Citizen Involvement in Clean-Up Activities in Bamako

Lessons from an Action Research Project in Commune IV

Photo cover: **The group in Quartier Lassa. The members feel that they themselves are responsible for the improvement of their neighbourhood.**

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PREFACE

The Urban Waste Expertise Programme (UWEP) was financed by the Dutch Ministry of International Co-operation (DGIS) during the years 1995-2001. In Bamako, Mali, the UWEP programme facilitated several studies and pilot projects, based on the concept of Integrated Sustainable Waste Management (ISWM), a concept articulated by UWEP. These pilot projects dealt with different aspects of the management of urban wastes, in which public authorities, private agencies and civil society actors were engaged. They deal with disposal, primary collection, re-use, secondary collection, discharge, separation, revaluating waste, and with the necessary institutional framework. These projects recognise waste materials as economic resources that can generate stable employment and income.

The UWEP pilot projects in Bamako (1996-2000) are:

Pilot project 1: Development of an appropriate technology for household garbage collection.

Pilot project 2: Establishment of an experimental depot for recycling of solid waste materials.

Additional project activities which were included in pilot project 2: to make recycling of household batteries more efficient and environmentally friendly; and to introduce methods of recycling plastic waste materials.

Pilot project 3: Establishment of a facility for treatment and re-use of used water and latrine sludge.

Pilot project 4: Participation of the whole population, including those with low income, in waste and sanitation activities.

Pilot project 5: Research on the links between generation of organic waste and its use by urban and peri-urban farmers.

Pilot project no.4 is the main subject of this document and concerns participation in waste management activities of the population in one of the six municipalities of Bamako, i.e. Commune IV. The project was the result of a proposal by community leaders and the managers of the micro-enterprises active in waste management in Commune IV. They were aware that waste collection can only be effective through the continuous involvement of the whole population.

Responding to the preferences of the local partners, UWEP proposed an action-research project as a method that allows the community the greatest possible influence on all project stages and encourages an ever-growing circle of residents to get involved.

During the pilot project a very productive cooperation developed between the Cabinet d'Etudes Keita-*Kala Saba* (a group of Malian consultants), the Malian NGO ALPHALOG, and the Dutch NGO WASTE (responsible for the execution of UWEP). Constant motivation and guidance was given by the real actors, the Chiefs of the Quartiers, the managers of the small/micro enterprises, the seven members of the Action Research Team, and the women

and men residents of Commune IV, who contributed with their enthusiastic involvement and initiatives.

Members of the Action Research Team:

Noumou Diakité
Councillor of the Chief of the Quartier Sébénicoro
Role in the AR Team: *Representative of Sébénicoro*

Kalifa Fofana
Councillor of the Chief of the Quartier Djicoroni
Roles in the AR Team: *Representative of Djicoroni and responsible for monitoring the Association of Sibiribougou*

El Hadj Abdoulaye Kansaye
Councillor of the Chief of the Quartier Lafiabougou
Role in the AR Team: *Representative of Lafiabougou*

Mme Assétou Diarra
Member of Cooperative "Yiriwa" (member organisation of CPAC)
Roles in the AR Team: *Representative of CPAC and responsible for monitoring the Quartier of Lassa*

Mme Awa Traoré
Member of COFESFA (member organisation of CPAC)
Role in the AR Team: *representative of CPAC*

Abdoulaye Aziz Berthé
First university degree in biology, member of GIE "Ladamu" (member organisation of CPAC)
Role in the AR Team: *Field researcher*

Dionkounda Traoré
Dr. degree in sociology, Consultant with CEK-*Kala Saba*
Role in the AR Team: R*esearcher/team leader*

TABLE OF CONTENTS

LIST OF ABBREVIATIONS

AGETIPE	Agency for the Execution of Public Works and Employment *(Agence d'Exécution pour les Travaux d'Intérêt Public et l'Emploi)*
ALPHALOG	Free Association for the Promotion of the Urban Environment and Housing *(Association Libre pour la Promotion de l'Habitat et du Logement)*
AR Team	Action Research Team
CBO	Community Based Organisation
CEK-*Kala Saba*	Cabinet d'Etudes Kéïta – *Kala Saba,* (project managers)
CIWA	Method for Citizen Involvement in Waste management Activities *(Méthode d'Implication des Populations défavorisées dans l'Assainissement)*
COFESFA	Cooperative of Women for Education, Family Health and Sanitation *(Coopérative Féminine pour l'Education, la Santé Familiale et l'Assainissement)*
Coop	Co-operative
CPAC	Coordination of Partners in Waste and Environmental Management in Commune IV *(Coordination des Partenaires intrevenant dans l'Assainissement en Commune IV)*
CREPA	Regional Centre for Low-Cost Water Supply and Sanitation *(Centre Régional pour l'Eau Potable et l'Assainissement à faibles coûts)*
DGIS	Netherlands Ministry for International Cooperation and Development
EHP	Environmental Health Project
GIE	Small/Micro enterprise *(Groupement d'Intérêt Economique)*
GOPP	Goal Oriented Project Planning
IEC	Information - Education - Communication
ISWM	Integrated Sustainable Waste Management
MARP	Participatory Rural Appraisal and Planning (PRAP) *(Méthode Active de Recherche et de Planification Participatives)*
NGO	Non Governmental Organisation
PDUC.IV	Urban Development Programme for Commune IV *(Programme de Développement Urbain en Commune IV)*
PP4	Pilot project no. 4: Participation of the population, including those with low income, in waste and sanitation activities
Quartier	Smallest political-administrative unit in local government structure (equivalent to Ward in English)
SARAR	Self-esteem, Associative Strength, Resourcefulness, Action, Responsibility
UWEP	Urban Waste Expertise Programme
WASTE	Dutch NGO WASTE Advisers on Urban Environment and Development
WHO	World Health Organisation

INTRODUCTION

This document presents the main phases of the pilot project ***"Implication des populations défavorisées de la Commune IV du District de Bamako dans les actions d'assainissement"*** *(Involvement of the disadvantaged population of Commune IV of the District of Bamako in waste management activities)*. This project is also known for short as ***pilot project PP4***, being one of several pilot projects in Bamako that were part of the first phase of the UWEP programme (1995-2001). The present document focuses on the principal methods of community participation tested in PP4.

We will first clarify our understanding of the key concepts applied in this pilot project, *waste management* and *community participation*.

> *Waste management* concerns handling of solid and liquid wastes, cleaning of public places, and involves relevant information, education and communication. In other words, waste management includes everything necessary for achieving a clean, healthy, environment. Waste is every object that the owner discards, intends to discard, or is forced to abandon. At the same time an object that is discarded by one person can be considered as a source of income by another person. This implies that waste management is above all a dynamic and multidimensional idea, particularly in the West African context.

> *Community participation* is a concept often used and easily misused. Lammerink and Wolffers state that this causes a certain ambiguity. (Lammerink and Wolffers 1994, p.12). Aware of this danger, we will nevertheless use this term as defined by Lammerink and Wolffers, who define a community as consisting of a group of people living in the same village or Quartier organised as a municipal-administrative or social unit. *Participation* refers to the involvement of citizens in a variety of activities that are of interest to the community. It is important to note that a community is formed by a variety of people who do not necessarily share the same interests or the same values. Most often, conflicts of interest exist, both inside the community and outside (Lammerink and Wolffers 1998).

> Recently, the experiences of ENDA and WASTE in Africa, Asia and Latin America have confirmed once again that community participation remains a complex sociological notion (Bulle 1999, p.117-24).

Action research seemed the most appropriate sociological approach to this pilot project, since, while leaving a certain freedom to all actors, it allowed action and learning from its own and others' mistakes and successes. And progress could be made together towards a development objective that is meaningful for both the local actors and the research team (Keita 1999, p.6-26).

The present document shows how this action research was conceived, planned and implemented in Commune IV in the period 1997-1999. It consists of three parts:
♦ The social and institutional framework in which pilot project PP4 took place.
♦ The major phases in the project's progress.

♦ A discussion of several central themes to illustrate the possibilities and methodological problems, as well as the most important lessons to be learned from this action research experience.

This document aims to provide useful insights for national and international organisations. Although prepared with attention to scholarly rigour, it is above all a practical guide for actors in urban waste management in Africa, where the research team is, in effect, also an actor. We present it with full consciousness of Hochet's observation that a successful action research project depends on the imagination and competence of the project team, as much as on the ability of the target group to find solutions to their own problems (Hochet 1989).

CHAPTER 1   GENERAL CONTEXT OF WASTE MANAGEMENT IN COMMUNE IV

Commune IV is one of the six Communes (Municipalities) which form the metropolitan area of the District of Bamako. Tracing its origins at least 50 years back, Commune IV has grown rapidly during the last 15 years.

Table 1   Population growth of Commune IV, 1987 -1992 (SNV 1997)

1987	1992	1997	2002
137.412	173.216	221.494	293.623

Commune IV (with a population of over 200.000) is divided in eight Quartiers, each of which is again divided in Sectors. The number of households per Quartier ranges from about 4.000 to over 8.000. There are three types of Quartiers, urban, rural, and semi-urban (predominantly urban Quartiers with rural zones). Craftsmen, businessmen, employees of private enterprises and civil servants form the majority of the residents in the urban Quartiers, while peri-urban farmers and labourers are the majority in the rural Quartiers of Commune IV, which in fact used to be villages in the urban fringe of Commune IV, before Bamako developed as a city.

The Commune has many associations, social groups, and committees, concerned with health, environmental conditions, or family welfare. Women are particularly active in these social groups. This 'culture of association' is a remarkable feature of Commune IV, and has proven to be a strong factor in mobilising the population for waste management.

1.1   Waste Management in Commune IV

Responsibilities for waste management in the pilot period were divided among the various municipal authorities. The Municipality of Commune IV allocated funds to waste collection; but the District Waste Department operated waste services in the six Municipalities of Bamako District. The Municipality had no power to decide on service charges, nor on the contract sum to be paid to private waste enterprises.

As part of decentralisation policies currently in force, increasing executive and financial authority is being placed with the municipal authorities. No specific policies exist regarding waste collection, recycling, re-use, treatment or disposal of waste.

At present, the Municipality of Commune IV has four official solid waste transfer sites, but no official site for waste treatment and final disposal. Micro and small enterprises collect the waste in residential areas and deposit it at transfer sites. The Municipal service departments remove it at irregular intervals and transport it to unofficial final disposal sites.
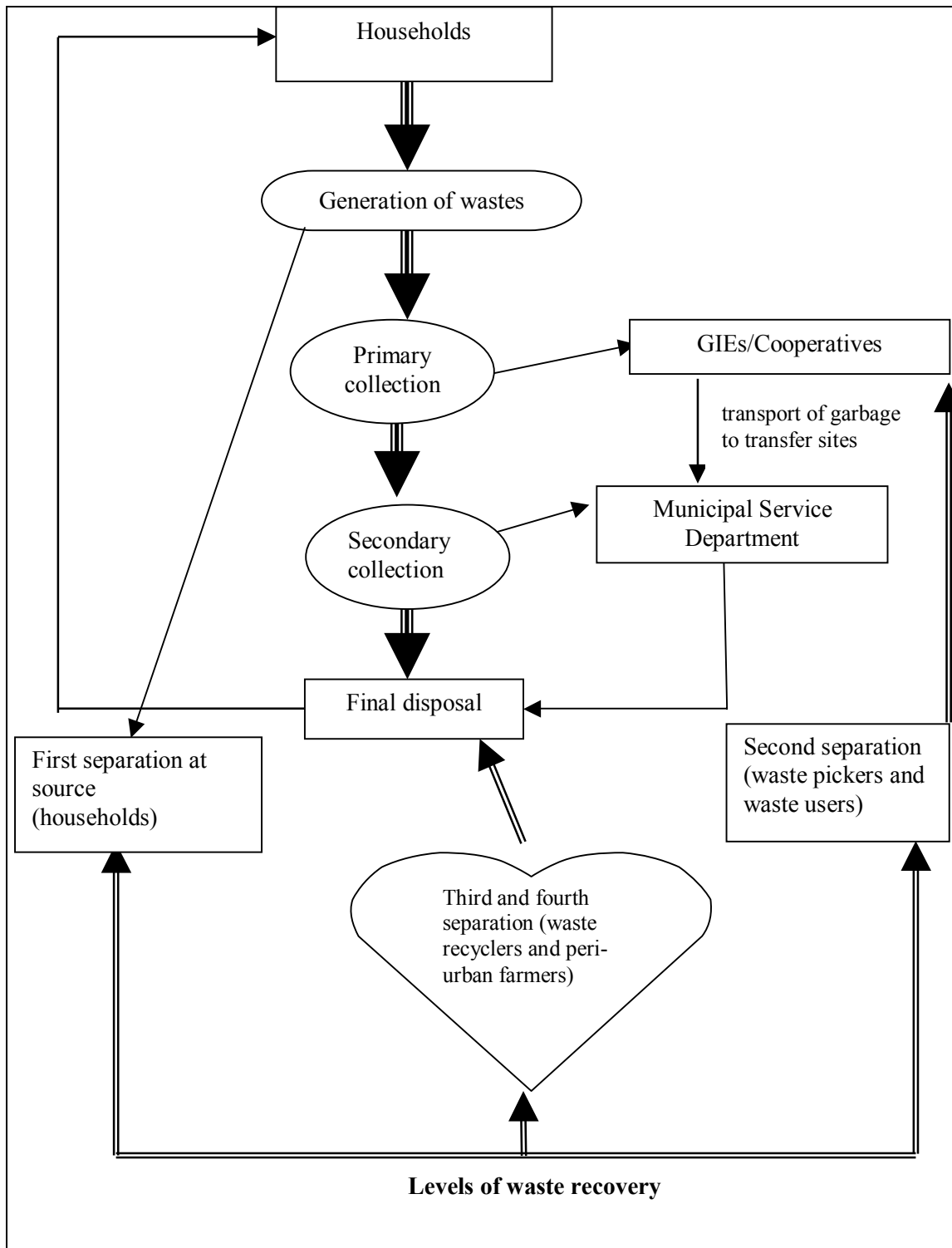
Figure 1   Waste management system in Commune IV

1.2   The GIEs/Cooperatives and CPAC

Since the early 1990's small/ micro enterprises and cooperatives have been active in waste management. A GIE (Group with a common Economic Interest) is a legal form of micro-enterprise that can be established without any starting capital. It was specifically created to facilitate self-employment by young school leavers. Both GIEs and Cooperatives

are active in solid and liquid waste collection; cleaning of streets, sewer canals and gutters; and other forms of public cleaning activities.[1] Their clients are mainly households who subscribe to their services. The service charges are determined by the District offices, not by the Municipality or the GIE, and are collected by the GIEs themselves. Not being allowed to negotiate their terms of service nor to raise the service charges, their potential for running an efficient business is curtailed, which reduces their capacity to deliver waste services (Joseph-Marie Diarra, PDM 1996, p.66-67).

