

REPUBLIC OF SENEGAL

**MINISTRY OF URBAN
DEVELOPMENT, HOUSING,
WATER AND SANITATION**

**DIRECTRATE OF OPERATION
AND MAINTENANCE**

**SENEGALO-JAPANESE
COOPERATION**

JICA

**JAPAN INTERNATIONAL
COOPERATION AGENCY**

**PROJECT ON SAFE WATER AND SUPPORT
FOR COMMUNITY ACTIVITIES (phase 2)**

PEPTAC2

Final Report

(Summary)

March 2010

EARTH & HUMAN CORPORATION

KOKUSAI KOGYO CO., LTD.

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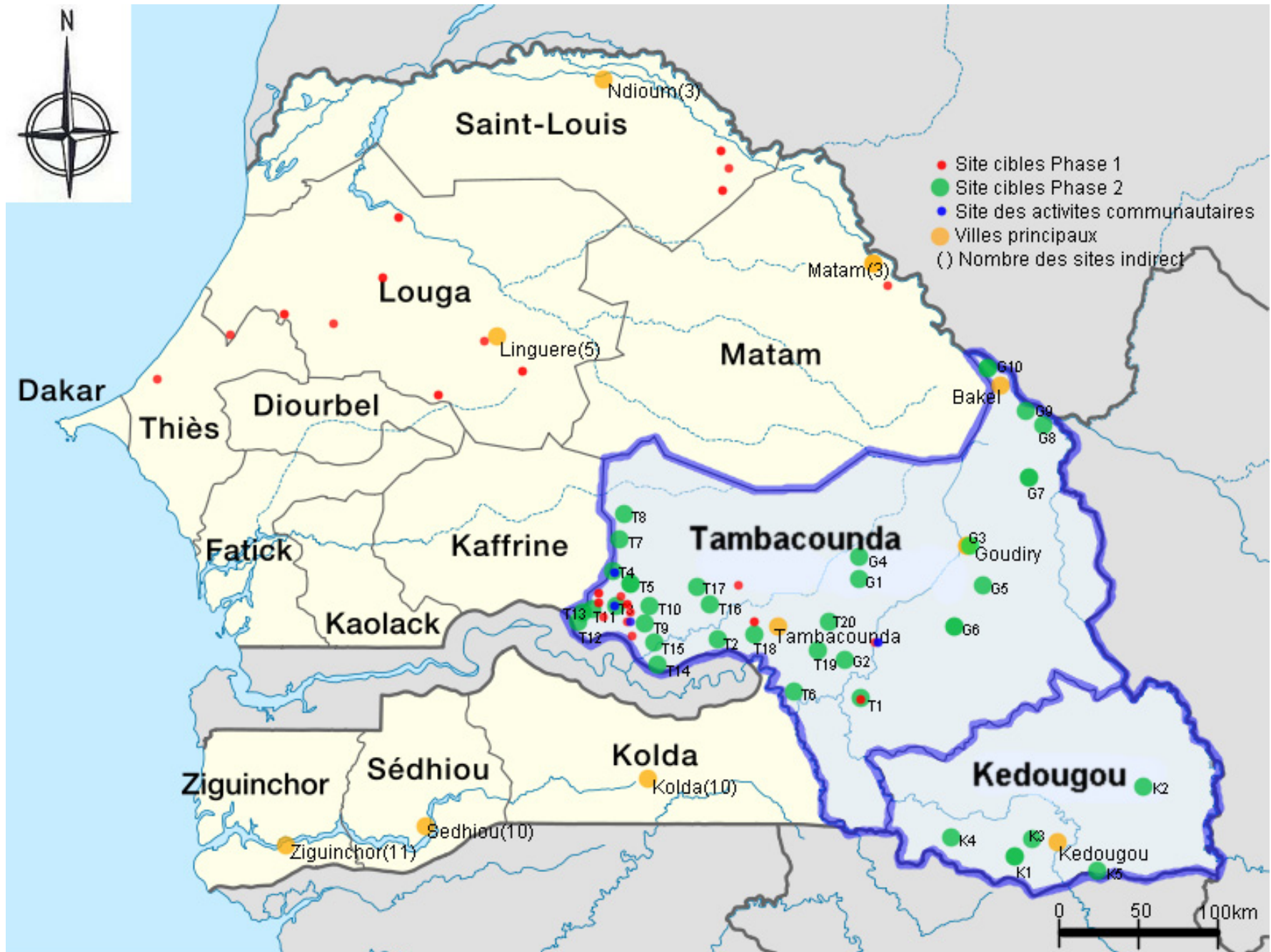
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Exchange rate

March 2010

EUR1.00=¥120.49

F.CFA1.00=¥0.187



Location of the Project's Target sites

Photos: PEPTAC Phase 2 Activities (Result 1)



Workshop on the rehabilitation works



Small scale rehabilitation works



Survey on the facilities in Bidiancoto Borehole Inspection



Borehole operators' training

Photos: PEPTAC Phase 2 Activities (Result 2)



Sensitization and animation



Executive board's training



ASUFOR Monitoring and follow up during weekly market day



Monitoring Activities: meter records

Photos: PEPTAC Phase 2 Activities (Result 3)



Survey on users (Kédougou)



Meeting with the suppliers and artisans repairmen in Kayes (Mali)



Distribution of manuals and spare parts

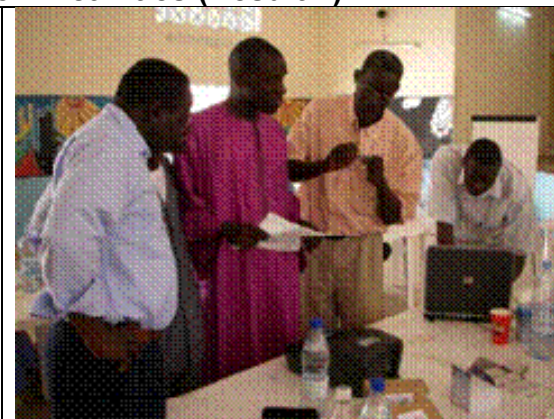


Area Mechanics' Training

Photos: PEPTAC Phase 2 Activities (Result 4)



Explication of the water usage guidelines (Borehole operators' training)



Course on water analysis techniques (workshop on the water quality check) each group experienced analysis.



Water usage guidelines and Directions on the quality of the distributed Water to the borehole operator of Bamba Thialene



Analysis on water quality on site

Photos: PEPTAC Phase 2 Activities (Result 5)



« Activity continued since the previous year»
PFH training, hygiene sensitization



«Activity continued since the previous year»
Water examination in target sites



« Activity for sustainability» Exchange of information
and experiences among the regional players



«Feed-back on activities, Participative Evaluation»
Participative Evaluation on behavior changes using
PHAST photograph print series

Photos: PEPTAC Phase 2 Activities (Result 6)



Exchange workshop on community activities
experiences



Sale of vegetables at a market



Directions on vaccination by veterinarian



Training on grafting

Abstract

<Objectives of the Project, level of realization, Constraints for each expected result>

The Project Objective of PEPTAC2 “The system for the sustainable use of potable water is established in the project sites” and its Overall Goal “The system for the sustainable use of potable water is broadly diffused in the target area” as well as each of the six indicators presented below are almost satisfied, as the planned activities have been all executed.

Result 1: The Maintenance system of water facilities was established, namely for effective repair of minor system troubles in 26 sites, and the periodical monitoring system using mobile phone network is established. However, as far as the private sector’s involvement in the concerned maintenance activities, the State established a plan of introduction; so for the time being we still need to keep applying the current water supply facilities management and maintenance system.

Result 2: ASUFOR system is established in 35 direct sites (the beneficiary population is about 90,000). Out of 35 sites, 33 ASUFORs opened a bank account, water sale by volume is effective in 34 sites, and in 28 direct sites, fee collection rate exceeds 80%.

The number of female members in the Executive Board exceeds 30% of the total in 31 sites. 21 ASUFORs hold regularly Executive Board Meetings, and for this to continue supervision by the BPF is expected.

The PEPTAC 2 manuals are highly appreciated. This is further demonstrated by other donors and NGOs engaging for their diffusion. An actual insufficient monitoring system of ASUFOR activities is thought to be a retarding factor of its slow establishment. Continuous instructions and guides by government officers in charge are needed in the coming future.

The Project also deployed its efforts to support ASUFOR establishment activities in 42 indirect sites.

Result 3: This indicator was 100% attained. In total, 32 area mechanics (artisan repairman) were trained and dispatched in the target areas; the number of trained mechanics exceeded the predictions. The target sites entrusted the management and maintenance of more than 300 hand pumps to the area mechanics trained under the Project.

Result 4: All direct site borehole operators were retrained, mainly in order to strictly promote rational use of water resources. A kit for water quality analysis was provided.

Result 5: 1,431 focal points (FP) were trained in the target sites and deployed in target sites as resources persons for initiation activities.

The Guideline for Hygiene Animator was developed in collaboration with the concerned organizations (4 ministries and 9 institutions.), with public organizations (3), donor agencies (3), ONG (5), which started using the Guideline.

Modern toilet facilities’ construction was completed in 3 model sites, in collaboration with UNICEF and the Rural Community of BAMBANA. Village people themselves constructed 72 toilet facilities; generally speaking, hygiene environmental is constantly improving.

