

EVALUATION REPORT

SUSTAINABLE AND DURABLE DEVELOPMENT THROUGH INTEGRATED WATER RESOURCES MANAGEMENT IN A SELECTED VILLAGE - KOTTAKARAI

Aqua For All, Vitens / Harvest

Mission December 2007

Consultant : Carine Bonnet

CONTENTS

Introduction : Harvest's demand & methodology of the evaluation.....	P3
1. REMINDER : LOCAL CONTEXT AND OBJECTIVES OF THE PROJECT	P6
Context of the project.....	P7
Financial partners.....	P12
Global and specific objectives of the projects.....	P13
Phasing of the project.....	P15
Activities planned to be implemented.....	P15
Objectively verifiable indicators.....	P16
2. HARVEST'S STRUCTURE AND PROCESS EVALUATION	P20
2.1. Human resources and means of action	P21
2.1.1. Human resources.....	P27
2.1.2. Means of action.....	P28
2.2. Implementation methodology and following up of the project	P29
2.2.1. Organisation and process : strengths and weaknesses, recommendations.....	P35
2.2.2. Management documents consulted.....	P38
3. EVALUATION OF RESULTS & SUSTAINABILITY OF THE PROJECT	P40
Results versus indicators	
Conclusions (strengths, difficulties, sustainability factors, indicators & activities to be followed)	
3.1. Community organization and capacity building.....	P41
3.2. Rainwater harvesting and storm water control/ water recharge.....	P46
3.3. Sanitation	P48
3.4. Water supply and drinking water.....	P51
3.5. Waste management.....	P53
3.6. Sustainable farming.....	P54
3.7. Kottakarai's project seen through Millenium Development Goals and Targets.....	P55
4. RECOMMENDATIONS	P58
4.1. Harvest : consolidated capacities, difficulties & recommendations.....	P59
4.2. Projects : global validity & planned extension.....	P61

INTRODUCTION

HARVEST'S DEMAND :

Evaluation on the program entitled "Sustainable and durable development through integrated water resources development in the selected village of Kottakarai".

It is a 1 ½ year project funded by Aqua For All & Vitens which has completed 16 months on the ground.

Key-words : Integrated Water Management; Groundwater Recharge; Sanitation; Water accessibility; Drinking water; Organic Farming; Solid Waste Management; Social Mobilization; Community Organization; Dignity of Life; Capacity building, Income Generation; ,Public Health, Gender Equity, Poverty alleviation, Sustainability, Replicability.

This evaluation is meant to be a response to the overall organizational goal.

It needs to include:

- Social, economic and environmental impacts
- Methodology of implementation & process
- Transfer of know-how and responsibility of the project
- Goal orientation
- Sustainability of the project
- Effectiveness of the projects
- Cost benefit analysis
- Sustainability analysis

A specific demand from Aqua for All is to evaluate the project in regard to the Millennium Development Goals (MDG)

While the demand for evaluation was initiated from Harvest, it was agreed that the report will be submitted initially to both Aqua For All and Harvest for the sake of neutrality and transparency.

METHODOLOGY :

1- Documentation survey

The following documents were used for this evaluation :

- Initial project (presentation project report intended for the financier with description of the project including global and specific objectives, final and intermediary planned results, actions to be carried out and corresponding ways and means , planned indicators).
- Activity reports already submitted to the funding agency

- Update results
- Other various documents

2- Harvest diagnosis and assessment

- General presentation of Harvest's strategy, methodology, overall approach, activities, networking, structure of the organization, context, public relation etc by the director.
- Presentation of the project implementation methodology, staffing, capacity, documentation, reporting and internal progress evaluation by the project manager and any other relevant persons.
- Internal training process

3- On site diagnosis and assessment

On site visits and interviews with users, key persons involved in the project and institution representatives were organized, in order to precise the following points :

- At what stage are we in the project and its activities ?
- Do activities of the project work properly ?
- Identification of best practices, delays, difficulties and reasons why ?
- Acceptance by the targeted population
- Recommendations for the next phase of the project with reorientation of the actions or of the project, if it happened to be necessary, planning for next stages.

Systematic evaluation of actions (with Harvest and on site) including :

- Proper use of ways and means
- Process , results in quantity and quality
- Step reached according to final objective
- Various and global impacts
- Community organization and commitment
- Institutional construction and reinforcement
- Efficiency in training and education on water management
- Know-how and responsibility transfer
- Social mobilization and changes in user's behaviors
- Changes in sanitation and health conditions
- Water resource management
- Monitoring system and documentation

4 - Structure of the report

This evaluation has been organized through 6 main themes which enable a systematical declination of the various activities of the projects.

Community organization, capacity building and training facilities

Rainwater Harvesting & storm water control /Water recharge

Sanitation

Water supply & Drinking Water

Solid waste management

Sustainable farming

Results presented in this report must be considered as consolidated until end of December 2007.

1. REMINDER / LOCAL CONTEXT AND OBJECTIVES OF THE PROJECT

1.1. Context of the project

1.2. Financial partners

1.3. Global and specific objectives of the projects

1.4. Phasing of the project

1.5. Activities planned to be implemented

1.6. Objectively verifiable indicators

1. REMINDER : LOCAL CONTEXT AND OBJECTIVES OF THE PROJECT

1.1. CONTEXT OF THE PROJECT

Auroville Water Harvest proposed to conduct a 1.5 years pilot project on village based Integrated Water Management, starting in September 2006 and ending in March 2008, in a representative village of coastal Tamil Nadu, India and located in the direct vicinity of Auroville for its developing capacity and know how in the required fields of expertise. The selected village is Kottakarai. The chosen approach is unique in its integrality.. This project is based on an integrated approach, which comprises water, sanitation, public health and people and on a participatory approach with the water users and the community so as to make them act as changing agents to ensure appropriate water accessibility, hygiene, overall operation and management of the installations, empowerment of the population, to guarantee the sustainability of the program and the possibility to extend and duplicate the same approach at broader scale in the same area.

After consolidation of the pilot project, it is planned to duplicate the same approach to the 2 villages of the same Panchayat (Panchayat: smallest administrative entity in India) which will then offer the first full scale Panchayat Integrated Water Management structure of Tamil Nadu.

The purpose of this pilot project is toward extension to a larger area. As such, the other projects and programs conducted by Auroville Water Harvest in this area integrate exposure visits to Kottakarai and framed to incorporate the successful aspects of this project as per results.

While 2000 people is the population targeted by the actual project, another 3500 are targeted in the extension at Panchayat level and about 30 000 people from 15 villages are expected to benefit directly from this pilot project through exposure visits and duplication of activities and about 80,000 on 18 Panchayat through diffusion of information.

1.1.1. ONGOING ACTIVITIES OF HARVEST IN THE AREA

Type of activity targeted in the villages & name of project	Number of villages and beneficiaries	Name of villages in Villupuram District	
Villages targeted for physical work " <i>Salinity moderating & proofing of coastal</i>	7 villages (for « Salinity proofing »)	« Salinity proofing » : Anpakkam Kaluperumpakkam	Other projects : Bommayapalayam Kalapet

<p><i>aquifers in a badly affected area of the Auroville bioregion" Fondation Ensemble</i></p> <p>+ other funders</p>	+ 5 (other projects)	Kodur Olundiapet Rayaottai Rayapudupakkam Vilvanatham	Kottakuppam Kunimedu Puthuâttu
<p>Villages specifically selected for the supplementation of groundwater recharge along the Tsunami affected coastal area</p> <p><i>"Groundwater recharge 2", City of Hilden</i></p>	5 villages	Villages for phase II :	Villages for phase I : Bommayapalayam Kalapet Kottakuppam Kunimedu Puthuâttu
<p>Villages selected for the developmental cum research works (results must be demonstrated to the nearby villages)</p> <p><i>" Salinity moderating & proofing of coastal aquifers in a badly affected area of the Auroville bioregion" Fondation Ensemble</i></p>	7 villages	Anpakkam Kaluperumpakkam Kodur Olundiapattu + 2 hamlets	Rayaottai + Thuruvai Rayapudupakkam Vilvanatham
<p>Village selected for the pilot phase on sanitation and public health</p> <p><i>"Integrated village water management" Vitens, Aqua for All</i></p>	1 village Total population = 1840 Total house hold = 419	Kottakarai	
<p>Villages particularly selected for agriculture, tree plantation, irrigation and sanitation</p> <p><i>" Salinity moderating & proofing of coastal aquifers in a badly affected area of the Auroville bioregion" Fondation Ensemble</i></p>	8 = 8,930 people (+ Kottakarai 2000 people)	Anpakkam Kaluperumpakkam Kodur Olundiapet Rayaottai + Thuruvai Rayapudupakkam Vilvanatham + 2 hamlets	+(Kottakarai)

Total villages and population benefiting from Harvest's water management project	13 villages = 22,941 people + 5 villages for groundwater recharge = 18 villages	1 Anpakkam 2 Kaluperumpakkam 3 Kodur 4 Olundiapattu 5 Rayaottai 6 Vilvanatham 7 Rayapuddupakkam 8 Thuruvai 9 Kenipattu 10 Pulichapallam 11 Vanur 12 Kattrambakkam 13 Kottakarai	Following 5 villages also included for groundwater recharge : Kottakuppam , Bommayapalayam, Kalapet, Puthupattu, Kunimedu
---	--	---	---

The selected villages show a high degradation of water quality and a high depletion of groundwater table, as well as degradation of tank structures, faulty water distribution system, quasi absence of sanitation and lack of drainage structure maintenance. These villages are part of the same sub-watershed and part of a larger tank network and drainage system.

At the environmental level, the impact of the projects will be strengthened by these geographic characteristics and should improve the overall water situation on an area evaluated to 5 to 10 times the project area, with the related population. Looking at the geographical and social context, this project will have major impact on a large area as it is situated on the recharge area of the main local aquifer, supplying about 260 sq km with its rural and coastal population, about 400 000 people. It is also a key area as far as seawater intrusion risk is concerned, as it is locking the groundwater flow for the entire aquifer system. These projects are part of the overall Harvest program on the Kaluvelly-Pondicherry sedimentary coastal basin adopted by the HELP Basin Program of UNESCO and covering an area of about 1,400 sq km and a population of 1.2 millions people.

At the beginning of the project, the hydrodynamic functioning of the whole system was poorly known by the local population, while Harvest has developed a very solid scientific knowledge of the entire system on which such project can be build.

No water management laws had been enacted nor applied and no institutional structure exist to address such problem.

General description of the problem

In India, 80% of illnesses are water born diseases. Because of non-access to water of drinking quality, lack of hygiene, absence of sanitation, stagnating water, this situation is persisting and even quickly worsening with a fast densification of population. The poor

are especially affected by these rampant troubles due to difficult livelihood conditions, poor food quality and the difficulty to cover the resulting medical expenses and cope with the decreased income.

A vast area of the south-eastern coastal region of India is facing an acute degradation of water and environmental resources. The impact of seawater intrusion, faecal contamination, uncontrolled urban development and other factors like inappropriate agricultural practices, unrestrained usage of biocides and chemical fertilisers have had far reaching negative results on the fresh water resources and other environmental components. The lack of a coherent and integrated resource management is creating multiple impacts on livelihood, public and environmental health.

In September 2004, a UNESCO-endorsed international conference titled "Towards a sustainable water resources management for Auroville and the bioregion" took place in Auroville. It was followed up by a visit of the President of India to Auroville in November 2004 in which he stressed the importance of developing an integrated water management plan for Auroville and the surrounding area known as the bioregion.

Project area description

The area chosen for the project is located in the Villupuram district of the state of Tamil Nadu. It encompasses an area of 230 km². The area is situated on the coast of the Bay of Bengal and is a hydrological unit i.e. one watershed.

The area has 28 panchayats ("Gemeenten" in Dutch) that govern 53 villages. The project will eventually target 18 panchayats governing 31 villages. This group of villages has been selected as they present a prototype of the village structures and problems of this area.

As a first stage to allow the development of a suitable approach, the village of Kottakarai has been selected. This village is located on the edge of Auroville, has a substantial population of 2,000 people, has a small group tribal population and is located in the upper area of a catchment where an important aquifer is outcropping (recharge area) and groundwater levels are shallow.