When the Municipality asked the NGO Alphalog in 1992 to provide professional support to these waste GIEs/Cooperatives, it established the Urban Development Programme in Commune IV (PDUC.IV). A year later CPAC (Coordination of Partners in Waste and Environmental Management in Commune IV) was created. The CPAC objective is to promote the interests of the GIEs and Cooperatives. Its members are the Chiefs of the Quartiers, the GIEs/Cooperatives, the Municipality, the District, and local NGOs active in environmental matters. CPAC organised Committees of Elders and Networks of People Responsible for Environmental Sanitation in the different Quartiers. These groups mediated between the GIEs/Cooperatives and the households in the Quartiers.

Photo 1   Organisation of IEC campaigns

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Over time, CPAC has become a convenient structure for consultation and coordination among its member organisations, and for resolving disputes among them. CPAC now acts as advisor to the Municipality and District authorities on behalf of the GIEs/Coops; it is involved in promoting the population's participation in waste management through IEC campaigns, project identification, formulation and acquisition. In fact, CPAC was the channel through which UWEP activities were introduced, and it was one of the contract partners. The local leaders, i.e. the Chiefs and their councillors, have always actively supported the development of CPAC.

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[1] See the experience of the project Besseya-Bamako, Octobre 1992. Also the case study on the GIE 'Faso Kanu' in Diarra and Togola, UWEP 1997 and Diarra and Togola, Terra 1997, p.16 and p.24.

1.3   Institutional framework of pilot project PP4

Before the start of pilot project PP4, the project partners (CPAC, PDUC.IV and the Municipality) had signed a contract of collaboration with UWEP/Mali and UWEP/Gouda.

The Action Research Team (AR Team) for pilot project PP4 was conceived as a working group of the project partners. Although it worked independently, it kept the partners regularly and systematically informed. The Team adopted transparent and democratic work rules, particularly regarding decision-making.

The organisations that participated in the design, implementation and support of pilot project PP4 were the following:

♦ **CPAC** – It had three representatives in the Action Research Team. Each also represented his/her own GIE/Cooperative.

♦ **The population of Commune IV** – The people were represented through four Chief's councillors of the four Quartiers in which at least one GIE was operating. These representatives were chosen by consensus by the Chiefs of the Quartiers and their councillors.

♦ **The Urban Development Programme in Commune IV (PDUC.IV)** – One member participated during the participatory diagnosis phase with the AR Team, but was withdrawn later due to shortage of personnel in PDUC.IV.

♦ **The Collective of Chiefs of the Quartiers of Commune IV** was very influential at the planning phase (determination of project objectives, expected results, performance criteria) and at other critical moments in its progress. The Collective of Chiefs also mediated in conflicts which arose during the development process, and thus strengthened the self-confidence and the social position of the AR Team. The AR Team regularly consulted with the President of the Collective, while the representatives of the citizens' groups in the Team consulted regularly with the Chiefs in their respective Quartiers.

♦ **The Municipality** of Commune IV was not a member of the AR Team but was regularly informed and consulted about project progress. The term "municipality" refers to all those with responsibility for waste management on the municipal level. The term "service departments" covers the transport section responsible for secondary waste collection, the Public Hygiene Brigade, Environmental Brigade, Health Department, and the Police.

♦ **CEK-*Kala Saba*.** This office represents WASTE and the UWEP programme in Mali and West Africa. It is referred to as UWEP/Mali. This office employed the researcher/team leader of pilot project PP4 and provided professional advice in all project stages. It acted as the interface between the Action Research Team and UWEP/Gouda.

♦ **WASTE**, based in Gouda, the Netherlands, participated with advice in all project phases. It had great influence during the conception and preparation phases, reduced its influence from the participatory diagnosis phase, and left full responsibility for implementation to the Action Research Team and the local partners. WASTE, being responsible for financial administration of UWEP, has never confused this role with that of technical advisor. This attitude has greatly facilitated communication and support to a dynamic development process in the field. The term UWEP/Gouda refers to WASTE.
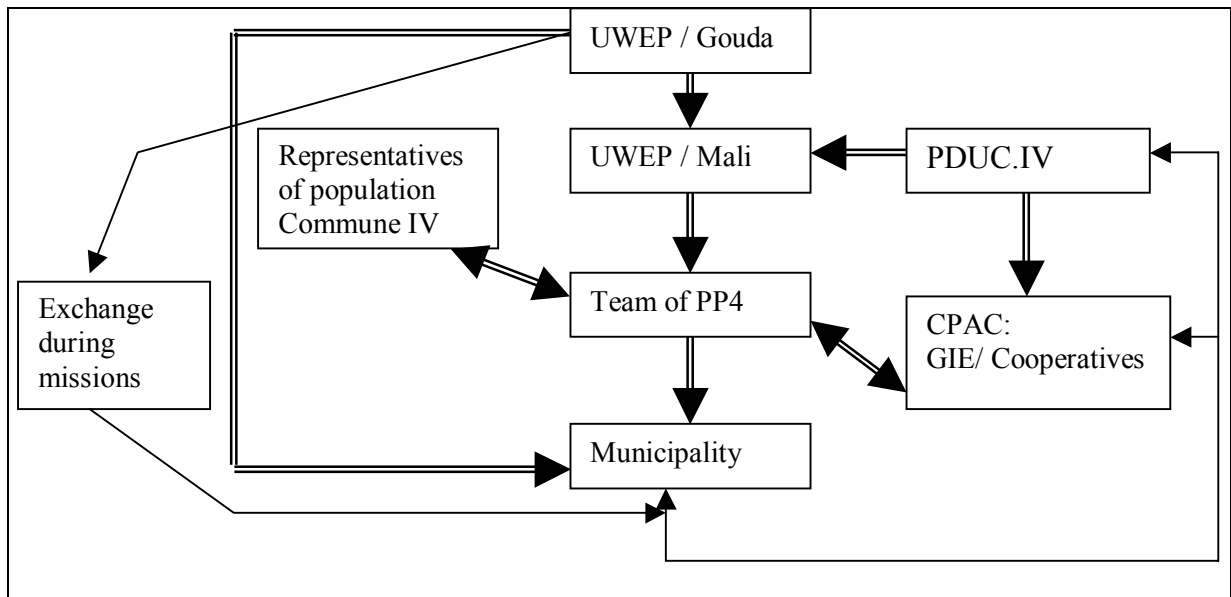
Figure 2   **Intervention strategy of PP4 in Commune IV**

CHAPTER 2   THE FIRST PHASES OF ACTION RESEARCH: PREPARATION AND PARTICIPATORY DIAGNOSIS

2.1   Action research explained

Action research is a method to support social development in the countries of the South (Keita 1999). We will explain what we understand under action research for development.

2.1.1   Definition of Action research

Action research is one of many forms of participatory research. Introduced as a scientific approach by Kurt Lewin, its basic assumption is that social action can serve as a basis for understanding a social phenomenon. The central idea of Kurt Lewin is: "If you want to know how things really are, just try to change them" (Lewin 1948).

Another source of inspiration for action research comes from the ideas on adult education of Paulo Freire, in his book "Pedagogy of the Oppressed". Education of the oppressed assumes that one of the causes of under-development is the "culture of silence" of the oppressed majority - the marginalized population. This "culture of silence" is continuously reinforced by technocratic, top-down development approaches (Freire 1982).

The practitioners of action research adhere to certain basic principles:
♦   Participatory research starts from the problems as defined by the population.
♦   The research is initiated and guided by a catalyst, or participatory researcher.
♦   The population is engaged in the research process, by taking collective decisions right from the beginning, by formulating and analysing their problems, choosing well-thought out solutions, and putting them into practice.
♦   The initiative for community action is taken by the population itself.
(Keita, A,. 2000, p.10; see also Park 1999, p.143-146).

It is good to remember that "…. participatory research is based on the knowledge of people on their own social conditions, that is different, and often better than that of external experts" (Park 1999, p.150). The pilot project PP4 satisfies these criteria, as do the participatory and rapid assessment techniques (PRA/MARP) that were applied. This will be shown later.

2.1.2   The need for action research as an intervention method

We have observed that many NGOs execute excellent development programmes without being able to point out the factors that contributed to their success or difficulties. This is due to not devoting enough time to documentation and capitalisation of their experiences. In contrast, action research emphasizes from the beginning documentation of the project's process and its results, as well as its capitalisation, thus avoiding a one-sided emphasis on action.

Action research is a development method that leaves the process of development open. By avoiding rigid project planning, the method facilitates the integration of initiatives coming from all actors, particularly from the people. It focuses simultaneously on the process, the actions, and the instruments of development, which provide continuous indications on how to proceed in the next intervention phase. Thus, alternation and interaction between action and systematic research are characteristic for this theory of action.

Working hypotheses are formulated in the beginning of an action research project. During the action that comprises the daily work, new insights allow one to question partially or completely the previous insights and thus to correct one's earlier conclusions. During the reflection phase, there is always curiosity to discover new insights, to know more about a certain subject, but never the certainty to have infallible recipes for further action.

Action research is appropriate in all situations where the action priorities are not yet clearly defined, but where there is nevertheless a need to start an intervention quickly. So, concrete action goes together with research in order to develop a realistic intervention programme, of which the conditions of replicability can be determined.

In the UWEP PP4 pilot project, everything pointed in the direction of applying the action research method. Commune IV had much experience with involving different groups of 'civil society' in waste management activities, but these experiences were limited as they only supported specific social groups and sub-groups, e.g. young school leavers organised for self-employment in GIEs, together with various grass-roots organisations. (Keita 2000a). But until the planning of PP4, no attempt had been made in the field of urban waste management to create a synergic movement between these actors by involving all social groups of the population, and placing representatives of the population in the disadvantaged Quartiers in the centre of the development process. The following working hypotheses formed the foundation for this attempt.

Box 1   Working hypotheses

1. There exists latent social consensus about the serious lack of cleanliness prevailing in most of the Quartiers of Commune IV. There is a general desire to ensure adequate urban waste management, no matter where the initiative comes from, provided that it is expressed in a democratic manner and that it takes the African culture into account. It seems that through participatory methods, such an approach can be implemented in Commune IV, whereby the population of the disadvantaged Quartiers can play a key-role.

2. To maintain cultural legitimacy, and considering the current political upheaval (beginning of a multi-party political system, the continuing economic crisis, and popular confusion between "democracy", "liberty", and "social anarchy") the only social power, respected by both the population and the national leaders, and having the cultural capacities to manage the proposed communication processes, remains the traditional power, embodied in the Chiefs of the Quartiers, the religious authorities (Muslim and Christian) and their respective counsellors. This power can help to establish representative mechanisms for the various social strata, taking into account the diversity of interests at stake and enabling an innovative approach in urban waste management.

3. Organisational patterns of waste management exist, drawn from a more or less remote past, which can be used as reference when initiating an innovation process in urban waste management practices with broad approval of the population. Once popular legitimacy is acquired, the process will benefit from the support of technical, administrative and political authorities.

4. The African woman, as a social symbol of cleanliness, is particularly motivated and can play a key role in innovating waste management practices. Housewives can be encouraged to become involved by taking into account their particular points of view and their opinions on waste.

PP4 achieved important results thanks to its rigorous commitment to participatory methods. The participation of the disadvantaged population in waste management activities was

strengthened through a series of initiatives and activities organised in phases. After the *preparatory phase,* there were three more phases:

The *participatory diagnosis phase* consists of describing the situation in the area of intervention: identifying positive points and key problems, analysing them, and recognising action perspectives that are interesting for the population.

In the *action phase,* test actions are tried out. These actions have been proposed by the citizens to improve their situation, and are considered realistic by the AR Team in the context of the on-going action research project. The focus in PP4 was on establishing self-managed and officially recognised community organisations for waste management.

The *Evaluation and capitalisation* phase consists of:
♦ A review of the methodology applied in the previous phases.
♦ Systematisation of the method for Citizen Involvement in Waste management Activities (CIWA). This will facilitate replication of the experience.

The 4 phases and 18 steps of the action research project are the following:

A. Preparatory phase
1. Communication with all concerned actors.
2. Choice of action research and participatory rapid assessment (PRA/MARP) as methods of intervention.
3. Elaboration of working hypotheses.
4. Identification of members of the Action Research Team.
5. Training of the Team members and resource persons of PDUC.IV and CPAC so as to create the same level of understanding of action research.
6. Workshop to define the area of implementation of the action research.
7. Meetings to prepare the participatory diagnosis (among other things, terms of reference, instruments, and planning of activities).

At the end of each workshop and work meeting a synthesis is prepared and a copy of this document is given to each participant. This method of written communication has also allowed people not present at these meetings, to follow the evolution of the project.