However, there is still room for maintaining such incentive towards hygiene promotion activities. As an example, schoolboys’ involvement in hygiene education will allow maintaining people’s awareness.

Result 6: A pilot site was established in 4 sites.

99% of the population that took part in community activities responded that: <their living standards improved.> and 100% of the population felt a positive effect from the activities.

The Project conducted the activities with the participation of the players and supply of materials was undertaken with the support of various ministries, such as the Ministry of Agriculture, the Ministry of Livestock, the Ministry of Environment and the Ministry of Women Entrepreneurship.

4 villages emulated the activities initiated in the model sites and started income generating activities.

The remaining challenge is to promote awareness and commitment for rational use of water resources and the use of biological and environment-friendly methods of pest control.

<Interventions for the sustainable development of the activities of PEPTAC2>

For the sustainability of the PEPTAC2 activities, regular budget for monitoring activities needs to be secured but we also need to permanently mobilize funds from other donors.

In the Tambacounda region, a certain number of regional organizations take interest in those activities initiated by PETPAC2 and dispatched their staffs to attend the PEPTAC 2 training sessions and even gave financial contributions for it. It would be good for them to sustainably include it in their respective budgets.

As mentioned above, collaboration among the various actors is indispensable for a long term development of these activities initiated along with the populations. DEM shall play a facilitating role among the various actors.

Generally, it appears from monitoring activities a top-down instruction image; say from administrative bodies to populations. However, considering that by public bodies' actions are constrained by shortage of budget and staffs to undertake regulation related role, mutual trust needs to be promoted between the two sides and this thanks to regular exchanges.

<Lessons Learned / Recommendations>

We need to pay a particular attention to the developments in water supply systems' maintenance after its transfer to private sector. For the moment, ASUFOR installation and maintenance of water supply facilities in Tambacounda and Kédougou regions are under the primal responsibility of the Maintenance Subdivision and the BPFs. A major challenge might be how to undergo the transition period until effective transfer of all areas in Senegal. On the other hand, each water supply system has a limited lifespan and is liable to heavy breakage that cannot be managed by the populations; such situation is provided for under what we should call "cost sharing among the State and the populations".

The ASUFORs need to draw forecasts of budget, but also to consider existing systems that enable the populations of the sites with hard socioeconomic situation water, for example using hand pumps.

Hand pumps seem to be the only solution in many villages and enable supplying large groups of people with water, thus it would be appropriate for the government to provide for the maintenance of the hand pumps and establish clear policies for its management.

As regard water quality a process was established to check water quality. If some abnormalities are noted, the population warns the BPFs and the maintenance subdivision undertakes checks. However, some conservative measures were undertaken to prevent unhealthy water.

A system was established to check pumping volumes and allows preventing groundwater's exhaustion or sand appearance, major system troubles which are difficult to be fixed. To avoid such troubles, the concerned actors (ASUFOR and borehole operators) always need information sharing with the BPF.

As regards hygiene, continuous support is indispensable in order to sustain the activities among the populations. Under such circumstances, besides monitoring by administrative bodies, the populations are expected to commit for its up taking, by constructing toilet facilities for example.

As regards community activities, it is necessary to recognize that water usage must cover, first of all, human and animal demands and populations need to avoid inappropriate water usage which could negatively affect water resources.

The PEPTAC2 activities were diversified and conducted with the involvement of all actors.

Consequently, it is not necessary to concentrate all the activity constituents under one single ministry; we rather need to create a synergy for its sustainability.

PROJECT ON SAFE WATER AND SUPPORT

FOR COMMUNITY ACTIVITIES (phase 2)

Final Report (Summary)

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Acronyms

Abbreviation	Signification
ARD	Agence Régionale de Développement (Regional Development Agency)
ASUFOR	Association des Usagers de Forages (Borehole Users' Association)
FDA	French Development Agency
AfDB	African Development Bank
BADEA	Arab Bank for Economic Development in Africa - BADEA
IDB	Islamic Development Bank
BPF	Brigade des Puits et des Forages (Water Supply Brigade)
ECOWAS	Economic Community of West African States
C/P	Counterparts
RC	Rural Community
CRD	Comité Régional de Développement (Regional Development Committee)
CTB	Coopération Technique Belge (Belgium Technical Cooperation)
DAs	Direction de l'Assainissement (Division of Sanitation)
DEM	Direction de l'Exploitation et de la Maintenance (Directorate of Operation and Maintenance)
DGPRES	Direction de la Gestion et de la Planification des Ressources en Eau (Water Resources Management and Planning Division)
DHR	Direction de l'Hydraulique Rurale (Division of Rural Water Supply)
DRDR	Direction Régionale du Développement Rural (Regional Division for Rural Development)
DSRP (PRSP)	Poverty Reduction Strategic Paper
FAO	Food and Agriculture Organization of the United Nations
FCFA	Franc de la Communauté Financière Africaine (African Financial Community Franc)
EDF	European Development Fund
KFAED	Kuwait Fund for Arab Economic Development
F/R	Final Report
IC/R	Inception Report
IDA	International Development Association
IEC	Information, Education and Communication
I/R	Interim Report
JICA	Japan International Cooperation Agency
JOCV	Japan Overseas Cooperation Volunteers
KfW	Kreditanstalt für Wiederaufbau
MHRRHN	Ministère de l'Hydraulique rurale et du Réseau hydrographique national (Ministry of Rural Water Supply and National Hydrographical Network)
MEF	Ministry of Economy and Finances
MINT	Ministry of Interior
MUHHHA	Ministère de l'Urbanisme, de l'Habitat, de l'Hydraulique urbaine, de l'Hygiène publique et de l'Assainissement; (Ministry of Urbanism, Habitat, Urban Water Supply, Public Hygiene and Sanitation)
MSP	Ministère de la Santé et de la Prévention (Ministry of Health and Prevention)
NGO	Non-Governmental Organization

Abbreviation	Signification
OJT	On-the-job training
MDGs	Millennium Development Goals
WHO	World Health Organization
ONAS	Office National de l'Assainissement du Sénégal (National Sanitation Office of Senegal)
PADV	Projet d'Appui au Développement Villageois (Supporting Project for Village Development)
PAGIRE	Plan d'Action pour la Gestion Intégrée des Ressource en Eau (Action Plan for the Integrated Management of Water Resources)
PAPEL	Projet d'Appui à l'Élevage (Project for the Promotion of Livestock)
PARPEBA	Projet d'Amélioration et de Renforcement des Points d'Eau dans le Bassin Arachidier (Project for the Improvement and Strengthening of Watering Points in the Basin Arachidier)
PCM	Project Cycle Management
PCR	Président du Conseil Rural (President of the Rural Council)
PDM	Project Design Matrix
PEPAM	Programme d'Eau Potable et d'Assainissement du Millénaire (Millennium Drinking Water and Sanitation Program)
PEPTAC	Projet Eau Potable pour Tous et Appui aux Activités Communautaires (Safe Water and Support for Community Activities)
PFH	Point focal d'hygiène (hygiene focal point)
PLD	Plan Local de Développement (local development plan)
PLHA	Plan local de l'Hydraulique et de l'Assainissement (Water Supply and Sanitation Local Plan)
PNIR	Programme National d'Infrastructures Rurales (National program for Rural Infrastructures)
P/R	Progress report
PRA	Participatory Rural Appraisal
PRRESFMER	Projet de Réhabilitation, réalisation et Equipement des Sites de Forage en Milieu Rural (Project for the Rehabilitation, Construction and Equipment of Borehole Sites in Rural Areas)
PRS2	Programme Régional Solaire 2 (Regional Solar Program 2)
PSH	Programme Spécial de l'Hydraulique (Special Water Supply Program)
R/D	Record of Discussions
REGEFOR	Réforme du Système de Gestion des Forages (Water Supply Systems' Management Reform)
SONES	Société Nationale des Eaux du Sénégal (Senegal National Water Company)
SDE	Sénégalaise des Eaux (Senegal Water Company)
SM	Subdivision de Maintenance (Maintenance Subdivision)
SP	Sub-prefecture / Sub-prefect
S/W	Scope of work
UEMOA	West African Economic and Monetary Union
UNDP	United Nations Development Programme
UNICEF	United Nations Fund for Children
W/S	Workshop

Glossary

Glossary	Signification
PEPTAC1	Abbreviation for <Projet Eau Potable pour Tous et Appui aux Activités Communautaires Phase1> - February 2003 – January 2006
ASUFOR	Abbreviation for <Association d’Usagers de Forage>. (water users’ association)
Level 2 water supply facilities	Ouvrages de production d’eau dotés d’équipement motorisés ou solaires. (water supply system equipped with motorized or solar engine)
Level 1 water supply facilities	Forages équipés de pompes à motricité humaine. (borehole equipped with hand pumps)
PEPTAC Phase 2	Abbreviation for <Projet Eau Potable pour Tous et Appui aux Activités Communautaires, Phase 2> Decmebre 2006 – March 2010.
Direct Site	35 Sites with Level 2 water supply system, located in Tambacounda region. Japanese experts intervene directly with their Senegalese counterparts in order to promote and disseminate the ASUFOR system. (hereinafter referred to as <direct sites>)
Indirect Site	Sites where DEM staff themselves establish ASUFOR on their own without any support from the Japanese experts (Ziguinchor, Sédhiou, Matam, Saint-Louis, Louga and Kolda regions)
Pilot Site	4 Sites where <community activities are conducted >. (Hereinafter referred to as <the pilot sites>).

