannot be tabulated since new information will often guide the interview in unforeseen directions. Informal interviewing is another method for collecting qualitative data. Interviews of this sort have even less similarity with questions posed for statistical purposes, since they are rather guided by *topics for discussion* than explicit questions (see examples below).

The most common method for gathering qualitative data is participant observation, since the analysis of qualitative data requires familiarity with the people and phenomena under study. Thus, information obtained only from a short interview is considered insufficient to permit qualitative analysis.

In the Dodota evaluation, as well as in many other studies, it is the questions in, or objectives of, the investigation which must guide the selection of method. The fact that many different events had affected local conditions made it impossible to state categorically that water was the one and only, or even the main, change factor. Therefore, it was necessary to try to determine what had happened in connection to the project, and why people thought that events had occurred in one way and not another.

One of the objectives of the present evaluation was to use different methods which allowed the local population to participate. "Participatory evaluation" has been defined by M.T. Feuerstein (1982) as "The collective, active organized participation of people in various activities

embodying specific evaluation objectives which they have had a part in selecting". Participatory evaluation had, however, not been part of the project routine. Furthermore, people in Dodota had not taken part in selecting the objectives for the evaluation. These had all been decided beforehand. The participatory element in the evaluation, therefore, was mainly the use of a "consultative" approach in the deliberations with the people.

The "consultative" method used in the Dodota evaluation can be seen in the way individuals and groups of people are asked to react to and elaborate on a set of topics about which they are knowledgeable and ready to talk. This approach allows the evaluators to collect the kind of information which, although limited in scope, allows for a contextual interpretation of the data. The strength of the interpretation which is later made will closely depend on both the quality of the information gathered and the interpreters' familiarity with both people and phenomena under study.

It must be pointed out that it is an all too uncommon phenomenon that projects of this kind are found to be well-functioning or can be considered successful. The evaluators are aware that this is a good project and that our positive estimation of it also colours the description. In order that our positive evaluation should not be attributed to the method which, to those unfamiliar with it, may appear to "overemphasise the positive factors and under-emphasise the negative", one must remember the composition of the evaluation team. There were two social anthropologists, two economists and one engineer. The latter three used the conventional economic and technical methods in the evaluation, and yet all came to the same conclusion: the project is basically sound and can be expected to function well if proper budgetary principles are applied.

Categories of people consulted

There are 46 Peasant Associations (PAs) in Dodota *woreda*. Five were selected for the study: Huruta Hetosa, Huruta Gerdebosa, Badosa Ademere, Bika and Aminja Dhaba. The first two are categorized as rich, the next two as medium and the last as poor. There are many other PAs in Dodota that are much poorer than the ones examined here but most of these were not part of the project. The PAs studied can, therefore, be said to cover much of the economic variation found within the project area.

In each PA meetings were held with the executive committees of the Peasant Association, the Women's Association and the Youth

Association, all in all 130 individuals. Interviews were made in groups at the PA offices, and took between two and three hours per group. In every PA a minimum of three individual households were approached, totally 18 households. The discussions were held in the homes of the individuals. Specifics about the topics covered are given in appendix 4 and 5.

With regard to the respondents and the interview situation, the following points should be noted:

The fact that water as such not is a controversial issue in Dodota, since everybody needs water and wants close access to it, made the choice of people to be interviewed easier. During a preliminary testing of questions we soon found that the water project could be discussed with any group of people, including those who had been elected due to political reasons. Because they held these positions they often knew more about the project than other individuals.

Discussions, in the western meaning of the word, were not held with the groups, since people in Dodota not are used to this method. Instead each person was allowed to speak without interruption. Speakers who followed did not try to contradict or find faults with those who preceded them but, rather, tried to add some new dimension to the subject. The objective of a meeting, therefore, was to reach consensus rather than to obtain a majority decision, or find out the "truth". Put another way, the group meetings aimed at learning as much as possible about the Dodota project. This may seem a fine distinction between two very similar objectives, but it was important in the interview situation in which we were the ignorami, coming not with preconceived ideas, but to learn.

Each discussion took two to three hours. It was not possible to do more than three or four consultations per day since they were very exhausting for the person guiding the discussions who was expected to keep her own opinions and views out of the discussion, and to listen intensely.

Although participatory evaluation as defined by Feuerstein is a possible and valuable input in any project, it has to be incorporated in a project at its inception to be of value. From the evaluation trials we made in Dodota it was obvious that participants must learn to make assessments. To be able to make relevant observations requires a lot of training and to make observations public requires a bit of self-confidence. This is particularly so in societies where public criticism of official persons or projects is not part of the culture.

The consultations we conducted in Dodota revealed great differen-

ces in the ability of various categories of people to make assessments and to discuss abstract questions. There were not only differences between people at higher and lower levels in the administrative hierarchy, but also between men and women. These differences were very much due to the amount of exposure or training that the various individuals had had to such questions. This, in turn, strongly affected the amount and quality of the information obtained during the consultations.

It is important to keep in mind that when it is a question of factual information rather than abstract assessments, each category of people know their own concerns or tasks the best. Thus, in Dodota women knew most about water usage, men about farming and youngsters about the school situation. Such being the case, it was important to discuss each particular topic with the relevant category of people. Some questions, therefore, were pursued further when the context seemed appropriate. Nevertheless, the same questions were put to all the different group categories.

One of the main lessons from the consultation exercise in Dodota was that the particular formulation of a question has a direct bearing on the quantity and quality of the information obtained. Comparisons proved to be particularly rewarding as they facilitated discussions and yielded data. When people were asked to compare concrete phenomena or experiences they became eager not only to give brief answers but also to add new observations to those already made.

To sum up, we can say that in order to obtain relevant qualitative information we must both be aware of who the respondents are, and know how to approach them. Thus, only when we know the differences between various categories of respondents can we adapt the topics or questions to those differences.

CHAPTER 3

The Dodota Water Supply Project

3.1. Project Area

Dodota is a *woreda* in Chilalo *awraja* in the Arsi region. The population was estimated to about 30,000 in 1980, and this is the figure upon which the plans are based. From the first Ethiopian Population Census in 1984 there are three different official figures in use. The "estimate", which was the basis for the project plans, the Census, which provided the first figures presented after the population was counted, and the adjusted census figures, which are not yet published but have been approved by the government. In this report the adjusted figures will be used unless otherwise indicated. This means that Dodota's population was 60,800 in 1988 and is estimated to be 74,700 in 1995.

The total area of the *woreda* is some 300 km^2 and it is situated about 120 km southeast of Addis Abeba and 30 km northeast of Asella. The mean annual rainfall is about 600 mm and the area is often stricken by severe drought.

Dodota is a poor *woreda*. Today it contains 46 Peasant Associations and three towns, Dhera, Huruta and Awash Melkasa. Nine PAs are located in the less fertile western part of the *woreda* which is separated from the rest of Dodota by the eastern part of Shoa region. The *woreda* authorities decided that these PAs were to be resettled elsewhere in Dodota in the near future and, therefore, are not referred to in the following discussion.

The Dodota Water Supply Project is, for management and administrative purposes, divided into two zones centered in the towns of Dhera and Huruta respectively. The project covers the three towns and 18 PAs,

one of which is situated in the neighbouring *woreda*, Hetosa. Part of the population from an additional nine PAs draw their water from the taps of these seventeen PAs. The other PAs in Dodota *woreda* do not have access to tap water.

A major part of the *woreda* is situated in the Ethiopian lowlands. Although people in general are poor, there are great variations in their living standards. This is due to the altitude at which people live and to their work input. The following figures from the evaluation in 1988 can serve to illustrate the point. Productivity per hectare ranged from 6 quintals per hectare and less in the *kolla*, or lowland areas, to 30 quintals and more in the *woyna dega*, or middle land. The minimum income in the Producers Cooperatives (PC) ranged from 90 Birr per year[1] in the lowland to 1700 Birr per year in the middle land. Membership in the PCs ranged from 38% of the PA population in the lowland to 100% in the middle land. Even the literacy rate was different, from 66% in the *kolla* area to 88% in the *woyna dega*. The literacy figure is most probably also affected by the fact that the different ethnic groups speak different languages and that literacy training may be more wide-spread among Amarinja-speakers than among Orominja-speakers.

Ethnic Amharas and Shoa Oromos, both of which are Christian, engage in farming at higher altitudes. The Muslim Arsi Oromos, who outnumber the others, are mostly found in the lowlands. Many Arsi Oromos depend on cattle for their survival and also farm. They can be categorized as agri-pastoralists. Many Arsi Oromos are not members of PCs since the latter are mainly organized around farm activities.

People used to live in scattered settlements where production was carried out independently by each household. Since the revolution many changes have affected the living conditions of the Dodota population. Of prime importance to this study was the establishment of Producers Cooperatives according to the Directives of 1979 and the villagization programme since 1984. These induced changes closely coincided with the Dodota Water Supply Project which makes it difficult to determine the differential impact of each of these developments upon the local population. This affects the evaluation since, as mentioned earlier, water

1. The PC income is usually supplemented with what people can grow on their private land and what they get from their small stock of goats and sheep. Hens are also important. The PC income is calculated on the basis of official government grain prices which are lower than what an individual farmer selling small amounts of grains in the market can actually get.

cannot be singled out as the only change factor.

3.2. Background and Initiation

Identification of Needs

In 1978 development cooperation with women in Sweden was put into focus at an international women's seminar in Uppsala. During the same year a special post of programme officer for women was established in the Policy Development and Evaluation Division of the Swedish International Development Authority (SIDA)[2]. The post was not intended to be operational but to concentrate on developing a policy on Women in Development (WID). 500 000 SEK was set aside for preparatory studies on women's issues.

From September 1979 to May 1980 a study on women in development was carried out in Ethiopia funded by the women's programme at SIDA. It was a comparative study of rural women in two woredas, one of which was Dodota in Arsi and the other Dangla in Gojjam. The study was carried out in close cooperation with Ministry of Agriculture (MoA) personnel in Arsi and Gojjam. It focussed on women's activities and their role in rural development, and resulted in a number of recommendations. Many of these were identified by the women themselves, and were seen by them as a means for improving both their living conditions and work performance. One of the recommendations in Dodota concerned drinking water.

The programme officer in Stockholm proposed further enquiries into the Dodota and Dangla women's priorities, if the women were to be assisted in any of their endeavours. In Dodota a meeting took place in the summer of 1980 to which all the women from the respective Women's Associations (WA) were called. At the meeting the assembled women forwarded different suggestions concerning what they needed, such as a mill, water and a health clinic. While discussing the proposals with each other, they soon agreed and stated unanimously that what people in the Dodota plain needed most was drinking water. Nothing was considered as important as this.

The issue of providing drinking water for the population in Dodota was taken as the basis for further consultation. Encouraged by the women's programme officer at SIDA Stockholm the person responsible for women's issues at the Development Cooperation Office (DCO) in

Addis Abeba and the consultant for the women's study continued discussions about a possible project with the executive committee members of the Arsi regional WA and ARDU.

During contacts with all involved parties the idea slowly took form that for a project to be successful and to try new paths, it was not enough to supply the women with water. They should also be actively involved in the project through taking part in construction, maintenance and management. However, to manage all these tasks required training. Different kinds of training programmes were discussed as necessary components of a project proposal.

Designing a project

The cooperation between the Arssi regional WA, ARDU and SIDA/DCO continued. Many attempts had been made to find water in the Dodota plain. Boreholes had been drilled down to 255 meters and, when these proved unsuccessful, man-made ponds were developed.

ARDU had, however, recently identified two springs in Fursa which were to supply nearby Huruta town with water. An informal agreement had been reached with the town council about the development of the springs but, since ARDU lacked capital for such work, no activities had been started. The springs in Fursa were now considered possible water sources for the entire Dodota plain. The ARDU water section, headed by Amsalu Negussie, designed a gravity scheme that could supply the plain with drinking water from the far-off Fursa springs. Together with the regional WA, the ARDU Water Section also developed a training programme for women. This initial proposal was presented to SIDA/DCO and discussed, but nothing was decided.