B. Participatory diagnosis phase
8. Study of the social and environmental situation in the eight Quartiers of Commune IV
9. Presentation of the studies to the leaders of the Quartiers.
10. Decision by the leaders about necessary actions, i.e. the creation of waste management associations in each Quartier. This decision was confirmed by the general citizen meetings in each Quartier.

C. Action phase
11. Establishment of community organisations devoted to waste management: "Associations for Waste Management and Protection of the Environment" in six Quartiers of Commune IV, thereafter called 'Associations'.
12. Application of communication and community mobilisation techniques by the AR Team and the Associations.

13. Regular training of members of the Associations and the AR Team on practical themes related to forthcoming activities.
14. Establishment of lines of communication between the Associations and other waste management actors in Commune IV.
15. Self-evaluation of the actors in the pilot project PP4.
16. Participatory diagnosis of the Sectors by Quartier.

D. Phase of evaluation and capitalisation
17. Self-evaluation of the whole process by members of the AR Team, the Waste Management Associations, and other actors (CPAC, the Municipality, UWEP/Mali).
18. Elaboration of the present synthesis document by UWEP/Mali and UWEP/Gouda.

In the next paragraphs we will focus on the methods and techniques that were most critical for the success of PP4.

2.2 Preparatory phase

An intensive communication process characterised this phase, which clarified the responsibilities of all parties. It has also helped to identify the groups and institutions concerned in the pilot project both as actors and as beneficiaries.

2.2.1 Communication with the concerned actors

As said before, the Municipality, CPAC, and PDUC.IV requested UWEP/Gouda (WASTE) to reinforce the participation of the population of Commune IV in waste management activities. In close collaboration with UWEP/Mali (CEK), WASTE had dynamic and constructive exchanges with all the key persons in Commune IV on the real causes of the unhealthy environment in Commune IV before finalising the concept of PP4. Formal and informal interviews and field visits enriched these exchanges.

The pilot project PP4 defined the whole of Commune IV as its area of intervention, rather than as one Quartier, since a Community-wide mechanism for waste management coordination already existed. All actors involved in primary waste collection in Commune IV are coordinated through CPAC, which, moreover, had succeeded in laying the foundations for community participation in waste management by organising "Committees of Elders" and "networks of people responsible for environmental sanitation". These committees supported above all mainly the interests of the GIE/Coops.

To ensure long term improvement of living conditions in the community, it was necessary to involve the population more effectively in waste management. This could be achieved through mobilisation and community organisation on a sufficiently large scale, and through responsiveness to the demands of the population, as clients of urban waste services. The institutional structure of Commune IV provided the necessary scale and coordination structure.

2.2.2 Composition of the Action Research Team

An analysis of objectives and expected results of PP4, together with practical considerations determined the composition of the AR Team:

♦ One independent researcher/Team leader
♦ One researcher/field worker and representative of CPAC
♦ Three representatives of the population
♦ Two representatives of GIEs/Cooperatives and CPAC

Box 2   Composition of the Action Research Team

The **researcher/team leader** is a social scientist, specialised in action research, in participatory research methods, and in mobilisation and communication techniques. He is responsible for all project phases, including elaborating the basic methodology and training team members.

The **researcher/fieldworker** is thoroughly familiar with the local situation and is the leader of the field activities. He was selected by CPAC from among its members.

The **representatives of the population** are selected by the Chiefs of the Quartiers, after consultation with their Councillors and other key persons in their Quartiers. Significant moral authority was a fundamental selection criterion. They served as a communication channel between the AR Team and the Chiefs and the population, providing feedback on discussions held in the Team, and organising the activities of participatory diagnosis and test actions in their respective areas.

The **representatives of GIEs/Coops and CPAC** were necessary to build sustainable partnerships between the GIEs/Coops and households. By learning participatory methods they were able to engage in fruitful collaboration with their clients, the people of Commune IV.

2.2.3 Training of the actors for action research

All groups and organisations involved in the action research were trained in methods and techniques of action research and participatory rapid assessment (PRA/MARP); first the AR Team itself; then members of GIEs/Coops and CPAC, the Chiefs of the Quartiers, their councillors; and finally, PDUC.IV staff, so as to facilitate communication. During the action phase further training was given in specific subjects such as social mobilisation through the SARAR method, project management, bookkeeping and accounting, composting, etc.
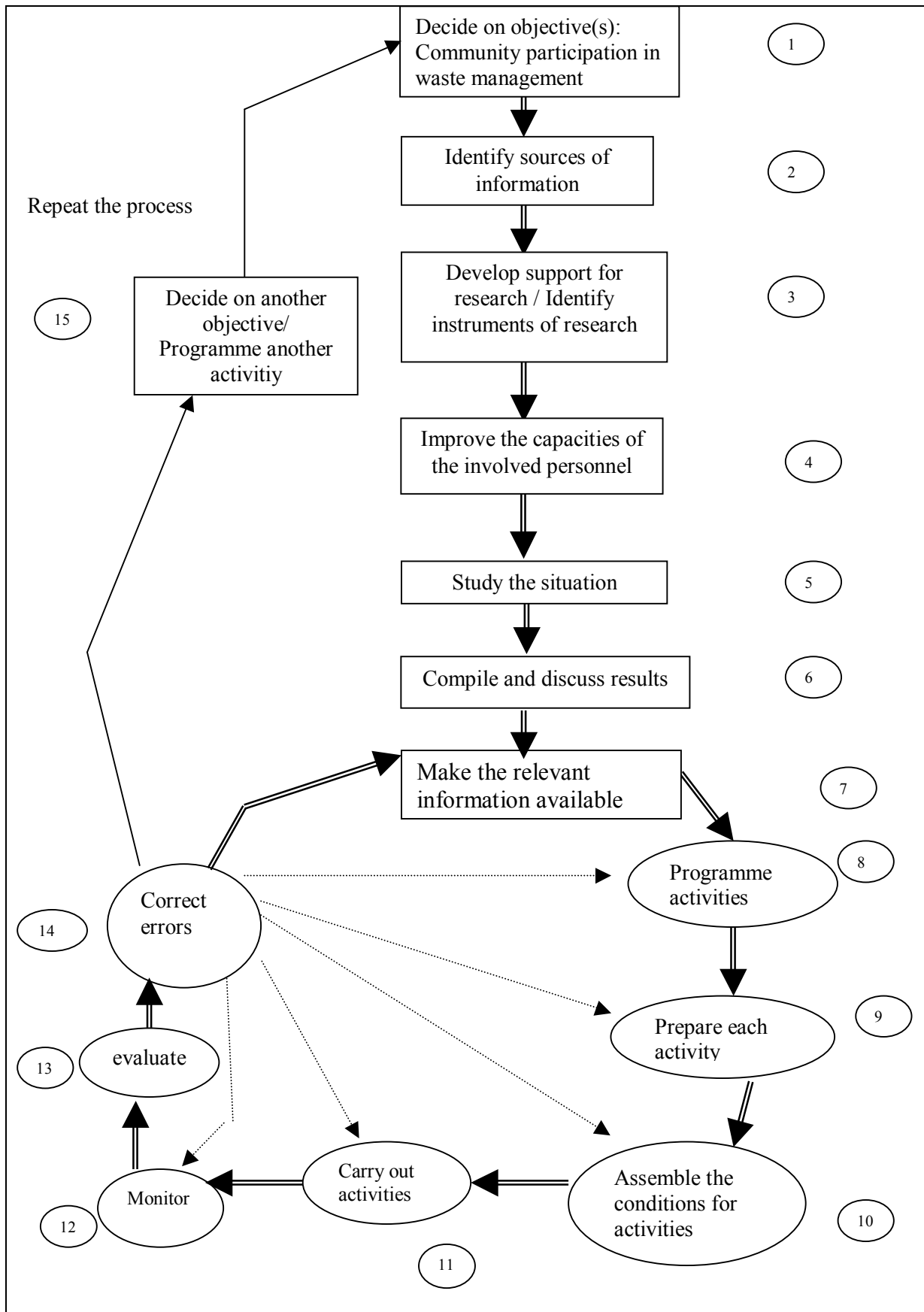
Figure 3　**A schematic presentation of the methodological process of action research**

2.3 Participatory diagnosis phase

This phase is characterised by the study of the socio-economic and physical environment; feedback and validation of the results of the study; and decision making on test actions. Execution of this phase is presented in Box 3.

Box 3 Participatory diagnosis step by step

a) Rapid assessment of existing information through reports and technical documents, knowledge held by resource-persons, by the population etc.;

b) Contact with the Chief of the Quartier and his councillors to inform them on the UWEP programme; introduce the pilot project PP4 and the AR Team; inform the leaders on the purpose and type of meetings to be held; agree on a work schedule with the leaders and the population;

c) Hold public meetings with the population;

d) Collect information through interviews;

e) Organise formal and informal interviews and field visits to explore aspects that the leaders did not touch or aspects that contain biases;

f) Organise feedback within the AR Team;

g) Process, digest and explore information;

h) Analyse the results;

i) Prepare a first draft of the overall synthesis report;

j) Write a synthesis report for each Quartier;

k) Agree upon a date for the first feedback of the results to the community leaders;

l) The day before the feedback, go personally to the leaders for confirmation;

m) Distribute invitations for the presentation to the Municipal departments and resource persons;

n) Hold the feedback workshop and incorporate its results in the final overall synthesis report (make additional investigations, if necessary);

o) Agree with the leaders of each Quartier for a feedback of the results of the diagnosis of the Quartier to the population in a public meeting;

p) The day before the feedback in the public meeting, go personally to the leaders of the Quartier for confirmation;

q) During the feedback, encourage the population to propose changes;

r) Agree with the public meeting about major activities to be undertaken and agree about a preliminary time schedule.

2.3.1 Guide for collecting information

The programme staff prepared a check list to document the sources of information and to facilitate the comparison of the information. The detailed questions, grouped into topics, all have bearing on the major aspects of waste management in Commune IV. The checklist included topics such as history; social structures; social cohesion; specific cultural issues; economic activities; collective infrastructure; types of soil; waste management activities; constraints and potential; previous and present interventions; constraints on progress and inventory of solutions (see Annex 2).

Certain precautions were taken when using the checklist, e.g.:
♦ Identifying in advance the socio-economic groups likely to be present in the public meeting.
♦ Being conscious of sensitive issues and avoiding embarrassing references.
♦ Adapting the check list in relation to sensitive issues peculiar to each Quartier.
♦ Using regularly used metaphors and proverbs.

♦ Taking fears and doubts about the pilot project, as expressed by leaders and population, seriously, by inviting participation in a concrete manner in each step of the action research.

The checklist gives information that can be useful to establish the Waste Management Associations. The following types of information are useful:
♦ The **geographical division** identified the members of the Association and the levels of organisation.
♦ The **existing relations between the levels of leadership** (Sectors, Quartier) showed the formal and informal channels of communication, which were later utilised for awareness raising and mobilisation.
♦ The **existing methods for conflict management** were used by the AR Team when there were serious misunderstandings. Identification of influential persons served the same purpose.

2.3.2 Feedback of the results of the participatory diagnosis

Feedback is a communication technique that has been constantly used during the whole process of action research. Feedback of the participatory diagnosis of the environment is presented here as an example.

The purpose of the successive feedback sessions has been to collect additional information or to correct information contained in the synthesis reports of the Quartiers.
The first feedback takes place within the AR Team. The major objective is first to ensure that all members of the Team have the same level of understanding on the information collected, and secondly, to review that information in the light of what was expected, the obstacles encountered and techniques to overcome them.

The second stage of feedback of the study results takes place with the actors. Its major objective is to invite resource persons to validate or qualify the collected information and the working hypotheses, and to enrich the conclusions with their suggestions. This feedback makes it possible to assess the appropriateness and relevance of the envisaged activities. This second level of feedback is discussed here.

This second level of feedback also includes the organisation of a validation workshop . This workshop has brought together the AR Team, the Chiefs of the Quartiers and their councillors, representatives of the Municipal departments, of the GIEs/Coops and of PDUC.IV, and other resource persons.
Visual presentation of the situational diagnosis of each Quartier stimulated the discussions in the workshop. In the end everybody had learned something new and important about his own Quartier, even though the majority said beforehand that they already knew everything that mattered about Commune IV. A breakthrough came when the oldest people admitted that their knowledge contained gaps and that they too could learn from the workshop participants, be they old or young.

The workshop recommended that the AR Team:
♦ Organise a similar feedback in all the Quartiers in a public meeting in which all socio-economic groups are present.
♦ Encourage the formation of community groups through the creation of Associations (see Box 4).

- Set up statutes and articles of the association to avoid possible conflicts of interest between Waste Management Associations, which are voluntary and without commercial aim, and waste-GIEs/Coops which aim at income generation .
- Discuss the statutes and articles of the association and the composition of the Association's membership with the other partners.
- Do everything to make the pilot project effective in all Quartiers of Commune IV.

The recommended test actions, which focus on organisation and training, are in line with the logic of action research. The leaders of Commune IV have thus clearly given priority to strengthening the organisational foundation for waste management, while deferring purely technical improvements.

Box 4   Associations as an original form of organisation

The tendency among the population to form associations has a long and strong tradition among the urban population in West Africa. They are the "Ton", known under different names in many cities, for example the "Naam" in Burkina Faso. It is a form of organisation often utilised by development projects and state organisations. Despite numerous cases of abuse of the Ton in the recent history of Mali, this form of organisation represents important anthropological-sociological capital, which has great potential for the revitalisation of modern society (ALPHALOG 1999).

One should remember that early project documents spoke of limiting the test actions to one or two Quartiers, to be identified on the basis of the outcome of the participatory diagnosis. However, all the project partners in Commune IV expressed the wish that participation of the population in waste management would continue in the whole Commune. According to them, limiting community participation to one or two Quartiers out of eight could undermine the chances for sustainability of all new waste management initiatives; could create internal conflicts in the Commune and a climate of hostility towards UWEP. The decision makers of UWEP were flexible enough to grant this concession.