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1. Project Background

In Senegal, whereas access rate to drinking water is 78% (2002) in urban areas, it is stagnating in rural areas where 60% of the population with 56% lives; more the 40% of rural populations still do not have access to drinking water. Under such circumstances, as part of its policy for the development of the health and hygiene sectors and poverty reduction, namely, the government of Senegal highly prioritizes drinking water supply; It's set objective is to lift rural access to water up to 78% to the target year 2015 in line with the objectives set forth in the Poverty Reduction Strategic Paper (PRSP) and the MDGs (Millennium Development Goals).

With regard to such a situation, our country considered the rural water supply field as a key sector constructing about 110 Level 2 water supply systems over 20 years of cooperation.

So far, water supply systems' management was handled by village people that are the direct beneficiaries of the implemented projects under an organizational and institutional framework where water management committees prevail; with such a management system the sustainable management of the water supply systems, along with good maintenance and repair is not really established. Similarly, among the administration that is responsible for the management of the water supply systems the situation is not so good, namely regarding finances, number of personnel and technical capacities.

Judging from such a situation, Senegal initiated the phase 2 of the PRSP (Poverty Reduction Strategic Paper) currently under implementation. The improvement of access to drinking water in the rural areas being a priority issue, the government of Senegal developed to that respect the so called program <PEPAM 2015 (Millennium Program for Drinking Water Supply and Sanitation)> in 2005, in order to implement the PRSP. The related arrangements for water supply services are currently under implementation in line with the orientations of PEPAM.

PEPAM includes the whole of the dispositions that relate to water supply and sanitation issues, both in urban and rural areas, it aims at enhancing the current population benefiting from access to water by increasing the current rate, 64% up to 82%. The activities of PEPAM are designed to cover two aspects; namely infrastructure layout related aspect and soft component (human and technical related aspect). The present project mainly proposes a support for the soft component covering the following aspects: **【Repair of wells】** **【Borehole rehabilitation】** **【Health education】** **【Water management related capacity building】** **【Monitoring related capacity building】** ...,etc. The outstanding activities being 1) support to ASUFOR animation activities, 2) support for the establishment of water supply systems' operation and maintenance through the collaboration among the administration, the users and the private sector.

The Project aims at establishing while availing of the Phase 1 results, <a system for the sustainable use of drinking water supply > in the target Phase 2 borehole sites. As a result of the discussions between JICA and the Ministry of Agriculture, Rural Water Supply and Food Security, the two parties made an agreement and signed in November 2006 the Record of Discussions (herein after referred to as <R/D>) and the Minutes of discussions (hereinafter referred to as <M/D>), where the Project frame is described.

1.1 PDM (Project Design Matrix)

The Project shall be implemented in line with the Project design Matrix agreed in the above mentioned M/D. However, further to the deliberations between the Senegalese and Japanese Authorities in January 2007, the initial PDM was revised as shown in the following section.

Let us point out that the content of this PDM will be revised if necessary upon agreement with the two parties.

(1) Project Objective/ Overall Goal

The objectives of this Project are as follows:

Project Objective

【The system for the sustainable use of potable water is established in the project sites.】

Overall Goal

【The system for the sustainable use of potable water is broadly diffused in the target area.】

(2) Expected Results

The expected results for achieving the aforementioned objectives can be summarized into the following 5 components. (*When the M/D was signed, the expected results were composed of 6 components. However, the document was revised and discussions with the Senegalese side covered 5 components.)

1. The system for the operation and maintenance of water supply facilities is established through the collaboration between the administration, the users and the private sector.
2. The ASUFOR is installed, operational and properly managed in the sites with motorized systems.
3. The management and maintenance system is established in the two pilot sites equipped with Hand Pumps (PMH).
4. The water utilization is in line with the water usage guideline developed for the direct sites.
5. Hygiene practices among the populations of the direct sites are improved.
6. The community based activities are installed in the pilot sites.

1.2 Project Implementation Period

The Project implementation covers 4 years from December 2006 to March 2010 as indicated below.

1st year : We will undertake preparing for the activities, preparing the project base, making an inventory study, defining orientations for the activities. An inception report will be prepared in collaboration with counterparts.

2nd year : At the start of the Project a seminar will be held for the launching of the Seminar, in order to explain the project orientations referring to the inception report. As regards concrete animation activities the 1st year efforts will be pursued to establish the project base; the target sites will be selected; the baseline survey will be conducted, so actual activities will be launched.

3rd year : The effective activities conducted during the 2nd year will be continued; parallel to that we are proposing a management model for Level 1 facilities, we also support

ASUFOR animation in indirect sites and extend potential sites for community based activities. As regards the control on project implementation, a mid-term evaluation will be conducted in the concerned sites.

4th year : We concentrate our main efforts on the sustainable and autonomous development of the activities conducted during the last three years. We will undertake the activities related to the transfer of the Project and to the recommendations to the beneficiary country. The impact study will be conducted prior to the joint evaluation at the Project's completion.

1.3 Project implementation scheme

The operation, maintenance and repair of the water supply facilities throughout the country was under the responsibility of the DEM (Directorate of Operation and Maintenance, hereinafter referred to as <the DEM>), under the Ministry of Agriculture, Rural Water supply and Food Security with the support of the Japanese Experts Team. Besides DEM's involvement, the Project is implemented using several approaches with the effective participation of the concerned ministries such as the Ministry of Health, Prevention and Public Hygiene, the Directorate of Agriculture, the Ministry of Livestock, the Ministry of Women Entrepreneurship, the Regional Development Committee, the Rural Community (RC), the donors, etc. (See corresponding chapter for further details.)

1.4 Issues to be considered in Project implementation

To be innovative as compared to other donors, PEPTAC2 adopted its own specific approaches for the implementation of the Project.

(1) Gender Issues

PEPTAC2 stressed gender issues from the outset of the Project. For the simple reason that they are the main users of water so women have a lot to do with water management in everyday life. Every day, women go and fetch water and cook household meals. That is why we think that women will necessarily be involved in ASUFOR activities and give their point of views.

Despite our attempts, women's involvement faced some constraints; 95% of the population of Senegal being Muslims, men's opinions prevail in this country, namely in the rural areas. Under such circumstances, PEPTAC2 tried several approaches to solve the gender related issues.

For your reference, the Project tried to <solicit the collaboration of the heads of local governments and local Imams, in order to solve the problems with the support of neutral intermediary persons such as school headmasters, etc., by inviting the members of the ASUFOR of another site deemed excellent in order to convince male members on the gender issue, using local languages.>

The most interesting thing is that when PEPTAC2 started dealing with these kind of issues women started giving their opinions by and by whereas they did not dare taking the floor so far.

The status of women's participation in ASUFOR activities will be discussed later. Globally, the proportion of female member of ASUFOR executive board exceeds 30 % in more than 90% of the sites of PEPTAC2, water meters' management is 100% undertaken by women. We identified the main reasons below: <women are stricter regarding money keeping.>; <men cannot feed their families by just keeping water meters all day long.>. The Project team <appreciates women's active participation and thinks that it is necessary to involve women in the management and maintenance of the rural water supply facilities.>

(2) Elaborating easily understandable manuals

Even if many manuals are available in French, the village people do not understand French. French is the official language of Senegal but a foreign language for most rural populations. That is why the Project translated the existing manuals in various local languages with the support of the Linguistic Department of the Dakar University.

Considering that the majority of the populations are Muslims thus used to the Holy Koran, which is written in Arabic, the manuals were translated in Arabic language as well.

Those manuals are appreciated and adopted by the other donors and NGOs.

(3) Ethnic Considerations

There are many ethnic groups in Senegal. It is difficult to find communities where there is one single ethnic group. However, when ASUFOR executive committee members are nominated by <election>, all the positions will be occupied by the dominant ethnic group.

In the contrary, PEPTAC2 considers that «access to potable water must be equitable for everybody» and this is necessary to make the necessary arrangements so that each ethnic group would be represented in the ASUFOR management.

PEPTAC2 requested each site to distribute the positions in the ASUFOR organs in due consideration of the ethnic proportions, except when none of the members of the concerned ethnic groups qualifies or when they do not attend the periodical meetings.

(4) Involvement of People residing outside the target sites

The populations living in central villages and surroundings are not the only users of water supply systems. Migrants also bring their cattle to drink water. The PEPTAC2 project team invited those people to attend the meetings for information sharing. Actually, it is difficult to organize the meetings at a moment that would suit to the cattle breeders but we asked the ASUFOR members to take this aspect into account. ASUFOR members know very well the right moments to have those meetings since cattle breeders take the same route every year.

2. Capacity Building

In PEPTAC2 capacity building addresses not only the counterparts but any level this is one of the specificities of the Project.

The issues relating to the strengthening of the capacities of the counterparts will be discussed later in the reports on the individual expected results. In this section we will report the results on capacity building for other personnel exclusive of the counterparts.