Kottakarai village which belongs to Irumbai Panchayat is located in the Auroville Bio region of Tamilnadu, India. The village is divided into three sections viz. the main village of Kottakarai, Bharathipuram and Scheduled caste colony. Bharathipuram is a new development that is encroaching onto farm land near Auroville. The gounder caste people live in the main village and Bharathipuram area and the scheduled caste people live in the colony.

In general the situation with respect to drinking water supply and sanitation in all villages is very poor. In most of the project area, drinking water sources are contaminated with fecal matter and other free pollutants. Adult and young females suffer from

gynecological problems and indignities as they have to perform their ablutions either early in the morning or late at night under very poor hygienic conditions. In India, 80% of illnesses are water born diseases.

Besides these direct threats other more general developments endanger the water situation in the project area:

- Excessive groundwater extraction for agriculture
- Salination
- Sewage water intrusion
- Densification of population.

The situation

- **Shortage of sanitation and hygiene facilities**

A major part of the wastewater is neither collected nor appropriately treated. The population has generally no access to sanitation facilities and basic education on hygiene is seriously lacking. This is affecting particularly the women and the children. In water logged area (beaches, clayish areas etc) appropriate and cost effective approaches to sanitation need to be developed which fulfill the requirements of both urban and rural areas, and deal with the end products in a responsible manner.

- **Poor supply of domestic water**

The common situation the population is facing is a daily access to 15 to 20 liters of water per day for domestic use. This water is generally polluted by fecal material because of the ill condition of the distribution system. The main concern is the quality.

- **Depletion of groundwater**

Despite all measures of groundwater recharge initiated by Auroville, the groundwater table of the region is consistently lowering and salinity increase is recorded. The combination of both will likely affect the development potential of the region on long term.

- **Lack of Surface water management**

Most of the irrigation tanks in the region are in a poor condition. They are silted up, are partly covered by vegetation and as a result provide much less water than designed for. The irrigation structures in the command area are also lacking maintenance and the system will further degrade. The main reason is a lack of organization in the watershed area (deforestation, leading to extra siltation), the reservoir area (encroachment) and the command area (degrading irrigation channels and structures).

- **Ground water pollution**

The region is suffering from uncontrolled dumping of mixed solid wastes. As the area generally has high groundwater table and is a recharge zone for a vast region where groundwater is abstracted for domestic, agricultural and industrial use, the risk of gradual contamination of the aquifer is considerable.

- **Storm water management and urban runoff**

A large part of the runoff generated during the monsoon is lost to the sea. Sustainable water resource management under these circumstances require rainwater harvesting and storm water management. In this way, both the safety of the population and the infrastructure (flood) and the much needed recharge of groundwater resources is ensured.

- **Compulsory empowerment of the population and collaboration between stakeholders**

There is no way the problems the population are facing can be addressed without creating mass awareness, social mobilization and capacity building for each of the components mentioned. To develop an organization able through time to reach the necessary managerial and maintenance skills required, with special involvement of women groups and in collaboration with all the stakeholders is therefore the back bone for a general improvement of the situation towards a sustainable future.

In Kottakarai village, the existing water supply system will be upgraded (water quantity-wise). The existing system consists of some boreholes and elevated storage tanks. Distribution lines are transporting the water to insufficient number of public standpipes and a very limited number of house connections. As the system is only operated twice per day (sometimes only once), the supply is not reliable. The system is full of leak and puncture and is not under permanent pressure. Also the water is not disinfected before entering the distribution system. As people do not want to walk too far (and do not feel responsible for the well functioning of the system), the distribution line is exposed and illegal and poorly constructed and functioning extra tap points are made. The spilled water in the holes around these tap points creates an unhygienic condition. The official tap points are not well maintained. Upgrading this system to potable water quality is not realistic within the scope of this project, its available budget and the timeframe. Therefore it is decided to opt for 2 separate potable water units for the village of Kottakarai. These units are connected to the general water supply and have a storage tank for the unprocessed and the processed water. The unprocessed water is filtered and sterilized. From the storage tank, the water is sold in small volumes. The cost per volume unit is very reasonable and can well be paid by Indian families. The cost covers the purchase and in time replacement of the installations and the operational expenses (change of filters, operator etc).

Other components of the project cover sanitation and solid waste. As the village is situated in the upper end of a catchment area with shallow ground water levels (water logged during monsoons), the downstream area is very vulnerable for contamination of the ground water. The lack of appropriate sanitation and solid waste management is a major cause for diseases, mortality, dignity and gender issues and major lost in income for medical expenses, non worked days and related issues. Through a direct survey of the population, Harvest came to the conclusion that 17% of the yearly household income are spend in medical expenses related to poor water and sanitation.

The broad approach in this project covering all issues in water from a technical, organizational and sustainable point of view will ensure an improvement of the level of development and income situation through the development of all water issues.

1.2. FINANCIAL PARTNERS

Name of the Funding agency	Budget Euros	Initial financial counter part %	Actual financial counter part %	Amount Received so far from the total budget
Fondation Ensemble	416,832	67%	58.3%	81.6%
Beneficiaries	39,138	6%	5.5%	100.0%
City of hilden Project 1	52,000	8%	7.3%	100.0%
City of Hilden Project 2	50,035		7.0%	100.0%
A4A - Vitens (Kottakarai)	79,951		11.2%	87.6%
Beneficiaries	3,997		0.6%	100.0%
Vitens - Government Sanjeevi Nagar	16,460		2.3%	100.0%
Beneficiaries	1,636		0.2%	100.0%
Zukunftsstiftung Entwicklungshilfe - Kottakarai Project	15,052	2%	2.1%	100.0%
PWD Government - Vilvanatham Tank (not funded through Harvest)	40,000		5.6%	0.0%
Government of India, Central Ground Water Board		16%		initially planned in the budget but finally abandoned
Total Budget	715,102	100%	100%	

Note:

Are mentioned only the funds canalized through Harvest or direct counter part in the activities.
The financial counter parts for the year 2008 are not included in this table.

1.3. GLOBAL AND SPECIFIC OBJECTIVES OF THE PROJECT

Short period objective of the project is :

To bring the general water situation, related organization requirements and all related issues in one particular village at acceptable standard level.

- ✦ **Cent Percent Water Accessibility for all the house holds**
- ✦ **Assured Quality Drinking water supply for maximum household**

- ✦ Providing sanitation facility for 40 % of house hold
- ✦ Sustained solid waste management for entire village
- ✦ increase ground water recharge and accessibility through an effective rainwater harvesting

Long period objective of the project is :

To improve living conditions and income situation through an improved public health situation. To extend this integral approach to other villages once proven successful.

- ✦ Recognition of the village as a reference demonstration site for Integrated Water & Sanitation Management
- ✦ Extension to the 2 other villages of the Panchayat
- ✦ Targeted starting date Aug 2007
- ✦ Creation of a Panchayat water body
- ✦ Integration to Auroville water organization

Contribution to Millenium Development Goals in the field of water and sanitation for the poor :

Due to the first phase of this project 2000 people more will have access to safe drinking water and proper sanitary facilities.

The specific objectives are :

Community organization & capacity building

To collect socio-economical data so as to understand the organization of the village, the dynamic and needs of villagers and to create appropriate organizations within the villages for adequate transfer of know-how and local empowerment.

Rainwater Harvesting & storm water control /Water recharge

To tackle the surface runoff, thus leading to a maximization of rainwater harvesting capacities in the area and to large increase of groundwater recharge.

Sanitation

To develop appropriate facilities for sanitation aspects, creating awareness in the population.

Water supply & Drinking Water

Solid waste management

Sustainable Farming

1.4. PHASING OF THE PROJECT

The project aims at developing integrated and sustainable water management of the target area in 5 phases. These phases will be based on the knowledge already available from working in the area and the pre-feasibility study presently carried out.

Phase I : Feasibility studies and pilot (currently presented to A4A for financial support)

Phase I will be a small scale pilot in 1 village (Kottakarai) to introduce the broad and integral approach, obtain experience both with the internal and external project organization and develop tools to ensure that the required level of awareness is reached.

Phase II : Extension of the pilot to 3 villages included limited scale superstructure

The approach developed during stage I will be extended towards 3 additional villages in the vicinity of Kottakarai. Included in this phase will be superstructures (irrigation, rainwater harvesting, etc) that exceed the area, size and scale of 1 village.

Suitable concepts for the integrated water management will be worked out for each village with the focus on:

- a. Water resources potential quantification;
- b. Conducting analyses and processing of data for map generation, interpretation and reporting for communication with stakeholders and institutions;
- c. Environmental and socio-economical impacts and benefits of rain water harvesting structures;
- d. Storm water management and potential for groundwater recharge and flood control;
- e. Potential for optimization of water usage;
- f. Water supply model;
- g. Pilot on integrated water management at village scale level (rainwater harvesting, stormwater control, sanitation, solid waste management and drinking water supply);

During Phase II a 2-day seminar will be held, during which the project approach and components will be presented to stake holders, participating NGO's and companies and resource persons. Responsible government authorities will be invited to start the dialogue that will enable their support in the course of the project. Representatives from international funding agencies will be invited to lobby for financial support as this project may serve as a pilot for integral and sustainable development.

Phase III : Extension of the project to the full project area

For every village, an assessment will be made of the required components for that village. The design of each component, whether physical in the form of tank rehabilitation or sanitation facilities, or being socio-economic or institutional being awareness creation or income generation, will be carried out in this phase. During the assessment, the successes and failures of existing components will be used in the process of design of these components in other villages. The different communities of Auroville will be considered as being villages.

Phase IV : Design and implementation, project area level

Within each village, certain components can not be fully completed as they are simply too large to be addressed within one village. During this phase, the intra-village components such as large scale use of waste water, erosion protection, rainwater harvesting and storm water drainage and infiltration will be addressed. In this stage the intra-community facilities required for the functioning of the regional schemes within Auroville will be realized.

Planning and duration

A total duration of 7 years is envisaged for constructing the necessary basic infrastructure, for raising the required awareness and creating the required institutional capacity. This period will also allow revising the approach should this be necessary in the course of the project. The period is also required to sustain the newly introduced institutions and check on the quality of the newly introduced physical works.

The following time schedule:

- Pre-feasibility study August 2006
 - Phase I - One-village pilot January 2007 - June 2008
 - Phase II - Three-village pilot January 2008 - June 2009
(seminar: June 2008)

 - Phase III - Design and implementation, village level
 - Phase IV - Design and implementation, project area level
 - Phase V - Expansion
- } 5 years

Note: The phase II can be initiated before completion of phase I.