The participatory diagnosis thus provided a solid legitimation for the pilot project PP4.

CHAPTER 3   ACTION PHASE

This Working Document will not talk about all the activities implemented. Rather it focuses on some of the achievements, and discusses the typical procedures, methods, techniques and instruments of implementation. Reference to certain theoretical perspectives and to other points of view on action research will be made when relevant.

The action phase aimed at the testing of certain key activities recommended by the residents. The role of the AR Team consisted of supporting the actors who were responsible for these activities. The Team had to pursue several aims at the same time, consistent with the structure of action research:
♦ to contribute to the success of the test actions,
♦ to learn from these actions,
♦ to assist other actors to do the same, particularly the Associations for Waste Management, but also the GIEs/Coops, PDUC.IV, the Municipality and its service departments,
♦ to prepare capitalisation documents and distribute the results of the action research.

The major activities of the action phase were:
♦ planning and programming of activities,
♦ organisation and monitoring their implementation,
♦ supporting establishment of community associations,
♦ continuous training of all actors,
♦ research to prepare for action,
♦ studies on the composition of waste materials in the light of waste recovery and recycling,
♦ self-evaluation of the actors.

3.1   Joint planning and programming of activities in a professional manner

Professionalism is important to gain recognition and legitimacy of the work. For example, the young researcher/team leader gained respect from the Chiefs through the professional manner in which he handled unexpected problems. Some examples of activities programmed by the population and supported by the AR Team included:
♦ Creation of a community based Waste Management Association in each Quartier,
♦ Animation and mobilisation of the population in each of the Quartiers and their Sectors,
♦ Regular organisation of public clean up days by each Quartier's Association,
♦ Involving the Association in monitoring the practices of households,
♦ Strengthening the Association in the Sectors of each Quartier,
♦ Elaboration of a framework of collaboration between the Associations and other actors.
♦ Participatory diagnosis by Sector with support of the appropriate municipal service departments.

The system of planning, monitoring and evaluation of activities has benefited greatly from the experience of CEK-*Kala Saba*.

For the planning of activities of the AR Team, we used the method GOPP (Goal Oriented Project Planning) or Logical Framework Method, as a participatory and iterative method.

Box 5   The planning process

During the planning process all local partner organisations were involved. Several bilateral and multilateral work sessions were held. A written concept was prepared and sent to the partners for their review to introduce each phase of an important discussion . After a work session, changes adopted were integrated in the concept-document, so that it evolved gradually with the discussions. Electronic mail facilitated the exchange of ideas between WASTE (the Netherlands) and its local partners in Bamako, so that the opinion and advice of WASTE could be integrated into the action plans.

After six months of intense exchanges, a planning workshop was held with representatives of all the institutions concerned with the PP4 pilot project: PDUC.IV, CPAC, Municipality and Chiefs of the Quartiers with their councillors, the Municipal service departments, all the GIEs/Coops members of CPAC, the staff of UWEP/Mali and the representative of UWEP/Gouda.[2] This workshop defined the Logical Framework of PP4 (see Annex 1).

The GOPP method takes place in 12 steps, being levels of information to be obtained, and of consensus to be reached. These steps have two distinct parts, i.e. analysis and planning (Beaudoux at al. 1992):

1. Who are the actors, beneficiaries, opponents; categorised in groups and sub-groups.
2. What is the central problem, expressed in negative terms (lack of, absence, insufficiency, excess) and looking for consensus on the central problem.
3. Which are the causes and effects of this central problem: reach consensus on a schedule representing the hierarchy of problems.
4. Transform the described problems in objectives (positive terms), transform the relationships between cause and effect in relationships of means and aims (concrete actions to achieve an aim) and create a hierarchy of objectives.
5. Analyse possible intervention strategies.
6. Choose the best alternative that allows the achievement of project objectives and development objectives as determined by the project beneficiaries.
7. Determine the results to be obtained.
8. Describe precisely the indicators to verify the activities, the results, the project objectives and general objectives.
9. Describe the sources which allow verification of the development of each indicator.
10. Analyse the appropriateness of assumptions for the results and the chances of their occurrence.
11. Understand to what extend the responsible persons and project leaders can guarantee project results.
12. Describe precisely project means in terms of human, material, and financial resources that have to be made available.

Box 6   Example of objectives, results, activities and indicators in pilot project PP4 in Bamako, Mali

The stakeholder group in Commune IV, Bamako decided that the *development objective* was to improve public health through waste management and urban sanitation. And that the *project objective* was to achieve greater participation of the population in waste activities. One of the *expected results* was a cleaner neighbourhood. *Activities* to achieve this objective were 1) meetings to raise awareness; 2) monthly clean up campaigns; and 3) negative sanctions on the growing of tall crops in residential compounds. One of the *indicators* used was the reduction of incidences of sanitation-related diseases.

Indeed, after 3 months of implementing these activities, the Medical Officer of Health reported that the incidence of malaria, diarrhoea and snakebites had been measurably reduced. He sent an *official letter of congratulation* to the community leaders and the project team.

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[2] CEK: Rapport de mission de Maria S. Muller, du 12 au 24 janvier, Bamako 1998, pages 13 and 15

Photo 2   The people choose their own way of communication, example of Sébénicoro Quartier

(©WASTE, photo CEK)

The Logical Framework formed the basis for the Annual Work Plans. Together they have served as the guideline for regular monitoring and the annual progress evaluation. These two instruments have proved to be very useful tools of communication for reconciling the points of view of different actors during project execution. Since project expectations sometimes diverged widely, it took extensive negotiations to be able to find common denominators.

3.2   Monitoring and evaluation mechanism

The AR Team carried out regular monitoring to check whether the planned activities took place as expected, and whether there were any causes for delays. Monitoring also established a discipline in the work of the AR Team.

Monitoring the activities of PP4 took place by:
♦ Weekly meetings between the Associations and AR Team members, each AR Team member being responsible for one Association.
♦ Weekly meetings of the AR Team itself, during which the programmed activities of individual Team member were discussed; as well as information relevant to the progress of project activities.. Each Team member had his/her own monitoring notebook.
♦ The researcher/team leader then distilled the information that was most relevant for the continuation of activities and for the analysis of the UWEP programme.

3.3   Establishing community based Associations

Significant activities for establishing the Associations are: the legal constitution of the Waste Management Associations; and formation of their central bodies and member-organisations across the whole Quartier. This was done for each Quartier separately.

3.3.1 Legal constitution of the Association

The articles and regulations are of critical importance in the life of community associations as they articulate the Association's purpose and field of intervention. They also provide other information including:

♦ legal status of the association,
♦ mandate,
♦ categories of membership,
♦ internal organisation and functioning of the association,
♦ management of its resources,
♦ norms and sanctions appropriate for environmental and waste management in the Quartier.

From a practical point of view, the establishment of temporary Coordinating Committees heralded the beginning of these community based associations. In fact, after the presentation of the diagnostic reports, the General Assembly of each of the six Quartiers decided to set up temporary Coordinating Committees. The General Assemblies also opted for the status of "development association without commercial purpose", and called them "Association for Waste Management and Protection of the Environment" (called 'Waste Management Association', or 'the Association').

One should note, finally, that in accordance with the participatory approach of action research, the preparation and adoption of the statutes and articles of the association was a long and re-iterative process, marked by contradictory opinions of the temporary Committees and their grass roots membership, and other conflicts.

3.3.2 Formation of member-organisations of the Association

The member-organisations of each Association are: the Coordinating Committee, the Waste Management Committees, and the *Sanya Tigi* (see figure 4).

a) Coordinating Committee
The Coordinating Committee at the Quartier level consists of representatives of the Waste Management Committees of each Sector, as well as other relevant persons (see Figure 4) The residents accepted a gender-sensitive approach recognising that women are the first to be responsible for waste activities, and therefore should play an important role in the Waste Management Associations. They elected in all Associations a woman as President.

b) Waste Management Committees
Occupying a central position, the Waste Management Committees, constituted in a general meeting, are the starting point for establishing the member-organisations (see Figure 4). Each Sector has at least one Waste Management Committee, and larger or more dispersed Sectors have several.

c) Sanya Tigi
The Sanya Tigi are socially influential men and women on the level of streets or residential blocks. They are adults as well as young people who enjoy social credibility with all sections of the population.
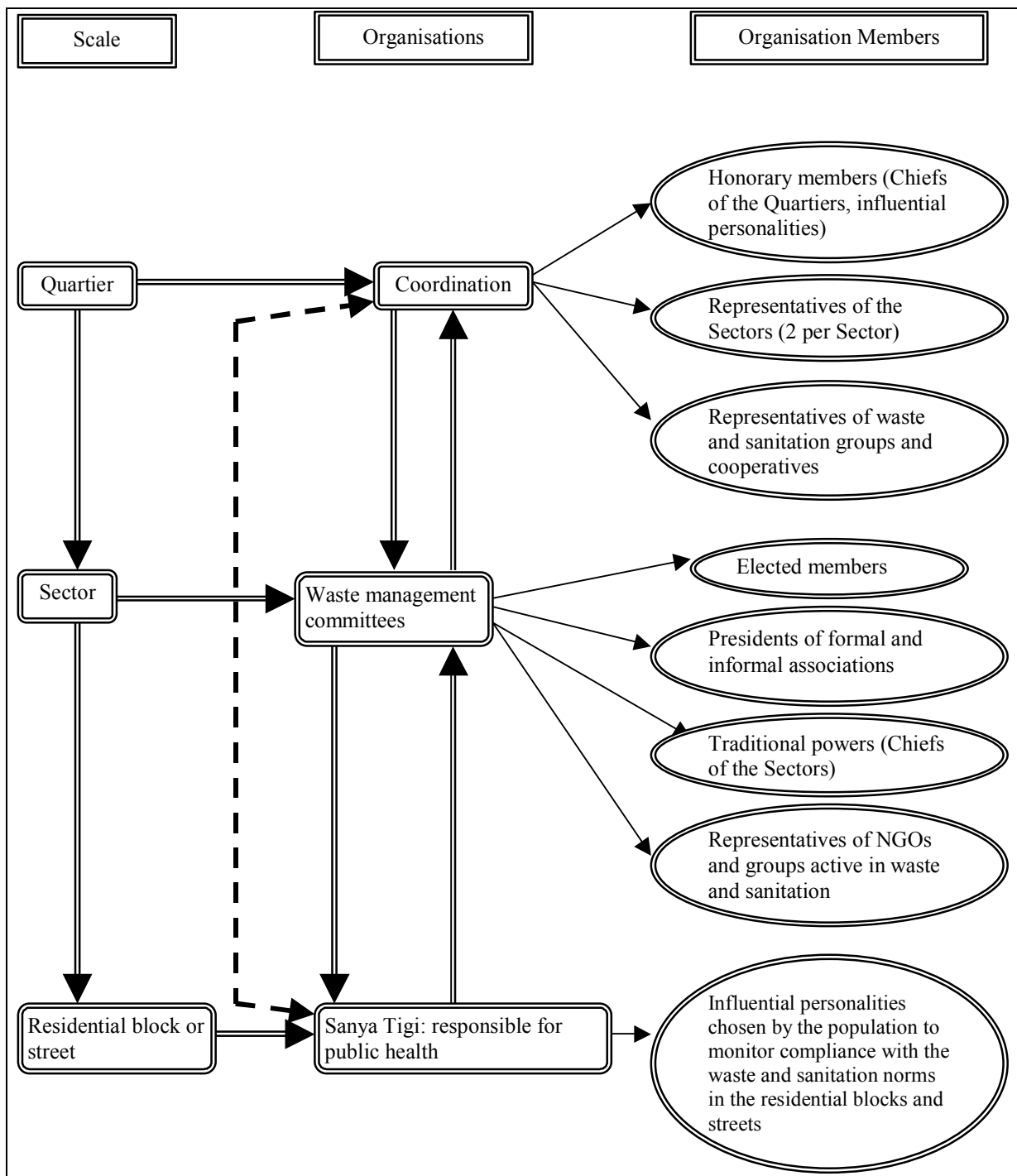
Figure 4   Organisation of the Waste Management Associations, from bottom to top

3.4   Training as a cross-cutting activity

Training of the principal actors was a major strategic action. There was frequent training of members of the AR Team on the methodology of the PP4 pilot project, while other training themes were identified during the project. There were also training sessions for members of waste management associations in bookkeeping, project management, animation and communication techniques, and study of the environment.

Box 7 Public education in practice: two examples

First example. During the clean-up days, which mobilise large numbers of people, all households are expected to participate, and to clean the street in front of their own house as well as other public areas. The women who participate then go to the households who do not take part and sweep their surroundings for them, so as to persuade them to behave better next time. The clean-up campaigns are regularly organised by the Associations,

Second example. The Committee of one Quartier practised animation and communication techniques on its regular tours around the area. They tried to persuade households to improve their waste practices. Messages are thus transmitted to the population before, during and after the regular public clean-up days.

UWEP/MALI aims at a third form of continuous training by creating a Training Centre for Adult Training that offers the population of Commune IV access to qualified professional support at affordable costs (Keita/Maiga 1999).

Photo 3   People working together against the unhygienic situation in their Quartier

(©WASTE, photo CEK)

3.5   Research to prepare for action

As part of the action research project, one-off studies are carried out before embarking on a strategic project activity. One example are studies on recovery of organic waste for use by peri-urban farmers in Commune IV. After the participatory diagnosis had identified the distinction between urban Quartiers *generating* organic waste, and peri-urban Quartiers *utilising* organic waste, focussed studies became feasible. There was, for example, the study of household garbage (see table 2).