2.1 Counterpart Training

(1) Counterparts' capacity building by PDM

<Overall Project >

Generally speaking, it was noticed a marked improvement in the counterparts' capacities at central level in terms of presentation documents writing, oral presentation and report preparation. Through discussions made during the various meetings held, it was confirmed that the understanding in terms of the Project has been strengthened. Therefore, we can think that the effectiveness of the Project activities has been confirmed. The know-how relating to survey is capitalized through the different surveys.

<Result 1>

The counterparts acquired capacities in various fields: tools preparation capacities through the borehole maintenance manual writing, the trainer's know-how through participation in the trainings, the borehole rehabilitation process experiences with private contractors.

<Result 2>

The counterparts have acquired the know-how in manual preparation during the review of the manuals developed in Phase 1 of PEPTAC. The chiefs of the 9 BPFs in both direct and indirect sites built their capacities through the establishment and monitoring of the ASUFOR.

<Result 3>

The capacity building is related to hand pumps rehabilitation techniques, through manual writing works and local craftsmen training. The presence of hand pumps has been noticed with the importance of the support; this contributes the most to the capacity building.

<Result 4>

The counterparts built their capacities in terms of the quality of water from the borehole. It was useful to initiate the BPF agents to water analysis techniques and the importance of water supply systems control. It is important to provide knowledge related to limitation give information about groundwater resources potential risks, this will strengthen the counterparts capacities.

<Result 5>

Result 5 capacity building concern agents from DEM and those of the Ministry of Health Directorate of Public Hygiene. The main components of capacity building relate to know-how acquisition through manuals development, capitalization of coordination experiences with other concerned organizations, such as coordination of the Rural Community and UNICEF as regards construction of latrines and training of hygiene focal points in order to make of them trainer in the site.

<Result 6>

The capacity building designed for DEM has significant differences as compared to that of the counterparts dealing directly with agricultural production. At DEM, the capacity building concern appropriate water use (Consider wasteful consumption of water.) with the water shut-down mechanism to regulate the operation as compared to the maximum capacity of the borehole. (The water from the borehole is supplied first and foremost for the villagers and their livestock.) With counterparts, the capacity building was ensured in the field of technical assistance intended to the operating group and monitoring.

(2) Overseas training to Japan

PEPTAC2 sent four of DEM staffs to Japan for overseas training as part of the training program implemented in Japan.

In the second year two counterparts benefited from individual overseas training to Japan. These are Mr. Babou Sarr (DEM Director) and Mr. Papa BAKHOUM (Head of Tambacounda Brigade). They visited the water supply facilities in Hirakata, at the Nippon University and at Komagané. At Hirakata, the participants observed water supply units and acquired water adduction policy related knowledge and techniques. At the <International Relations > section (city of Mishima, department of Shizuoka) of the Nippon University they observed environment planning works undertaken by the players from the population, the University, the private sector, and learnt the importance of Partnerships among the players at various levels. At Komagané, in Nagano department, they visited the public works (zoo planning) undertaken along with the populations as soon as planning stage. They learnt about the participatory approach used by the population.

In the 4th year, the Project sent two more heads of BPF (Brigade des Puits et des Forages), Mr. Dahamed AIDARA from Kédougou and Mr. Souleymane BODIANG from Goudiry to take collective overseas training to Japan in order to build their capacities. Please check in the Annex the report on overseas training to Japan that were prepared during the last year (4th year).

(3) Third country training

Subsequently to consultations with the counterparts relatively to third country training scheme during 2009, the Project dispatched the counterparts to CREPA (Centre Régionale pour l'Eau Potable et l'Assainissement à faible coût) / (Regional Center for low cost Drinking Water Supply and Sanitation) that offer training sessions on technical aspects (soft) of water supply in West African countries.

They joined two training sessions: the 1st one concerned the below important topic <l'Établissement de partenariat entre le public, le prive et la société des services d'eau et d'assainissement> from October 5 to 9 in Burkina Faso with the participation of Ms. Aminata

Sow GUEYE in charge of sanitation in PEPTAC2, Mr. Yaya SOUANE, head of kolda BPF, Mr. Baboucar DIEME, head of Ziguinchor BPF.

The content of that training related to sanitation services for individuals and local society. To the participants the training session was < very fruitful >.

The 2nd training session dealt with the < Water and sanitation services Management: New public, Management, Leadership, institutional Arrangement, and Tariff setting >. This training session took place from November 16th to 20th, 2009 in Benin with the participation of Mr. Mass NIANG, Project Coordinator, and Mr. Babacar DIALLO the head of Sédhiou BPF. This training session aimed at <improving water supply and sanitation related management capacities >, this topic is directly related to the current responsibilities of the participants. Considering that the Ministry of hydraulics solely deals with <water>, the sanitation component of the training contributed enlarging their knowledge sphere. (Please find in the annex the training report, for further details.)

2.2 Other actors' Training

(1) Area mechanics for hand pumps: Training for local technicians

The Project divided the regions of Tambacounda and Kédougou into several sub-regions. The local technicians repairing the hand pumps were trained, provided with the necessary tools and dispatched in each sub-region. The local technicians already started operating. The neighbouring populations are now recognizing them.

Presently the West African Economic and Monetary Union (UEMOA) launched a project for the construction of 300 hand pumps in this region. UEMOA requested support from PEPTAC2 regarding the maintenance of the hand pumps installed by the UEMOA project by dispatching the technicians trained by PEPTAC2.

UEMOA heard about the reputation of the local mechanics so recognized their capacities. The Japanese experts and counterparts in charge of training but also the local mechanics had mutual trust. If the area of coverage becomes broader this further enhances the technicians' autonomy.

(2) Toilet construction Artisans

Under the hygiene education component of PEPTAC2 toilet facilities were constructed in collaboration with UNICEF (provision of materials), local governments (funding), ASUFORs and local populations. On the practical level, the construction works were undertaken by local artisans who learnt the construction technique through OJT (on the job training).

After the first one was constructed these toilet facilities spread rapidly with the populations giving their contributions. The local artisans are very busy constructing toilet facilities; they even visit other sites to provide training on toilet construction techniques in other sites.

Thus, PEPTAC2 deployed many effort for the development of local human resources so that to upgrade the concerned rural community.

(3) Training for the personnel of other organizations

So far, PEPTAC2 organized various training sessions. During those training sessions we often got solicitations from other players asking if: <we should not mind accepting their staffs in our training?>.

For instance, the Tambacounda Regional development Agency (ARD) and some NGO applied for their staffs to join our training session; this is a proof of the good quality of PEPTAC2's training sessions. This further shows that the results of PEPTAC2 expanded beyond the Project.

(4) Capacity building for the personnel of other community activity groupings

PEPTAC2 significantly contributed to community based activities (individually or in groups) in all villages. For instance, agriculture and small animal breeding are now developing

at the household level. It will be difficult to get improvements on incomes at once but household diet is improving by and by. These activities are developing within the community.

In addition, the ASUFOR board members' training process includes accounting techniques, sound management of the organizations, and coordination with other players, which are very useful for the groupings. Consequently, the knowledge acquired by the members of the ASUFOR board is being reflected on other community activities.

2.3 Project Extension in coordination with other donors and NGOs

PEPTAC2 developed various products, the majority of which were adopted by other organizations.

The Project target isolated sites in Tambacounda and Kédougou regions but the results are disseminated at the national scale thanks to the activities conducted by other organizations.

The Table below describes the products developed by PEPTAC2 and their diffusion.

Name of Article	Content/Organization using the Article / scope of diffusion
< Result 1 >	
Small scale rehabilitation guide	<ul style="list-style-type: none"> • Guide outlining a series of small scale rehabilitation approaches. • BPF • This Guide allows BPF agents to execute small scale rehabilitation works, it is also a reference document on the occasion of the partial transfer of power to the private company considered by DEM.
Operators' Manual	<ul style="list-style-type: none"> • Daily borehole management and maintenance manual designed for the operators • BPF, ASUFOR, operator • The standardization of the manual is being considered with other donors, with DEM's consent for a possible dissemination.
Diagnosis table, in the event of the borehole's breakdown	<ul style="list-style-type: none"> • Questionnaire sheet used to make a preliminary diagnosis by telephone in the event of the water supply systems breakdown before the visit of the BPF agents. With that sheet, it is possible to make a decision on a given situation and the actions required and make the BPF task more efficient. • BPF, ASUFOR operator • The standardization of the Diagnosis table will be considered with other donors with DEM's consent in view of its dissemination.
< Result 2 >	
Improved Tool box	<ul style="list-style-type: none"> • ASUFOR system Awareness/Extension teaching material • BPF • PARPEBA adopted the tool box developed by PEPTAC2 for the ASUFOR awareness/extension.
Rules and regulations (Mandinka, Diola, Arabic)	<ul style="list-style-type: none"> • Written document governing the ASUFOR members rights and responsibilities as regard the management of organization • BPF, community members of the sites • Request for use of the regulations by NGOs (CARITAS, EAU VIVE) and PARPEBA.
ASUFOR awareness/extension booklet	<ul style="list-style-type: none"> • Complete booklet containing all ASUFOR awareness/extension essential extracts