1.5. ACTIVITIES PLANNED TO BE IMPLEMENTED

1.6. OBJECTIVELY VERIFIABLE INDICATORS

See tables below

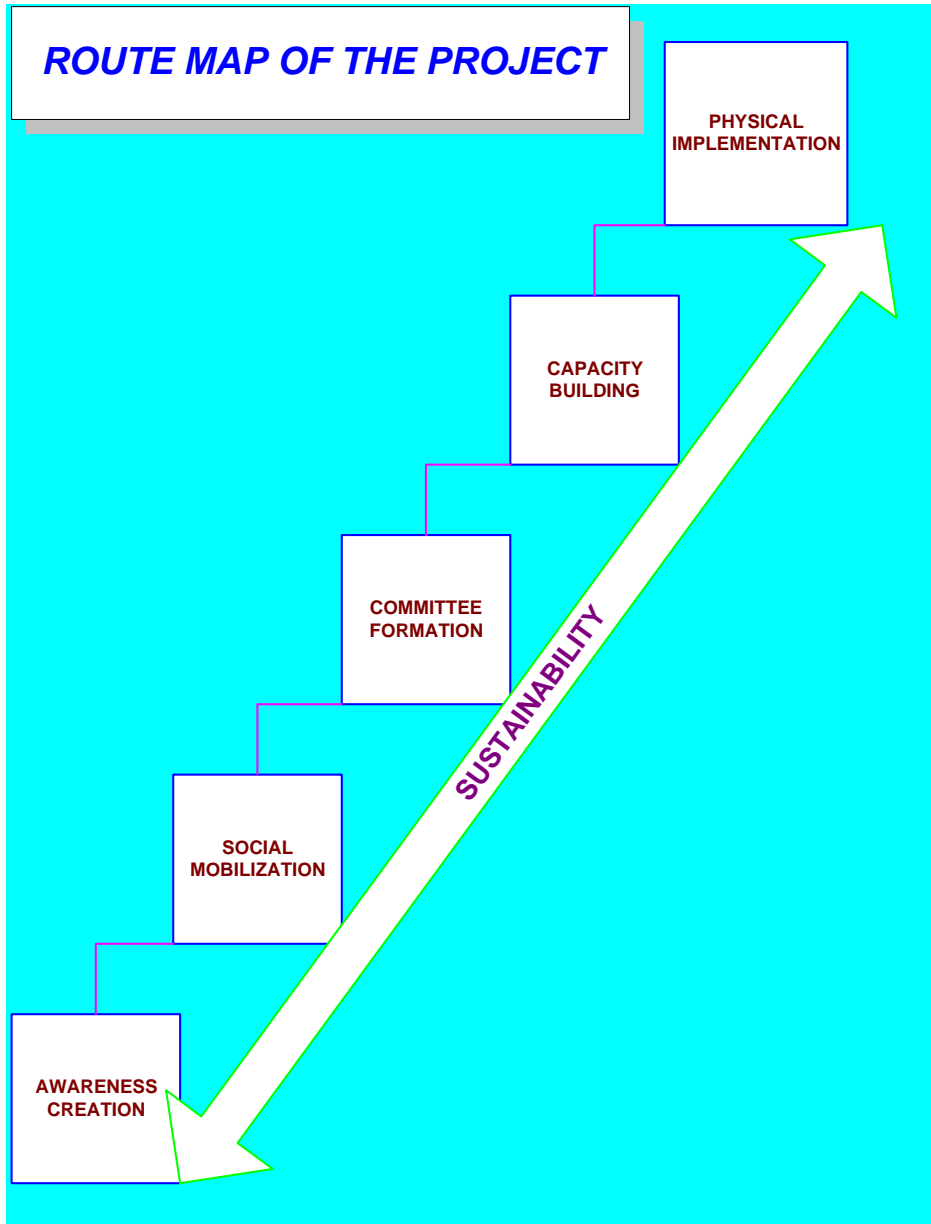
COMMUNITY ORGANIZATION & CAPACITY BUILDING

PROJECT PROPOSAL & PLAN OF ACTION REMINDER

IMMEDIATE OBJECTIVES	ACTIVITIES	VERIFIABLE INDICATORS
<ul style="list-style-type: none"> - To create and improve awareness on water, sanitation and waste issues - To improve self governance and self responsibility - To form community based organizations - To build coordination in the village - To ensure the participation of all level of people - To strengthen community based organizations through capacity building - To involve community based organizations in planning, implementing, operating and maintaining activities 	<p>General mobilisation of the village :</p> <ul style="list-style-type: none"> - Inauguration of the project - Introduction of the project through video, short films, Notice/ pamphlets - Collection and purchase of awareness video films - Conducting meetings for trust building and social mobilization - House hold survey and PRA exercise - Awareness creation meetings, exhibition and audio visual material charts, Photographs. Pamphlets, posters, etc. - Permanent board for information in the village - Performing street theatre to create awareness about the project <p>Sanitation :</p> <p>Public awareness campaign</p> <ul style="list-style-type: none"> Printing of pamphlets, notices Installing sanitation awareness boards Conducting health education campaign Posters, charts, display stands for exhibitions <p>Trainings</p> <ul style="list-style-type: none"> General health and sanitation Nutrition Nursery raising and composting Kitchen garden Training in toilet hygiene and use of EM for the same <p>Formation of water and sanitation committees</p> <p>Water Resource management and land related activities in 1 Panchayat :</p> <p>Water user's association (WUA) formation process</p> <ul style="list-style-type: none"> Conduct the representative election, executive election and election of office bearers Preparation of Bye law documents and registration of WUA Opening of WUA's savings accounts for transaction Inaugurating, formalizing and equipping the WUA <p>Capacity building for functioning of WUA</p> <ul style="list-style-type: none"> Training leadership quality and WUA office management by expert Training on Accounts management by chartered accountant 	<p>Social mobilisation (organisers) :</p> <ul style="list-style-type: none"> Strength of community Conducted meetings Micro planning Strategies Benchmarks Action plan Implementation parallel to project focus Follow up Involved users actively Kind of awareness programmes Need based exposure visits Project presentation at village level Trainings Outputs Outcomes Impacts <p>Community organisation (users) :</p> <ul style="list-style-type: none"> Women's participation Regular meetings Special need meetings Equal representation or domination Record maintenance (minute, account, vouchers) Solvation-agendas

	<p>Technical training on Tank rehabilitation work Planning meeting with WUA and estimate preparation for rehabilitation work Periodical E.C meetings of WUA for discussing the progress and monitoring the work Capacity building for future operation and maintenance of rehabilitated structure by expert Credit assistance to women's groups for income generation activity Trainings, field visits on integrated farming demonstration and water management Visit o successful water management to by farmers in other places Training on basic meteorology, water resource balance, improved agricultural practices and water management in the village (2 trainings) Training and exposure visit to research station on water management and improved agricultural practices Training on tree plantation , fodder cultivation and in the village (3 trainings) Training and exposure visit to aquaculture Preparation of training material and resource book</p> <p>Drinking water : Public awareness campaign : printing of pamphlets, notices, posters , charts, display stand for exhibition Trainings, operation and Maintenance of equipment Formation of drinking water committees</p> <p>School outreach program "save water" : Awareness generation Project development Exhibition of school project Exposure visit to tank</p> <p>Trainings and others : Leadership training Training on plumping and maintenance of water devices Documentation of overall social and training activities Books, Brochures, internet documentation Conducting annual workshops about the project</p> <p>Enabling institutional building : Village water coordination association Conduct of representative election, executive election, election of office bearers Preparation of Bye law documents and registration of village association Opening of village's savings accounts for transaction Inaugurating, formalizing and equipping the village association Capacity building for functioning of village association Training leadership quality and office management by expert</p>	<p>Leadership Transparency all known expenditure Government linkages Involvement in implementation - supervising Awareness programme Exposure visits Problems discussion in the meeting Feedback from the trainings Survival of activities (plantation, vermin compost) Contribution sources (individual or common)</p> <p>Implementation : Cost effective implementation Adopted new technology Government likages Transparency Out turns Out comes Impacts Training the users Overcome the issues with users Comparison of rate of work with government Profile of work transfer to users New innovative methods Role and responsibilities of users Towards sustainability Operation and maintenance Measurements (pre and post)</p>
--	---	--

	<p>Training on Accounts management by chartered accountant Training on reporting Training on conflict management Periodical E.C meeting for discussing the progress and monitoring the work Capacity building for future operation and maintenance of rehabilitated structure by expert Credit assistance to women's groups for income generation activity Trainings, field visits on integrated farming demonstration and water management Visit o successful water management to by farmers in other places Training on basic meteorology, water resource balance, improved agricultural practices and water management in the village (2 trainings) Training and exposure visit to research station on water management and improved agricultural practices</p> <p>Panchayat resource management association : Panchayat resource management association formation process Conduct of representative election, executive election, election of office bearers Preparation of Bye law documents and registration of village association Opening of village's savings accounts for transaction Inaugurating, formalizing and equipping the village association Capacity building for functioning of Panchayat resource management association Training leadership quality and office management by expert Training on Accounts management by chartered accountant Training on planning and coordination Training on reporting Training on conflict management Periodical E.C meeting for discussing the progress and monitoring the work Capacity building for future operation and maintenance of rehabilitated structure by expert.</p>	
--	--	--



RAINWATER HARVESTING AND STORM CONTROL/ WATER RECHARGE

PROJECT PROPOSAL & PLAN OF ACTION REMINDER

IMMEDIATE OBJECTIVES	ACTIVITIES	VERIFIABLE INDICATORS
<ul style="list-style-type: none"> - To increase rainwater harvesting capacities and improve groundwater recharge by rehabilitating the storage reservoirs such as irrigation tanks and ponds - To develop groundwater recharge by creating appropriate structures along the waterways and fields - To diminish seawater intrusion risk by supplementing groundwater recharge along the coast 	<p>Roof rain water harvesting (Tilled and terraced house) and around housing :</p> <ul style="list-style-type: none"> - Installation of roof rain water collection and recharge system at household level - Cleaning of drainage - Street drainage <p>Village pond rehabilitation works :</p> <p>Kottakarai 1 - Desilting revetment steps Kottakarai 2 - Desilting and revetments steps</p> <p>Ground water recharge and erosion control :</p> <p>Structure</p> <ul style="list-style-type: none"> - Check dams for erosion control and groundwater recharge (5) - Supply channels and drains clearance and desilting, including planting of riparian buffer (2) 	<p>Towards implementation :</p> <ul style="list-style-type: none"> N° of checkdams constructed N° of roof rain water harvesting structures Rate of works followed Survey method Implementation strategy Measurements register Log frames Estimates Expenditure amount <p>Towards outcome :</p> <ul style="list-style-type: none"> Amount of water recharges through checkdams Amount of water recharges house hold harvesting Amount of water collected in pond and number of filling <p>Towards the impact :</p> <ul style="list-style-type: none"> Water table monitoring Groundwater quality monitoring Water quality testing

WATER SUPPLY AND DRINKING WATER

PROJECT PROPOSAL & PLAN OF ACTION REMINDER

IMMEDIATE OBJECTIVES	ACTIVITIES	VERIFIABLE INDICATORS
<ul style="list-style-type: none"> - 100% water accessibility for all the house holds - Assured quality drinking water supply for maximum household i.e, to cope with : - Unavailability of quality water - Defective system of distribution - Distribution losses - Bad quality of water - Poor operation and maintenance 	<p>Water supply rehabilitation</p> <ul style="list-style-type: none"> Leaks repair Stand posts repair Soak pits near the stand post House connection repair Cleaning of open well Tank and equipment repair <p>Water supply extension</p> <ul style="list-style-type: none"> Stand posts House connections Development of one jacked well Flow meters Extra pump with electrification <p>Drinking water facilities</p> <ul style="list-style-type: none"> Machines Building storage, electrification, piping 	<p>Towards implementation :</p> <ul style="list-style-type: none"> Length of street line strengthened N° of beneficiary for each line N° of house connection from each street line Number of licenced connection Beneficiary contribution status N° of street connection from each street line N° of control valve fixed N° of flow meters fixed N° of people trained for operation and maintenance of the system <p>Towards outcome :</p> <ul style="list-style-type: none"> N° of pit tap arrested N° of leaks arrested Qty of water pumper to overhead tank Qty of water saved from wastage Qty of water distributed for each house Reduce distance for fetching water Qty of water supplied per head Total population served Timings of water supply (hrs/day) Time savings to collect the water <p>Towards the impact :</p> <ul style="list-style-type: none"> Water distribution management (pre-post) Zero pit tap E.coli count in the drinking water Cost benefit ratio Estimate for operation and maintenance cost Income generation

SANITATION

PROJECT PROPOSAL & PLAN OF ACTION REMINDER

IMMEDIATE OBJECTIVES	ACTIVITIES	VERIFIABLE INDICATORS
<p>- To provide sanitation facilities for 40% of households in order to reduce water born diseases</p> <p>- To create awareness among the various users of land and water about the ill effects of poor management of natural resources and the necessity of conservation of the resources</p> <p>- To create awareness among the public about safe drinking water and sanitation practices</p> <p>Sanitation issues to work on at the beginning of the project :</p> <p>Lack of Awareness</p> <p>Traditional concept</p> <p>Economical Status</p> <p>Low water availability</p> <p>Poor knowledge of maintenance</p>	<p>Pre-feasibility :</p> <p>To give awareness related to eco- san toilet</p> <p>Construction of demo- toilets</p> <p>Identification of beneficiaries</p> <p>Collection of contribution</p> <p>Identification of construction site</p> <p>Construction and implementation :</p> <p>Construction of cost effective model household toilets (ecosan toilets)</p> <p>Construction of ecosan toilets with soak pits at house hold level</p> <p>Recycling of grey water at household level through kitchen garden</p> <p>Improvement of community toilets</p> <p>Cleaning and maintenance of toilets</p> <p>Development of storage mode of urine for agricultural re-use.</p> <p>Construction of washing platform near the common toilet in the village</p> <p>School toilet repair and treatment facilities</p> <p>Development of composting facilities and training on composting techniques</p> <p>Awareness and training :</p> <p>Public awareness campaigns on health, water and sanitation</p> <p>Exhibitions in the village and health education for school children</p> <p>Training, capacity building and exposure visits on public health and sanitation to the villagers</p>	<p>Towards implementation :</p> <p>N° of toilet constructed</p> <p>N° of greywater recycling system constructed</p> <p>N° of individual composting pit constructed</p> <p>N° of beneficiaries</p> <p>Beneficiary contribution status</p> <p>Towards outcome :</p> <p>Quantity of Eco-san compost</p> <p>Usage of Eco-san</p> <p>Percentage of accessibility</p>