Waste elements	Percentage
Organic material	22,8
Sand and dust	62,3
Stones	6,0
Paper	1,8
Glass	0,3
Metal	0,4
Textile	0,8
Plastic	3,0
Rubber	0,3
Bones/skins	1,0
Charcoal	0,8
Hazardous waste	0,1
Other	0,4
Total	**100,0**

Table 2 Composition of household garbage in Commune IV
(Source: Ann Baker 1999, p.14)

This field study concluded that recovery of biodegradable waste is very limited. Waste materials are not separated and are delivered in their unseparated state to the farmers, including hazardous materials such as plastic, used household batteries, rubber, medical wastes, etc. The other major conclusion is that a re-organisation of the collection and delivery system is necessary to ensure that farmers receive high quality organic waste. The results of this and other waste composition studies are used in the UWEP pilot project on the creation of sustainable, complementary links between urban Sectors which generate organic waste and rural Sectors which use organic waste for agriculture. (see pilot project no.5, in the Preface). In this way the action research project helped to lay the foundation of other waste projects.

3.6   Self-evaluation by the actors

3.6.1   Participatory evaluation

According to Guèye, community participation assumes that the residents-beneficiaries accept increasing responsibility for planning, management, and monitoring-evaluation of the collective actions that they consider necessary (Guèye 1999, p.2). In this process, periodical self-evaluation by the actors plays an important role as an integrated part of action research. Therefore self-evaluation is considered a test action that is part of the present capitalisation. UWEP/Mali facilitated in December 1999-January 2000 a process of self-evaluation of all the actors in the UWEP programme as integrated component of the action research project. The objective of this exercise was to assess:
♦ Progress towards the objectives that each group had set itself.
♦ Effectiveness of the activities: the strengths of the programme and the difficulties experienced.
♦ Internal communication within each group and the external communication with partner groups.

Waste Management Associations, Chiefs of the Quartiers, the Municipality, the Municipal service departments, the National and the Regional Government Committees on waste management and environment, GIEs/Coops, CPAC, ALPHALOG, UWEP/Mali and the AR Team, all participated in the evaluation of pilot project PP4. The self-evaluation focused on successes, failures, potentialities and obstacles.

Box 8   Steps in self-evaluation in the PP4 action research project

♦ Each group first carried out its own evaluation and transmitted its synthesis to the UWEP Coordinator for quality control.

♦ In the final workshop each group/organisation presented its own self-evaluation. The workshop then analysed and compared the different results so as to develop a general synthesis of achievements, weaknesses, and actual potentialities of the UWEP programme and in particular of pilot project PP4, which is the action research project.

3.6.2   *Main results of the self-evaluation of the action research project*

The activities carried out by the pilot project on action research concerned all aspects of Integrated Sustainable Waste Management (ISWM), which is the basic concept of UWEP. After comparing the situation in Commune IV before PP4 intervention (major problems to be tackled) and the present situation (problems effectively solved), one can draw conclusions about the achievements, problems, knowledge generated and impact of this UWEP project. This is shown in Box 9.

Box 9   Achievements and Weaknesses of PP4 as seen by its actors (abbreviated version)

Main achievements:
♦ An action research team composed of representatives of the population and the GIEs/Coops has been established.
♦ The participatory diagnosis in eight Quartiers of Commune IV has been completed.
♦ Waste Management Associations and their member-organisations are formally established in six Quartiers and are functioning well.
♦ A workshop to elaborate a communication plan between the Associations and the other waste management actors in Commune IV has been held and the results distributed.
♦ Collaboration between UWEP - CPAC- the Municipality - the population is becoming stronger.
♦ Improvement of the capacities of Associations and GIEs/Coops has been made possible.
♦ Regular organisation of clean-up days by the Associations.
♦ Awareness raising of households and mobilisation of the community.
♦ Support of elected Municipal councillors, GIEs/Coops and resource persons for activities of the Associations.

Some difficulties:
♦ The non-establishment of Waste Management Associations in two Quartiers due to lack of social cohesion.
♦ Insufficient collaboration between the Associations, the GIEs/Coops, and the municipal service departments in the Quartiers.
♦ Insufficient material resources (audio means of communication) and capacities of the Associations for animation and awareness raising.
♦ The non-initiation of the Associations in rural Quartiers in composting techniques.

Knowledge generated:
♦ The general diagnosis informed all actors about the area of intervention (Commune IV).
♦ Women and men have different knowledge on the environment and waste management.
♦ Discussion of the procedures required for the formal establishment of Waste Management Associations.
♦ Initiation in the techniques of participatory diagnosis, methods of defending public interests (presenting an argument, social marketing, lobbying etc.).
♦ Elaboration of participatory communication techniques that are culturally appropriate.

> **Impact:**
> - Growing presence of women during meetings.
> - The population has become aware of the necessity to act and their organisational capacities have been re-enforced. A growing number of people have understood that they can influence decision making regarding their environment.
> - They know now how to formulate requests and intervene with GIEs/Coops who fail to provide services, by making constructive comments.
> - The Municipality of Commune IV and its service departments now consider the Waste Management Associations as their full partners in waste management.

Finally, the evaluation workshop has formulated recommendations that are integrated in the current action programme. In particular the necessity for greater collaboration between the Associations and the service departments on the one hand, and they and the GIEs/Coops on the other.

The self-evaluation has provided an opportunity to express frustrations in a context of mutual respect, to reveal the causes of blockages or delays, and to settle all the major communication problems. It is planned to initiate each semester a process of self-evaluation so that the Associations learn the methodology and apply it in their own activities.

CHAPTER 4   IN-DEPTH ANALYSIS OF A FEW CENTRAL THEMES

This chapter presents certain issues that have been discussed in detail during this project. It shows that action research, with its participatory instruments, can initiate discussions that are of fundamental importance for a developing society. The chapter deals with two rather sensitive issues: norms for waste management, and the emergence of a new kind of public-private partnership in the field of municipal waste management.

4.1   Conflicting notions of hygiene and waste management in an urban environment

The Waste Management Associations have developed their own vision on urban waste management. The sociological significance of this collective reflection will become clear through a comparison of the official norms with those formulated by the population.

4.1.1   Official norms[3]

The official norms and sanctions on environmental hygiene and waste management aim to stimulate a positive and permanent change in behaviour of urban residents, the majority of whom have kept their rural habits. Official documents stipulate certain principles and measures on waste management as follows[4]:

1) Households must keep their garbage in well-closed bags or the like.
2) In public places, solid waste is to be put in large containers placed in streets or in transit depots so that cleaning services can easily collect it.
3) The principle of "the polluter pays" is often mentioned in this respect.

The police and certain Municipal services try to enforce compliance with the official norms. Sanctions for non-compliance can be a fine from 300 to 1500 FCFA, or imprisonment from one to 10 days.

Regarding liquid waste, government texts deal mainly with collection and treatment of excreta because of public health reasons. The official documents prescribe that certain sanitary installations for domestic liquid waste be constructed. These installations are, however, very expensive considering the average income level. Further, due to rapid urban growth and land speculation, it is becoming more and more difficult to respect the physical distance required between sanitary installations and other domestic facilities like kitchens and water wells, especially in densely populated areas.

Throughout the norms focus on repression and collection of fines, rather than on education and good communication with the population. Like most official directives, they have been introduced in a "top-down" manner, without participation, debate or explanation. The official norms are rarely and arbitrarily enforced. Some examples:

♦ The cultivation of tall crops inside residential compounds is officially forbidden. Yet this practice is common in rural Quartiers of Commune IV.

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[3] New laws on sanitation and environmental pollution have recently been submitted to the National Assembly.
[4] Normes et procedures d'Hygiene et d'Assainissement dans le district de Bamako, mars 1992; Normes et procedures d'Hygiene et d'Assainissement dans le district de bamako, mars 1998.

- Keeping of livestock inside houses or in public spaces is officially forbidden. Yet this is common practice in all Quartiers of Commune IV.
- Agricultural use of latrine sludge, domestic garbage, and excreta is officially only allowed with the permission of the public health department. Yet, many private owners empty their tank-lorries of sludge in agricultural fields, while manual latrine emptiers empty their loads in the streets.
- It is forbidden to throw garbage in gutters. Yet in Commune IV this is common practice.

The official norms and sanctions of waste management only exist on paper, as they are not enforceable in the prevailing conditions in Commune IV. The first reason is the low income of the population. The majority simply does not have the financial means to acquire individual waste and sanitation facilities (sanitary latrines, soakpits, waste bins), not to mention sewer connections. The second reason is that the government is not able to provide the required secondary facilities, such as an official depot for latrine sludge, or sufficient official waste deposits in the residential areas. Land shortage, land speculation, lack of funds, and lack of appropriate policies are underlying causes of this situation.

4.1.2 Alternative norms proposed by the Associations

In contrast, the population has developed, through the Associations, new norms of environmental hygiene and waste management that are compatible with their socio-economic realities. The AR Team has sought to understand the Associations' perceptions of a clean environment in an urban context, so as to avoid imposing external realities on an African environment, as the official documents had done. In the Malian context (referring to the French word "assainissement") a clean environment does not only concern solid and liquid waste management, but also proper management of water supply, and keeping the kitchen and the house clean and free from contaminations. Box 10 reflects these ideas.

Discussions held with many groups in Commune IV have led to certain criteria of *clean environment and waste management*

Box 10 Criteria of Clean Environment and Waste Management

1. **Quality of drinking water and general status of water wells**
- Presence of parapet,
- Presence of cover,
- Maintenance of water well,
- Regular treatment of the well's water with bleach to get drinking water,
- Good storage of water before using it.

2. **Status of individual installations: cesspits and latrines**
- Presence of latrines,
- Proper distance between latrines and water wells,
- Proper management of waste water according to official norms,
- Regular disinfection of toilets with detergents (e.g. bleach).

3. **Kitchen**
- Presence of a shed (a space with a roof and doors),
- Daily sweeping.

> **4. General status of the house**
> ♦ Cleanliness of courtyard,
> ♦ Cleanliness in front of the house,
> ♦ Size of the windows.
>
> **5. Handling of garbage**
> ♦ Putting out the garbage daily,
> ♦ Using garbage bin,
> ♦ Removal of heaps of garbage from the plot, if there is no daily garbage collection.

Having established the criteria for a clean environment, the residents went on to discuss the appropriate behaviour to achieve environmental cleanliness in their own Quartiers by handling waste properly. The meetings were animated by the AR Team together with members of the waste management committees. The residents discussed whether the norms of handling solid and liquid waste, considered appropriate in other disadvantaged settings, were suitable for their own situation, and what adjustments they thought necessary. Having adopted these norms of handling waste in public meetings, people were more inclined to comply with them.

Box 11 Compliance with the norms on handling waste water

> One member of the AR Team realized that the bad smell in his house was caused by people throwing waste water from cleaning and bathing into the street. A pool of stagnant ill-smelling waste water was formed in front of his house. This AR Team member took the initiative of talking about it with his neighbours on both sides of the street, referring to their public meetings. The people agreed to work together in draining the pool, and collecting stones for filling up the hole. And they agreed to henceforth sprinkle used domestic water in small quantities into the street, rather than throw it out in one big gush.

The urban Quartiers, rural Quartiers and the semi-urban/rural Quartiers (see chapter 3 for this distinction) adopted the same norms for the handling of liquid waste, but different norms for solid waste as Box 12 shows. Specifically required behaviour was formulated as public health messages. They became the focal themes of animation and communication.

Box 12 Norms of handling waste adopted by the two types of Quartiers

> **Rural Quarters adopted these norms for handling solid waste:**
> ♦ Daily cleaning of the plots and their surroundings,
> ♦ Regular removal of weeds and dead plants,
> ♦ Limiting the height of plants to 0,15 meters inside the Quartier,
> ♦ Deposit of garbage at a distance of at least 15 meters from the plots by throwing them in a large pit,
> ♦ Transport of garbage to the fields, at the beginning of the wet season, after non-biodegradable elements have been sorted out,
> ♦ Avoidance of garbage from suspect places: waste from hospitals, commercial centres with a large quantity of plastics and used household batteries, industrial zones.
>
> **Rural Quarters adopted these norms for agriculture:**
> ♦ When cultivation on residential plots is necessary, choose crops that are not higher than 0,15 meters,
> ♦ Consider the principles of human and environmental hygiene when choosing pesticides,
> ♦ Grow tall crops at a distance of at least 100 meters from the closest plots.
>
> **Urban Quarters adopted these norms for handling solid waste:**

* Store household garbage in a suitable bag or the like
- Subscribe to the services of a GIEs/Coops or transport the garbage to a transfer deposit,
- Be prepared to comply with all public and private initiatives on separation at source.

Both urban and rural Quartiers adopted these norms for handling liquid waste:
- Avoid direct connection of the toilet with gutters or the street,
- Handle water from toilets in a suitable manner: make a pit, fill the pit with lateritique stones (cheaper than porous stones), cover the pit completely with tiles or other big slabs so as to prevent things or people from falling in,
- In the absence of a proper washing place, sprinkle used domestic water in the street, avoiding bad smells and avoiding that water cutting holes in the street,
- Throw ill smelling water in cesspits,
- Build latrines at least 15 meters from houses/rooms, kitchens, water wells, if they are not of the improved type,
- Engage only professionals for the emptying of cesspits and latrines, who will transport the sludge to official deposits.

In the case of semi-urban Quartiers, the Sectors were divided between rural zones and urban zones to which the appropriate norms apply.