Deciding on a Project

Meanwhile the organization of the Ethiopian women's associations had reached the national level and an executive committee heading the Revolutionary Ethiopia's Women's Associations (REWA) had been established in Addis Abeba. It was responsible for developing policies and guidelines for the work of some 20,000 women's associations from all over the country. Being new to their jobs and representing a new organization, the members of the committee had no more knowledge of, or interest in, women in Dodota than in any other *woreda*. The national REWA was placed above the Arsi regional WA. Thus, once established it replaced the regional REWA as the natural counterpart for SIDA in its dialogue

about women. Very slowly, with much patience and personal engagement from all parties, a fruitful cooperation between REWA, ARDU and SIDA took shape.

In March 1982 REWA formally submitted a proposal to SIDA for the supply of water to the Dodota *woreda*. According to the proposal, a major part of the financing was to be covered by SIDA funds, while a smaller part was to be provided by contributions from the population of the *woreda* as well as ARDU and REWA.

In the beginning of 1981 project preparations came to a standstill in Sweden. Concerned individuals in SIDA had difficulties obtaining finance for the project. One possible source was aid to non-governmental organizations within the Education Division. Against such a proposal the argument was made that REWA was a political and official organization, and not a formal NGO. Other attempts to locate funds were unsuccessful.

In this difficult situation a member of the SIDA Board of Directors, who had been to Ethiopia and been briefed on the conditions of Ethiopian women, was alerted to the standstill. At a board meeting the member asked what SIDA was doing for Ethiopian women. The management of SIDA quickly responded with a decision that the Dodota Water Supply Project should be supported.

In November 1981, upon a request from the Women's Group, the Industry division at SIDA commissioned a technical and economic appraisal of the proposal made by Arssi REWA and ARDU. The consultancy study was positive with regard both to the economic and technical aspects.

When REWA's proposal was submitted in March 1982, after DCO had promised that funds were available, SIDA had not yet decided how the project, with a budget for 3 years of approximately 8 MSEK, was to be financed. The Water Section of the Industry Division declared itself unable to include the project in its work without first discussing the issue with the relevant Ethiopian authorities, since the country-frame was already committed to water installation work in the Swedish-Ethiopian Hararge programme. Any changes in the programme had to be agreed on by SIDA and the cooperating ministry concerned.

The Agricultural Division had no uncommitted funds within their sphere of the country-frame. The Division also argued that bringing household water to the Dodota plain would hamper rather than help the area and that a better idea would be the development of an irrigation project. As ARDU (which was supported by the SIDA agriculture

division through country-frame funds) had had a budget cut-back and, as a result, had encountered difficulties in carrying out the agreed-on programme in Arssi, SIDA thought it unwise to start a new water project within the same area.

The financing problem was finally resolved within SIDA by splitting the project into three phases. In September 1982 SIDA decided to finance the first and second phases with SEK 3,670,000 from the NGO budget of the Education Division. The Ethiopian contribution was, according to the Plan of Operation, budgeted at SEK 1,761,000. Owing to the devaluation of the SEK vis-à-vis the USD/ETB, in December 1983 SIDA decided to contribute an additional SEK 870,000.

REWA was to be the owner of the project and ARDU its implementing agency. An engineer from the Ethiopian Water Works Construction Authority (EWWCA) was to supervise the implementation for REWA.

An agreement was signed between REWA and SIDA in December 1982.

3.3. Implementation

Organizational Framework

In order to coordinate all efforts necessary for the implementation of the DWSP, a Steering Committee was established following an instruction from the Ethiopian Central Planning Supreme Council (CPSC). The Steering Committee was set up before the agreement was signed between REWA and SIDA. Members of the committee included the head of ARDU, who acted as chairperson, one representative of the national REWA as the secretary, two representatives from the regional REWA, one from the CPSC, one from the Ethiopian Water Resources Commission, one from the Arsi regional administration, and two representatives from ARDU.

The Steering Committee met once every two months. Its duties were to coordinate, control, guide and plan the project activities. Some of the individuals who had participated in the work of the Steering Committee were interviewed during the evaluation. They all expressed satisfaction, and some astonishment, with the extremely good cooperation that existed between the members. The discussions held and decisions made had been reached in good spirits and were efficiently carried out. Everybody, they said, felt responsibility for the project.

There were two operational committees under the Steering Committee, namely, the Technical Committee and the Manpower and Resources Coordinating Committee. The Technical Committee was made up of the technical departments in ARDU such as the engineering department, extension, training, planning and evaluation. It was the duty of the technical committee to implement the scheme on time and in accordance with the project budget and also to train the women elected for the courses.

The Manpower and Resources Coordinating Committee was chaired by the regional administrator and had as its secretary a representative from the regional REWA. Other committee members were representatives from the regional PA, YA and trade union as well as the regional health office. It was the duty of the Manpower and Resources Coordinating Committee to ensure the collection of the cash contributions in Dodota *woreda*, to organize the manpower necessary for digging the trenches, and to supervise the recruitment of women to the courses.

At the *woreda* level another committee was set up under the Manpower and Resources Coordinating Committee with the aim of finding means to improve living conditions in the *woreda*. It tried to promote vegetable growing, biogas trials, and started to train women in weaving.

The first phase of the Dodota Water Supply Project was inaugurated in January 1984, with the second phase following in May the same year. After some delay caused by SIDA deliberations over whether the project's third phase should be placed within the so-called country frame or not, it was finally decided that Education Division would be responsible. It was decided that REWA was to get the funds necessary for phase three through the NGO budget.

The third phase coincided with a major drought in Ethiopia. Since priority in the ports had to be given to food deliveries, the supply of goods for the water project was delayed. The material requested was also delayed in Sweden.

This phase also coincided with the villagization programme in Dodota which engaged ARDU personnel elsewhere. Under this programme, the authorities planned to move the population of some PAs from the lowlands to the highlands. The project implementors therefore changed the design and adapted it to the expected new demographic pattern. However, the evaluation team found that, apart from for nine PAs, the authorities had never implemented the resettlement plans,

because the people in the other PAs had not wanted to move. As a consequence, there are at present 20 PAs without water within their own boundaries.

Technical Accomplishment

The Dodota Water Supply Project was implemented in three phases. In phase I the water source for the project, two springs at Fursa, was developed. A pipeline from each of the springs was laid to a 100 m^3 reservoir at Hursa, about two km from the source. A distribution system with 12 water taps was constructed at Hursa. Phase I was implemented in 1983 and the inauguration took place on January 29, 1984.

Phase II involved the laying of 21 km of pipeline from Huruta to Dhera town and the construction of three 100 m^3 reservoirs, three 25 m^3 break pressure reservoirs and distribution systems with water taps for seven PAs. Phase II was inaugurated on May 13, 1984, about half a year ahead of schedule.

The start of phase III coincided, as mentioned above, with the start of the villagization programme in Dodota *woreda*. For this reason the project was delayed and developed differently from the plan. In phase III implementation work comprised the construction of one 100 m^3 reservoir, one 25 m^3 break pressure reservoir and some 65 km of pipelaying with distribution systems and water taps for 11 PAs. Phase III was completed by the end of 1986, one and a half years behind schedule.

Training

The training objective, to enable the women of the *woreda* to operate and administer the DWSP, was accomplished in part by a special training programme. Through this programme 131 women from the Dodota *woreda* were trained to administer and manage the project, keep the books, collect the fees, and construct and maintain the pipelines.

The project was introduced at WA meetings in each PA in the *woreda*. WA members were asked to elect course participants from among themselves on the basis of criteria decided upon by REWA and the MoA: they were to be young, literate and neither pregnant nor nursing.

Most women elected to attend the first of the three rounds of the courses were somewhat reluctant to do so. This was due partly to the women's (and men's) lack of belief in the possibility of getting tap water to Dodota and partly to their suspicion that they were going to be sent to the war front to cook for the soldiers. Moreover, although the women were

told that attendance at the courses might result in a salaried job. Few of them believed this as "women earning a salary" were unknown in most PAs in the *woreda*.

In the spring of 1983, three rounds of courses were given at the ARDU training centre in Assela to a total of 131 women. The first two courses lasted for one month and consisted of two "blocks": the first concentrated on traditional home economics topics, and the second concentrated more specifically on imparting the skills required to manage the various facets of the water supply project. The three "sub-courses" were: 1. technology of pipe-fitting, pipe-laying and tap maintenance; 2. management and administration; 3. simple accounting procedures. The trainees chose, or were chosen for, each of these courses on the basis of interest, their previous performance in the home economics course, and/or length of attendance at school.

The third course lasted for more than two months and did not contain an economics block. Rather, it provided more intensive training in water supply related skills.

The curriculum and the content of the individual courses were discussed and approved by the Steering Committee. The curriculum for each of the specific courses was decided upon and taught by the relevant department at ARDU.

The Women's Section of the Training Department at ARDU was formally in charge of the training program. There was little or no coordination between the home economics and the "specialty" blocks and no formal evaluation of the courses was made

Most trainees lived in the training centre dormitories at ARDU/SEAD in Assela during the training period. All lectures and theoretical courses were held there. Practical courses were held at workshops and other facilities at ARDU/SEAD, and were taught with the practical tasks of the project in mind: the trainees taught and tested each other and learned from and helped each other with their classroom tasks. Each round of courses concluded with a graduation ceremony and each graduate was given a certificate of attendance.

Project Operation

The project area is divided into two zones, the southern zone having Huruta as its centre, and the northern zone with Dhera as centre. Each centre is headed by an administrator under whom there is a cashier, an accountant and a skilled technician. Each zonal office is responsible for

the tap attendants who sell the water to the people. There are also guards, a driver and water meter readers.

The project is also technically divided into two parts which do not correspond with the administrative divisions. Technically, the western part covering six villages and one third of the population is supplied from Fursa I. The eastern part, covering the three towns and twelve PAs, is supplied from Fursa II.

The system for distribution of water and collection of water fees is as follows:

- The tap attendants sell coupons for 5 cents which are equivalent to 100 litres of water per coupon.
- Water is collected in vessels estimated at 20 litres each. However, observations at one site showed containers which varied in carrying capacity from 13 to 27 litres. Thus, pots that contain more than 20 litres are charged more than the stipulated 5 cents.
- Every time a vessel is filled, the attendant marks the customer's coupon with a slash and after five slashes the coupon is finished.
- The attendants settle their accounts with the zonal cashier at least once per month.
- At every tap there is a consumption meter which is read once a month by the DWSP management office.
- The water consumption is checked against the payment handed in by the controller. When consumption exceeds the payment by more than 4%, the tap attendant is made to pay the outstanding sum from her salary, unless there is confirmed leakage. Cases were observed where attendants had to pay nearly half their salaries for several months without, apparently, any action being taken by the zonal offices to find out the cause of the discrepancy.
- The tap attendants usually work for four hours in the mornings and for three in the afternoons after lunch, although there are variations to this.
- The cashiers from Dhera and Huruta deposit the money once a month into the project account at the commercial bank in Huruta.

To close the monthly budget and withdraw money the three financially responsible women, one from the regional, one from the *awraja* and one from the *woreda* REWA, have to meet and co-sign all papers. This procedure has proved to be both difficult and time-consuming, not least since the women live in different towns and also have other jobs besides their project duties. The REWA has, therefore, found it

necessary to employ an administrator to take over some of the responsibility. REWA is also in the process of recruiting one cashier and one accountant. Together, it is hoped the three will be able to take over the daily economic activities and make the work smoother and less bureaucratic. The responsibility for the yearly auditing and the supervision of project activities will continue to be carried by the regional REWA.

During the implementation phase, SIDA's cash contributions were deposited at ARDU's bank account with the Commercial Bank of Ethiopia in Asella. At the end of October 1988, ETB 14,897 remained on this account, of which ETB 7,949 belongs to DWSP. It is recommended that this money is transferred to one of REWA's project accounts.