SOLID WASTE MANAGEMENT

PROJECT PROPOSAL & PLAN OF ACTION REMINDER

IMMEDIATE OBJECTIVES	ACTIVITIES	VERIFIABLE INDICATORS
<ul style="list-style-type: none"> - Sustained solid waste management for entire village - To create awareness among the public about waste management and good practices - Improve self governance and self responsibility <p>Situation at the beginning of the project to be changed :</p> <ul style="list-style-type: none"> - Lack of awareness related to waste management - Poor knowledge about de-gradable and non degradable waste - Low information about the ill effects of plastics 	<ul style="list-style-type: none"> - Setting up the infrastructure - Proper placement of available public bins - Identify if extra needed - Purchase of equipment and installation of public bins - Installation of individual compost pits - Purchase of rickshaw - Construction of dumping yard and recycling shed - Labor arrangement for transporting solid waste to yard 	<p>Towards implementation :</p> <ul style="list-style-type: none"> N° of street dust bin provided N° of dust bin used N° of house hold served Amount of waste collected Amount of non degradable waste N° of labour engaged to collect the waste N° of days to collect the waste N° of vehicles used to collect the waste <p>Towards outcome :</p> <ul style="list-style-type: none"> N° of street cleaned Cleaniness ratio Total population served Compost quantity generated

SUSTAINABLE FARMING

PROJECT PROPOSAL & PLAN OF ACTION REMINDER

IMMEDIATE OBJECTIVES	ACTIVITIES	VERIFIABLE INDICATORS
<p>- To generate income and maintenance means out of the village pond to the population</p>	<p>- Fish pond cultivation - Plantation of trees Note: larger activities(field work, specific land and water management, irrigation practices and equipment, land regeneration etc) are planed at second stage while extending the project to surrounding villages</p>	<p>Towards implementation : Installation of nets and other equipment Fish ling propagation N° and weight of fishes harvested</p> <p>Towards outcome : N° and weight of fishes harvested Number of beneficiaries</p>

2. HARVEST'S STRUCTURE AND PROCESS EVALUATION

2.1. Human resources and means of action

2.1.1. Human resources

2.1.2. Means of action

2.2. Implementation methodology and following up of the project

2.2.1. Organisation and process : strengths and weaknesses, recommendations

2.2.2. Management documents consulted

2. HARVEST'S STRUCTURE AND PROCESS EVALUATION

Auroville's involvement

Auroville is an international township situated in the middle of the target area. It was created in 1968 with the recognition of the General Assembly of UNESCO. In 1988, the Indian Government underlined the importance of Auroville by passing a special act, the Auroville Foundation Act.

The 1800 inhabitants of Auroville come from over 30 countries and are engaged in a variety of activities. In the vast majority of their activities, the interaction with the surrounding villages and the concern for the shared environment are of the utmost importance. Auroville has a number of specialized units that work with the villages and deal with issues regarding sanitation, sewage treatment, water supply and geo-hydrology, Harvest is one of these structures specialised in water management and sustainable development.

2.3. HUMAN RESOURCES AND MEANS OF ACTION

2.3.1. HUMAN RESOURCES

Organisation :

EXECUTIVE DIRECTOR

PROJECT COORDINATOR & SOCIAL TEAM LEADER (he changed in October 2007 but keeps on supporting the project and is present for main village meetings as he still work in Harvest on another project)

2 COMMUNITY ORGANISERS

GROUND WATER TEAM & TEAM LEADER

ENGINEERING : TEAM LEADER , ASSISTANT & WORKERS

GIS/ DATABASE : TEAM LEADER & ASSISTANT

ACCOUNTANT

Ground water, engineering and GIS/Database teams all work in association/cooperation with the social project teams.

2.3.2. MEANS OF ACTION

Qty	<u>Equipment available with Harvest</u>
	Field equipment
1	Audio Systems for intervention in villages
1	Video projector with screen
3	Digital Camera
1	Conductivity Meter
1	Conductivity & PH Meter
1	TD Scan-4 Conductivity Meter
1	Resistivity Meter
1	Evapori Meter
1	GPS System (topographique high resolution survey instrument)
1	Levelling Instrument (Survey)
1	Autolevel levelling instrument
1	Hand Held GPS(Garmin)
1	Infiltro Meter
1	Hydro Meter
1	Vacum Pump
1	Water Flow Meter
1	Water Level Indicator
1	Weather Station Hardware
	Vehicle - Four Wheelers & Excavators
1	Jeep Mahindra
1	Mahindra Jeep - Bolero Sport
1	M.S. Trailer
2	Excavators Tata Hitachi 200
	Vehicle - Two Wheelers
14	Bikes and mopets
	Computers & Related equipment
15	Computers
2	Laptop
4	Printers

2.4. IMPLEMENTATION METHODOLOGY AND FOLLOW UP OF THE PROJECT

2.4.1. IMPLEMENTATION METHODOLOGY

Community organization, capacity building and training facilities

1. Project inauguration

- Date, time and venue finalization
- Invitation preparation
- Preparation of digital banner related to project aim and goal.
- Exhibition stall-(banner charts preparation)
- Invitation distribution
- Stage Arrangements
- Inviting Government Officials
- Meeting planning
- Photo, Video film shooting
- Mike Arrangement
- Snacks Arrangement
- Pamphlets preparation related to project activity.
- News Publication.

2. Project introduction

- Collection of video film and short film, notices.
- Preparation of Notices, Pamphlets.
- Date and Time Finalization.
- Venue Finalization.
- Project Information board to be fixing in the centre of Village.

3. Initial meeting for trust building and social mobilization

- Key person identification and discussion. (President, Nattanmai, Panchayat members SHG Members, Tank Operators ect.)
- Date, Time, Venue of the meeting to be finalized.
- Prepare the Material Related to Our Project.
- Feed Back the Meeting

4. House hold survey

- Additional Details Collection
- Water Consumption per House, Per Day
- Source of Water
- Toilet Facilities
- Drainage Facilities
- Solid Waste Management

5. Permanent board for information in the village

- Collection of all data related to Kottakarai village
- Population and household details
- Community hall and public building
- Source of drinking water
- SHG and youth group details etc.

6. Street play

- Screen play preparation related to our project aim and goals
- Date and venue finalization
- Intimation to the villagers

7. Public Awareness Campaign -Sanitation

- Printing Pamphlets and Notices.
- Collection of materials
- Announcement

8. Sanitation Awareness Board preparation

- Selection of Topics
- Identification of picture and written material

9. Conducting health education camp

- Venue Date and Time Finalization
- ID and inviting the Health inspector (Private) or (Government)
- Quiz and Prize Distribution

- Exhibition Stall Related To Health Issues
- Feed Back

10. Formation of committees

- Committees Formation Bylaws Preparation
- Preparation of Rules and Regulation
- Role and Responsibility of Each Committee
- Formation of committees,
- Sanitation Committees
- Drinking water committee
- Water resource Management Committees
- School committees

11. Capacity building

- Training and Exposure Visit
- ID of Topics
- Leadership Training
- Training on Accounts Management
- Training on Conflict Management
- Training on Nursery Raising
- Plumbing and OM Management Activity
- Training related to E.M usage and its effectiveness

Sanitation

Construction of Ecosan toilets

- Selection of site
- Preparing the Model
- Estimate Preparation
- Contribution Collection
- Work Execution
- Ensuring the Committee Members Participation

Construction of public toilets

- Needed arrangement to make use the available public toilets
- Ensuring the regular maintenance
- Identify if additional is needed

School toilets repair and treatment facilities

- Studying the Present Condition
- Identifying any improvement needed
- Preparing the plan of improvement
- Execution
- Ensuring the proper O&M

Solid waste management

- Proper placement of available public bins
- Identify if extra needed
- Estimate the needed house hold pins
- Purchasing and distributing the household bins
- To complete the construction of Dumping and recycling shed
- Purchase the required Tools
- Labor arrangement for transporting solid waste to yard

Water supply and drinking water

❖ Water Supply devices Arrangement

- To study at present position of all the taps in the village
- Find out the leakage and repair
- Observe the type of leakage
- Preparation of work plan to mitigate the leakages
- Estimation of work
- Execution of planned work
- ensuring the participation during execution

❖ Stand Post Repair

- Study the present position of the all the Stand posts
 - Identify the dysfunctional and damaged stand post
 - Preparing the plan and estimate for replacement
 - Identify the places where the new stand post is needed
 - Preparing the plan and estimate for new installation
 - Execution of plan
 - Ensuring the participation of committee members
- ❖ **Soak pits near the stand post**
 - ID of the Soak Pit Places
 - Designing the soak pits model
 - Estimate preparation
 - Execution of work
 - Ensuring the Committee Member Participation

Rainwater Harvesting & storm water control /Water recharge

Rain water Harvesting

- ❖ **Installation of Roof top rain water collection and recharge system at household level**
 - Designing and analyzing all the models
 - Choose the best model suited for our project area
 - Estimate preparation for selected model
 - Contribution collection if possible
 - Execution of Work
 - Ensuring the committee members participation

Drainage system management

- ❖ **Cleaning drainage and street drainage**
 - Selection of drainage methods
 - Tools arrangements
 - Selecting the volunteers or hiring the persons for regular O&M
 - Collecting contribution from each household for paying cleaning
 - Identify the possibility of connecting the drainage to surplus course or streams
 - Find out the needed construction design

- Estimate preparation
- Execution of work
- Ensuring the participation of committee members

Ground water recharge

❖ **Structure creation**

- Studying all the channel and stream of the village
- Identify the suitable places to construct the check dam and cabin structure for recharging
- Estimate preparation for selected model
- Execution of estimated work
- Ensuring the participation of committee members

❖ **Village pond Rehabilitation work with revetment steps**

- Selection of Pound
- Estimate Preparation for de-silting and revetment arrangement
- Getting permission to competent authority
- Contribution collection
- Work Execution
- Ensuring the participation of committee members

❖ **Open well cleaning**

- Selection Of Well
- ID cleaning method
- Estimate preparation for selected method
- Work Execution

Sustainable farming

❖ **Tree plantation**

- Selection of Site
- Selection of tree species suitable for selected site
- Seedling arrangement
- Planting and Maintenance

❖ **Fish rearing through SHG**

- Pond Selection
- Estimation of cost
- fingerlings arrangements
- Feed arrangements
- After Care
- Contribution Arrangement
- Harvesting and Sale