4.1.3   Sanctions proposed by the population

A set of sanctions was necessary to enforce compliance with the publicly adopted norms. Keeping traditional rules in mind, the population proposed a hierarchy of sanctions and a procedure for handling disputes, as presented in Box 13

Box 13 Sanctions and procedures for disputes proposed by the population

Sanctions
- Up to two warnings,
- Payment of "Sanya Ton" (sanction): its severity varies with the seriousness of the committed mistake and the attitude of the wrongdoers. The "Sanya Ton" varies between 10 and 40 cola nut,.
- In case the mistake is repeated, the sanction is applied under the same conditions,
- When cola nuts are not available, wrongdoers will pay the value of the cola nuts, at 25 FCFA. The sanction is therefore between 250 and 1000 FCFA,

Procedures
The "Sanya Tigi" treat frequent wrongdoers as follows:
- Warnings and sanctions,
- Reference to the Waste Management Committee (refusal to obey, for example),
- Transfer of disputes or non-regulated violations to higher echelons (Waste Management Committee, Coordinating Committee),
- Finally, if the wrongdoers refuse to pay the sanction or repeat their mistakes, the Association has the right to refer the case to the Municipal services for repressive sanction.

The big problem with applying the sanctions regards the enormous gap between the official norms and the popular norms, which causes great difficulties for the population when trying to apply their own - relevant and appropriate - sanctions. The difficulty is that public health sanctions can only be legally applied by the officials who have obtained formal, specialised qualifications. This requirement disqualifies the Associations from applying sanctions. In order to avoid conflict with the official regulations, the population has fallen back on customary rules and substituted the traditional term "Sanya Ton" for "sanctions". Municipal officials have accepted this term, as a concession to the population.

The conclusion of this analysis is that official documents about urban waste management are based on administrative formalism. The appearance of Associations, led by dynamic women who are not compromised by municipal politics, has highlighted the failure of these official texts to encourage participation of citizens. These texts are not appropriate for solving either the practical problems or the strategic interests of the disadvantaged population who suffer most of lack of cleanliness in urban areas.

4.2 Negotiations on a framework for public-private partnership in waste management

The reflections in the previous paragraph on the non-appropriateness of the official rules show clearly the necessity of establishing a fundamental dialogue between the Municipal service departments and the population of disadvantaged neighbourhoods. In addition, other NGOs had indicated their interest in addressing specific aspects of environmental sanitation in Commune IV in cooperation with UWEP, such as awareness raising through SARAR techniques, composting, and providing sanitation facilities, bookkeeping and project management. The AR Team and the Associations therefore took the initiative to establish a framework for consultation and coordination of support. A " Communication Plan" was developed that laid the basis for a "Framework of Consultation" which encompassed all relevant actors in Commune IV. In this informal structure participated the Municipality and its service departments, the GIEs/Coops, NGOs, and environment-related programmes and projects (e.g. UWEP/Mali). The present paragraph analyses the dynamics leading up to this new framework of partnership.

4.2.1 Objectives and functions of the Communication Plan

The objective of the communication plan is to create a framework for the coordination of support and advice that different support-agencies have committed themselves to give to the Associations. The plan facilitates that agencies recognise which activities are overlapping, and which problem areas remain uncovered. The plan also encourages that technical partners define more precisely the support they will provide to the Associations.

'Communication' stands here for the exchange of strategic information between the Associations and their partners, or among themselves, to facilitate the realisation of their respective activity programmes. The communication plan gives expression to the needs for communication of all actors. With this plan, each actor can anticipate the critical moments when the exchange of information with specific partners becomes crucial for the success of her or his own activity.

4.2.2 Methodological approach

The communication plan is expected to "create genuine scope for discussion between the service providers and the Municipal Council on the participation of residents, environmental sanitation activities, and the possible social dynamic effects arising from waste management" (Bulle 1999, p.38). The usefulness of the communication plan is that it facilitates the synergy of actors while avoiding counter-productive dynamics. Because, "in the absence of a well-articulated division of responsibilities between municipal management, development and citizen participation, waste management policies delegated to community based organisations have but limited impact" (Bulle 1999, p.38).

The approach has the following elements: collection of information by the AR Team; workshops for the participatory elaboration of the Communication Plan; and finalisation and distribution of the Communication Plan by the AR Team.

The three phases of the approach are described below.

First Phase
During the first phase, the AR Team had meetings with interested organisations to discuss the contributions required for developing community based waste management in Commune IV. Key actors (Municipality, service departments, GIEs/Coops, Chiefs of the Quartiers, local development NGOs) then participated in a workshop to define the themes of collaboration and the type of support (technical, material, financial) to be expected from public and private organisations as well as from development NGOs.

Box 14 Examples of support required from public and private organisations

Technical support can assist an Association with the design and implementation of specific technical activities, e.g. environmental hygiene on residential plots, recovery of biodegradable waste etc.
Financial support can be direct financing of the Association's activities, or putting them in contact with sources of finance.

Second Phase
During the second phase the AR Team held individual meetings with the potential partner organisations in which they gave a concrete idea of the technical and financial support they could provide. These were real negotiating sessions that laid the foundation for a long-term partnership between Associations and other actors.

Third Phase
In the third phase the proposals of these local and potential partner organisations were compared in a workshop, in order to agree on priorities and ensure complementary implementation. At this stage many organisations realised that they did not know each other and that effective coordination required regular mutual consultation: the idea of a new informal framework of consultation began to take shape. A contract was foreseen in future, to regulate general collaboration between public service providers / technical support organisations and the Associations, and more specific collaboration between these partners and the GIEs/Coops. A formal document, linking GIEs/Coops and Associations, would define precisely the role, tasks, and the quality of services to be provided by each party to ensure environmental hygiene and public cleanliness.

The implementation of the framework of consultation faced unexpected obstacles in the beginning. First, after the workshop CPAC began to voice its opposition: it feared for its own existence as coordinating structure for waste management in Commune IV with the arrival of the new framework. Further, as the Associations placed environmental cleanliness on the public agenda, grass roots pressure groups, NGOs, and other projects suddenly made their appearance in Commune IV, seeing an opportunity to make themselves felt. Unfortunately, these newcomers often have no intention of collaborating with the existing actors.

4.2.3   Main results of consultations

A common programmatic vision began to appear among the organisations, including the municipal service departments. They asked themselves how to succeed in waste management in Commune IV by complementing each other on different levels: cleanliness in and around

the house, cleanliness in public places, primary waste collection, secondary collection, and cross-cutting themes. The organisations agreed that a possible allocation of roles between them could be the following:

1. **Cleanliness in the house and on the residential plots**
   ♦ Main actors: Associations, heads of households, professional groups, GIEs (handling of cess pits and latrines, monitoring of the norms of waste management by the households, applications of local sanctions).
   ♦ Technical and administrative support: Municipal service departments (application of official sanctions when warnings by the Associations prove ineffective).

2. **Cleanliness of public places**
   ♦ Main actors: Associations (awareness raising, monitoring), population, professional groups and their organisations (bus stations, markets, religious centres, schools).
   ♦ Technical and administrative support: Municipal service departments, development organisations.

3. **Primary collection (including management of private and public facilities)**
   ♦ Main actors: GIEs/Coops, Associations, (formulating micro-projects), Municipality, (designating transfer depots).
   ♦ Technical and professional support: Municipal service departments, development organisations (strengthening of organisational and technical capacities of GIEs/Coops and Municipal departments).

For example, UWEP has facilitated the training of members of one GIE in management of green spaces.

4. **Secondary collection (including management of collective facilities)**
   ♦ Main actors: Municipality (policy orientation), Municipal service departments.
   ♦ Organisational support: Associations, especially in the rural Quartiers to prevent illegal disposal of garbage, and keeping the population alert.

5. **Cross-cutting themes**
Themes that are cross-cutting all the above-cited levels are for example, reduction and/or recovery of waste materials, fight against pollution (households, residential plots, public places, transfer depots, final deposit/ agricultural fields.
   ♦ Main actors: all actors are concerned to formulate or assist with implementation of suitable projects.
   ♦ Technical and financial support: central Government and its departments, development organisations.

Finally, we mention the fortunate coincidence that the WHO, in the context of its "Healthy Cities 2000 Programme", began to facilitate in 2000 a "network of environmental management at the grassroots" in each of the six Communes of Bamako. Collaborating are diverse partners like the Regional Health Department, UNICEF, ALPHALOG, GTZ, CREPA and others. As this network resembled the framework of consultation aimed at by the waste management partners in Commune IV, UWEP joined this new network. The framework of consultation is now formalised, placed under authority of the Mayor, and allocated a leading role in the structure of public health provisions in the Commune. The new network structure,

being the same in all Communes, does not focus on the Associations, which, therefore, are plain network members, just as CPAC.

CHAPTER 5   CITIZEN PARTICIPATION IN WASTE MANAGEMENT: METHODOLOGICAL ASPECTS

Awareness raising and community mobilisation are elements of action research. They contribute to the process of development in the urban community that action research aims to set in motion. From the point of view of action research, the urban community is not only the object of social change, it is also the main subject setting social change in motion. Or, more in line with social reality, we say that each community consists of many social groups who are all actors with their own interests, and who are acting and reacting to each other in the process of community change.

The first part of this chapter will summarise the pilot project's activities as elements of a planned and coherent process. As Hochet already said: action research encompasses a first phase in which the research takes precedence over action, but already requires action to take place; and a second phase in which an action programme is being implemented, but requires systematic research to accompany the actions (Hochet 1989, p.54).

The second part of the chapter will present the participatory instruments that the Associations and the Action Research Team have learned to apply for awareness raising and community mobilisation throughout the project. These are PRA/MARP techniques.

5.1   Learning to act together

Pilot project PP4 used awareness raising techniques in the first project phase to achieve collective learning in Commune IV. This entailed looking at problems, their causes and consequences in a new way, that would generate learning of new potential solutions. These are the elements Historical Review, General Reflection, and Analysis. In the second project phase community mobilisation techniques transformed this collective learning into collective action by the community. The actors were then mobilised to try out new ways of acting together with new partners, learning the positive results and potential pitfalls of these new ways of doing things. These are the elements Activities, and Community Organisation.

5.1.1   Short historical review

A historical and sociological reflection on ideas and experiences with waste management was a necessary element of the general context of PP4. In fact, the representatives of the population have opted for forms of social organisation based on African cultural values. The identification of "Sanya Tigi" and "Sanya Ton" cola are examples of this. In contrast, the election of women as leaders of the Waste Management Associations shows an interest in intercultural dialogue, and cultural innovation.

5.1.2   General reflection

This element consists of assisting the population to see their problems with waste as collective problems which are multisectoral. In the case of Commune IV, this reflection was facilitated by the historical review that showed the diversity of problems and actors in different periods, and the socio-economic, demographic and institutional factors which are at the origin of the present problems.

5.1.3   Analysis

The analysis aims at discerning the means to overcome the present obstacles. The proposal to create a community association and other initiatives of the population, justified by their traditional and present experiences, are tangible proof of the analytical process that the action research has set into motion.

5.1.4   Activities

Proposed solutions to overcome the identified obstacles are formalised in the planning and programming of activities. The population is guided, monitored, and advised with the execution of their planned activities. Evaluation takes place from time to time to assess the validity of the adopted strategies and to redirect them if necessary.

5.1.5   Community organisation

Finally, making progress with the activities strengthens the interest of the population to become organised and to learn for themselves how to conduct the adopted strategies. This learning takes the actors to generalise their positive experiences and to master the techniques by initiating new test-actions (starting again at the beginning: actualising the participatory diagnosis, and extending it to the level of Sectors, etc.),

Discussion

The members of the AR Team have gradually learned the complexity of awareness raising as an instrument to support grassroots initiatives to improve living conditions. Generally speaking, they understood the logic of the process and employed the methods and techniques well enough. The most challenging steps are clearly the identification of relevant and innovative activities and the mobilisation of financial means - due to the poverty of the population, the limited availability of national resources, and the lack of interest of development organisation for these type of Quartiers. In this respect is the support of the Municipality, its technical services and Government very necessary.

As for the Waste Management Associations, their organisational development still suffers 'growing pains' and requires high-quality technical assistance during a period of consolidation (cf. Chapter 6, on issues of practical problems and strategic interests). At present, they represent a balance between the style of traditional associations (e.g. debate on norms and sanctions) and the demands of modern associations (technical requirements, democratic and transparent operation, team work, lobbying, public relations, intercultural communication, etc.).

5.2   Community mobilisation: a social-psychological approach

The AR Team "translated" the general principles of action research into a code of conduct in which they were trained. They recognised that the general principle of stimulating the population to develop and implement their own development agenda requires certain attitudes and behaviour from the development organisers (see Box 15).

Box 15   Code of conduct of development organisers

a) Get to know the people and environment concerned by collecting information.
b) Exchange the information with the people concerned.
c) Intervene only at the request of the population when they have given proof of their genuine motivation for the activities which they want to see supported.

5.2.1 Team spirit and codes of conduct

The AR Team developed a team spirit by adopting an open style of discussion and decision making during their regular team meetings. The Team members also practiced certain codes of behaviour in their contact with the population, which were the result of internal team discussions. The AR Team has thus given much attention to the interests of different social groups in the population.

5.2.2 Making social contact

Making professional social contact with unknown people in unfamiliar situations is a social skill to be learned. The Team members learned how to conduct themselves when starting in a new Quartier or Sector, e.g. by asking for the socially influential people, respecting the local codes of behaviour and referring to kinship or other common social ties.

To facilitate making and maintaining professional contacts, each member of the AR Team was responsible for the contact with one or two Quartiers, as 'liaison officer'. It was easier to make contact with some community associations than with others, as the residents of "urban" Quartiers are more used to outsiders than those of rural Quartiers.

5.2.3 Impartiality, empathy and social consensus

The typical atmosphere during meetings is always one of mutual understanding among the members of the AR Team, and between the Team and the population. The approach consists of assisting the population with identifying their waste management problems and to find solutions. To do this, the Team members have to be available at any time, be self-confident and keep a high moral standard.