From the start of the project all consumers have been charged a fee of 50 cent per m^3. People with private water connections pay a subscription fee of 1 ETB per month. These fees are paid directly to the tap attendant.

During the fiscal year 1987/88 the DWSP had 56 persons employed (for specifics see appendix 6) and paid ETB 43,000 in salaries. Total expenses during the fiscal year 1987/88 were ETB 115,411, which were more than the total incomes from water-fees, subscription fees and the installation of private connections. The preceding year the incomes had balanced expenditures. Expenses have increased by close to 6% annually during the last three years, while incomes have declined. Last year there was no increase in the income, and the preceding two years there was an increase of 10 to 20%.

The project office estimates that the present annual costs for maintenance amount to Birr 2,000 of which one half is paid by the project and the other by the PAs. Maintenance costs because of the system's age are borne by the project but repairs needed because of sabotage etc are now charged to the PAs.

Today no real budget work is carried out in the project. The vehicles which were bought in 1982/83 will soon have to be replaced. Including customs duty, a 4 WD vehicle costs a minimum of ETB 60,000. With an estimated lifetime of eight years, the minimum annual cost for replacing such a vehicle amounts to ETB 7,500. Taking into account other re-investments which may be needed, there will be a financial gap of more than ETB 100,000.

A very tentative budget for DWSP can be presented as follows:

(see next page)

Expenses		Incomes	
Salaries	50,000	Water fees	60,000
Spareparts	35,000	Priv. connections	25,000
Vehicles running	25,000		
Vehicles, re-investm	37,500		
Other running costs	20,000		
Other re-investm	25,000		
Total	192,500		85,000

As can be seen from the figures above, there is a budget deficit of ETB 107,500.

3.4. Observations

Cooperating Organizations

The initiation of the DWSP was a study without any connection to a project plan. It is probable, however, that the study in itself caused some change to the lives of local people. The questions posed during the interviews dealt with women's actual work, their role in rural development and ways in which their productivity could be improved. They required, therefore, a certain amount of self-analysis on the part of the respondents. This was particularly the case during the discussions held with WA executive committees. The study as such can be seen, therefore, as a means of making both women and men more aware of their situation, although people explicitly identified their needs only at the *woreda* meeting.

The fact that there from the beginning were no project plans and no time schedule to follow, permitted many people to influence the shape and content of the project. Not only the so called target population or the peasant women from Dodota, but also people in local and regional REWAs, and employees in different ARDU departments contributed to its content.

The insecurity about the funding, and the possibilities of the national REWA incorporating the Dodota project into its activities, seem to have increased the involvement of both Ethiopians and Swedes. Their involvement also made them shoulder responsibilities that they

might not have taken had the project been ready-made and packaged from the beginning. However, to bring the project about, the Ethiopian and Swedish project workers had to convince their respective authorities of the advantages of the project, and even use unorthodox measures to succeed.

SIDA procedures made financing difficult. The money requested in the REWA proposal was considerably greater than the usual funds envisaged for women's support. In Dodota SEK 8 million was requested, but women's projects usually had not required more than SEK 50,000 to 100,000. The financial size of the project, therefore, put it into the country frame category. However, this was equally impossible since it had not been part of the country-frame dialogue with Ethiopia from the project's inception. Thus, while the content of the project classified it as a women's project, the size of the budget disqualified it from this category. Unorthodox measures were required, therefore, to solve the financing.

It was observed by the responsible persons in both ARDU and national and regional REWA that cooperation between them had been very close and fruitful during the implementation phase. The person from REWA and the ARDU head of the implementations team travelled together to the actual construction site at least once a week to supervise the activities.

The cooperation both within and between the committees was, according to the interviewed members, both extremely close and beneficial.

The fact that the Steering Committee still functions to support the project bears witness to the shared responsibility that the members feel toward it. The general enthusiasm of the people involved was also said to be the reason why both phases I and II were finished ahead of schedule, something highly unusual in any project.

Technical Aspects

The basic technical idea behind the project was to supply water by gravity flow from two springs. From this idea, and considering the minimum discharge of spring water of 18 l/s, the project layout was designed according to Ethiopian standards to meet the water demands of 56,000 people in 1995.

The technical design of the project had remarkable qualities in that it was so well adapted to the local ecological conditions, and presented technologically sound and simple solutions.

The scheme contained technically necessary preventive maintenance components such as leakage checks, cleaning of sand-catchers and exchange of taps when the old ones began to pose problems. Such in-built preventive maintenance measures were unusual in other water construction works. In Dodota many of these solutions resulted from the close cooperation between the technical designer of the project, the other employees at ARDU and the trained women.

When problems were encountered during the implementation phase, they were discussed between all parties involved, and simple and easily maintainable technical solutions were sought. This behaviour can be taken as an expression of the engineering department's concern for the future of the project.

Economic Aspects

If the present trend continues, the project will not be able to cover its costs after two years. Out of the present running costs, salaries and wages account for 44% and vehicles for 45%. Almost all expenses such as spare parts, vehicles and manpower are increasing. If there is no change the project will break down.

The professionalism in evidence on the technical side is missing with regard to the financial system. Project personnel have not realized that existing resources are limited, and need to be replaced. There is at present no adequate budgeting system for the DWSP.

Training

Conversations with twelve tap attendants revealed general satisfaction with the quality and relevance of the courses. The courses were said to be well-taught and "fun". More importantly, the women felt that they had been well-trained to do their present jobs, and more. All felt that they were fortunate to have work which provided them with a monthly salary and that any other opportunities for salaried work, with related training, would be very welcome in the villages.

An important factor contributing to the success of the training programme was the close relationship between training and practice, both with regard to the tasks to be performed, and the timing, the construction work and laying of pipes coming straight after the theoretical training.

Involvement and Opinions of the Peasant Population

The peasants interviewed during the evaluation expressed great satisfaction with the way in which the digging of the trenches had been organized. The people were informed ahead of time when the work was to be accomplished, and of what it consisted. People from each PA dug from the borders of its neighbours, continued to the taps in their own village, and from these to the border of the next PA where its inhabitants took over. All PA inhabitants, both men and women above the age of 14, were given part of the distance to dig, and everybody contributed. Each PA finished its section in about 15 days, after which the pipes were laid.

Apart from a few households in some drought-stricken areas, each household was also required to contribute 12 Birr, which was collected by the PAs. When discussing the 12 Birr contribution during the evaluation, many people stated that they did not believe they would get any water as they thought it impossible to bring water all the way from Fursa to their own PA. Yet, even though the chances of getting water were considered almost nil, water was felt to be so important that even a small chance of obtaining it was worth risking the money.

The peasant population participated in selecting the sites for the taps through their executive committee members. This was done together with ARDU surveyors. Attention was paid to the villagization plans. With regard to other technical matters and solutions, the respondents stated that they did not consider themselves knowledgeable enough to be able to come up with any suggestions for the design. They did, however, find it wasteful that technicians had to come by car from the project office to do simple repairs for which their own women had been trained.

The women who were elected seemed, in many instances, to have feared going to Asella for the courses. Some of them were forced to attend. The negative reactions by both these women and their husbands appear to have been caused by rumours in the area that the elected women were to be sent, not for training, but to the warfront to cook for the soldiers. This fear was exacerbated by the fact that the project did not communicate the information about the training carefully enough. Thus, unnecessary suffering was caused to many of those involved.

All women who did go for training and were employed were, in retrospect, extremely happy for having had the opportunity. Some of the husbands who were most articulate in their condemnation of sending their wives away were equally glad that their wives had salaries. This example illustrates how important it is to provide proper information and

to communicate it effectively. This is particularly important in cases where people are confronted with something completely new, and have no model or image in their minds through which they can interpret the information. Women in Dodota had never before gone away on a course which would provide them with a job, and it was, therefore, difficult for them and their husbands to picture what was going to happen.

CHAPTER 4

Project Impact

4.1. Evaluation Criteria

An ideal way to do an evaluation would be to collect relevant data on a community, compare these data with a baseline situation, and to draw the conclusion that the difference between the two situations is equal to the project impact. Unfortunately, such ideal situations hardly ever occur in real life.

For the Dodota evaluation, informative baseline data on the living conditions of the people had already been compiled in a desk study. Had the Dodota Water Supply Project been the only major change factor in the area, we could have assumed that alterations in living conditions were a direct or indirect result of the project. But, as mentioned earlier the implementation of the project coincided with the establishment of Producers Cooperatives and the national villagisation programme, which made it impossible to single out water as the only, or even main, change factor. Thus, it is difficult to refer many of the present findings to the baseline data. Whenever possible, however, comparisons are made with the baseline information, particularly when dealing with water-related issues.

The main bases for the evaluation in the present study were the project goals as stated in the Plan of Operation, and the objectives elaborated in the Proposal from REWA (for both see 2.1). These evaluation criteria have here been complemented by the "expected benefits" in the REWA proposal (1982:3) and the terms of reference for the socio-economic study.

In short, the expected benefits in the REWA proposal were as

follows:

- When women are partly freed from the heavy task of drawing water [they will be able] to participate more actively in productive rural activities... This will obviously lead to increases in production and hence income.
- ...the [water] scheme, in combination with other sanitary measures, will significantly improve the health of the ... inhabitants, leading to higher productivity and thus higher income.
- the scheme may induce nucleated settlements [villagization] thus facilitating the provision of socio-economic services.

According to the Terms of Reference (for the full ToR see Appendix 1) additional issues on which information was required were:

- Direct and indirect changes in the roles, status and workload of women and men as a consequence of project activities (including training).
- The level of water fees, in terms of affordability and general consequences for the family economy.
- Changes in local living conditions, including the initiation of other development activities (income-generating and other), as a result of the project.

As a consequence of using the above-mentioned criteria, the evaluation emphasises people's perceptions of the impact of the DWSP on these aspects of their lives. A study of people's perceptions of change is different from one which proposes to quantify and measure the change itself.

In the present study the focus of the evaluation is on people's perceptions of change, and these are difficult to quantify. For example much change that occurs in the lives of human beings is hard to pin-point and often the change involves emotional feelings of loss of that which is no longer available. In other situations the complexity of the change makes it difficult to measure scientifically. Research on water and health shows how difficult it is to establish a positive correlation between changes in the quality of water and people's health.

Despite this, it is important to take notice of people's own observations and feelings, since these will also influence their acts. If, for example, they feel that clean water is beneficial to themselves and their children we can expect them to treat the water carefully. In the following special attention is given to the way the project affected people's economy, health and their use of time "saved". Also, the role of water-

related and non-water related factors in changes in social and cultural patterns are discussed.

The technical and economic impact analysis were also guided by the above-mentioned evaluation criteria, supplemented by facts and figures as stated in the project documents. The methods used for the analyses are presented in the respective annexes.

4.2. Project Costs and Disbursements

After a number of budget changes and their subsequent adjustment to new circumstances, the final budget as presented in the Plan of Operation amounted to ETB 3,019,428. The actual disbursements as recorded by SIDA amounted to ETB 2,281,575.

Looking at the figures in table 1 (see next page), is it the case that the project only utilized 79% of the budget? This is true — if looked at from the point of view of the ETB, but if budget and disbursements are converted into SEK the result will most likely be the opposite, i.e. that the disbursements exceeded the budget. This must be compared to the SEK 870,000 which were added during the first two phases due to the Swedish devaluation. Since no analysis based on exchange-rate effects has been carried out it is not possible to give a precise answer to our initial question. However, it is likely that many of the "savings" are due to the use of less costly local components.

As can be seen from the table, the major differences between budget and disbursements are:

- women's training: – 69 %
- supervision: + 47 %
- springs etc: – 31 %
- excavations etc : – 27 %
- the contingencies of ETB 347,508 were not used at all.

One explanation for the differences is that it is easier to predict the costs of materials than those for training and manpower. Another is that both "springs etc" and "excavations etc" involve a large amount of contributions in kind. These are hard to account for fully since there are no invoices.