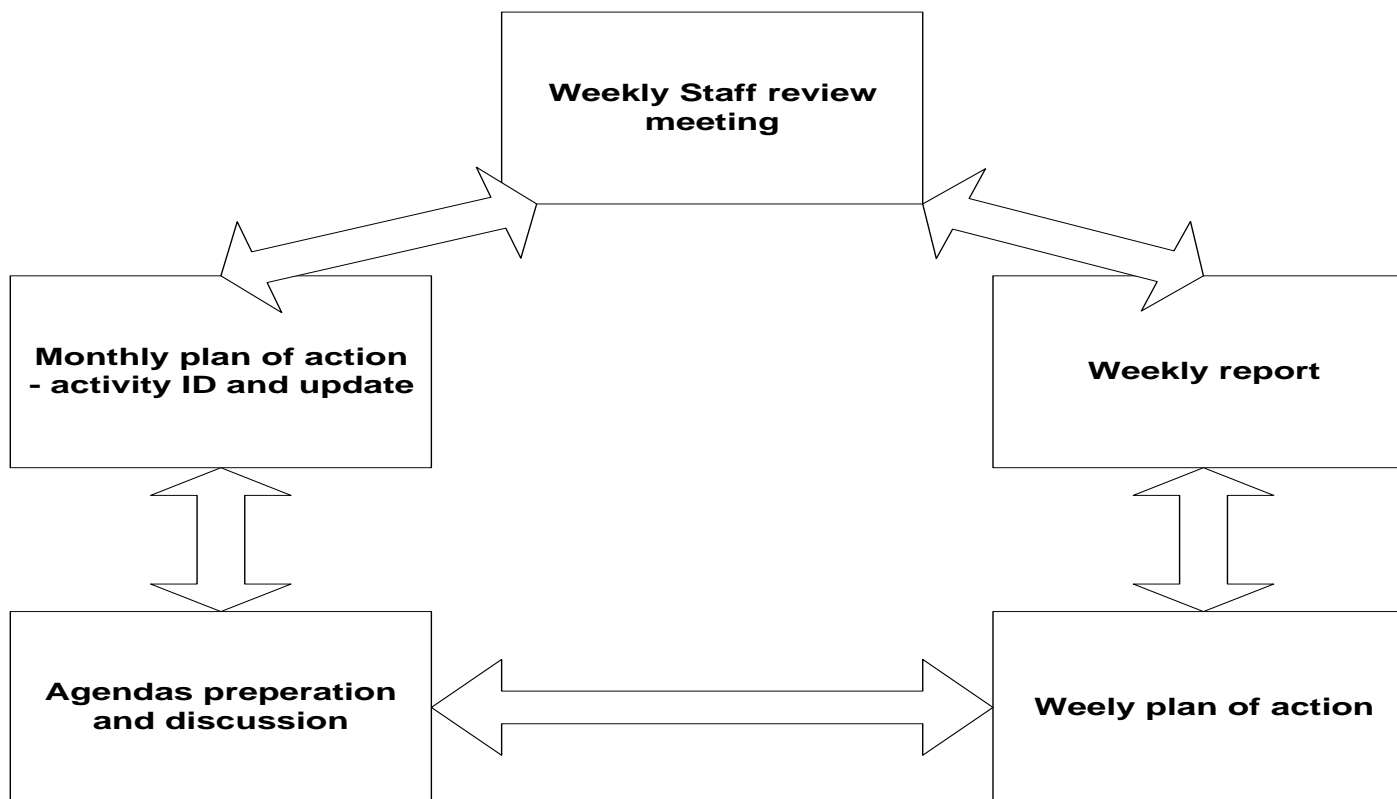
2.3.2. FOLLOWING UP OF THE PROJECT :

Example of strategy led to overcome identified problems :

Synthesis of problems faced during social mobilization :	Strategy chosen to overcome the problems :
<ul style="list-style-type: none"> ✦ Unbelieving ✦ Misconception mind setup ✦ Castes related issues ✦ Village groups ✦ Local election ✦ Unavailability of people during day time ✦ Problem from external source ✦ Political issues ✦ Communication gap between villagers ✦ Egoism ✦ Politics 	<ul style="list-style-type: none"> ✦ Frequent visit ✦ Convincing the narrow minded people ✦ Profound discussion about project outlines ✦ Creation of awareness related to all project's activity ✦ Personal contact ✦ Collection of problem from people point of view ✦ Solution dissemination for collected problems ✦ Early morning and late evening visits ✦ Methodology discussion ✦ Focusing of project activity ✦ Clearing their doubts related to our project ✦ Village Stage construction ✦ Awareness rally ✦ Building-up the capacity and confidence of the different committees

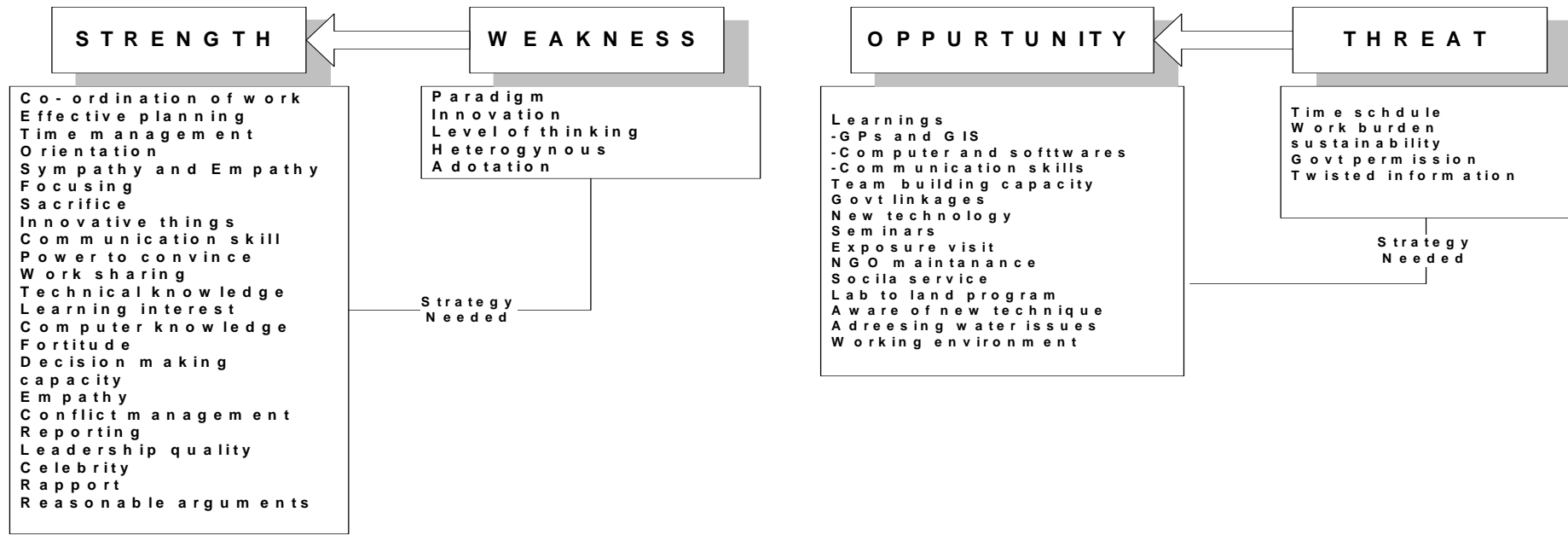
Organisation for follow up :

Regular weekly meetings between the project manager and the field staff of the project to report work progress. Once a month, evaluation of month progress what needs to be done, what is held back, etc. and accordingly rearrangement of work priorities and move forward. Formalised evaluations take place as and when required.

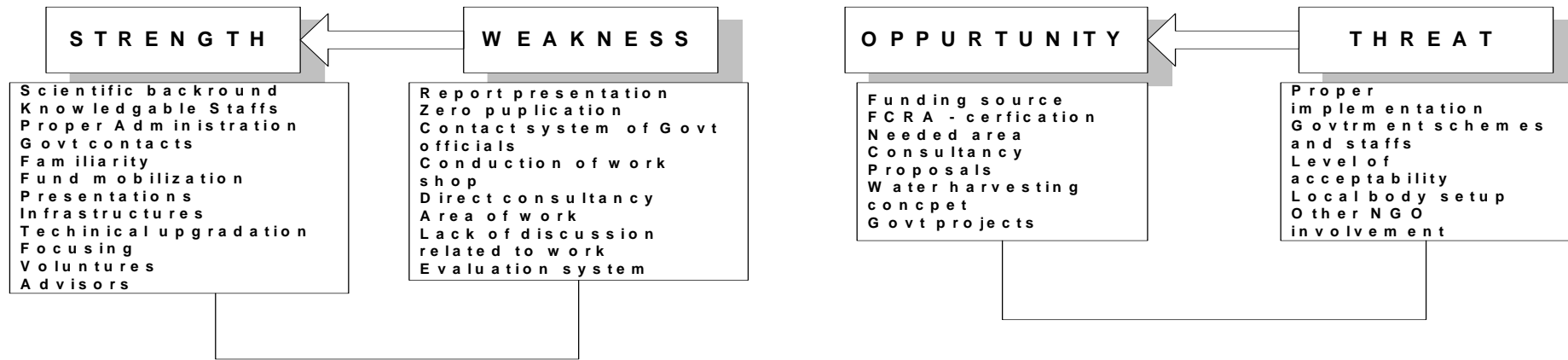


Example of tool used for the follow up of the project :

S W O T A N A L Y S I S K O T T A K A R A I P R O J E C T



S W O T A N A L Y S I S - N G O



2.3.3. ORGANISATION AND PROCESS : STRENGTHS AND WEAKNESSES, RECOMMENDATIONS

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> - In-depth understanding of the ground reality and integrated approach and methodology - Presence on the fields - Good reputation - Qualitative work - Excellent expertise on water dynamics - Ability to address human relationship - Good experience with sanitation - Capacity to mobilize women - Capacity to collect data - Efficient people within teams - Very good expertise on social issues 	<ul style="list-style-type: none"> - Difficulty for project manager to bring group cohesion, sometimes gap between social and technical teams when problems on the field because lack of global vision. - Interface between team coordinators not really transferred to the field people. - Integrated approach essentially depends on Harvest Director. - Need of sustainability for Harvest, in term of management team. - Difficulty for managers to settle a, team vision, because of top from bottom approach typical of Indian working context. - Lack of communication between community organisers - Global follow up and self evaluation of the project essentially guaranteed by Director - Difficulty for the staff to work on multiple activities and to keep the global vision of the project at the same time

Recommendations :

- Need of external expertise to help getting a shared vision and a real group focus oriented toward sustainable and integrated management and adapted training.
- Necessity for the project manager to develop an appropriate visual tool for the following up of the project ("tableaux de bord") and to help keeping the global objectives.
- Importance to reorganize the management delegation for better transfer and sustainability.
- Development of communication, awareness and education tools to help transfer and capitalization of information.

2.3.4. MANAGEMENT DOCUMENTS CONSULTED :

Harvest's management	2006/ 2007 Review/month : number of days spent on various activities : <ul style="list-style-type: none"> - office meeting and office work - training and exposure visits to staff
-----------------------------	--

	<ul style="list-style-type: none"> - working on holidays and Sundays - field work
Kottakarai project's management	<ul style="list-style-type: none"> - General organization (organisation chart) - General project's plan of action (Aug 2006 - December 2007) - Monthly plans of action - Weekly plans of activities - Weekly reports - Minutes register : team leader's meetings)- Aug 2006 to Oct. 2007 - Minutes register : community organisers' meetings - till Oct 2007 - SWOT analysis NGO - 2007 - SWOT A4A team - 2007 - Bench marks of the activities
Tools for socio-economical data analysis	<ul style="list-style-type: none"> - Baseline household survey - Community organisation in village / Guidelines (Social Team) - Village profile/ Statistic reports from household survey (charts) - Household survey analysis, Jan 2007
Communication tools	<ul style="list-style-type: none"> - Presentation for WATSAN committees, May 2007

3. EVALUATION OF RESULTS & SUSTAINABILITY OF THE PROJECT

3.1. Community organization, capacity building and training facilities

3.2. Rainwater Harvesting & storm water control /Water recharge

3.3. Sanitation

3.4. Water supply & Drinking Water

3.5. Solid waste management

3.6. Sustainable farming

Results according to indicators

Conclusions :

Strengths, Difficulties,
Sustainability factors,
Activities and indicators to be
followed