	<ul style="list-style-type: none"> • BPF, ASUFOR members, donors • The booklet is partly used by local NGOs
< Result 3 >	
Hand pumps water facilities up keeping and maintenance model.	<ul style="list-style-type: none"> • Essential manual, outlining the local mechanics intervention system, their training, the spare parts supply network. The models are standardized. • BPF <p>The models are available at the BPFs with which they will be capitalized.</p>
Hand pump water facilities up keeping and maintenance Policy	<ul style="list-style-type: none"> • The policy defines the regulations to be respected and related to the management of hand pumps water supply facilities • BPF, site's population • The policy is in force in some BPFs, UEMOA Projects and some NGOs
Structures organization manual for the management and maintenance of hand pump water facilities	<ul style="list-style-type: none"> • The manual the structures organization process for hand pump water facilities management • BPF, site's population • The policy is in force in some BPFs, UEMOA Projects and some NGOs
Local repairman training fascicle	<ul style="list-style-type: none"> • The fascicle defines the training process of local repairmen in charge of the of hand pump water facilities. • BPF, donors • The Le Fascicle is adopted and disseminated by a few BPFs, UEMOA and NGOs
Manual repair procedure in Tambacounda and Kédougou regions	<ul style="list-style-type: none"> • The manual describes the present situation of the given area (local repairmen index map sheet, spare parts supply, etc.) • BPF, Population, donors <p>The manual is adopted and disseminated by a few BPFs, UEMOA and NGOs</p>
< Result 4 >	
Water User's Guide	<ul style="list-style-type: none"> • The guide outlines the borehole specifications and the water pumped volume capacities in direct sites. Through this guide, the operator (under BPF supervision), activates water supply facilities.
Operators' maintenance panel	<ul style="list-style-type: none"> • The display panel has been placed in the pump shelter at direct site to keep the operators informed about useful information
Water quality control booklet	<ul style="list-style-type: none"> • Booklet outlining each site water analysis results and the actions required in case of water related anomalies. The booklet is designed for ASUFOR members and operators.
Inventory of water supply facilities data for management and maintenance	<p>Inventory gathering baseline information on the boreholes' management and maintenance. With the inventory, it is possible to immediately identify information related on facilities in the occurrence of a breakdown (equipment specification, construction year, etc.) and to take adequate actions as soon as possible.</p>
< Result 5 >	
Hygiene facilitator guide (PHAST card)	<ul style="list-style-type: none"> • Guide regrouping tools and which is used to provide basic knowledge necessary for the hygiene facilitator training (PFH) • BPF, agents from Public Hygiene Department, PFH • The guide is validated by the Senegalese organizations concerned and partners and donors intervening in the sector. Through those the guide will be large scale disseminated.
Gender consideration related	<ul style="list-style-type: none"> • These are guidelines used to better understand gender

manual	<p>related questions in overall PEPTAC2 activities</p> <ul style="list-style-type: none"> • BPF • The manual will be disseminated through the ASUFOR awareness/extension
<Result 6>	
Community based activities implementation manual on the population's autonomy	<ul style="list-style-type: none"> • Manual outlining the community based activities implementation approaches on the population's autonomy • Counterparts on the field • The manual is adopted by the ARD and the various Ministries regional services represented in region of Tambacounda
Community based activities technical data sheet	<ul style="list-style-type: none"> • Sheet gathering techniques in the agro-sylvo-pastoral field • Counterparts on the field, participants in the activities • The technical data sheets are adopted by the ARD and the various Ministries regional services represented in region of Tambacounda
Consciousness raising tool box for community based activities implementation	<ul style="list-style-type: none"> • Teaching aid for the implementation of community based activities • Counterparts on the field • Tool box is adopted by the ARD and the various Ministries regional services represented in region of Tambacounda
Vegetable garden	<ul style="list-style-type: none"> • The practice manual is an orientation tool to agro-sylvo-pastoral operations feasible in the household • Counterparts on the field, participants in the activities • The tool box is adopted by the ARD and the various Ministries regional services represented in region of Tambacounda

2.4 Objective or PDM expected results based Lessons

<Overall Objective>

1. Now, the populations feel more involved or concerned in the borehole management and maintenance than during the water supply facilities construction. For that, it is recommended to remind the donors who funded the construction that it is essential to establish the ASUFOR with the help of DHR, responsible for the construction of the facilities. (For instance, volumetric water meter installation, ASUFOR establishment, operators' training, etc.)
2. The populations tendency is to carelessly think that <well functioning water supply facilities means that water is available for use>. From the covering BPF. In addition, to ensure the necessary costs for the implementation of community based activities, collaboration with the administrative units will be highly required so that the concerned departments such as ARD and the regional units under the Ministries should benefit from financial support.

<Project Objective>

As mentioned in the previous report, the ASUFOR is not always properly operated immediately after its establishment. It should be allowed a long period in order to solve the problems which occurred during its operation. Given that <potable water> is an essential need for the inhabitants, the ASUFOR sustainability is an absolute necessity. Great care should be taken during the staff periodic renewal and transfer of power.

<Result 1>

Special attention should be paid to the facilities' management and maintenance partial power transfer prospects to private companies aimed at by DEM. The regions of Tambacounda and Kédougou belong to the 3rd area group where the power transfer will be last. Until then the SDM and the BPF will be the main borehole's management and maintenance key actors. Therefore, the major issue is how to overcome the transition period. Concerning the sharing of information, the records of information at the borehole construction time are not always shared with the BPF. It is recommended to share information between the construction sector and the management sector.

About the borehole amortization period, each facility has a service life. After having been used for a few dozens of years, the facility experiences large scale breakdowns that are beyond the villagers' capacities to repair. In view of that, the Project proposes to determine the population intervention limits and the administrative services' roles.

<Result 2>

The budgeting for ASUFOR implementation and monitoring are the most important problems. Disagreement within the community is another issue which hindered the good operation of the ASUFOR. Constructing a borehole in such a site would be an inefficient investment. Therefore, it is recommended to conduct a careful preliminary survey for the site selection.

<Result 3>

The desire of strengthening the support for sites equipped with hand pumps by DEM was expressed, especially in the region of Kédougou where the construction of motorized boreholes is difficult, due to hydro-geological reasons. For this reason, many villagers are dependent on the hand pumps. It is preferable to establish an elaborate user support system adapted to the local specificity. As for people in charge of constructing the hand pumps, it is preferable to share information and make the harmonization of standards which will make spare parts supply easier. In the field of maintenance, the maintenance system needs to be strengthened through the establishment of a coordination network, since the area mechanics (craftsmen repairer) trained by PEPTAC2 are starting to implement their activities.

<Result 4>

Our proposals on Result 4 concern two aspects; «the water quality and the volume collected». The intervention process in case of anomaly with the borehole is not achieved. It is developed a water quality performance system at SDM through BPF, but the mechanism are not yet established in the occurrence of a problem. It is the same for the collected volume. If the borehole is dry, a new borehole should be constructed. But it is expensive and not easy. In order to avoid that situation, the problems indicated should be shared between several stakeholders. It is important to continuously refresh ASUFOR members and operators' mind. It is important to constantly remind it to the ASUFOR members and borehole operators.

<Result 5>

As regards Result 5, continuous support to the population is essential for the activities sustainability. It is expected to display activities together with the administrative service and the population, that is to say, the monitoring of administrative service, the construction of toilets with public assistance, etc.

<Result 6>

As regard result 6, the borehole water should be used to satisfy the needs of the population and the livestock, it is something that the populations should understand. It must be avoided also a use of the water that would give unwanted effect to the resources.
To execute different activities, a continuous support of various aspects is necessary. We strongly wish the support system strengthening.

3. Initiatives aiming at more autonomous development

3.1 Funding situation for the Project activities' sustainability

(1) Budget of the Senegalese Government (Ministry of Hydraulics)

The budget allocated to the Ministry of Hydraulics, Directorate of Operation and Maintenance for the year 2010 is planning a 10% increase in comparison with the previous year. The expenses necessary for the project's activities' sustainability are directly allocated to the BPFs. The use of those allocated expenses is entrusted to the respective BPF chiefs.

The budget mechanism depends on the BPF chief. Each BPF being in charge of other missions outside the Project, it is rather difficult to prioritize budget allocation to PEPTAC2 activities within the limits of the budget.

As a result, the PEPTAC2 works for the prioritization of the Projects' needs in the allocation

of each BPF's budget, and at the same time it is important to look for other ways; that is to say, the implementation of low-cost approaches, coordination with other donors, etc.

(2) Support from other donors/NGOs

In order to support PEPTAC2 activities, other donors provided material, not financial support. Indeed, the provision of material is an important initiative in order to maintain the motivation of stakeholders but doesn't provide the monitoring or daily work technical means necessary to achieve the execution of activities.

If the financing by other donors is difficult, the Government (including rural environment) or the community (the most directly concerned for this matter) should be in charge of the finance for sustainability of the Project activities.

(3) Tambacounda Regional Development Committee (CRD), Rural Community, other Ministries Regional departments or branches

The CRD took interest in the PEPTAC2 activities and provides a limited budget; that is to say, dispatching the staff to PEPTAC2 training sessions, organization of training sessions within the limits of the regional budget.

As regards the Rural Community of Bamba which houses the toilet construction model site, it financed the construction for two consecutive years (700,000FCFA / 400,000FCFA), here, the budgeting is extensive.

As for the department of the Ministry of female Entrepreneurship, the tools are already allocated. With the presentation of the achieved, we will benefit from the support of the aforementioned Ministry.