The DWSP is not the first project where the cost of supervision became more expensive than expected. The project involved the use of many foreign goods with which the implementors were unfamiliar and a major part of the work force was totally inexperienced. When these are

Table 1. **Comparison between budget and disbursements** (ETB)

Subject	Budget	Disbursements	Deviation
Pipes, fittings	947,674	985,347	+ 37,673 (+ 4%)
Springs, reserv, taps etc	303,800	211,130	- 92,670 (- 31%)
Excav. back-fill. salaries, per diem etc.	409,000	298,815	- 110,185 (- 27%)
Purchase vehicl.	158,000	139,830	- 18,170 (- 12%)
Trnsp. runn. of vehicles	395,000	401,021	+ 6,021 (+ 2%)
Supervision	83,150	122,735	+ 39,585 (+ 47%)
Equipm.tools,	60,000	35,544	- 24,456 (- 41%)
Women's training	175,000	54,753	- 120,247 (- 69%)
Subtotal	2,531,624	2,249,175	- 282,449 (- 11%)
ARDU Overhead	80,350	80,350	
Subtotal	2,611,974	2,329,525	- 282,449 (- 11%)
REWA Staff	60,000	60,000	
Subtotal	2,671,974	2,389,525	- 282,449 (- 10%)
Contingencies	347,508	- 7,950	
Grand Total	**3,019,482**	**2,381,575**	**- 637,907 (- 21%)**

taken into account, it is not surprising that supervision costs were 47% greater than anticipated.

4.3. Technical Impact Analysis

Deviations from the original project plan are partly due to technical reasons but, more importantly, to the villagization programme.

Owing to the prevailing hydrogeological conditions, the original capping of the spring designated Fursa I did not entirely collect the spring and a considerable leakage occurred. This was solved by conveying the

spring water to a nearby lower chamber from where the main pipeline starts.

The original plan to convey water from both the springs in a joint pipeline to Huruta was abandoned. Instead, the springs were independently connected via two parallel pipelines to the supply area. This deviation from the plan required additional pipelaying, but the revised arrangement had the advantage of making the whole supply system safer. In addition, the total flow capacity from the sources to Huruta was increased from 18 to 27 l/s.

The planned number of water taps at Huruta town was reduced from 13 to 12, which is in line with present needs.

During the construction period minor technical changes from the project plan were made. These changes, the result of experience with the new system, included the replacement of automatic air-valves by manual ones and the removal of vulnerable float-valves in reservoirs. Instead water is overflowing at times, mostly during the night.

While work was in progress, the villagization programme drastically changed the settlement pattern and made some parts of the network redundant. Thus, about 20 water tap structures were abandoned, pipes already laid were removed for use elsewhere, the laying of pipes was cut by some 10 km, the number of water taps was reduced by almost 100 and one 50 m^3 reservoir was omitted.

An additional break pressure reservoir was constructed close to Dhera town to reduce the water pressure. This change was made necessary because of other changes in the distribution system brought about by the villagization programme.

The average specific water consumption in the DWSP area during 1986 was 8 litres per capita per day (l/c,d). However, variations around this average were great. Thus, in towns the specific consumption was 15 and in rural areas 4 l/c,d and for Dhera, Awash Melkasa and Huruta towns the figures were 24, 7 and 11 l/c,d respectively. The specific consumption in rural areas varied from less than one l/c,d in Dhera zone to six l/c,d in Huruta zone.

Water consumption increased at a faster rate in Huruta than in Dhera zone due to the later completion date of the villagization programme in Dhera zone. Notwithstanding this, water consumption increased at a faster rate in the rural areas than in the towns probably because the towns of Dhera and Awash Melkasa were already supplied with piped water already before the DWSP was started.

4.4. *Training Impact Analysis*

The impact of the training programme must be seen within the framework of recent macro-educational policies and programmes in Ethiopia in both the country as a whole and within the region of Arssi. These programmes, particularly the nation-wide literacy programmes for individuals of all ages, can be said to have generated a widespread positive attitude toward education and learning in general. At the regional level, the training "institute" CADU/ARDU/SEAD, active in Asella since the early 1960's, has acquainted farmers in Arssi region with, and involved them in, a wide variety of experimental programmes in agriculture. In addition, women have been involved — though with varying degrees of success — in programmes in home economics. While it is difficult to ascertain the effect of these programmes on the outlooks and ambitions of individual men and women in the Dodota *woreda* with any degree of certainty (a task which does not lie within the scope of this evaluation), it is likely that they have contributed to creating generally positive attitudes toward education and training in the *woreda*.

At the most practical level, the chief impact of the training programme was that it prepared the women for qualified and salaried employment. An important linkage was thus made between specific training and specific employment. This linkage was referred to many times during the course of interviews with several former trainees who are now tap attendants, administrators and cashiers: "we are glad that we were well trained for the jobs we are now doing".

On a more personal level, all present employees referred to the newfound *freedom* which their training and jobs had given them. They felt that they were free *from* total reliance on their husbands and on agriculture as a primary source of income, and were free *to* plan their futures with some degree of security. The training programme can thus be seen as having led to a new sense of self for these women. They not only had salaried jobs, they had qualified or skilled jobs. Such opportunities were rather new for women in rural Ethiopia.

On the other hand, some important elements of traditional Ethiopian social organization were preserved since "women working with water" is a central feature of the traditional Ethiopian cultural framework. The new project provides a good example of the successful integration of one system with another which, it is suggested here, can be seen as a result of the training programme. "Doing what we have always done but doing

it differently" takes most of the sting out of social change, makes it palatable, unthreatening and welcome.

The water supply system in Dodota points to what might become a new model in the area. First there is local recognition or acknowledgement of the need for change. Second, the responsibility for (if not always the initiation of) change is delegated to those most directly affected. Third, a training component is introduced which enables those who are responsible to carry out their responsibilities. Fourth, it makes change "pay", making jobs and salaries available for those taking the responsibility.

This model is now a reality both *of* and *for* many women in Dodota. Some already lead their lives this way, others would like to. Not surprisingly, discussion with non-trainees revealed a great interest in training and education and salaried jobs. What the women lacked was project-specific know-how, precisely the know-how that the training programme provided for employees of the Dodota project.

Generally, the training programme has convinced Dodotans that given proper training, women can do new jobs and perform previously unfamiliar tasks. They can lay pipes, use tools, do accounting, manage and operate a water supply project *and their skills are obvious for all to see*. There has thus been some perceptible change in local views of what women can learn as well as what constitutes "proper" women's roles.

4.5. Impact on People's Lives

Economic Aspects on Water

People living in Dodota initially thought of the water project as an impossible dream. Men and women repeatedly said that they could not imagine what life would be like with water in close reach. When hearing that the water was to come from the sources in Fursa, their disbelief became even greater. Since they knew how far away the Fursa springs were, they had considered it impossible to obtain water from there. Yet the water came.

The price for water is considered cheap. For 100 litres or 5 local containers, *enseras*, it is 5 cents. With a consumption of 4 l/capita/day an average household with 5 members would only pay 5 cents every 6 days or 3 to 4 Birr per year from an annual income varying between 200 and 2000 Birr. All people interviewed stated that they used more water than the 4 l/

capita/day. Two and three *enseras* a day or 40 to 60 litres for a 5-person household was considered normal. That meant an additional one to two *enseras* when clothes were washed or the local beer brewed. However, an extra 9 to 10 Birr per year was considered low.

The consumption figures obtained from the consultations do not quite correspond to those mentioned in the Technical and Economic reports and supplied by the project. The probable reason for this is that the reports were based on figures for the maximum number of water consumers possible within an area, including people living in neighbouring PAs who seldom went to the taps, whereas the interviews were made in villages with taps and where people had very close access to water and could be expected to be big consumers.

Whatever the amount of water consumed, people consider the price of 5 cents for 100 litres very low. Many stated that they could afford to pay more since close access to water was worth it. Others mentioned that they would be prepared to pay extra if it was used to invest in a factory or something similar where more women could be employed for a monthly salary.

Many of those who lived far from a perennial water source thought they now paid less for water than they had previously done. Some had been forced to buy water during the dry season and had then paid much more than they were paying now. Others had invested in donkeys and containers which also cost them more than they were paying at present. Water was, therefore, cheaper today for many people when paid for at the tap than it used to be.

Water was also used for purposes which added to people's income. Some gave water to their small stock of goats and calves which removed the need for the latter to walk to the river in the dry season. They were now much better able to survive because of the tap water. Others used tap water to raise seedlings for home consumption in the household compound. Vegetables were grown, trees for firewood were planted in the compound, alcohol was distilled and sold to merchants and the production of arrake for sale, common even before tap water became available, was made somewhat easier. The income women obtained from arrake was small but the respondents considered it to be an important complement to the household's meagre resources.

As water was basic to both domestic and agricultural work, having it so close to home saved both women and men many hours which they could spend on what they considered to be more productive work.

Water and Health

People became poetic when talking about the quality of their water, alluding to it as a life-giving drink with an exquisite taste which they had never previously experienced. They compared it to the water they used to take from the ponds. The latter was ill-smelling, brownish in colour and had to be filtered through shawls to be cleaned for worms. The water from Fursa was said to be health itself, and all said they felt better after the water had been introduced. There was less stomach trouble and almost no diarrhoea, especially among children. When asked to comment further on the children's health, respondents said their children grew faster and started to walk at a much earlier age. Furthermore, it was stated by some that health was not only a question of being able to drink clean water but also of having enough water to keep people clean when they got sick.

The respondents thought that cleanliness as a whole had improved because of the project. People washed themselves and their clothes more often than previously, particularly in the lowlands where clothes were very seldom washed. According to an earlier study approximately half the respondents washed their clothes 1-2 times per week while the other half washed them less frequently. During the evaluation, however, many compared themselves favourably to urban dwellers, meaning that both their bodies and clothes were clean and that they washed themselves daily and their clothes several times a week or as soon as they had no extra clothes.

Health improvements were considered a result of clean water and its close accessibility. Previously, in the dry season when all pond water disappeared, many women had to walk very long distances to get water. Some left their homes early in the morning while it was still dark and many did not return until after dark. While walking many fell and got hurt while others hurt their backs by the ropes from the heavy *enseras* which cut into them. All this they no longer had to endure.

Water and "Saved" Time

From the way people discussed time, the concept seemed to have undergone a change. Time used to be defined in large blocks such as "a year's harvest" or "a day's work" or was designated by important events such as marriage and death, war and peace or religious celebrations. Today, however, largely because of the strict organization of PC work, time has been divided into smaller units and assumed a meaning closer to the western perception of time. As one man put it:

> "earlier we ourselves, our parents and grandparents were quite uncivilized. We went out early in the morning to work and didn't think of going back home until the sun was setting. We had no sense of time and order. Now we start work at 8 o'clock, come home for lunch and rest at 12. Go back to work at 2 p.m. and come home again at 6 p.m. This means that now we work by the hour, we are organized and know when to do what."

The fact that women tap workers were paid monthly salaries has also changed people's perception of time. One of the biggest advantages with a salary was that it came regularly every month. With farming one could never know for sure what the yield would be since a harvest was not due until some 6 - 8 months after sowing. A salary, however, came punctually each month and the sum was fixed, which increased security and made it possible to reduce the period for which one had to budget. These were the major reasons why both women and men wanted women to have salaried employment. Besides adding to people's security, salaried employment was also thought of as a complement to the farm's harvest.

In these ways the concept of time took on a new meaning. When women were asked "has the close accessibility of water given you some 'extra' time", the most frequent answer was that now they could do properly all their domestic tasks such as cooking, cleaning, washing etc. which had not been possible previously. Both female and male respondents thought that because such tasks could now be done satisfactorily, the health and economy of each household member had improved.

What the women appreciated most was that they now had more time for their children. They could feed them before sending them to school and be home when they returned. The younger children also got better care and supervision than when under the responsibility of an older sibling.