3.7. Kottakarai's project seen through Millenium Development Goals and Targets

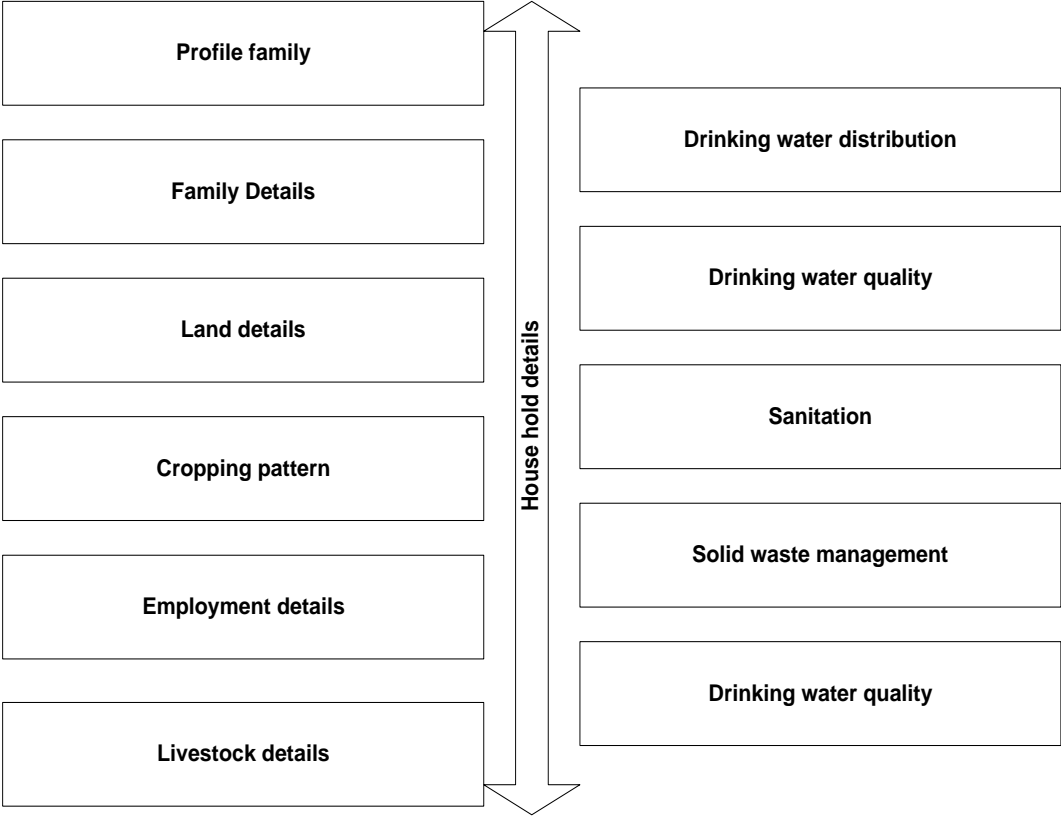
3.1. COMMUNITY ORGANIZATION & CAPACITY BUILDING

OBJECTIVES (AS DEFINED IN PROJECT PROPOSAL)	RESULTS ACCORDING TO INDICATORS	CONCLUSIONS
<p>- To create and improve awareness on water, sanitation and waste issues</p>	<p>Social mobilisation : Project Introduction</p> <ul style="list-style-type: none"> ❖ Trust building ❖ Household survey : Household survey of village made by social team (community organisers), with "Participatory Rural Appraisal" methodology ❖ Village profile = statistic reports from household survey (charts) ❖ Awareness exhibition ❖ Street Play ❖ National service society program (awareness) ❖ Installation of information board ❖ Committees formation 	<p>- The creation and regular meetings and activities of the committees, leads to better integration of the different social groups of the village in the decision making process and the implementation of activities concerning the village.</p> <p>- The dynamic of the project and of the association prove to give a real impulse to village leaders on social and environment issues.</p> <p>- The project of Kottakarai seen as a pilot project for the region proves to be a very good way to test out the social and technical methodology and the authorities' position in regard to power transfer</p>
<p>- To improve self governance and self responsibility</p> <p>- To form community based organizations</p> <p>- To build coordination in the village</p> <p>- To ensure the participation of all level of people</p> <p>- To strengthen community based organizations through capacity building</p> <p>- To involve community based organizations in planning, implementing,</p>	<p>Formation of Village Water Association Committee (VWC) Apex body for water and sanitation management issues at village level, handle financial aspects and responsibility vis-à-vis legal authorities.</p> <p>Role and responsibility of each VWC committee :</p> <p>Drinking water distribution committee - role and responsibility</p> <ul style="list-style-type: none"> - Leaks Repair - Stand Posts Repair - House Connection Repair - Tank and Equipment Repair - House connections - Water charges collection from the beneficiaries - Metering of water <p>Drinking water quality management (potable water)</p> <ul style="list-style-type: none"> - operation and maintenance of purification units 	<p>Difficulties met :</p> <ul style="list-style-type: none"> - Exiting of traditional caste system leads to difficulty to arrange the common meeting between village and colony. - Some of the village people always showing their opposition to Auroville activities disseminated bogus information to the public in order to create opposition, even while these activities were beneficial to the villagers. - Strong opposition from village people was faced during initial introduction of project,

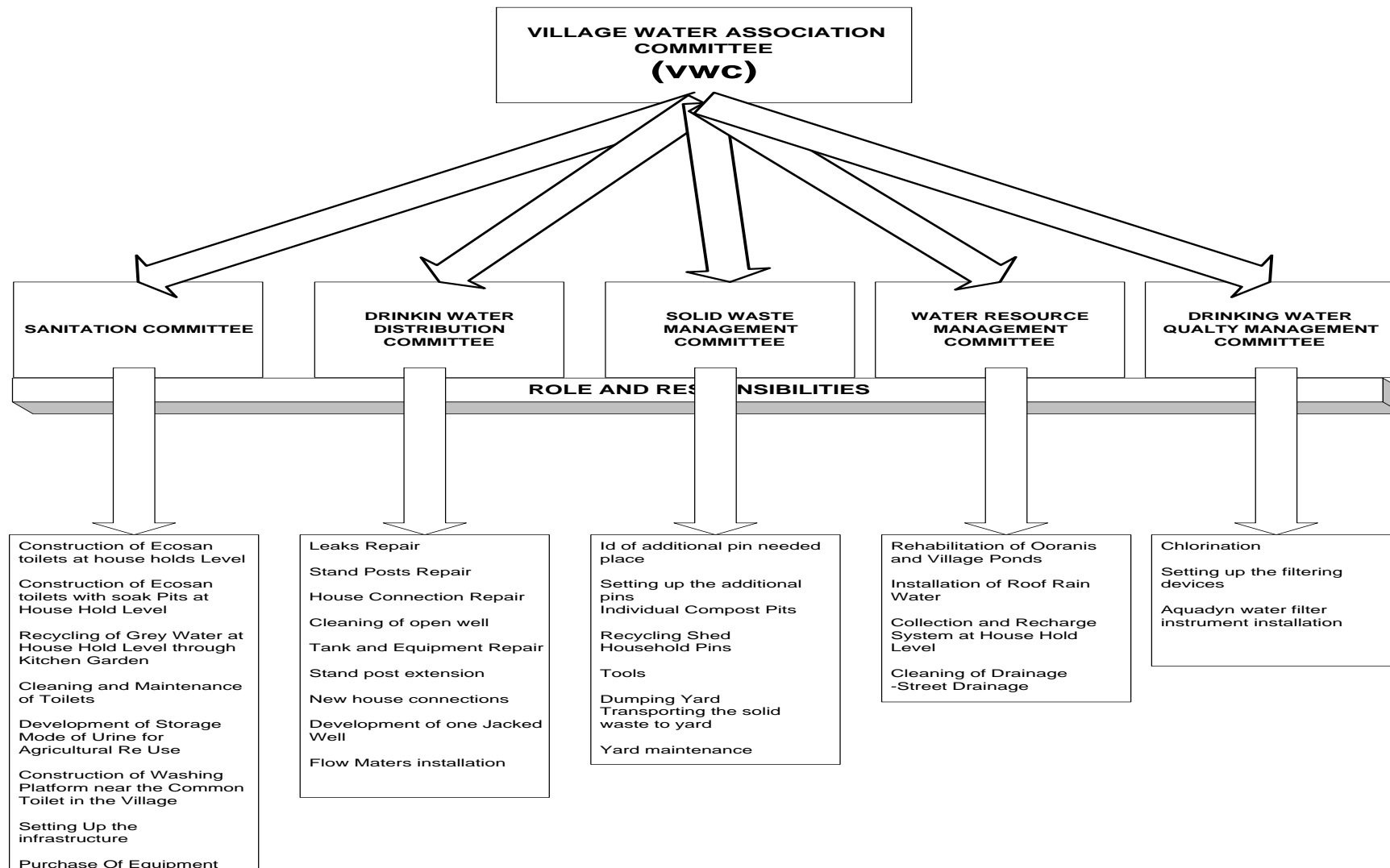
<p>operating and maintaining activities</p>	<ul style="list-style-type: none"> - financial aspects <p>Sanitation committee - role and responsibility</p> <ul style="list-style-type: none"> - Cleaning and maintenance of toilets - Hygiene promotion - Promotion of eco-san concept through the village <p>Water resources management committee - Role and responsibilities</p> <ul style="list-style-type: none"> - Maintenance, cleaning, desilting and flow measurements in pond and checkdams - Tree maintenance <p>Solid waste management committee</p> <ul style="list-style-type: none"> - collect of waste from street bins - separation of waste - general street cleaning - selling of recyclable waste - composting - staff payment <p>Women self help groups</p> <ul style="list-style-type: none"> -Nursery raising through self group -Tree plantation -Credit assistance through fish rearing -Vermicomposting 	<p>one reason linked to the fact that many times Auroville based organizations promised many things but noting really happened.</p> <ul style="list-style-type: none"> - Committees seem to be much less active since the creation of the apex body (VWC). <p>Sustainability factors :</p> <ul style="list-style-type: none"> - Participatory Rural Appraisal is a very interested and appropriate methodology in terms of sustainability since thanks to its participative approach it created involvement of people and awareness on local issues and reality. - Community organisations created in the village with specific objectives are very positive in terms of awareness creation and transfer of responsibility - Very good responses from the concerned authorities vis-à-vis empowerment of the population <p>To be followed :</p> <ul style="list-style-type: none"> - Creation of local employment generation activities for women, as part of the second phase of the project
---	--	--

		<ul style="list-style-type: none">- Overall social integration and representativity maintained through time- Follow up of all the activities maintained at beneficiary level
--	--	---

House hold survey / Method



Source : Harvest's project leader



Source : Harvest's project leader

3.2. RAINWATER HARVESTING & STORM WATER CONTROL /WATER RECHARGE

OBJECTIVES (AS DEFINED IN PROJECT PROPOSAL)	RESULTS ACCORDING TO INDICATORS	CONCLUSIONS
Roof rain water harvesting (Tilled and terraced house) and around housing : - Installation of roof rain water collection and recharge system at household level	50 Roof Rainwater Harvesting on 50 houses Total roof area covered : 2728 sq meter Amount of water recharges house hold harvesting : 2700 cubic meter This volume would be enough to irrigate a family garden of an area of 1900 sq.m in a highly profitable vegetables.	- The major part of planned physical works has been completed and extra work have been executed as per initial proposal (transfer from one pond not rehabilitated to extra culverts and channel cleaning). Extra benefit on recharge and runoff control and in term of accessibility for the villagers.
Village pond rehabilitation works : Kottakarai 1 - Desilting revetment steps Kottakarai 2 - Desilting and revetments steps	Desilting of village pond including bund strengthening , structure construction and tree plantation : 1 pond completed, the other one not done due to bad location of the pond. Total increase of volume of water stored in pond = 5 000 m3 Construction of control structures (inlet structure), bunds stabilisation and plantation. The pond is located on a clay soil. Water is available for villagers usage for a minimum of 4 month after the monsoon, instead of 1 ½ month before rehabilitation. Footpath for access around pond : 2 done, 1 pending.	- Increase of volume of water stored in pond. Extended period of pond usage. - Extra groundwater recharge through checkdams and rain water harvesting structures. - Reduction of stagnating water and better erosion control. - Income generation (750 trees planted on bunds)
Ground water recharge and erosion control : - Check dams for erosion control, supply village pond and groundwater recharge (5)	5 dams completed (4 checkdams + 1 supply village pond structure) Changes in works and financial program as per financial constrains and site conditions. Extra 2 culverts have been added to allow better accessibility in different parts of the village. Amount of water recharges through check dam : 2000 cubic meter Plantation : 70% survival (Income generation program)	Difficulties met : - Problems of encroachment - Checkdam partly destructed by villager - Climatic constraints.
- Supply channels, drains	Desilted Pond inlet cum outlet channels: 250m	Sustainability factors : - Proper transfer of responsibility verified through right appropriation monitoring tools and measurement of flow by association. Destruction of checkdam

<p>clearance and desilting, including planting of riparian buffer (2)</p>	<p>Channel cleaning (Irumbai outlet) = 300m Ganesh bakery channel desilted = 200m Colony culvert channel desilted = 225m</p> <p>Plantation : 70% survival (Income generation program)</p> <p>Extra channel cleaning have been made as per initial proposal.</p>	<p>addressed by the association through legal action.</p> <p>To be followed :</p> <ul style="list-style-type: none"> - rise of water level in wells (improvement of aquifer recharge). - Stabilisation of water lever in aquifers as a long term indicator.
---	---	--