Box 16 Example of creating consensus: Sébénicoro Quartier

The population of Sébénicoro has serious problems as the traditional chieftainship is bitterly disputed. Two groups have spent many years in conflict, each one claiming the legitimate chieftainship of the Quartier. The result is that the Municipality no longer demands one leader to speak for the whole population of the Quartier, but now accepts two leaders.

The AR Team has adopted a thoughtful approach to awareness raising and a style of communication that respects traditional norms and values. This has created an atmosphere of confidence between the Team and the population as a whole, as well as the various social groups among it.

The result of a long and intensive process of awareness raising and communication was the creation of one Waste Management Association for the whole Quartier - the only organisation ever that has succeeded in uniting all the Quartier's residents for a common goal.

Photo 4   Women cleaning up the Quartier Lassa

5.2.4   Feedback

Feedback is another important tool of awareness raising. It allows the socialisation and validation of the results of a project phase, to bring everybody to the same level of understanding before starting a new project phase.

Feedback can be horizontal or vertical. Horizontal feedback took place among the AR Team members, between the Team and the general population, the GIEs/Coops, the Municipality, the Municipal Service Departments, and NGOs. Vertical feedback took place between the AR Team and the UWEP project directors in Mali and Gouda, and between the AR Team and the Chiefs of the Quartiers of Commune IV. The only feedback that did not function well was that between CPAC and its representatives in the AR Team.

Box 17 An example of feedback between AR Team, Associations and CPAC

Activity	Reflection by the AR Team
1. The Waste Management Association of Sébénicoro started its own primary waste collection in the Quartier, since no GIE was operating there. People paid service charges to the Association. This caused conflict with CPAC, which represents the GIEs.	
	2. There was a first exchange within the AR Team on this activity and the reasons why CPAC/GIEs were upset by the Association's action. The Team increased its own understanding of the different roles and tasks of the Associations (non-commercial) and the GIEs (commercial enterprise).

3. The AR Team initiated workshops with CPAC, the GIEs, PDUC.IV, and Presidents of the Associations to elaborate a document that clarified the different, but mutually related tasks of the Associations. The Associations do not aim at income generation, while the GIEs/Coops do.	
	4. The AR Team had feedback sessions with representatives of the population and member-organisations of the Associations to get corrections to the document and create a common vision.
5. The AR Team distributed the document on the distinct roles and tasks of Associations and GIEs/Coops. It asked CPAC to stimulate the GIEs/Coops to start waste collection in more Quartiers and to provide better service.	
6. The AR Team discussed extensively with the Associations what their roles in waste management are.	

5.2.5   Visual situational analysis

This is a re-iterative process with the following steps:

♦ **Wake-up questions.**
Unsatisfactory habits of waste disposal, identified during neighbourhood walks, are expressed in lively images on large posters (80 cm by 50 cm). The animator asks focussed but open questions to the population to stimulate real interest in the topic.

♦ **Pointing to a better situation.**
The Team asks old people and resource persons to describe a clean, healthy environment in the "good old days" and/or in neighbouring localities. These positive situations are also expressed on large posters.

♦ **Identification of the causes of major problems.**
The two sets of posters are put up next to each other so that the population can express what they see as the causes of the present environmental degradation.

♦ **Identification of activities.**
Viewing aspects of the present degradation and discussing major causes, motivates people to identify the activities to be undertaken. The desired future can also be drawn on large posters.

♦ **Regrouping of activities.**
While discussing the analysis, the population may decide to get organised to act on the unsatisfactory situation. She will propose to regroup the proposed activities and expected results in groups or categories that are more convenient for action.

5.2.6   Recourse to socio-cultural forms of kinship

Community mobilisation can be facilitated by referring to certain forms of social kinship that are still widely known in Mali and other West African countries. For example:

♦ **Classificatory kinship.**
This means that members of father's generation are considered "fathers", and those of

mother's generation as "mothers". This kinship form allows one to categorise everybody in terms of age, and to adopt the appropriate behaviour towards a person.

♦ **Avoidance kinship.**
This means that certain types of phrases, behaviour, and facial expression are to be avoided when meeting someone of a certain age group.

In this action research project, important messages were formulated by a AR Team member who belonged to the generation of "fathers".

♦ **Joking kinship.**
This form of kinship allows people, depending on their relative kinship or age categories, to communicate without taboo or restrictions and to exchange jokes, mockeries, even insults, by referring to their family names, ethnic groups or professions. It is advisable to use this cultural instrument in the following cases:
- Criticize openly disrespectful behaviour
- Complain about delays
- Relax tension in discussions
- Consolidate achievements

It contributes to a feeling of mutual confidence when team members acknowledge their kinship ties in public.

CHAPTER 6   DIFFICULTIES, CONSTRAINTS AND LIMITS OF ACTION RESEARCH

After having presented the achievements, we will now talk about some methodological and practical difficulties and constraints to action research encountered in pilot project PP4. They are:

1. Constraints inherent to action research for development
2. Tensions between the actors in waste management
3. Insufficient collaboration with the public sector.
4. Contrasts between the Quartiers

6.1   Constraints inherent to action research for development

Pilot project PP4 was - as the term says - a pilot project with an action research approach. As such it had very limited financial means to carry out the test actions. Despite repeated explanations, all project partners had great difficulty in understanding that this was not a big development project with large funds at its disposal. This dampened their motivation and enthusiasm.

Faced with these expectations, the AR Team repeated constantly that this pilot project aimed above all at developing forms of community organisation. This is a rare experience in Mali, and practically unknown in Commune IV, and it took therefore some time before a change in expectations took hold.

Similarly, in Mali, "research" is generally seen as the prelude to technical constructions, particularly in this case, where the disadvantaged group was supposed to be the main beneficiary. The people, generally poor, expected direct 'pay-offs', such as salaries, gifts, subsidies, etc. That the AR Team was the only one to benefit financially from the pilot project put the Team in a difficult position.

The AR Team explained frequently what the real benefits of the project were: to organise themselves around common development issues and jointly approach development organisations for funds. The role of UWEP, the Municipality and Government departments was to facilitate linking community organisations with finance institutions. According to Hochet, a project agency can easily loose credibility with the population if it engages in projects without guarantee of sufficient funding, as was the case with pilot project PP4 (Hochet 1989, p.12).

6.2   Tensions between the actors in waste management

Misunderstandings between Associations and GIEs/Coops
The establishment of community organisations in waste management has created a situation in which citizens' initiatives (Associations) without commercial goals have to collaborate with micro-enterprises that do have commercial goals. This is a qualitatively new type of relationship (cf. Diarra/Togola 1997).

Box 18 Difficulties encountered

Some years before, the GIEs/Coops had created Committees of Elders who are highly respected in their Quartiers. Traditionally, these Elders are inclined to exemplary social behaviour, patience and great understanding. These qualities, unfortunately, do not motivate them to react effectively when either the GIEs/Coops (irregular collection services) or the population (irregular payment of collection charges) do not fulfil their obligations. Their interest in keeping peace and calm in the community engendered lack of action, and caused frustration with all parties concerned.

The community based Associations were created in order to involve all population groups in waste management. The GIEs/Coops and the Municipality expected the Associations to make the population adopt a positive attitude towards the GIEs/Coops (to subscribe to their services and pay charges regularly). They expected the Association to work voluntarily for the benefit of the GIEs/Coops, as the Committees of Elders had done. At first the Associations accepted this principle.

However, when the voluntary work of the Associations helped the GIEs/Coops to improve their business, without any benefits for the Associations or the population (e.g. better services), a feeling of frustration set in. Frustration, even suspicion, was strengthened by the presence of representatives of these GIEs/Coops in the AR Team. People began to suspect that the main aim of the Team was to work in the interest of the GIEs/Coops. The Associations then began to question their collaboration with the GIEs/Coops.

This caused the AR Team to argue for a renegotiation of the formal document that defined the roles and tasks of the actors. The most urgent need seemed to be clarification of the complementary relations and the amount of money or other benefits that the GIEs/Coops would transfer to the Associations. The money that the GIEs/Coops would hand over to the Associations would help them start a fund for operations and sustain their activities. Unfortunately, despite all promises, the GIEs/Coops never paid.

Another point of disagreement between these two actors was the attempt of the Associations to engage themselves in primary waste collection where the GIEs/Coops failed to do so (see the case of Sébénicoro, Box 17).

Nevertheless, the Associations and the GIEs/Coops are likely to come to an agreement. An opportunity for this is offered by the collaboration between AGETIPE - a state agency financed by the World Bank for the execution of labour intensive infrastructural works - and the GIEs/Coops. In fact, AGETIPE regularly signs contracts for the daily maintenance of the capital's main roads, and the cleaning of drains and gutters. The GIEs/Coops tend to employ labourers from all over the city. But the AR Team has encouraged the GIEs/Coops to engage local people for this work through the community based Waste Management Associations. At least several GIEs/Coops practise this cooperation with the Associations.

We mention here too that the Associations regularly and on voluntary basis organise public health days in their Quartiers. It appears paradoxical that the cleaning activities of the population (through the Associations) are unpaid, while at other times in the same localities, similar cleaning activities are paid. It is hardly logical that the Associations (i.e. the population) are excluded from paid cleaning activities, as the majority of the population is very poor. As most active members are women, one is inclined to think of the general statement " Women work voluntary, without payment, while men work when there is money to be earned" (Scheinberg and Muller 1999, p. 16).

Photo 5:   Waste collection with a donkey cart in the Quartier Hamdallaya
(©WASTE, photo Maria Muller)

UWEP argues that the GIEs/Coops and other waste Management actors in Commune IV recruit their labourers through the Waste Management Associations to compensate their voluntary work. And particularly to recruit housewives, mothers, widows and heads of households who carry heavy social responsibilities, instead of young men from anywhere in the city. This will improve relations with the Associations and the population in general.

This leads us to another major theme, i.e. insufficient coordination between the various actors.

6.3   Insufficient coordination between the actors in waste management

It is frequently observed that many organisations engage in activities that are interesting to themselves without regard for the strategies of other organisations. Worse, they may think that they themselves have the best strategy and that collaboration with other organisations is not at all necessary. Such ideas can be found among NGOs, GIEs/Coops, community based organisations, the Municipality, and its service departments. They plan their support programmes without asking about the experiences of other organisations. For example in Commune IV, an NGO set up an association dealing with sanitation in one Quartier, and a politician set up two similar associations in another Quartier with the help of a Swiss resource person, without consulting with the existing Waste Management Associations or UWEP/Mali. Another example, discussed above, is that of AGETIPE and the GIEs/Coops who do not take the legitimate interests of the Associations into account.

Fortunately, there is also a positive experience. The Municipality now invites the Associations to organise public health days, paying them a small sum, instead of engaging temporary labour teams.

These experiences argue for formulating a new framework of partnership between the actors genuinely interested in waste management in Commune IV (see Chapter 4).

6.4   Contrasts between the Quartiers

There are characteristic differences between the Quartiers of Commune IV.

♦ While the residents of urban Quartiers desire to get rid of their garbage, those of rural Quartiers are looking for this same garbage as fertilizer for their agricultural fields. The peri-urban farmers even pay the municipal lorry drivers for loads of mixed waste, even though they prefer separated biodegradable waste. Thus urban and rural Associations tend to have different priorities.

♦ The extreme poverty in some neighbourhoods, and the village-like atmosphere in others, make it difficult to demand from all residents strict compliance with the same norms of waste management. Moreover, although it is necessary to involve all social and professional groups, the Chiefs are inclined to monopolise the discussions and claim the exclusive right of speaking on behalf of all residents. To avoid such bias, the AR Team has always held separate meetings with adult men, women, and young men.

♦ Social relations in the urban Quartiers are rather cool and of the "society" type, while social relations in the rural Quartiers are more of the "community" type.[5] Social mobilisation is, therefore, not easy in the urban Quartiers, where there is no sense of common interest. There seems to be no spirit of a united citizenry. Many citizens, for example, maintain their rural habits, such as keeping livestock inside the house or compound or in the streets; they cannot change overnight. The same is observed in other African cities (cf. The GESCOME project in Tunisia, Environmental Health Programme 1996).

A community based approach must specifically address such economic and socio-cultural contrasts within the community.

Gender analysis and action research
The AR Team used several instruments of gender analysis during the action research process. We have already mentioned the different perceptions of men and women during the participatory diagnosis on environmental problems. Here we are concerned with the possible interrelations between practical needs and strategic interests of the population.

The dialectical relationship between practical needs and strategic interests has been applied to understand why the women-leaders of the Associations showed little interest in continued training, for which they had to pay, and to understand the ideas on 'development' of different population groups (Keita/Maiga, 1999).

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[5] This observation is based on the distinction made by the German sociologist Tonnies, who distinguishes between " Gemeinschaft" and "Gesellschaft".

Box 19 Concepts of strategic gender interests and practical gender needs

Caroline Moser defines these concepts as follows:

Strategic gender interests are the interests women identify because of their subordinate position to men in their society. Strategic gender interests vary according to particular contexts. They relate to gender divisions of labour, power and control and may include such issues as legal rights, domestic violence, equal wages, and women's control over their bodies. Addressing strategic gender interests helps women to achieve greater equality. It also changes existing roles and therefore challenges women's subordinate position.

Practical gender needs are the needs of women for economic or physical survival in their socially accepted roles in society. Practical gender needs do not challenge the gender divisions of labour or women's subordinate position in society, although arising out of them. Practical gender needs are a response to a woman's immediate situation, identified within a specific context. They are practical in nature and often are concerned with inadequacies in living conditions such as water provision, health care, and employment.

Source: Caroline O.N. Moser, Gender Planning and Development;
Theory, Practice and Training 1993

In-depth investigations revealed that newly created associations focus on the satisfaction of daily practical needs (earn income, obtain material benefits, have their first experience of earning money, etc.). In contrast, more experienced associations wish "to achieve something" and to confirm their identity as an organised group. The groups that are proud of their achievements, understand the strategic importance of continued training and of a general culture to sustain their success. They no longer demand material or financial benefits (e.g. payment of *per diem*) to participate in training and are even prepared to contribute to its costs (Keita/Maiga 1999).