A new opportunity for learning had also been opened to the women as a consequence of time saved from collecting water, the literacy campaign, availability of schools and living in a village. Many expressed an enormous thirst for knowledge and a desire to go to school. Some women said that learning had given them new ideas about what they might become and what was possible which was something that previously had never entered their minds. These new ideas had also been stimulated by the activities of the Women's Association. Thanks to the new water supply and the time saved, they felt more free for social

activities and could now attend meetings.

The respondents also stated that more women had started a home garden where they cultivated vegetables and tree seedlings. A few men and women also mentioned that women helped more in the fields. This was particularly important during the harvest season when everybody was in a hurry to get the crops in. What still consumed much of their time, however, was collecting fuelwood. The search for wood and cowdung for fuel would have to continue at least until the gardens and communal forest had matured.

Social and Cultural Change

From 1980, when the women in Dodota first expressed their interest in having a water project, until today, eight years later, tremendous changes have taken place in the Ethiopian countryside. Besides water, the two main agents of change in Dodota have been the Producers Cooperatives and the villagization programme. In the case of cooperatives, they were an uncommon sight in 1980 and had few members. However, today they can be found everywhere in Dodota although they are still not that common in Ethiopia as a whole. Their introduction and development has affected the way of life of both members and non-members.

The villagization programme in Dodota was implemented at the same time as the water project. In fact, the latter promoted and speeded up people's move into villages. Most respondents declared that when they were presented with the request to move they felt they did not want to do it. They said that although they could not imagine what the new village life would be like, they still experienced a sense of loss at the thought of having to leave their homes, gardens and familiar way of life. The only attraction of life in the new village as they saw it was close to access to water. However, after the move and having experienced the new village system, their opinions have changed completely.

The executive committee member respondents were asked to discuss the separate impact of the water system, the villagization programme and the PC on their lives. However, all found it very difficult to distinguish the impact of one innovation from that of the others. All three, it was said, went together. The PC could not exist without people living in a village but the village would be nothing without water. The water was so important that those PAs in Dodota which had not yet villagized were waiting until they knew where the water taps would be situated before they did so.

When comparing the three change factors, people in the lowlands stated that nothing had changed their lives so much and so positively as the introduction of water, whereas those living at higher altitudes placed water on a par with the village and the PC.

The effects that the Producers Cooperative and the villagization programme had on people's lives and about which there seemed to be agreement were the following:

Through the implementation of Producers Cooperatives farmers were able to buy better tools, including in some PCs tractors, combiners and harvesters, and their work hours became more regulated. In some respects, it was considered advantageous to be a PC member. First, a member's household usually got access to more land than a non-member's household. Second, PCs obtained help from the government in the form of gifts, loans, price reductions and advice. Third, a PC made it possible to set money aside for matters concerning the whole community. For example, two PCs built club houses which had radios and were open in the evenings serving tea, soft drinks, beer and wine. They also built showers and one introduced electricity. These PCs served as models for the others.

For those peasants who were not PC members, life became more difficult. They had no voice in the executive committee and were often given land far away from the village (the PC was often allowed to take the land surrounding the village). Non-members were also taxed arbitrarily. Government taxation consisted of 1/12th of a year's salary for the "defence of the mother land", and it was the executive committee (i.e. PC members) who estimated the yearly income of the private households and thereby decided upon their taxes. Non-members thought themselves unfairly treated under this system.

There was greater agreement about the advantages of village life than about PC membership. Despite the fact that so many had resisted villagization in the beginning, people we met had only praise for it. Life in the village was considered more secure. Thus, if someone had an accident, got sick or needed help, there would always be a neighbour around to assist. Old and single people said they knew their doors were watched and, if not opened in the morning someone would soon be around to ask what was wrong. Villagization in Dodota was also seen as linked to close access to water and education. Furthermore, before villagization parents usually did not send their young children to educational institutions lying far away. However, living in a village made it

possible to solve this problem.

Life in the village made people dream of having electricity as they had in one PC. Electricity, it was felt, would reduce the need for fuelwood and improve life for women in many ways. Finally villagization meant model houses for everyone with each house divided into compartments, a separate kitchen and a pit latrine. People proudly stated that now they lived like townspeople.

Improvements in working conditions

Changes in the pattern of life for individual women and men were discussed as comparisons between respondents and their parents and children. Women found that compared to their mothers the tasks they now performed was much lighter. Whereas their mothers had walked long distances to get water and had ground grain by hand, the respondents got their water from the tap and could go to the mill to grind their seeds. The mothers of the respondents seldom went out of their homes or to the market, and never went to community meetings. Old women had rarely been allowed to talk to people outside their own home. Now there was nothing stopping women from going out and even staying the night away from home if necessary.

"Today", female respondents said, "we study and discuss and know our legal rights. If, for example, a woman divorces today she will have no problem in getting what is legally hers. Her mother, on the other hand, was usually not even allowed to divorce, even when she wanted to."

"It is like coming out into the sunlight from the darkness inside the house. It is a different kind of life that we live in today".

Comparing women's work today with what is described in the desk study by Udvardy/Håkansson (1988:13-14), some important changes resulting from the innovations of the PC, the water scheme and villagization can be noted. First, it is unusual for PC-members to have private cattle. Some may have a small stock of goats and sheep, but few have private oxen and cows, thus reducing the work load of PC wives. No longer do they take the cattle out, milk cows or clean the pens. Second, water (ibid) is no longer a problem even if it has to be fetched several times daily. Third, as noted earlier, lunch (ibid) has now become very important since all PC-members go home for this meal.[2] However, fuel continues to

2. One person mentioned that very poor people who had no reserves until the next harvest from which to provide lunch and dinner were unable to become members of a PC. They had to spend each day working as petty traders, daily labourers or anything to get the food for themselves and their families.

pose a great problem for most women in the area. In general, women do not seem to have shorter work days but they say they prefer the work they now have. In a wider sense it can also be said to be more socially productive.

Men see themselves as economically more independent than their fathers. Before the revolution most householders in the area were tenants and had no rights whatsoever vis-à-vis their landlords. Now they have rights and are well informed about them. Furthermore, many in the younger generation can read and are less easily cheated. Some PCs have machines such as tractors and combined harvesters which make men's work lighter. Those who do not have such items think of getting them as ownership of machines is no longer considered impossible but is mentally within reach of everyone, at least in the long-term.

It is noteworthy that people were so optimistic about the future and saw their daughters and sons living completely different lives from themselves. A higher standard of living, with lighter work, better houses, food, clothes etc was envisaged for the not-too-distant future. The respondents saw these improvements coming through education and the use of new technology. Almost everywhere children were going to school and were learning to "think new ideas". The new technology was mainly presented as different machines for farm work, electricity and television. "So", people said, "we are always going forwards. It is like the river in which you can never wash twice in the same water".

An important change for both men and women, but particularly women, was that no marriages can be enacted against the wishes of either of the parties. In the past, marriages were often arranged by parents or a mature man and the parents of a young girl whereas today all bridal couples have to get permission to marry from the PA marriage committee. The main criterion in assessing suitability for marriage is that the partners must be mature and want to marry each other. A young couple that wants to get married may even do so against the wish of their parents if the marriage committee sanctions their decision.

All the changes described so far have taken place largely at the level of the individual person or household. Looking at the role of women from the point of view of the mass organizations such as the PA, the WA and the YA, it does not seem as though women have become more active in community affairs as a result of the water project. In 1980 women applied for guidance in organising the WA as they did not know how to develop concrete alternatives to problems they faced. Today, little has changed.

Women meet once a month, pay their membership fees and listen to somebody giving a lecture, usually in home economics. Little discussion takes place during such meetings.

In the case of the PA, women do not become members unless single, although they have the legal right to do so. The PA is still considered a "head-of-household" and male organization responsible for community decision-making.

With regard to the YAs, all those interviewed had their annual and longterm plans and appeared active and caring about the future. None, however, had a female executive committee member.

Overall the general impression given was that the mass organizations had changed little with respect to women. In spite of the water project these organizations had not been able to strengthen the involvement, initiative and responsibility of women for matters of concern to them.

4.6. *Observations*

As only 2/3 of the population have obtained water and the rest are still waiting for the Scheme to reach them, the project cannot be considered completed.

Apart from this very serious drawback, the other objectives of the plan of operation have been achieved.

People living within the scheme now have close access to safe drinking water. The consumption of water is steadily increasing. It is used for both drinking and for personal hygiene and has had a notably positive impact on the latter.

Owing to time saved from not having to walk far to get water, women feel that they can do their other tasks better. For example, they can give more care to the children. Their opportunities for intellectual and personal development through, for example, education and social gatherings, has also increased.

The price of water is in no way an obstacle to increased consumption. Rather, the water from the Scheme has improved people's economy as it is cheaper for many than it used to be, saves health and labour time and allows gardening and the raising of small stock.

The water scheme, together with villagization and the establishment of Producers Cooperatives, has *improved living conditions* in Dodota in many ways. The roles of both women and men have been changed, and

women, in particular, feel freer to express themselves at home and elsewhere. In general, there is great optimism about the future. This is especially evident in the aspiration parents have for their children.

The project has not only fulfilled the objectives set out at its inception, but has had other *unexpected positive effects*. The role of the female technicians is a case in point. They have come to act as a model for the other women in the community. They see their training and subsequent employment as something worth striving for. All female, as well as many male respondents, therefore, showed great interest when presented with the question "what do you think of starting a factory here, run for and by women?" The kind of factory to be established and how women could be trained were questions discussed at length, and it was to this question that respondents returned at the end of each interview.

Work within the women's associations was an area where no change was apparent. The reason for this may be due to the problem of changing from a traditional top-down to a bottom-up approach which, instead of teaching or lecturing women on topics selected by others, tries to find out what their needs and problems are and together with them seeks possible solutions to them.

Deviations of a *technical* nature were well adjusted to the prevailing conditions and requirements. Future extensions, if required, can be easily accomplished. Changes due to the villagization programme have led to a less widespread distribution net than planned. Where completed, the programme has led to a considerable rise of water consumption within the Dodota Water Supply Project area.

Judging from the project's design, implementation and management, its aim of meeting the water demands of a 1995 population of 56,000 will be met.

The DWSP may be among the most *cost-efficient* water projects that SIDA has been involved in. The total cost was SEK 210 per person, including both the Swedish and the Ethiopian contributions. It is difficult to see that these resources could have been used more efficiently in any other development assistance programme.

Disbursements were kept within the budget frame. The project was, in fact, less expensive than was anticipated in the revised budget presented in the Plan of Operation. This conclusion should, however, be treated with caution since it is not known if all the contributions in kind were fully accounted for and what effects changes in the exchange rates have had.

The *training* programme created, not only competence but *consciousness of competence*. "Knowing we can" is essential to the success of any educational project. This was accomplished partly by the particular pedagogics employed in the training programme, and partly by the local population's acknowledgement and appreciation of the women's work.

This competence encompassed all phases of the project — from managing the administration to dealing with customers. This meant that the trainees — as a result of their training — were able to assume almost full responsibility for the project. In doing so, they illustrated an important fact: local people, given training, given a project which is locally acknowledged as important and in which local people have a vested interest, can assume the responsibility to make the project work.

Related to this is the appearance of a new social category in the *woreda — salaried, skilled women*. These women, with their mastery of specific job-related skills, their monthly salaries, their lack of dependence on agriculture and their seemingly new-found freedom, can be regarded as an example of the possibility for change for other women — and men — in the area. There are strong indications that this has, in fact, occurred: the interviews indicate that local attitudes toward women and "what they can do" have changed as a consequence of the project.

The impact of the training programme is felt daily in the *woreda* when the women operate the taps, get their salaries and administer the project. It has resulted in the construction of an important triad — local operation, local employment, local responsibility — which can be used as a model in other contexts.

CHAPTER 5

Project Sustainability

When the evaluation was made the Dodota Water Supply Project had been run by REWA for almost two years. During this time, no outside institution or organization had any influence over the operations and a phase, which can be called the project's stage of independence, had started. In what follows a short summary of what happened during these years will be given, together with a description of the present situation in the project. In the subsequent section, entitled Observations, the importance of these experiences for the sustainability of the project will be discussed.