(4) Population

The ASUFOR is in the middle of the PEPTAC2 various activities. The collection of water fees by the population is essential to develop the ASUFOR.

The savings status which we will not talk about now will be tackled later. But let's point out that, in the majority of the sites, the savings rate is increasing. There are even a few sites where the amount has reached a level which allows them to finance the relatively important repair of the facilities. If such an attitude can continue, we are hopeful that the activities in those sites will be sustainable.

(5) Sustainability of the collaboration system: appointment of a coordinator

As mentioned above, in addition to the products achieved, the PEPTAC2 has expended efforts to link up the different stakeholders.

The sustainability of activities is a difficult task and it is even more difficult to ensure the funds in a periodically. To overcome those difficulties, it is necessary to appoint a coordinator who will replace the PEPTAC2 after its withdrawal in order for him to coordinate the different organizations concerned and better take advantage of their potentials. That coordination role will be ensured by DEM. The operational extension of the PEPTAC2 networks is an important point for the Project.

4. Autonomous PEPTAC2 development

The common issue shared by all projects around the world is to know how to obtain <an autonomous development> after project termination. It is not easy to maintain the concerned actors motivation or even ensure the necessary funds to pursue the activities, etc. <Water> is a key issue for PEPTAC2, it is indispensable for the populations to live, so will still remain at stake even after project termination.

A factor to make sustainable the activities of PEPTAC2 is < sustainable operation of the water supply facilities thanks to a sound management of the ASUFOR and savings funds>.

By stressing that issue PEPTAC2 aims at promoting autonomous development.

4.1 Monitoring activities

Monitoring System	Content (merits /demerits)
Telephone monitoring	<p>This system may be applied to all activities, namely management and maintenance of water supply facilities, ASUFOR management, etc. The merit of this system is the possibility to <communicate while saving time and travel cost >. The demerit is that <there is no possibility to confirm the provided information. For instance, the Project cannot give appropriate advice regarding system troubles or vermin's attacks against the crops.> The other disadvantage is <to not provide a cellular phone to the sites where there are no airwaves.></p> <p>A monitoring by mobile phone is necessary in the sites which are not facing serious problems. Otherwise a staff member should visit the sites in order to take action. That's how the Project instructed it. To make the monitoring easier, the project has developed a small booklet including questions & answers on the water supply systems management and maintenance, with which we can collect correct information and describe the condition of the (hydraulic) installations by phone. Some heads of BPF apply that monitoring system. We think that this system has good chances to gain strong foothold in the sites.</p>
Monitoring at the periodic markets	<p>There are many periodic markets in Senegal. Usually those markets attract the people living around the area for their shopping. The monitoring system in the periodic markets allows to follow the activities by observing the movements of the inhabitants and to propose a more efficient and economical monitoring method. The advantage in that system is <to collect the results of several monitoring activities at the same time, and to be able to have cellular phones provided in the areas where airwaves are not available> The disadvantage is <to be obliged to report the BPF of the information collected to the market (nevertheless, it is very possible that the brigade visits the site) and form a federation>. PEPTAC2 already tried it out and the results will be submitted in the report of the result 2.</p>

4.2 Presentation of the case study initiatives towards self-development

The evolution towards self-development starts to be identified in some activities carried out by counterparts or the ASUFOR. We will present them.

(1) Case of Hamadi Ounaré site in the region of Matam

This region is located in the target area of PEPTAC2 indirect sites. The site of Hamadi Ounaré was the target area of the phase 1.

In that site, the pump of the water supply system has broken down in October. It cost 7,500,000FCFA (equivalent to 1,500,000 yens) to get the pump repaired. The funds of the site amounted to 4 million FCFA. The DEM headquarters, the chief BPF and the ASUFOR intervened in the negotiations with the private company in charge of the pump repair. They proposed a credit payment of 3.5 million FCFA (7 x 500,000FCFA / month, without interest rate) and they came to an agreement.

The company said: <I have confidence in the counterpart and the ASUFOR.>. Even if the funds are not sufficient for the repair, the site can find a solution. The efforts towards autonomy in the everyday activities have led to the problem solving, which encouraged the site a lot.

(2) Concept paper drawn up by the chief of Kédougou BPF

The chief of Kédougou BPF had made a request for financial support to the Italian donor for the purchase of the equipment necessary for the extension of the water supply network of the area under his jurisdiction. The chief had himself developed the concept paper, the concept plan and submitted it to the donor. The financing was accepted. In accordance with the planning, the chief of brigade had placed an order for equipment and finished the network pipe-laying operation. He precisely adopted the approach for the small scale rehabilitation process initiated by the PEPTAC2.

Whatever the budget's size, the work was executed thanks to his own efforts, through self-sufficiency in which the Project relies more on. That had a strong impact on the other chiefs of brigade of the neighbouring sites.

Because the funds allocated by the government of Senegal are limited, coordination with other donors is a real option which should be considered. This kind of activity promotes self development, it is highly expected.

(3) Beyond boundaries area mechanics marketing activities

34 hand pump craftsmen repairers were trained in the Project target area during Result 3 activities, among whom, a repairer who is conducting activities beyond the country's boundaries.

That is the artisan repairman named Mr Djibril SOW, trained in October 2008 in the framework of the PEPTAC2 Project. He lives in Kidira suburbs, town located near the border of Mali and he is in charge of repairing the hand pumps in the aforementioned area. Originally he was a motorcycle repairer. After he became a local mechanic, he repaired hand pumps in order to provide supplementary income. By doing so, he experienced the need to repair pumps in Mali, beyond the boundaries. He runs many advertisements on the local radio: <I will take care of your hand pumps repair>. Thanks to publicity, he received information requests on his capacities from people living in Mali. Since then, he often organizes business trips in Mali for pumps repairs and has had much remuneration. Presently he has stopped repairing motorcycles and has devoted himself to the marketing of hand pumps repair.

In the Mali hydro-geological context, the construction of motorized boreholes is difficult, that's why, and the majority of facilities are composed of hand pumps. Villages requesting repairs are numerous, in addition, it should be mentioned the extremely easy access to spare parts compared with Senegal frontier towns.

In the future, the Project will make of the repairer a public relation window with Mali, in order to set up a spare parts distribution system. We are very hopeful.

5. Outlook on rural water supply policy in Senegal

5.1 Contribution of PEPTAC2 to PEPAM

The following table indicates the comparison between the PEPAM unified framework for action and the contribution of PEPTAC2 for its validation.

The unified framework main operational arrangements	Products / contribution / question to be discussed
The planning responsibility will be shared between the Government's centralized and decentralized services in the one hand and the Rural Communities (CR) on the other. A Local Hydraulic and Sanitation Plan (PLHA) will be developed in each rural community	As a model case, the village of Bamba takes advantage of the financing for the construction of toilets in the budget for the year 2010. Through this process, we identified the planning capacities and the responsibilities of the village. Henceforth, it is expected to take case dissemination measures in other villages
The rural community will be also in charge of a local programming mission that consists in ensuring field interventions Complementarity and coherence and their compliance with the PLHA.	The village of Bamba is subscribed in the budget. The coordination and promotion are done by the village itself. We expect that the case will be disseminated in other rural communities.
The potable water supply systems will be operated either under the control of management delegation or ASUFOR type Rural Borehole Users Association, or a private operator. Depending on the case, the delegating authority will be the Government or the Rural Community	We have many cases of rehabilitation with ASUFOR savings in collaboration with the private maintenance company and the chief of brigade in the direct sites. The rehabilitation process is integrated in the manual.
Each household will be in charge of the maintenance of their own individual sanitation facility. The public toilets built in the places that attract many people will be subject to user-fee service that will be organized by the facility managing organization, in order to cover the maintenance and repair costs.	In the PEPTAC2 model sites, the construction of toilets has started in the households. It is necessary to bring attention to the promotion of toilets dissemination and management of collective hygiene equipment.
The maintenance and repair of the water supply system equipments will eventually be executed by the private sector within the framework of contracts made with the public water supply management assignees.	The small scale rehabilitation is ensured by the private company. From now on, it shall be promoted the establishment of the licensing system by DEM.
The regulation of the rural water supply system will be done by the Water Supply Services. It will comprise by the control missions in the one hand and support missions on the other.	For small scale rehabilitation works, the administrative side, (Water Supply Services) control and supervise PEPTAC2. From now on, the rules should be established by DEM.
The program delivery monitoring will concern (i) the increase of access rate to potable water and sanitation, (ii) the construction time, and (iii) the control of costs and budget consumption schedule.	The Project made a suggestion on the monitoring in each field of activity. However, that suggestion remains theoretical. From now on, we should make sure there is an increase of the precision, determination and management of the budget.
The Program information and communication will be ensured by (a) a manual on rural potable water supply and sanitation projects, and (b) an Internet portal on rural potable water supply and sanitation	Computers are installed in each strategic office. They are used as communication tools with a few counterparts. The Project aims at promoting the sharing of information, the development of software, the creation of the data collection and dissemination system through environmental engineering.
The program will directly contribute (i) to poverty control by supporting water related productive activities, (ii) to environmental conservation by supporting the creation of	PEPTAC2 proposes solutions to poverty and women participation through its community activities. From now on, the dissemination shall be made beyond the model site.

nursery, (iii) to gender approach by strengthening the involvement of women in the management of public drinking water supply, (iv) and to the promotion of prevention and hygiene in households.	
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5.2 Rural water supply perspective in Senegal

At the present time, the rural water supply in Senegal is going through a significant transition phase.