3.3. SANITATION PROGRAM

ACTIVITIES (AS DEFINED IN PROJECT PROPOSAL)	RESULTS ACCORDING TO INDICATORS	CONCLUSIONS	
<p>- Public awareness campaigns on health, water and sanitation</p>	<p>Distribution of Sanitation awareness pamphlets Awareness creation pamphlets were printed on the following topics.</p> <ol style="list-style-type: none"> 1. Safe drinking water 2. Basic sanitation practices for better health 3. Diarrhoea - Preventive & Curative measures 4. Sanitation Toilets <p>1 pamphlet distributed to every household in the village + to school and public buildings + pamphlet pasted on walls</p>	<p>- The population went through the awareness campaign in the village and has been trained on various sanitation items. Children are concerned or actively involved in the program.</p> <p>- Capacity building in sanitation has been reinforced as WATSAN and Children's Parliament have been created and show regular activity and meetings.</p>	
	<p>Installation of sanitation awareness boards in villages. Sanitation awareness boards have been installed in each village. The contents in the board depict the wrong sanitation practices and the proper rectification measures to be taken. These boards are kept in the villages where all the people have access to see the contents of the board. Since the contents are given in a pictorial manner it will be easy for the illiterate people also to understand the problems.</p>		<p>- Toilet program seems to be a success in Kottakarai as a pilot village for the region. 85 ECOSAN private toilets already installed. <i>see photo</i>. Public toilets are better used and maintained in two parts of the village and the colony one will be quickly activated after connection to water source.</p>
	<p>Sanitation awareness rally and meetings with the participation of school children, women groups and members of WUAs.</p>		<p>- Composting units already installed and used. <i>see photo</i></p>
	<p>Street play We have conducted street play on safe hygiene and sanitation practices in all the villages. The program was conducted with a cultural team.</p>		<p>Difficulties met : Delay in the implementation phase of toilet programme because of social and financial process (financial counter part from government and from the beneficiaries).</p>
<p>- Exhibitions in the village and health education for school children</p>	<p>Training program on sanitation awareness</p>	<p>- Awareness, acceptance and changes seem to be much more longer and difficult to</p>	
	<p>Sanitation awareness teaching boards to the Schools sanitation awareness boards have been made which can be used as a teaching material and supplied to the schools in the project area</p>		

	<p>Sanitation awareness video show program for the school children The theme of the show is how poor sanitation practice leads to poor health and the construction and usage of toilets in rural areas and waste management. 2 CDs per show including health hygiene.</p>	<p>carry out in the colony. Lack of adhesion is notably due to economic reasons and number of illiterate persons. - Acceptance of toilets as a necessary mean of health improvement is difficult due to the fact that it is considered of low importance in social visibility (high acceptance in female population). - Ecosan toilets, promoted through this program as well, require extra financial strength due to extra cost if to compare to water based sanitation. Financial appropriateness becomes then an issue (poor support from the government). Strangely, the new improved design is not accepted by the population even if cheaper and technically more valuable (uncommon design according to usual eco-san toilets ?).</p>
<p>- Creation of Watsan committee, Training, capacity building and exposure visits on public health and sanitation to the villagers</p>	<p>Sanitation trainings on : - Self Help Groups sanitation training. - Sanitation books awareness board. - Training for drinking water quality & hand pump maintenance. - Nutrition training for 10 batches in target village.[selection for WATSAN committee members and trusted parson] - Sanitation training for handing over public toilet to WATSAN committee. - Sanitation training for handing over school toilet to children's committee. - Nursery raising and composting Sanitation training in school : provided for all children</p>	
<p>- Improvement of community sanitation infrastructures</p>	<p>Village cleaning program by the WATSAN Village cleaned about twice a week since beginning of 2007</p> <p>Improvement of community toilets : 3 common toilets renovated (Bharathipuram, the school and the colony) . Bharathipuram is partially used (about 10% of population) No of users/beneficiaries = 850 persons i.e. 60.15% At colony people are not using the common toilets for the following reasons : no water facility from over head tank and poor maintenance. They will be possible to use after remedying the problems (476 persons)</p> <p>Improvement of school toilets which are used regularly (710 persons)</p> <p>Construction of washing floor near the public toilet in the village</p> <p>Street drainage : people asked that part of the street drainage was made by Harvest and the remaining amount by the panchayat or other social agencies. One street has been rehabilitated and another one is still pending</p>	<p>Sustainability factors : - The creation of children's Parliaments with dynamic committees in school is a very positive process since it offers a guarantee of durability for the improvement of sanitation conditions. The awareness effort concentrated on children leaves optimistic on a good relay of the information and changes in sanitation habits inside their families.</p> <p>- The creation of specific WATSAN committees through women self help groups is of prime importance because of the specific health risks and the traditional</p>

	(Location: Bus stop at Kottakarai bus stand)	role of women in Tamil society.
<ul style="list-style-type: none"> - Construction of cost effective model household toilets - Cleaning and maintenance of toilets - Development of storage mode of urine for agricultural re-use. 	<p>Construction of private toilets :</p> <ul style="list-style-type: none"> - Ecosan research & development : innovative single pan-double vault toilet, based on flap system integrated in the vault (cheaper solution) + integrated ferrocement pan used (upper quality) - Contribution collection from the beneficiaries - Construction of 85 Ecosan Toilet <p>First phase: Total no 60, Second phase: Total no 25 No of benefited houses = 85 nos No of beneficiaries = 236 nos</p> <ul style="list-style-type: none"> - Compost qty generated : information not yet available - Quantity of Eco-san compost units : 85 	<ul style="list-style-type: none"> - Financial participation of household for private toilets is a positive factor of individual commitment and for the maintenance of equipment. - Income generation through composting. - No dependency on fresh water resources. - Improved hygienic conditions through the entire village.
<ul style="list-style-type: none"> - Recycling of grey water at household level through kitchen garden 	<ul style="list-style-type: none"> - Grey water treatment : 5 models - Treated garden by grey water : 0.5 acres of high valuable crops and fruit trees. 	<p>To be followed :</p> <ul style="list-style-type: none"> - Acceptance of Ecosan and other sanitation devices through various population - Cost effective design - Financial design for internal promotion at village level - Proper level of financial support from the authorities
<ul style="list-style-type: none"> - Development of composting facilities and training on composting techniques 	<p>Training on composting extending to early 2008.</p>	

3.4. WATER SUPPLY AND DRINKING WATER

OBJECTIVES (AS DEFINED IN PROJECT PROPOSAL)	RESULTS ACCORDING TO INDICATORS	CONCLUSIONS
<p>100% water accessibility for all house holds</p>	<p>Water distribution sytem :</p> <ul style="list-style-type: none"> - design of distribution network, estimate and final distribution map (with help of expert engineers), pit excavation (June 2007) - getting approval from competent authority - collecting of participation from beneficiaries and amount exceptionally maintained in WUA's account (normally by the Panchayat) <p>The village is equipped with 3 sources of water and distribution systems. The old systems are highly damaged beyond repair and new ones are made to supply the entire population. The previous concept of 3 sources/ distribution systems is anyhow maintained for practical, cost and accessibility issues. At this stage the system feeding the main village only is reaching completion and should deliver water from 15th of January onward. Bharatipuram and the colony are not made yet, at Bharatipuram works have to start at beginning of January (86 houses to be connected) and all works should be completed by the end of March, including the colony (60 houses to be connected + 20 street posts).</p> <p>Comparative figures for Kottakarai main village :</p> <ul style="list-style-type: none"> No. of pit tap arrested(Existing) : No need No. of leaks arrested(existing) : No need No of street pit taps filled : 26 No of individual house connections (OTW) : 73 No of pressure control valves installed : 6 No of stand posts : 19 No of concrete base taps : 99 Reduce distance for fetching water : average 20m Timings of water supply (hrs/day) : 2hrs 	<p>One system out of 3 is completed at this stage.</p> <p>With the new upgraded system the average volume supplied is 105 lcd (versus 51 with the previous system). Comparatively the standard for urban areas in India would be 80 lcd, so it gives a good scope for further development of the demand and justifies the non-necessity of developing a new bore-well/ overhead tank. With the new system loss can estimated at 15% (marginal leakage and unaccounted for) to be compared to the initial figure of 50%.</p> <p>Difficulties met :</p> <p>Some actions have been delayed because of social and financial process (competent authorities' permission) but are on the way of completion. Activity postponed from feb'07 to May'07 (+ installation of purification unit).</p> <p>Sustainability factors :</p> <ul style="list-style-type: none"> - Improved access to water volume and time wise. - The quality is maintained through the

	<p>Time savings to collect the water : Approx 20 minutes No of control valves installed at delivery : 2 Kottarai (main village) Water distribution system : Storage capacity = 30000 liters No of filling = 2 times (Morning & evening) Total = 60 000 liters per day Total no of houses in this area = 135 nos 73 house holds are connected to the new distribution system (286 no of beneficiaries) Total no of houses to be connected (before end of March) = 14 houses hold (51 nos of beneficiaries) No of street taps provided 19 Benefiting house hold: 35 nos (110 beneficiaries) Total benefiting household through upgraded water distribution scheme: 122 nos 13 households are not willing to get connected out of which 8 houses have access to individual sources. Hence the upgraded distribution system ensure 96% of coverage Initially, each resident accessed to 51 liters per capita per day (lcd), with the new upgraded system the average volume supplied is of 105 lcd. Water testing : 25</p>	<p>entire network</p> <ul style="list-style-type: none"> - Transfer of ownership from the authority to the village association - Self controlled system : beneficiaries are directly concerned by the proper usage and operation of the network. - Very low risks factor as far as contamination is concerned. - Appropriate financial system through the association for operation and maintenance. - Appropriate operative structure (runned by trained beneficiaries through the association). - Link with Auroville for water management approach. <p>To be followed :</p> <ul style="list-style-type: none"> - Drinking water quality (tests) as a long term indicator - Operation and maintenance - Development of the two other pending networks. - Installation of flow meters - Completion and handing over of the 2 potable water systems
Quality drinking water supply	<p>Potable water : Installation of 2 Aqua dyne system for purification, Sump : 1, not completed at this stage. No of people served : 1840 persons</p>	

3.5. SOLID WASTE MANAGEMENT

OBJECTIVES (AS DEFINED IN PROJECT PROPOSAL)	RESULTS ACCORDING TO INDICATORS	CONCLUSIONS
<p>- Sustained solid waste management for entire village</p>	<p>Solid waste management village (the following information are for the entire population) :</p> <ul style="list-style-type: none"> - refuse bins installed throughout the village - complete construction of dumping and recycling shed - labour arrangement for transporting solid waste to yard - Purchase of rickshaw - Installation of individual compost pits <p>No of street cleaned(main) : 10 streets Cleanliness ratio : 90% Total population served : 419 families = entire village Collecting dustbins : 32 Collecting yard,; 1 N° of cycle rickshaw : 1</p> <p>Individual vermi compost : 50 (200 beneficiaries) Model compost unit : 2</p> <p>No near-house dumping is going on at this stage. Dumping in bin is well organised apart of 20 houses (100 people or 7% of the overall population) in the colony where people still dump the waste in inappropriate location. Street bins are emptied 4 times a month which so far guarantee a good cleanliness ratio as per on site observation Panchayat has agreed to pay the salaries for 6 months which should be enough to ensure transfer of running cost to the association.</p>	<ul style="list-style-type: none"> - refuse bins installed throughout the village which appears to be clean except in part of the colony area where results seem to be more difficult to obtain. - transportation of solid waste organised & complete construction of dumping and recycling shed - the garbage collection shows effectiveness. - composting in private households <p>Difficulties met :</p> <ul style="list-style-type: none"> - Time required for full cleaning of old wild dumping sites - Poor participation from part of the colony's population - Initial street bins (fiber) not appropriate (strength) - Stable involvement of employee for garbage collection <p>Sustainability factors :</p> <ul style="list-style-type: none"> - High level of acceptance and usage - Income generation through composting - Limited running cost thanks to selling of recycled waste - Improved hygienic conditions <p>To be followed :</p> <ul style="list-style-type: none"> - Solid waste management project in colony and all over the village - Financial mechanism after Harvest & Panchayat withdrawal