5.1. Project Organization

The project was officially handed over by SIDA to REWA in December 1986 in conjunction with the inauguration of the final phase thus giving REWA total responsibility for running the project.

What was handed over was a water scheme supplying two thirds of the population in the *woreda* with water, with the rest of the population expecting to obtain water soon, having paid their share and, in many areas, having dug trenches. Those who had already obtained water declared themselves prepared to help in any work connected with supplying water to those who were without, since they found the present situation unfair.

REWA encountered problems in taking possession of its property. It was not until the Steering Committee ordered ARDU to hand over the cars given to the project that this was done. By then the cars were run down and required a lot of investment to be usable. Although REWA

now has physical possession of the cars, they are not yet legally theirs, as the cars were brought into the country in the name of MoA and not the project, and since it has been difficult to change their legal title without paying full tax. This issue is not yet resolved.

When the reorganization of the project is completed it will be a self-sustaining unit having its own authority as well as responsibility for operation and maintenance. This will allow rapid decision-making with responsibility vested in the people working in the project, while the Arsi and national REWA will have a supervisory role and some responsibility.

Within the project as it now stands there is an evaluation of the work and workers every thirdmonth. Reports are made to the responsible REWA women. They hold meetings in Huruta and Dhera about the future of the project, the difficulties encountered and how to resolve them. More serious issues are discussed by the REWA executive committee and the Steering Committee together. In the beginning there were many different kinds of problems, but through being forced to look for solutions the Arsi REWA gained a lot of experience. The work is at present much smoother. The quarterly meetings will continue in the future even when the financial responsibility for the daily affairs has been handed over to the project.

Once a year a seminar is given for all project employees where the participants discuss the work and work experiences in their own project, as well as information from the Water Commission Authority. They also discuss the future of the project and the close linkage between their own lives as employees and the success of the project.

The representatives from the Arsi REWA, as well as the employees of the project, have expressed a strong desire for further training. The REWA women and administrators of the project want managerial training to develop themselves and improve their work. The others were less explicit about the type of courses they needed but talked about refresher and continuation courses in their respective skills. REWA also expressed a great interest in making visits abroad to be exposed to other ways of living and to inform others about their project. It was noted that many ARDU employees had been sent for training and study visits abroad in connection with the project, but REWA, which had had the main responsibility, had never been given the same opportunity.

One member of Arsi REWA took part in a management seminar organized by SIDA/DCO for members of WA regional and national executive committees from all over the country. The seminar was greatly

appreciated and the Arsi REWA is to organize a two-day seminar for the Dodota employees to pass on the experiences learned during the management seminar.

The Arsi REWA, together with some of the members of the previous Technical Committees, have made a study to find out how the activities in Dodota can be further developed. They conducted a questionnaire asking the women what they themselves would like to see. 12,200 answers were obtained with the main priorities being a mill, a school, a kindergarten, a clinic and electricity. The survey and its suggestions have been presented to the Steering Committee for discussion.

5.2. *Finances*

The project will face financial problems within a very short time unless expenses are not partly cut and/or the income substantially increased. Through differentiating the water-fees and through introducing an additional subscription fee, it would be possible to more than balance a future budget. The example below illustrates one possible procedure:

For an urban family water would cost an additional ETB 18 per year per family and for a rural household the increase would be ETB 10 per year per family. The water fee in the three towns would increase by 5 cents per 100 litres. An additional subscription fee of ETB 10 per year for rural families and ETB 15 per year for urban families would also be required:

Subscription fee, urban	15 x 3,000	=	45,000
Subscription fee, rural	10 x 5,000	=	50,000
Increased water fee,urban	0.5 x 80,000	=	40,000
Total			ETB 135,000

To ensure the future sustainability of the project the evaluation team recommends that an experienced business economist, preferably Ethiopian, be hired. The task of such a consultant would be both to construct a financially, politically and socially sound budget, and to prepare a training programme in budgetary procedures and considerations in order to provide the project and REWA with people knowledgeable about such issues.

5.3. Technical Aspects

According to Ethiopian design standards a period of 15 years should be taken into account when predicting water demands and capacities. The demand at the end of the design period is based on the assumption of an average consumption rate of 25 litres per capita per day and a population growth of 4% per annum.

Based on a minimum discharge of spring water of 18 l/s, the DWSP is designed to meet the water demands of a population of 56,000 people up until 1995. Everything points to the outcome that the Dodota project will achieve this aim. The quality of the water is good, the design work has aimed at simple and durable solutions, spare parts such as pipes, water meters and taps are available in sufficient quantities and the personnel are well motivated and trained and have so far shown great capability in handling the necessary maintenance and repairs. The reliability of the supply is, therefore, considered to be high.

Repeated breakage of water pipes in the lowlands did constitute a great drain on the project's resources at one point. However, when REWA decided that the PA in which the pipes were prone to breakage would be financially responsible for any damage, the destruction was drastically reduced and at present there are very few such problems.

5.4. Human Resources

Two factors can be identified to contribute to the maintenance of skills now commanded by employees of the project. First, as in any pedagogic system, there is a relationship between skills and use. Skills which are not used are soon forgotten. Most skills that the employees in Dodota learned are now practiced by them but some are not being used. Several women referred to the fact that they must wait for the technician to come to repair simple pipe problems. They insisted that they had learned these skills at Asella and, given a few simple tools, they could make such repairs themselves.

Second, in the project's early stages, trained women were presented to the Dodota public in a highly theatrical way: elaborate ceremonies accompanied the project opening, two-hundred hours of videotape followed the progress of the project and the entire *woreda* watched women fit and lay pipes. While the excitement generated by all this involvement cannot be replicated, there is still a backlog of enthusiasm

and respect for "women and training" which could be "invested" in new projects or, perhaps more logically, in the *expansion of the present water project*. Put somewhat differently, the sustainability of the Dodota project might be ensured by its expansion while routinizing or trivializing it might have the reverse effect.

Project sustainability is not only affected by the skills of the employees, but also by the importance the project has for the local population. Both women and men in the *woreda* have been involved in the building of the project, and they are very aware of the benefits of the water system. As such, they would not view its demise with equanimity.

5.5. Observations

The official handing-over of the project was important as it gave REWA the authority to request cars and other materials that had not been handed over earlier by ARDU. Which organization receives a project seems to be a crucial question since ownership also signifies responsibility. When ownership is not specified it means that responsibility is obscure to those involved.

The water project in Kaka in Arsi, which is said to be a replica of the Dodota project, may be illuminating in this respect since its final ownership apparently has not been clearly specified. ARDU is the implementing agency, but it is not clear which organization is the actual owner of the project and who, therefore, should be responsible for sustaining it. Some ARDU employees mentioned that the *woreda* women will be responsible for the project. They could not say, however, whether the *woreda* WA executive committee has the legal right to run a water project or whether the women themselves have been informed about this and have accepted the responsibility.

An important factor facilitating the implementation of the project is the overall political situation in Ethiopia. The government was positive to the DWSP from the beginning. The project promoted villagization which later became one of the government's top priorities. Problems encountered in the project were, therefore, smoothed out by different government offices which could, under other circumstances, just as easily have stopped the project. The fact that the project is in line with other government activities can be expected to promote the sustainability of the project just as it facilitated its implementation.

REWA is a mass organization established by government proclama-

tion. Experiences from other countries having such mass organizations easily leads one to expect that cooperation between people representing different organs would be difficult, since mass organizations often exhibit many of the negative characteristics with which a "buraucracy" is identified.

In the Dodota project cooperation between REWA, SIDA and ARDU was often cumbersome, but the reason why the project still became successful must, to a high degree, be attributed to the emotional involvement and feelings of responsibility shown by REWA members, who felt that REWA's honour was at stake. The women felt themselves under a perpetual threat from individuals and organizations who would take the project away from them if anything went wrong. They, therefore, stood to lose both as professionals and as women if the project failed. This became, in a way, a guarantee of the project's completion and may be an essential factor securing its future sustainability.

The responsibility felt by the Arsi REWA, visible in their regular follow-up of project activities and people, also appeared to have inspired the project employees in their work. They appreciated the strong involvement of REWA and simultaneously also expressed pride in their own responsibility, without which, they said, the project might easily have failed. This identification with the project both by REWA and by the employees will also, if it continues, promote the project's chances of sustainability.

The study conducted by Arsi REWA and others to pave the ground for further activities in Dodota, illustrates an eagerness for more change. Water was not considered enough, other activities must follow. A further growth of activities was also one of the initial goals of the project and is, in itself, expected to promote sustainability. The suggestions made by the women in the study reveal that they are both knowledgeable and explicit about their needs. Nevertheless, their suggestions also show that only what is already known and considered feasible will be proposed in such surveys. What is not known cannot be recommended. Thus, it is crucial for any researcher/facilitator to present alternatives, make them understood and discuss them with the people concerned.

SIDA's procedures, the so-called country-frame programming, make it difficult or well-nigh impossible for a project once started outside the "country-frame" to become later part of the normal state-to-state cooperation. The only alternative way of funding new projects is through what is called "special" or NGO funds. Projects belonging to this category are,

however, usually not very expensive which means that costly "grassroots" projects can only rarely gain acceptance in SIDA's budget. The Dodota project shows, however, that such exceptions do occur.

Many of those employed in the project and others living in Dodota expressed a strong desire for more knowledge and training. Better knowledge in manpower organization and training seemed to represent a strongly felt need. The fact that people were not only eager to learn more but also to share the accompanying responsibility and to pass on what they had learned, indicates that there were no overwhelming cultural or social restraints on change. On the contrary, everybody wanted to proceed at a faster pace, something which can be interpreted as a sign of sustainability.

Complaints were made about the quality of the pipes, primarily because they were made of plastic and broke easily. Metal pipes would, however, have doubled the price. The delegation of financial responsibility to the PAs where pipe breakage was frequent, and the subsequent reduction of the problem, suggests that the problem is not so much the quality of the pipes as who has and feels responsibility. It seems as if the more the responsibility is spread among the parties involved the greater the chances are that the project will function.

The designers of the project identified technical solutions which made the project easy to maintain and repair. They also developed the training necessary for the employees to be able to perform their jobs satisfactorily. What seems to have contributed to both the adequacy of technical and course design was the fact that the technical engineer also felt great personal responsibility for the sustainability of the project. All these factors combined to facilitate the technical sustainability of the project.

It is highly surprising that while so much was done to secure the technical sustainability of the project, the financial aspects were allowed to fall into oblivion. According to the interviews made, budgeting appears to be a crucial issue not only for the Dodota project but for many small REWA projects where activities have had to be discontinued because of financial losses. Dodota, therefore, teaches us a very important lesson with regard to economic sustainability, namely, that unless project personnel are taught the basics about budgeting, a project will almost certainly fail once a donor leaves.

CHAPTER 6

Project Replicability and Non-Replicability

No project can be fully replicated either in the same or other places. Circumstances change as well as people. Their needs, priorities and ways of interacting with each other are neither repeated nor repeatable. In the present evaluation the question of replicability is, therefore, not concerned with whether the Dodota Water Supply Project can be transferred to another setting or not, but is, rather, an attempt to determine the key factors in the project and how they have helped making the project successful. Since all the factors discussed interacted with each other, the presence of only one or a few of them cannot guarantee goal fulfillment. However, an identification of the main issues involved in a successful project may facilitate and promote the launching of other projects, particularly those that are similar to the successful one.

In what follows we shall present those factors which we consider to have been essential for making the Dodota project a success. We shall also discuss those factors, or aspects thereof, which may be replicable in another setting. As in earlier discussion, the emphasis will be on the project cycle, the organizational, technical, training and financial aspects of the project. A concluding statement summarizes, as we see it, the main lesson which can be learnt from the project.