Le Senegalese Government has started a partial transfer of water supply facilities servicing and maintenance work to private companies. With that partial transfer policy, there is a change in the role of DEM. Therefore, the reorganization of DEM structure is under consideration.

The partial transfer of power to the private company regarding the operation and maintenance of water facilities has been started at 85 selected test sites in Thiès, Fatick, Kaolack, Diourbel and Kaffrine regions.

In the framework of PEPTAC2, DEM has been designated as the supervisor for its small scale rehabilitation and the actual operations have been taken care of by a private company. Through such activities, technology transfer has been made and related technical manuals were produced. The Chiefs of BPF have been also trained on the job. The Senegalese side (DEM) understands clearly this point.

At the request of DEM, PEPTAC2 has submitted service deliveries order form to private companies. We are convinced that the results can contribute to the future conception of DEM.

5.3 Measures with regards to water supply systems of serious breakdowns

The PEPTAC2 objective was to develop a maintenance system for motorized water supply systems. All facilities are intended to contribute sustainably, but they have <an estimated useful life>. The rehabilitation of the water supply facilities having already reached lifetime requires a cost beyond the funds saved by the ASUFOR.

That's why it is important to be informed about the facilities' operational lifetime (the year of construction) and to also know the potential risks.

The investments made in the facilities during the last few years are a waste of ASUFOR's precious funds. By taking into account the suggestion made after the specific diagnosis by DEM, it would have been a better option to wait for the Government financing, before replacing the facilities.

6. Other components

6.1 Project promotional activities

Information about PEPTAC2 activities progress has been already provided for the local media people who were invited during the Reports debriefing sessions. (Details were not tackled in this section, see different Project reports.) At the community level, the activities progress is regularly communicated on the community radio, with the villagers' voices.

Site visits were organized with media people several times by Senegal JICA office during the Project execution.

In addition to that, there is the promotion of the Project through the use of JICA advertising

medium, training through JICA Kenya <Good Practice> case study, subject of research at JICA Training Centre, exchange of ideas with Senegal Japan Embassy staff, JOCVs and other various visitors etc.

In November 2009, we outlined the Project activities in the <2nd Drinking water week in Africa>. Thus the Project team displayed promotion activities in various fields.

6.2 Equipment allocation

6.2.1 Installation and use of supplied equipment

The equipment supplied from the first year of the Project was hand over for efficient use in DEM, in the four Regional Divisions of Hydraulics (Tambacounda, Matam, Kolda and Ziguinchor), in the Maintenance Subdivision (Tambacounda), in the nine Maintenance Brigades (BPF) (Tambacounda, Goudiry, Kédougou, Linguère, Matam, Ndioum, Sédhiou, Kolda and Ziguinchor) and in the target villages. The detailed description of this equipment is shown in the following table:

Table 1.1 List of equipment supplied under the frame of JICA budget

Name of equipment	Quantity	Unit Price (F.CFA)	Total Price (F.CFA)	Place of allocation	Storage condition	Current state of use
JICA Budget 1st year						
Toshiba Notebook Computer	3	1,197,200	3,591,600	Dakar Office, DEM Dakar (2)	Good	4
Inkjet Printer HP(Black and white)	4	70,000	280,000	Dakar Office (2), SDM of Tambacounda Tambacounda Office	Good	4
Desktop Dell	2	830,000	1,660,000	Tambacounda Office	Good	4
FAX Panasonic	2	150,000	300,000	Tambacounda Office, SDM of Tambacounda	Good	4
Video Projector Dell	1	1,100,000	1,100,000	Dakar Office	Good	3
Canon Copier	2	1,625,000	3,250,000	Dakar Office, Tambacounda Office	Good	4
Signboard (ASUFOR Sites)	34	119,000	4,046,000	ASUFOR Sites	Good	4
DN15 Water meter	380	15,000	5,700,000	ASUFOR Sites	Good	4
DN20 Water meter	152	97,000	14,744,000	ASUFOR Sites	Good	4
DN40 Water meter	57	153,000	8,721,000	ASUFOR Sites	Good	4
Loud speaker	1	180,000	180,000	Tambacounda office	Good	3
Subtotal			43,572,600			
JICA Budget 3rd year						
DN20 Water meter	34	97,000	3,298,000	ASUFOR Sites	Good	4
DN60 water meter	20	153,000	3,060,000	ASUFOR Sites	Good	4
Subtotal			6,358,000			
JICA Budget 4th year						
Tool for hand pump repair	3	582,700	1,748,100	Artisan repairmen's location sites	Good	3
Subtotal			1,748,100			
Totale			51,678,700			

BPF: Water Supply Brigades (Tambacounda, Goudiry, Kedougou, Ziguinchor, Kolda, Ndioum, Matam, Linguere, Sedhiou)

SDM:Regional Maintenance Subdivision (Tambacounda)

DR:Regional Division (Tambacounda, Matam, Kolda, Ziguinchor)

Current state of use:Very good 4→good 3→acceptable 2→bad 1

Table 1.2 List of equipment supplied under the frame of JICA Senegal budget

Name of equipment	Quantity	Unit Price (F.CFA)	Total Price (F.CFA)	Place of allocation	Storage condition	Current state of use
Senegal JICA Office Budget 1st year						
Milling Machine	4	1,800,000	7,200,000	ASUFOR sites(4 sites)	Good	3
Water pumping equipment(Perimeter)	2	1,753,360	3,506,720	Community based activities Site	Good	4
Microphone	3	250,000	750,000	3BPF(Site direct)	Good	4
Toshiba portable Computer	1	1,215,000	1,215,000	Dakar office	Good	4
air-conditioning unit (1,5CV)	2	503,000	1,006,000	Tambacounda SDM, BPF	Good	4
air-conditioning unit(2CV)	2	800,000	1,600,000	Tambacounda Office, BPF	Good	4
Laser Printer HP(Coulor)	2	425,000	850,000	Dakar office, Tambacounda office	Good	4
Laser Printer HP(Black & white)	2	185,000	370,000	Dakar office, Tambacounda office	Good	4
Ink jet printer HP	13	70,000	910,000	9BPF,4DR	Good	4
Canon copy machine	1	1,825,000	1,825,000	Tambacounda office	Good	3
Desktop Dell	14	930,000	13,020,000	9BPF,1SDM,4DR	Good	4
FAX Panasonic	13	200,000	2,600,000	9BPF,4DR	Good	4
Video Projector Dell	1	1,200,000	1,200,000	Tambacounda office	Good	4
GPS Navigato	13	150,000	1,950,000	10BPF,3DR	Good	4
Water meter D15	100	15,000	1,500,000	ASUFOR Site	Good	4
Water meter D20	40	97,000	3,880,000	ASUFOR Site	Good	4
Water meter D40	15	153,000	2,295,000	ASUFOR Site	Good	4
Yamaha 200cc Motor bike	9	1,150,000	10,350,000	9BPF	Good	4
Water analysis device	1	3,029,000	3,029,000	Tambacounda SDM	Good	3
Boite à image	10	1,400,000	14,000,000	9BPF,SDM de Tambacounda	Good	4
Desk	8	252,000	2,016,000	Tambacounda office	Good	4
Chair	5	60,000	300,000	Tambacounda office	Good	4
Drawers	8	84,000	672,000	Tambacounda office	Good	4
Tripod	4	2,285,700	9,142,800	3BPF(direct Site), Tambacounda SDM	Good	3
Hoist	4	215,750	863,000	3BPF(directSite), TambacoundaSDM	Good	3
Hand pump repair Kit	4	3,878,190	15,512,760	3BPF(directSite), Tambacounda SDM	Good	3
Sub-Total			101,563,280			
Senegal JICA Office Budget 2nd year						
Generator set for Mereto	1	8,458,750	8,458,750	Mereto	Good	4
Pump for Touba NIANI	1	1,694,000	1,694,000	Touba Niani	Good	4
Piping for Bala	7	248,400	1,738,800	Bala	Good	4
Piping for Goudiry	7	285,660	1,999,620	Goudiry	Good	4
Pump for Coudiry	1	3,086,000	3,086,000	Coudiry	Good	4
Pump for Touba Sine	1	931,300	931,300	Touba Sine	Good	4
Pump for Ibel	1	931,300	931,300	Ibel	Good	4
Pump for Bidiancoto	1	5,192,300	5,192,300	Bidiancoto	Good	4
Sub-Total			24,032,070			
Senegal JICA Office Budget 3rd year						
Tools for hand pump repair	14	672,700	9,417,800	Location Site of artisans repairmen	Good	3
Solar pumping pannel in Samecouta	1	2,230,000	2,230,000	Samecouta	Good	4
Pump for Dialacoto	1	3,320,675	3,320,675	Dialacoto	Good	4
Generator set for Mishirakolonto	1	6,100,000	6,100,000	Mishirakolonto	Good	4
Engine for Ibel	1	3,200,000	3,200,000	Ibel	Good	4
Engine for Bamba NDIAYENE	1	5,370,000	5,370,000	Bamba Ndiayene	Good	4
Pump for Bamba NDIAYENE	1	3,500,000	3,500,000	Bamba Ndiayene	Good	4
Classe B DN15 Water meter	101	10,176	1,027,776	Site des ASUFOR	Good	4
Classe B DN20 Water meter	101	22,560	2,278,560	Site des ASUFOR	Good	4
Classe B DN40 Water meter	114	76,800	8,755,200	Site des ASUFOR	Good	4
Pimping for Kanta	13	78,500	1,020,500	Kanta	Good	4
Pump for Kanta	1	1,900,000	1,900,000	Kanta	Good	4
Desktop	5	650,000	3,250,000	DEM Dakar	Good	4
Inverter	5	30,000	150,000	DEM Dakar	Good	4
Laser Printer HP (Coulor)	5	150,000	750,000	DEM Dakar	Good	4
Ink jet printer (Blanck and white)	5	70,000	350,000	DEM Dakar	Good	4
FAXPanasonic	5	150,000	750,000	DEM Dakar	Good	4
Generator set for Salemata	1	3,500,000	3,500,000	Salemata	Good	4
Engine for Bambadinka	1	4,000,000	4,000,000	Bambadinka	Good	4
Piping for Bambadinka	22	147,500	3,245,000	Bambadinka	Good	4
Pump for Bambadinka	1	2,650,000	2,650,000	Bambadinka	Good	4
Generator set for Kanta	1	5,600,000	5,600,000	Kanta	Good	4
Piping for Kaba	24	147,500	3,540,000	Kaba	Good	4
Pump for Kaba	1	2,633,799	2,633,799	Kaba	Good	4
Sub-Total			78,539,310			
Total			204,134,660			