3.6. SUSTAINABLE FARMING

OBJECTIVES (AS DEFINED IN PROJECT PROPOSAL)	RESULTS ACCORDING TO INDICATORS	CONCLUSIONS
<p>To generate income and maintenance means out of the village pond and trees to the population</p>	<p>- Trees have been planted : see "rainwater harvesting & storm water control" - Village pond is rehabilitated, fish pond cultivation not yet started at this stage (ongoing monsoon).</p> <p>Note: larger activities (field work, specific land and water management, irrigation practices and equipment, land regeneration etc) are planed at second stage while extending the project to surrounding villages.</p>	<p>750 varied trees planted. Aquaculture activity not started at this stage.</p> <p>Sustainability factors : Income generation from trees planted and fish pond cultivation.</p> <p>To be followed : Fish pond cultivation.</p>

3.7.KOTTAKARAI'S PROJECT SEEN THROUGH MILLENIUM DEVELOPMENT GOALS AND TARGETS

	MILLENIUM DEVELOPMENT GOALS & TARGETS	KOTTAKARAI'S PROJECT SEEN THROUGH MILLENIUM DEVELOPMENT GOALS INDICATORS	FIGURES
Goal 1	Eradicate extreme poverty and hunger	27% of The Villupuram District population is below poverty line. In India, this line is defined as 1 dollars per day per family. Through income generation, improvement sanitation and water potability, the health expenses of the family are reduced. Initial survey demonstrated that 15% of the yearly family income was spent on health related to water diseases. Undirect costs are not accounted for, like non worked days, absence in school, time in fetching water, etc. It is too early to evaluate precisely the impact of the project but considering the general improvement of the water and sanitation in the village, this should greatly improve livelihood of the poorest.	Initial survey : 15% of the yearly family income spent on health (water diseases) At present : figure not yet available
	Target 1. Halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day Target 2. Halve, between 1990 and 2015, the proportion of people who suffer from hunger		
Goal 2	Achieve universal primary education	All the children followed an intensive and educative programme on awareness related to nutrition, water, hygienic and self-governance issues, which is largely enriching the usual cursus and developing civic sense.	
	Target 3. Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling		
Goal 3	Promote gender equality and empower women	All women self help groups are involved in the overall programme at each stage and are the beneficiary of income generation projects. Women representativity has been respected in all committees and in the village association and defined in the roles and regulations. Access to proper sanitation is of major concern for gender equality and dignity of women.	= 800 women beneficiaries
	Target 4. Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015		
Goal 4	Reduce child mortality	General improvement of water, drainage and sanitation, as well as the awareness campaigns, involves direct benefits on child mortality, maternal health, and decrease of malaria and other diseases.	= 800 women beneficiaries
	Target 5. Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate		
Goal 5	Improve maternal health	This is too early at this stage to come to quantitative evaluation.	
	Target 6. Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio		
Goal 6	Combat HIV/AIDS, malaria, and other diseases		
	Target 7. Have halted by 2015 and begun to reverse the spread of HIV/AIDS Target 8. Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases		

Goal 7	Ensure environmental sustainability		
	Target 9. Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources	The whole village population has now access to potable water and water supply of appropriate quality and quantity is ensured.	<p>Sanitation Improved Investment ratio € 3.05/capita 85 Eco-San Toilets = 333 beneficiaries</p> <p>3 collective toilets including school = 850 beneficiaries</p> <p>5 Grey water recycling systems = 5 families</p> <p>Water Improved Investment ratio € 11.59/capita 3 new water supply systems (one completed) = whole population = 1840 beneficiaries 419 households</p> <p>2 potable water units = whole population = 1840 beneficiaries = 419 households</p> <p>Solid waste management Investment ratio € 0.28 /capita = whole population = 1840 beneficiaries = 419 households</p> <p>50 Individual vermin-compost units = 50 families</p> <p>Water management Investment ratio € 10.57/capita Groundwater recharge = whole population = 1840 persons</p> <p>Roof rain water harvesting = 50 families</p> <p>Education and extension all components Investment ratio € 10.73/capita Entire population covered through multiple awareness and training programs, capacity building, empowerment and committee formation</p>
	Target 10. Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	Solid waste management and regular cleaning of the streets are operative through the village.	
Target 11. Have achieved by 2020 a significant improvement in the lives of at least 100 million slum dwellers	Accessibility to toilets, individual or collective, is now a reality for all the villagers.		
		A large recharge groundwater table programme has been completed.	
		Social empowerment is effective through the creation of users association and committees and entrusted by legal authorities, in the field of water, waste, sanitation, potable water, groundwater recharge and runoff control management and hygiene promotion.	

Goal 8	Develop a global partnership for development	<p>Global partnership for this project is involving : - international Aqua For All, Vitens, SDZ (Nederlands) - Zukunftsstiftung Entwicklungshilfe (Germany) - Fondation Ensemble (France).</p> <p>- Indian national, state and regional authorities</p> <p>- Panchayat</p> <p>- Auroville</p> <p>Transfer of experience is conducted to NGOs, local authorities and policy makers and to others Harvest's projects.</p> <p>Concept of Kottakarai's project is part of the overall water management concept for Auroville's area.</p>	<p>Income generation program :</p> <p>Vermicompost</p> <p>= 201 beneficiaries</p> <p>Tree-plantation (750 trees)</p> <p>= figure not yet available</p> <p>Aquaculture (1 pond) = figure not yet available</p>
	Target 12. Develop further an open, rule-based, predictable, non discriminatory trading and financial system (includes a commitment to good governance, development, and poverty reduction (both nationally and internationally)		
	Target 13. Address the special needs of the Least Developed Countries (includes tariff- and quota-free access for Least Developed Countries' exports, enhanced program of debt relief for heavily indebted poor countries [HIPCs] and cancellation of official bilateral debt, and more generous official development assistance for countries committed to poverty reduction)		
	Target 14. Address the special needs of landlocked developing countries and small island developing states (through the Program of Action for the Sustainable Development of Small Island Developing States and 22nd General Assembly provisions)		
	Target 15. Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term		
	Some of the indicators listed below are monitored separately for the least developed countries, Africa, landlocked developing countries, and small island developing states		
	Target 16. In cooperation with developing countries, develop and implement strategies for decent and productive work for youth		
	Target 17. In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries		
Target 18. In cooperation with the private sector, make available the benefits of new technologies, especially information and communications technologies			

4. RECOMMENDATIONS

4.1. Harvest : consolidated capacities, difficulties & recommendations

4.2. Projects : global validity & planned extension

4. RECOMMENDATIONS

HARVEST	CONSOLIDATED CAPACITIES	DIFFICULTIES & RECOMMENDATIONS
<p>Structure</p>	<p>Human resources : Reliability, adaptability to local context, close response to villagers' needs, innovation capacity. Harvest combines all together a global vision of the local and regional context and needs and tangible activities' programs on site.</p> <p>Equipment : Appropriate scientific and technological equipment.</p>	<p>Reports and documentation : Command of English and methodology in comparative statement need to be consolidated, so as to ensure a full valorization of results toward funding agencies.</p> <p>Networking with the authority : Difficulty in getting proper grip on the authority for financial support, while well connected.</p>
<p>Methodology</p>	<p>Efficiency : Consistency between planned results and state of progress of the activities of the project. Good quality of work and completion of activities both technically and socially. Good transfer of results for the entire area, Kottakarai being used a pilot village (exposure visits, transfer of technology and social methodology to other villages). Good transfer towards the authorities which allow for empowerment of the population.</p> <p>Integrated approach :</p> <ul style="list-style-type: none"> - adapted social approach (nearness of community organisers with the targeted population + choice of particularly adapted tools such as Participative Rural Appraisal) - appropriate & reliable and solid scientific and technical approach and solutions - rich experience which leads to solid understanding of the overall issue, appropriate choice of means and methodology and in depth social participation - environmental approach : overall Harvest program on the Kaluvelly-Pondicherry sedimentary coastal basin ensures a real global and integrated approach. 	<p>Integrated management: Necessity to consolidate the integrated management approach, particularly through specific trainings of project and department managers and staff when required, to avoid gaps between social and technical teams.</p> <p>Project's Follow-up:</p> <ul style="list-style-type: none"> -Lack of clarity in the project's follow-up and the reporting : lack of precise details in the activity reports, particularly contradictions in the quantities, dates of events, people concerned, etc. which explains partly difficulties in the project's follow-up and for the evaluations. - Various management tools exist but there is no proper general "visual" tool for the follow up of the project (chart form), especially for the indicators. This kind of tool is of major importance because of the intricate aspects linked to integrated management. <p>The proposed organization of the evaluation report through 6 main themes can bring a frame to the development of control checklists and be used as a clear and systematic basis for the reporting.</p>

	<p>Integration of sustainability factors :</p> <ul style="list-style-type: none"> - Integrated approach, orientation of objectives adequate to village needs - Social mobilisation and institutional construction (investment on children's programs /investment on women's programs / beneficiaries as financial contributors) - Responsibility and know-how transfers (capacity building, through the creation of local institutions) - Integration of major natural risks (tsunami, major floods) - Integration of major town planning projects/works (arterial roads, train, large economic activity poles) 	<p>- Record and valorization of the project:</p> <p>Importance to capitalize the gained experience, to create a record of the project, in particular through the creation of systematic methodological tools. Specific technical notes on technological innovations, errors & conflicts management and difficulties could be developed in order to extend the experiment to a larger area (ref. global objective defined in project proposal).</p> <p>Development of communication tools and training for the beneficiaries and the staff.</p>
--	---	---

Reminder, Long period objective of the project is :

To improve living conditions and income situation through an improved public health situation. To extend this integral approach to other villages once proven successful.

- ✦ **Recognition of the village as a reference demonstration site for Integrated Water & Sanitation Management**
- ✦ **Extension to the 2 other villages of the Panchayat**
- ✦ **Creation of a Panchayat water body**
- ✦ **Integration to Auroville water organization**

PROJECTS	GLOBAL VALIDITY	PLANNED EXTENSION
<p>"SALINITY MODERATING AND PROOFING OF COASTAL AQUIFERS", Fondation Ensemble</p>	<p>This project is the main constituent of the entire Harvest's water program, it creates the necessary changes in the physical context and a proper frame through the society, ensuring the sustainability of the approach and the easiness to attach more punctual and shorter activities. High degree of validity in regard to overall necessary changes.</p>	<p>Third year of the project, which should ensure the consolidation of the overall program and its sustainability.</p>
<p>"INTEGRATED VILLAGE WATER MANAGEMENT, KOTTAKARAI", Aqua For All, Vitens</p>	<p><i>Well designed pilot project, leads to easiness in transfer of gained experiences, address critical issues related to public health and water accessibility in a consolidated way, sizeable demonstration site for the surrounding population and replicability.</i></p>	<p><i>Extension to other villages of the area through the same funders</i></p>
<p>"GROUNDWATER RECHARGE II", City of Hilden</p>	<p>Single purpose oriented, straight forward solutions which benefit the entire program.</p>	<p>Similar program in the surrounding area with the same funder</p>
<p>"WATER RESOURCE REGENERATION, SUSTAINABILITY AND IMPROVEMENT OF LIVELIHOOD THROUGH DRY LAND FARMING AND INCOME GENERATION" Fondation Ensemble</p>	<p>This project planed to start in 2008 is conceived as a second Step toward Integrated Water Resource Management. It is targeting the main water consumers of the area, the farmers and wish to change the overall behaviour and pattern of water consumption through in depth changes in practices, means and market accessibility. High degree of coherence in regard to the key problems this area is facing</p>	<p>- Second 3 years project proposed to Fondation Ensemble. The realisation and gained experience of the first project lead to new targets which will consolidate, deepen and enlarge further the results both environmentally, technically, socially and economically.</p>
<p>Other programs</p>		<p>"Securing the water resources in the Kaliveli region" A large 10 years project proposal submitted to the Ministry of Water Resources of India covering 1000km², based on Bunding the wasteland areas above the aquifers and along the water ways Building recharge structures to ensure that rain water reaches the aquifers. Repairing the channels connecting to the tanks in the area so that a large storage area is created. To get farmers in the region to adopt new methods of farming coupled with incentives to switch to water saving practices, organic agriculture and market accessibility. This program benefit largely from the Salinity Proofing experiments and results in terms of content and approach.</p>