Project cycle

Looking at the Dodota project cycle and its main organizational characteristics, the key issues are the following:

- the project itself represents a need clearly expressed by the women. The fact that the need was identified by the women, who already had responsibility for providing their families with water, made it natural

for them to take responsibility for the water project. If men had been employed and the project had broken down, the responsibility for the provision of water would, most probably, have reverted to the women. Many such examples exist. It is, therefore, important to determine precisely who the beneficiaries of a project are and, if possible, to place responsibility in their hands since they are more motivated to care for it.

- the Dodota project started as a study and continued, through meetings, to find out what women wanted and needed. The introductory or planning phase was, therefore, not restricted in time, thus allowing the project to develop at its own pace and to be moulded by all the people who were involved in it. This approach can be contrasted with that of projects planned at the governmental level or in foreign countries. Such projects are often introduced to a local society or a "target" group as "finished products" and there are few ways in which the "local people" can have an impact on them. This makes identification with the project difficult and local responsibility out of the question.

Organizational Aspects

Ethiopian society is organized into so called mass movements. With such compartmentalization of the society, it is necessary to involve all hierarchical levels of the organizations connected to the project and also to let the individuals representing the various levels share in the responsibility for the project's outcome. This is what happened in Dodota. From the peasants in the PA, WA and YA up to the national level, people were committed to work for the success of the Dodota project.

The question of information and communication is another important issue in such projects. In Dodota, problems arose as soon as important information was not well communicated between the parties concerned, particularly between project beneficiaries and the organizations involved. Therefore, to secure the involvement and responsibility of all the parties engaged in a project, it is important that people be informed about what is happening and why.

It is also important to pay attention to how information is sought or communicated. There are both top-down and bottom-up approaches to communication. The top-down approach tells people what to do while the bottom-up approach emphasises finding out what people want to do and doing it with, and sometimes for, them. Although both approaches were used in Dodota, it is the bottom-up approach that is likely to have the most lasting effect. This method can be replicated in other contexts

but, if it is to be successful, must be well planned before activities are undertaken.

As we saw in Dodota, the official handing over of the project was important since it gave the recipient organization the status of owner. Through such an act it becomes possible for the organization to act decisively and to assume responsibility for the future of the project.

It is self-evident that a project which runs at a profit and provides people with employment has a greater chance of surviving than one which does not. Success breeds success and the fact that more and more Dodota people were employed by the project gave them a greater stake in its continuation. If, however, economic losses are incurred, as they will be unless something is done soon, the sustainability of the project as an independent unit will be in danger.

Technical Aspects

Very few projects are of a purely technical nature although they are often designed and implemented by technicians. In Dodota the adaptation of technical design and training was essential for providing personnel capable of both preventive and operative maintenance. In this regard, the responsibility felt by the technical designers to find simple and locally appropriate solutions and the incorporation of preventive and maintenance measures provided a functioning operation and maintenance system.

A list of attributes characteristic of a water supply scheme could include: source, supply area, water conveying method, technical complexity, storing of water, delivery points, community involvement, integrated training, planning/design, construction, operations and maintenance, management and affordability. The character of each attribute and their combination determine the quality of the water supply project. In Dodota every attribute listed has contributed in an optimal way towards the implementation of one of the largest water supply schemes in Ethiopia which continues to function well.

One of the most frequently encountered problems in connection with water schemes is that of preventive and corrective maintenance. Preventive maintenance is rarely performed and only seldom given priority. An important reason for this is that it requires a lot of planning before the project starts. Corrective maintenance is closely related to preventive maintenance and when preventive maintenance is really carried out the responsible personnel will usually do corrective mainte-

nance as well. In the Dodota project both the preventive and the corrective maintenance function properly. Indeed, they function so well that the project can be considered outstanding in comparison with similar projects in other developing African countries.

Another feature of a well-functioning scheme, also found in Dodota, is that maintenance and operation is as simple as possible. Thus, it is better to have no large bureaucratic organizations involved in the scheme. To train local people to manage operations and maintenance is more advantageous because they are usually more efficient and feel a greater responsibility (than outsiders) towards the beneficiaries.

Training Aspects

The following aspects of the training component in the DWSP are likely to be replicable in other contexts:

- courses which relate to well-understood and well-defined goals and/or local projects. The clearly enunciated goal of the Dodota specialty courses was salaried employment in a project which was (and is) generally thought of as beneficial. In such a situation, some commitment and attention on the part of the students can be expected. Quite different are "welfare" courses, particularly those oriented to women and children — these were generally less successful in the Dodota context. The trainees made no particular effort to transmit the lessons learned to their co-villagers. It may be that the content of some of these courses, while no less relevant nor less important, infringes upon, and thus threatens, traditional domestic practices. No such threat is presented by learning pipe-fitting and water supply management!

- the employment of self-correcting pedagogics where students can teach each other. The Dodota trainees were encouraged to practise their skills while attending the courses and those who did not grasp the techniques had no trouble getting help from their classmates. Because the courses focussed so single-mindedly on the project and its professional requirements, teachers encouraged the students to share information and feel concern for the work tasks. In this way the system may well have created a positive model for future cooperation in the workplace.

- boarding at the training center. The Dodota trainees lived at ARDU's training center and were thereby freed from their tasks as mothers, wives and villagers during the period of their studies. For many of these women — many of whom had never been away from home — being able to focus on their studies and their fellow students with no

disruptions was a wonderful experience. They found time and space to see themselves — probably for the first time — as individuals.

• public acknowledgement of newly-won skills. Each course — particularly the third one — concluded with ceremonies which afforded the trainees an opportunity to "show what they knew" to a larger public. These ceremonies helped eradicate or at least modify previously held stereotypes about women and their capacity to work as technicians, etc. The public acclaim which they received provided important and beneficial psychological and social capital for them when they began working in the villages. It also legitimated their newly-won status as skilled employees of the water system.

• involvement of local agencies in the training programme. Less replicable is the particular constellation of agencies and individuals which was devoted to the success of this project. Still, agencies and organizations exist everywhere. Involving them in local projects, in allocating specific responsibility and in making training pay through the provision of salaried jobs or needed goods and services are certainly, – at least to some degree replicable elsewhere.

All these above-mentioned factors were essential for the sustainability of the Dodota project. As such they can be considered as key elements in ensuring replicability and should be incorporated into any project.

Financial Aspects

What was not successful in the DWSP, but which can both easily be developed and replicated, is knowledge in financial questions, particularly budgeting. The Dodota experience teaches us that people must be trained not only in auditing and accounting, but, more importantly, in budgeting to be able to run a project.

Conclusion

One key concept which we have repeatedly referred to in our analysis of the Dodota project is responsibility. It appears to be the case that the more responsibility for a project is shared among its workers, the greater the likelihood of its success.

Another key concept is personal and emotional involvement in, or concern for, the project. The pride and honour at stake for the REWA women and the initial insecurity of the project's future which made Ethiopians and Swedes alike work so much harder to see it through were central to its sustainability.

Responsibility and concern, concepts which were essential to the success of the Dodota project are, however, impossible to repeat. What is possible, however, is for project designers to have these concepts in mind at the beginning stages of any project. At this point, and later when evaluations are made, projects can be examined from the point of view of how responsibility is distributed and which categories of people are committed to the future of the project. If an overall awareness of the importance of people's concern and sense of responsibility is created, both planning and evaluation procedures can be changed. Questions regarding who has the real responsibility in the project, what people feel responsible for, and who is actually concerned about the project's success may, then, become part of the routine.

In conclusion, all factors that directly, and sometimes indirectly, contributed to the success of the Dodota project were related to the concepts of responsibility and concern. The importance of these values and their distribution can not be overestimated. Consequently, the main lesson to be drawn from Dodota can be formulated in the following way:

> Although responsibility and concern cannot be artificially constructed or planned into a project, they are absolutely vital to its success. Therefore, every project should try to make it possible for the different categories of beneficiaries both to make their own priorities, with which they can later identify, and to shoulder the responsibility for activities once started.

APPENDIX 1

Terms of Reference

Background

The Dodota project was an experimental pilot undertaking implemented between 1982 and 1986. The main project objective has been to provide the population of the Dodota *woreda* (56,000 inhabitants) with safe water through a gravity scheme covering the Dodota plain. The project was organized as an income-generating women's project, with a strong commitment to community participation. A special training programme has been carried out in order to enable women to play an active role in the planning, execution and management of the project.

Reasons for the Evaluation

The Dodota Water Supply Project is of special interrest to evaluate, as it has been based on a combination of key concepts emphasized in the SIDA strategies for rural development and rural water supply. The focus on women as project beneficiaries, and on people's participation throughout the project cycle makes it particularly interesting. Also, affordability, sustainability and replicability have been emphasized in planning and implementation.

Scope and Focus

The aim of the evaluation is to sum up and analyze the results of the project and to generate lessons and gain experiences for future projects, both in the area of rural water supplies as well as in other types of projects. The evaluation will be carried out in different phases, beginning in June

with the technical part. The economic evaluation is planned for September, continuing with the socio-economic and socio-cultural evaluation which will commence in October or November, 1988.

An important aim during the latter phase (to which these Terms of Reference apply) is to enable local participation in the actual evaluation exercise (i.e. participatory evaluation).

The socio-economic evaluation shall take into account the options and constraints for the fulfillment of local participation, identification of the actual users' groups, as compared with the intended target group, to what respect the project has generated other development initiatives, changes in the general quality of life as a consequence of the project and replicability of experiences within and outside Ethiopia (considering also other sectors aside from rural water development). The evaluation shall also look into the project history in organizational, structural and decision-making terms. An assessment of qualitative and quantitative indicators of social and economic change will be made.

The evaluation shall primarily provide information on the following basic socio-economic and socio-cultural issues:

- Direct and indirect changes in the roles, status and workload of women and men as a consequence of project activities (including training).
- Level of water fees in terms of affordability and general consequences for the family economy.
- Utilization of water and effects of increased water supplies as a consequence of project activities (taking seasonal variations into account).
- Perceptions of health effects and hanges in the health/nutritional situation as a consequence of the project.
- Changes in the local living conditions, including the initiation of other development activities (income-generating and others), as a result of the project.
- Resettlement/villagization following changes in water supply.

Other issues relating to target group focus, project objectives and organizational matters to be taken into account are:

- Achivement of project objectives and effectiveness of project implementation.
- Project results in view of its experimental character.
- Actual beneficiaries as compared with intended beneficiaries.
- Socio-economic and cultural factors behind community/indivi-

dual participation or non-participation in project activites.

- Mobilization and involvement of women throughout the project cycle.

Depending on the exact timing of the economic and the socio-economic parfts of the evaluation, the anthropologist consultant shall either work in close collaboration with the economist consultant or pay attention to the findings of the economic study particularly as far as the following issues are concerned; economic life in the Dodota Plain, utilization of water and level/system of collection of water fees, income-generating activities in the project area and villagization. Those issues are part of the Terms of Reference for both studies. The anthropologist shall also pay heed to the findings and recommendations of the technical evaluation and the socio-economic desk-study carried out in May.

Personnel, Method and Time-plan

The socio-economic part of the evaluation will be carried out by a consultant social anthropologist with considerable regional competence. In addition, one or two Ethiopian resource persons will be involved as needs arise.

Qualitative as well as quantitative methods of data collection, compilation and analysis may besupplemented by quantitative investigations seeking to verify certain hypotheses and relationships between variables.

Emphasis will be put on participation of the inhabitants in the Dodota woreda in the actual evaluation process, through the application of various consultative methods. The more detailed planning of local participation through consultations will be made by the anthropologist consultant in collaboration with the Popular Participation Programme at the Development Study Unit, Department of Social Anthropology, University of Stockholm. Among the consultation methods generally applied in participatory evaluation exercises are group/community interviews/discussions, workshops with project beneficiaries and structured/unstructured interviews with key informants. The exact consultative methods to be used cannot be specified at this point. The final choice of feasible methods, selection of categories of groups of informants and specification of appropriate indicators of change will be made by the consultant upon arriving in the project area.