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SDM:Regional Maintenance Subdivision (Tambacounda)

DR:Regional Division (Tambacounda, Matam, Kolda, Ziguinchor)

Current state of use:Very good 4→good 3→acceptable 2→bad 1

6.2.2 Usage and purpose of allocating the equipment

The usage and the main purpose for supplying the equipment are described in the next section:

(1) Office space

An office space was constructed during the second year of the Project within the confines of the Regional Division of Hydraulics in Tambacounda. Such office space was utilized for the conduct of project activities during the 3rd and the 4th years, until the end of the Project.

This office space (including desks and a few air-conditioning units) was transferred to DEM after Project completion.

(2) Vehicles

Six vehicles (including 2 from the first phase of PEPTAC (phase 1)) and two Pick-up trucks were transferred to the Project. Two 4 X 4 vehicles from PEPTAC 1 were transferred to DEM during the second year of the Project. The remaining six vehicles were used for the conduct of project activities until Project completion in the fourth year.

Besides these vehicles, some motorcycles were provided for ASUFOR sensitization and diffusion and for monitoring activities in the 9 BPFs.

(3) Office Equipment

Computer equipment in DEM, DRH, MSs and BPFs covering both direct and indirect sites were old and in a delapidated state. The Project team considered it necessary to replace these ones by new ones. To date Internet connection being available everywhere in the country, computer equipment and accessories were distributed in order to promote linking with the PEPTAC 2 Internet site.

As regards the material and equipment (including motorbikes) supplied during the first year, a hand over ceremony was organized during the Project's launching seminar (Tambacounda) during the second year of the Project, where attended the JICA Senegal Resident Representative, the heads of Maintenance Subdivision et BPFs under the Ministry of Hydraulics.

In addition, the equipment and materials used during the Project implementation, namely photocopy machines, video projectors, etc. were also transferred to DEM after Project completion.

(4) Equipments for small rehabilitation works

The Project undertook some rehabilitation works in the direct sites which facilities were in a delapidated state or broken down in order to promote the establishment of the system for the maintenance of the water supply facilities, under collaboration with the population, the administration and the private sector, during the 2nd and the 3rd years of the Project.

(5) Hand Pump Equipments

The Project supplied various equipments and materials to the 3 BPFs (Tambacounda, Goudiry, Kédougou), to artisans repairmen in the target zones and in the model sites in order to facilitate the related activities for the establishment of the system for the management and maintenance of the level 1 rural water supply facilities (Hand pumps).

(6) ASUFOR animation and diffusion Materials

The Project Team revised the <Photograph Print Series> used for the activities conducted under PEPTAC 1. Those revised photograph print series was distributed to the BPFs in both concerned direct and indirect sites and used since the beginning of the Project until now for ASUFOR sensitisation, animation and diffusion activities by the staffs of the BPF.

6.3 Project promotion actions

The main promotion actions undertaken with attention to the various donor agencies, to the Ministry of Hydraulics and other related Ministries of Senegal about water supply projects are described below. These were conducted in order to promote better awareness and understanding among the Senegalese side of the objectives and contents of the activities and its results:

- Manufacturing and distribution of T-shirts with PEPTAC2 logo (1st year)
- Development and distribution of PEPTAC2 pamphlets (1st year)
- Creation and updating of the web site (1st year to 4th year)
- Exhibition on project presentations during the PEPAM annual review (1st year)
- Radio reports and broadcasts on project activities by local Tambacounda radio station (1st year to 4th year)
- Outside broadcast on the activities by newspapers and issue of article in the newspaper (1st year to 4th year)
- Making and distribution of posters (2nd year to 4th year)
- Outside broadcast on the activities by the Senegalese Radio and Television Broadcasting (2nd year)
- Making of JICA video material <Human Security at the field level III> (2nd year)
- Observation tour on the activities by other donor agencies (Belgium) (3rd year)

(1) Manufacturing and distribution of T-shirts with PEPTAC2 logo

T-shirts with PETPAC2 logo were manufactured during the 1st year and distributed to the organizations and persons concerned with the Project for a large scale diffusion of Project launching related information towards donor partners involve in rural water supply sector and Senegal government's organizations.

(2) Elaboration and distribution of PEPTAC2 Pamphlets

PEPTAC2 pamphlets explaining it overall goal, the project's objective, the outlines of the activities and the expected results were manufactured during the first year in order to promote better knowledge and understanding on project activities contents among the concerned donor partners and organization involved in the rural water supply sector.

(3) Creation and updating of the web site

The Project's web site was created. It aims at sharing progress of field activities. Throughout the project implementation period, for four years the web site has been updated on a monthly basis with the support of the internet support team under JICA's head office.

(4) Exhibition on project presentations during the PEPAM annual review

The activities of PEPTAC2 were shown in the JICA Senegal office exhibition stand to show the water supply related activities during the PEPAM annual review held in the course of the second year of the Project.

(5) Radio reports and broadcasts on project activities by local Tambacounda radio station

Throughout the project implementation period, from the 1st to the 4th year, the local radio station was invited to join the various Project activities; including coordination meetings, workshops, training sessions and seminars held within the Tambacounda region. Broadcasts on the activities were broadly diffused both in French and in the Local languages. The various messages were even explained in the various local languages: Wolof, Sérère, Peulh and Mandinka, etc. Thus, the information was broadly diffused among the Tambacounda region's administrative units and rural populations.

(6) Outside broadcast on the activities by newspapers and issue of article in the newspaper

Following the example of the local radio station, newspapers were invited to join the various Project activities, including coordination meetings, workshops, training sessions and seminars held within the Tambacounda region. These are national newspapers that even issued the articles I the Internet. Consequently, we may say that the information on PEPTAC2 was largely diffused at the national level in Senegal.

(7) Making and distribution of posters

PEPTAC2 posters were manufactured during the 2nd year along with the photographs illustrating the expected results in order to promote better knowledge and understanding on the content of the Project activities among the donor partners involved in rural water supply and the concerned organizations of Senegal.

(8) Outside broadcast on the activities by the Senegalese Radio and Television Broadcasts (RTS)

During the 2nd year of the Project RTS made an outside broadcast in the village of Méréto. This village was part of the target sites for ASUFOR animation and diffusion during the 1st phase of PEPTAC, hygiene promotion and small rehabilitation works were conducted during the second phase.

In the 4th year, the outputs from PEPTAC2 activities were presented at the final seminar of PEPTAC2 and reported and broadcasted through RTS.

(9) Making of JICA video material <Human Security at the field level III>

Broadcasts on PEPTAC2 activities were made in the village of Mereto which is a target site of the Project, for the making of JICA video materials.

(10) Observation tour on the activities by other donor agencies (Belgium)

In response to a request by the Belgium, CTB project (PARPEBA) that deployed rural water supply related activities in the region of Kaolack, the Project team hosted a visit by the

PARPEBA team with the aim to show them the PEPTAC 2 activities; subsequently to that the two project teams exchanged their views.

6.3 The end-of-project evaluation

(1) Preparatory study for the end-of-project evaluation

For the Project's final evaluation to be efficiently conducted, a preparatory study was undertaken. The study related to the validation of the indicators in the Logical Framework and assessment of the various developments since the baseline survey.

The major issues relating to the general tendency in the sites are shown.

(2) Result of end-of-project evaluation

The results of end-of-project evaluation see report of end of project evaluation.

(3) Presentation of PEPTAC2: 2nd Drinking water week in Africa (organized in South Africa)

On November 10, in the <2nd Drinking water week in Africa> organized in South Africa, the PEPTAC2 was elected the JICA Project speaker.