The concern about local participation in the evaluation process

implies a more extended period of preparation (survey of methods) and time for report-writing, than is usually the case for evaluations. Part of the cost for using a participatory approach will be met by the PPP.

Time-plan for the socio-economic evaluation (altogether 8,5 weeks, the cost for an additional three or four weeks for preparations and reportwriting will be met by the PPP):

- *Preparations in Sweden* (1 week): Briefing, review of documentation and correspondence, preliminary interview with SIDA personnel familiar with the historical development of the project. The preparations involving discussions with the PPP, Development Study Unit, and survey of relevant literature on participatory evaluation will demand an extra two weeks to be covered by a separate budget under the PPP programme.
- *Evaluation in Ethiopia* (4 weeks): Briefing in Addis Abeba. Data collection in the Dodota woreda through observations, group discussions, interview of key informants, structured/unstructured interviews, indepth studies of a sample of households/water users' groups, etc. Interviews will be made also with e. g. representatives of REWA, ARDU and Water Resources Authorities.
- *Follow-up in Sweden* (0,5 week): Review of supplementary documentation and follow-up of interviews previously made with SIDA personnel involved in the project. Discussions with the PPP at the Development Study Unit.
- *Analysis of data and report-writing* (3 weeks): The PPP will meet the cost of an additionsal one or two weeks of report-writing, allowing the consultant to elaborate on her experiences from the consultation exercise and on suggestions for methodological improvements.

Reporting

Main findings, conclusions and recommendations shall be presented to the DCO and to other relevant Ethiopian authorities prior to the departure from Ethiopia. A draft main report in English following the standardized format (if possible, typed on a word-processor) shall be submitted to SIDA through the Development Study Unit not later than five weeks after the completion of the work in Ethiopia. The draft report is to be circulated to the EWWCA and to SIDA/DCO before the final version is delivered. A seminar with the consultant's participation may be arranged to discuss the results of the evaluation and the methodology used.

APPENDIX 2

Documents Consulted in Time Sequence

1980 Poluha E. *A study in two Ethiopian woredas on the economic activities of peasant women and their role in rural development.* SIDA. mimeo.

1981 Hansson G. *Dodota Water Supply Project, Arssi Region, Ethiopia Technical and Economic Evaluation of Project Proposal - Revision.* March.

1982 REWA. *Revolutionary Ethiopia Women's Association Dodota Water Supply Project for Women by Development Projects Study Agency.* March.

1982 Broberg. Undervisningsbyrån, Promemoria. September.

1982 SIDA. *Plan of Operation*, Dodota Water Supply Project for Women. December.

1983 Amsalu Negussie. *ARDU, Dodota Water Supply Women's Project.* Jointly financed by REWA, SIDA, ARDU. May.

1983 Hansson G. *Follow-Up of Dodota Water Supply Project for Women.* November.

1984 Bergman G. *Insatspromemoria.* February.

1984 Hansson G. *Follow-Up of Dodota Water Supply Project for Women.* April.

1984 Tafari, Y. and A. Jere. *A socio-economic baseline Study*, Dodota Water Supply Project, Arsi Region.

1984 Hansson G. *Follow-Up of Dodota Water Supply Project for Women.* December.

1985 Hansson G. and Jernberg I. *Follow-Up of Dodota Water Supply Project for Women.* May.

1985 Claeson, M. and Samira Abdubaker. *Health Benefits from a*

Water Project. A baseline Survey of the Dodota Water Supply Project. May.

1985 Bergman P. *Dodota Water Supply*. The making of a women's project. Draft.

1985 Wislander A. *Vatten som Mjölk* (Water as Milk), Film.

1986 Hansson G. and I.Jernberg. Follow-Up of Dodota Water Supply Project for Women. January.

1986 NWRC, EWWCA, WSSA and SIDA. *Review of the Rural Water Supply Programme in Hararghe Region*. October.

1986 Alopeaus-Ståhl Dorrit e.a. *Follow up of Dodota Water Supply Project for Women*. December.

1988 Udvardy M. and T. Håkansson. Desk Study. Undertaken as a preparation for a socio-economic evaluation of the Dodota Water Supply Project, Ethiopia.

References:

1982 Feuerstein M.T. *Participatory Evaluation by, with and for the people*. Idea, RRDC Bulletin.

APPENDIX 3

People Interviewed

K. Himmelstrand, SIDA
P. Bergman, SIDA
G. Bergman, SIDA
D. Alopaeus-Ståhl, SIDA
Assegedech Bezuneh, Chairperson, REWA
Negat, Head Socio-Economic Affairs, REWA
Aster Mulugeta, Chairperson, Arsi REWA
Ayelech Kidane, Head Socio-Economic Affairs, Arsi REWA
Aznaketch Tsige, Administrator, DWSP, Huruta Zone
Kokebe Deme, Administrator, DWSP, Dhera Zone
Menbere Mulugeta, Acting Manager, DWSP
Debela Dinka, Head, SEAD, Asella
Moges G. Selassie, Head, Water Section Infrastr.Dept, SEAD
Kiros Desta, Water Engineer, SEAD,
Gudissa, Woreda Administrator
Amsalu Negusse, Designer and Coordinator for the D.W.S.P.
Anette Jere, SIDA/DCO Programme Officer, Women's Affairs
Senbetta Lemma, Previous Programme Officer, SEAD

APPENDIX 4

Topics Discussed with PA, WA, YA Executive Committee Members

The discussions with each group were conducted in the offices of the respective Peasant Associations and took between two and three hours.

PLEASE TELL US THE STORY OF THE WATER PROJECT AS YOU REMEMBER IT!

(Questions used to promote the discussion were:

How did you find out about the project? What did you do? Did you take any part in the project? What did other people do, work harder/less hard than you? How often did you meet in connection with the project? Were there any contacts between your PA and people who made decisions about the project? Could you make any decisions about the designing or development of the project? How do your first expectations of the project compare with its later realization? What is your assessment of the project?)

TELL US ABOUT THE FOUNTAIN ATTENDANTS AND THEIR TRAINING

(What do you think of the women who took part in the project and were educated through it? What do you think of their education? What do you think of women having a job? Why? Are such women different from others?)

IF YOU COULD HAVE DONE ANYTHING DIFFERENTLY IN THE PROJECT, WHAT WOULD THAT HAVE BEEN?

(Would more people have been involved in digging? Should more women have been trained? Should you have paid people for their work? Should men have been trained? Do you feel you have contributed enough to the project? Could you have contributed more if there had been no aid?)

WOULD YOUR LIVES HAVE BEEN DIFFERENT FROM WHAT THEY ARE

TODAY WITHOUT THIS PROJECT ?

(How, better, worse? Less, more time for other activities? Other?)

WHAT CHANGES HAVE THE PROJECT BROUGHT TO YOUR WAY OF LIVING?

(Changes between husband/wife regarding tasks, decision-making, other? Has the economy of the household changed because of the water? Has the health status of people changed? Has the work of women been facilitated? What do women do with time "saved", if there is any?)

HOW HAS VILLAGISATION, PRODUCERS COOPERATIVES AND THE WATER PROJECT AFFECTED YOUR LIVES?

(What impact has each of them had on your lives? Which of them has had the greatest impact, how, why?)

WATER CONSUMPTION NOW AS COMPARED TO BEFORE THE PROJECT?

(How often did you fetch water during the rainy season? How often during the dry season? What about today, the rainy season, the dry season? What do you use the water for?)

THE WOMEN'S ASSOCIATION NOW AND BEFORE?

(Has the work of the WA changed since the water project? What were they/you doing before, what are they/you doing now? What are your/their plans for the future?)

FUTURE WANTS AND DREAMS

(What do you dream of for yourselves for the future? What do you wish for your sons/daughters? What do you want for the area?)

CHANGE

Do you think women today differ from their mothers? Do you think their daughters will differ from their mothers? Do you think men today differ from their fathers? Do you think their sons will differ from their fathers? How would you define development? What do you plan to do in the future? What are your main problems? How have you thought of solving them?

COMPARISONS

- Give an example of one rich, one medium and one poor PA in your *woreda*.
- Compare them.
- Explain the categories you used and their implications.
- Is movement between the levels possible? If yes, how?
- Give examples of one rich, one medium and one poor household in your PA.

- Compare them.
- Explain your categorization.
- How many are there in each category? Is it possible to move between them?

APPENDIX 5

Topics Discussed with Individual Women and Men

DESCRIBE AN ORDINARY WORK DAY!

(Describe what you did yesterday. Was it an ordinary work day? If not, how did it differ? Time allocated for tasks? Favourite activity? The most boring/hardest/tiresome activity? What would you like to change? What is work to you and what is not? Family life, changes now and before?)

WHAT IS THE HEALTH SITUATION HERE?

(Are you/partner/children often sick? Which diseases are frequent in the area? What characteristics do they have? During which time of the year do people mostly get sick? What do you do when you fall ill? What would you like to do?)

YOUR FUTURE?

(What visions/dreams do you have for the future? How would you like life to be for yourselves? How would you like life to be for your children?)

IMPACT OF PROJECT?

(Did you take any part in the project yourself? Was it voluntary or mandatory? Do you have access to more water now? If yes, what do you do with it? Do you have time to talk to others at the taps?

Water and health?

Water and "saved" time?

Has the project implied any changes in your activities as a woman/man? Do you think your daughters are going to live in the same way as you do? What about your sons? Do you live as your mother/father did? What are the benefits? What are the disadvantages?)

APPENDIX 6

Position, Sex and Salary of Project Employees

Position	Sex	No of Empl.	Salary/month
General Manager	M	1	420:-
Administrators	F	2	192:- and 167:-
Cashiers and Accountants	F	4	105:-
Technicians	F	2	95:-
Assist. Technicians	M	1	70:-
Meter readers	F	2	95:-
Tap Attendants	F	34	78:-
-"-	F	4	70:-
Driver	M	1	153:-
Storekeeper	F	1	127:-
Guards	M	4	2x50:- + 2x60:-

Abbreviations

AEPA	All Ethiopia's Peasant Association
ARDU	Arsi Rural Development Unit
CADU	Chilalo Agricultural Development Unit
CPSC	Central Planning Supreme Council
CSA	Central Statistical Office
DCO	Development Cooperation Office of the Swedish Embassy
DWSP	Dodota Water Supply Project
ETB	Ethiopian Birr, 2 ETB = US$ 1
EWWCA	Ethiopian Water Works Construction Authority
MoA	Ministry of Agriculture
NGO	Non-governmental organization
PA	Peasant Association
PC	Producers Cooperative
REWA	Revolutionary Ethiopia's Women's Association
REYA	Revolutionary Ethiopia's Youth Association
SEAD	South Eastern Agricultural Development zone
SEK	Swedish Krona 1SEK = approx. US$ 6
SIDA	Swedish International Development Authority
WA	Women's Association
YA	Youth Association

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THE DODOTA WATER SUPPLY PROJECT

THE Dodota Water Supply Project was a women's project in central Ethiopia. Its main objective was to provide the Dodota area with clean, gravity piped water, and to enable women to take part in all the project's phases. The project was implemented between 1982 and 1986. SIDA contributed SEK 7.6 million to the project, and the Dodota population SEK 1 million, as well as labour power.

Two things were essential for the success of the project – the responsibility for the project was shared among all its workers, and those engaged in the project were both personally and emotionally involved. Although concern and responsibility cannot be planned into a project, they are absolutely vital to its success. This is, according to the present evaluation report, the main lesson to be learnt from Dodota.

The evaluation was based on a *qualitative*, rather than a quantitative analysis. Data was mainly collected through informal interviews, or *consultations*, on various topics with the individuals and groups of people concerned.

Sweden's bilateral development co-operation, handled by SIDA since 1965, comprises 17 programme countries: Angola, Bangladesh, Botswana, Cape Verde, Ethiopia, Guinea Bissau, India, Kenya, Laos, Lesotho, Mozambique, Nicaragua, Sri Lanka, Tanzania, Vietnam, Zambia and Zimbabwe.

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