This means that for low-income groups in the early stages of organization, the formulation of strategic visions - a preoccupation of technocrats and development organisations in the North - is not one of their priorities. Their interest lies first and foremost in the solutions to basic problems. To achieve this, one possibility is to assist them with integrating into economic networks so that they can earn a little money. These networks may offer waste management, improvement of environmental living conditions, or other locally available economic niches. It seems that the sustainability of grassroots initiatives is linked to their ability to generate income for the poorest social groups.

6.5   Conclusion

The people of Commune IV have had the opportunity to experience a different type of development approach through the PP4 action research project. They remembered conventional projects where the authorities and engineers had identified sites for waste deposits without involving the local GIEs, and which had failed. They were also surprised when a newly formed NGO (with foreign funds) itself appointed the leaders of a new waste association in Commune IV, and therefore they did not accept these new leaders as representative actors in waste management. Similarly, municipal waste management staff were encouraged when citizen participation created an atmosphere of cooperation rather than opposition. Their public health and sanitation messages had now more effect with the population, and they had now reliable channels for mobilising people to clean up public spaces. As Hochet (1989, p. 132-135) says: action research projects may involuntarily expose the weaknesses of other projects.

One should not be surprised, though, that community based organisations commit mistakes when they engage in this new type of development approach for the first time. Therefore the project should provide regular and flexible training opportunities when needed, so that people can exercise their new tasks in responsible manner. Similarly the authorities have to adjust to a new situation. An action research project should therefore strengthen the capacities of government and municipal authorities as well as of private service providers to use participatory approaches, centred on the realities of the disadvantaged population.

Finally, if development organisations are committed to ensuring that funding reaches the target group, the disadvantaged population, their environmental projects should have at least the following two features. One, development organisations should facilitate the creation of micro-credit services so that poor households can actually obtain the waste facilities promoted by the project. In fact, the PP4 project experienced that many households could not afford the immediate and full investment in individual facilities, and required credit facilities for a longer payment period. In terms of sustainability, the long term availability of these services can be ensured through collaboration with specialised institutions (EHP, 1998, p.15-30). Funding for neighbourhood facilities should also be made available through appropriate channels. Secondly, the projects should be allowed to make a flexible use of time. The funding agencies ' "obsession with loosing time" (Hochet, 1989), is to undervalue what an action research project requires most, that is, time to respond to new opportunities and unexpected demands.

Generally speaking, the difficulties and risks discussed in this document are confirmed by experiences in other countries as characteristic of this type of support for grass roots development (Keita 1999, p.18; Spaeth 1994, p.25-28; and cf. Bibliography).

CHAPTER 7   CONCLUSIONS, INSIGHTS AND RECOMMENDATIONS

This final chapter presents conclusions, insights and recommendations that result from the UWEP action research project on citizen involvement in waste management activities.

7.1   Conclusions

7.1.1   Action research is a suitable methodology to explore, understand and engage local potential, knowledge and experience in improving waste management. This pilot project confirmed that action research has to be combined with other participatory methods such as the process-approach, participatory rapid assessment instruments, goal oriented project planning, gender analysis, and others.

7.1.2   The UWEP pilot project in Commune IV, Bamako confirms the working hypotheses. In fact, starting from a limited attempt to better involve households in garbage collection by GIEs/Coops, this action research confirms the working hypotheses by creating a social dynamic in which new social actors play a central role. Ordinary men and women are increasingly involved in applying the redefined norms and practices of public hygiene and waste management in their respective Quartiers. Their role is becoming recognised and supported by both the traditional urban leaders and the Municipal authorities. A new, organisational pattern, focussing on waste management, is established with solid working relationships between new and existing organisations with which the population was more or less familiar. Finally, women are particularly motivated and capable to play a public role in waste management in their Quartiers.

7.1.3   The action research project aimed at understanding the key social elements for improving urban waste management by experimenting and reflecting on them directly. These key social elements are information, education and communication; collaboration between grassroots organisations; mobilisation and community organisation for sustainable waste management; and strengthening the professional capacities of the various actors in this field. The pilot project has achieved its objectives, and Commune IV is now in a better position to carry out an ambitious waste policy. The local authorities as well as the GIEs/Coops now consult regularly with the representatives of the population. As the other Municipalities of Bamako are also interested in involving the disadvantaged population in waste management, there is a real chance that the socio-cultural movement favouring integrated sustainable waste management and improving urban living conditions will expand and become irreversible in the near future.

7.1.4   Participation of the disadvantaged population in West African cities in waste management is possible as an iterative process through regular consultations, joint activities, agreed distribution of responsibilities, capacity building, and monitoring. Relevant actors include GIEs/Coops, other private service providers, Chiefs of the Quartiers, households, and Municipal authorities, and others. The present action research has identified the community-oriented strategies that are fundamental for any method for Citizen Involvement in Waste management Activities (CIWA).

7.1.5   The method for Citizen Involvement in Waste management Activities (CIWA) is also a suitable method for reinforcing the capacities of the Municipalities that are the public bodies responsible for municipal waste management. New decentralisation policies require that the Municipalities consult the population about new programmes and projects. Since CIWA offers a suitable method for such consultation, it reinforces therefore the position of Municipalities in general. It also contributes to the effectiveness of decentralisation policies.

7.2   Insights

7.2.1   To succeed with involving the population, good knowledge of and sincere respect for the African culture are indispensable, as shown by intervention and communication methods that are inspired both by local African culture and by other universal cultural values (action research, participatory methods, PRA/MARP instruments, gender approach). Key points are:
*   Aim at raising the awareness of households on the importance of participation in waste management activities.
*   Assure leadership roles for women whose perception of the environment is more precise and more practical than those of politicians and technicians, and who are more prepared for public action. An international conference on the subject 'Gender and Waste Management' has come to the same conclusion (UWEP 1998; cf. Also the experience of the GESCOME project 1996).
*   Establish a framework for consultation under leadership of the Municipality, to co-ordinate the activities of the different actors. This new framework should aim at defining the roles of the public, private and community sectors in a shared responsibility. An external support agency can be helpful in creating the required capacities of these partners. These roles can vary when the situation changes. A critical factor is the ability of each institution to be flexible in response to participatory community approaches (EHP December 1998, p. X).
*   Communication processes play a vital role in all phases of achieving a participatory municipal waste management.

7.2.2   The existence of a favourable political climate is a determining factor: in the case of Mali, the political environment is characterised by a general consensus in favour of democracy, decentralisation, and greater responsibility of civil society (private and community sectors) for the economic, social and cultural development of the country.

7.2.3   The approach described here has certainly its cultural and structural limitations. We have noted, for example, the handling of conflicts between participating actors, and the interaction between practical needs and strategic interests of the disadvantaged population. Future action research will help us to understand them better so as to overcome them.

7.2.4   The absence of micro credit facilities proves to be a barrier for benefiting from waste management activities. There are disadvantaged households who require a longer period for paying for waste facilities than a commercial enterprise would allow. There

are also GIEs/Coops who need loan or credit facilities in order to expand operations and improve waste service delivery.

7.3   Recommendations

7.3.1   Consider establishing a system of Integrated Sustainable Waste Management (ISWM) as the start of a new, self-managed process of development (see Approche centrée sur le processus, ALPHALOG/SNV 1999).

7.3.2   Prepare all actors for their roles: this preparation is concerned with training and consultation on personal expectations, performance expected of the group or organisation, problems to be confronted, and action methods. Distribution of information on the criteria of success among all actors is a prerequisite.

7.3.3   Create procedures, including the establishment of a committee, for mediating in conflicts of interests that result from the development process.

7.3.4   Facilitate the linking of waste management actors to micro credit services. They will then be able to obtain the necessary loans and credits in order to utilise the economic and environmental health opportunities that waste projects offer.

ANNEX 1   PLANIFICATION SCHEDULE OF PP4: LOGICAL FRAMEWORK

Description	Objectively Verifiable Indicators	Sources of verification	Assumptions/ Risks
General objective: To contribute to the achievement of a clean and healthy community through waste management activities	I) 20% of the families/ households observe certain norms of hygiene and waste management: control of waste (solid and liquid); regular house-to-house collection and secondary collection are assured by the Municipality and the GIEs (urban centres) II) 75% of the members of Coordinating Committees of the Waste Management Associations have been taught composting techniques (peri-urban centres)	I) • Field visits • Formal interviews II) • Tests • Field visits • Interviews	I) • Insufficient technical means (Waste Department) • Weak organisation (Municipality) • Insufficient financial means (population II) • Rejection of composting by the population due to the more rapid effects of chemical fertilizer • Attachment to cultural habits
Project objectives: • Attitudes and behaviour of the population and of strategic groups are positively changed • Waste Management Associations and Committees are created and function properly in the Quartiers of Commune IV	75% of the Waste Management Associations established in the Quartiers of Commune IV are able to assist the population to apply the intervention methods of PP4 in a real situation.	• Reports • Tests • Informal interviews	• Interpersonal difficulties • Growing doubt about social cohesion • Growing doubt about legitimacy of traditional authority

Development objective (as determined by the population, i.e. the partners):			
• To assure security and peace in the Quartiers of Commune IV • To achieve a level of development in which the incidence of disease is reduced and health for all is assured.	• Change is perceptible in the population in 75% of the intervention zones of PP4 through control of solid and liquid waste, and abandonment of agricultural activities in the Quartiers before December 1998. • Public health days are regularly organised in the different Quartiers in Commune IV.	• Field visits • Reports by/on the Waste Management Associations.	• Insufficient means • Refusal by the farming population for economic reasons • Possible disagreement (GIEs, population) regarding the intervention zones of PP4 (due to insufficient project budget)

Expected results:
1. The participation of well-functioning Waste Management Associations is possible and promotes waste management in Commune IV
2. The population/partners have mastered the intervention methods of the Action Research Team
3. The population supports the ideas of the GIEs by proper action as identified and executed jointly by her, CPAC and its member organisations, and other partners - which include the Waste Management Associations who can play complementary, non-conflictory roles in general waste management in Commune IV.
4. The "Public Utility" status is granted to CPAC and the Associations

Activities: **Expected Result** **no.1.** 1. Conduct information and mobilisation campaigns in the test-zones before June 1998 2. Create a Waste Management Association in each of the 8 Quartiers of Commune IV between June - Nov. 1998 3. Establish member-organisations of the Associations and prepare for sanctions against offenders	1. The 8 Quartiers of Commune IV have each a Waste Management Association which holds each month a meeting with the population, between June - Nov. 1998, to involve them in the ideas of waste management 2. Each of the 8 Quartiers has waste management committees that hold once monthly meetings with the population between June-Nov. 1998	• Field visits • Presence of rules and regulations • Oral and written reports on activities	Avoid political involvement, which is the source of social divisions to the disadvantage of collective interests
Activities for **Expected Result** **no. 2.** 1. Training of the members of the executive office of the associations 2. Conduct collective public health activities: GIEs, Associations, population 3. Establish communication system between the GIEs, Associations, and population on waste management	• Training of the members of executive office of the Association between June - Nov. 1998 in the 8 Quartiers of Commune IV • Waste management situation has improved (garbage is collected, waste water is controled, gutters are cleaned …)	1. Field visits, rules and regulations, reports on activities 2. Oral reports on meetings, reports on trainings 3. Meetings, Public meetings, reports on regular activities in the 8 Quartiers	1. Doubts on the legitimacy of traditional authority 2. Shortage of means; internal conflicts

Activities for Expected Result no. 3			
1. Conduct activities to confirm the "public utility" status of CPAC and the Associations 2. Assist CPAC and the Associations to work together 3. Assist the GIEs to perform better services 4. Communicate regularly with the proper authorities (Municipality, Waste Department, Governor) and other partners	• By end of 1998, the waste management activities have covered at least 6 of the 8 Quartiers of Commune IV • The population of the 8 Quartiers participates fully in waste management activities by end of 1998. • By end of 2000, behavioural change is visible, in favour of the environment • By end of 2000, the health situation of the population in Commune IV has improved • 3-monthly meetings are organised between 1) PP4 and its principal partners, and 2) the Governor, from June 1998 to Dec. 1999	• Field visits in the different Quartiers • Reports on activities by Committees and Associations • Means of communication: audio-visual and scripto-visual	

Activities for Expected Result no.4.			
1. Promote participation of women in decision making on the Associations	• Presence of women at the moment that decisions are taken by Waste Management Associations	1. Reports	• Slow bureaucracy
2. Make necessary means available to the Committees for performance of their tasks	• Make it possible that Associations acquire equipment for waste management	2. Oral reports of meetings 3. Field visits, observation	• Lack of political will of the proper authorities
3. Promote participation of young men and women in the activities of the associations		4. At least 50% of members of Associations are women	• Insufficient material means for waste management activities
4. Create a framework of consultation between the Associations, CPAC and other partners			

ANNEX 2   CHECKLIST OF TOPICS USED FOR THE PARTICIPATORY DIAGNOSIS

1. History
- Creation of the Quartier and origin of its founders, important positive and negative events in the development of the Quartier, the manner in which the Chiefs and their councillors have been elected or nominated, previous environmental and sanitation conditions.

2. Social structures
- Role and responsibilities of the Chiefs of the Quartiers and their councillors, identification of the associations that are operating in the Quartier (field of intervention, membership criteria, age of members, how the association was established), type of relations among the associations, and between them and the formal leaders.

3. Social cohesion

The analysis of social cohesion used the following parameters:
- The geographical division of the Quartier in Sectors;
- The manner of governance of the Sectors;
- The relationships among the Sectors, and between the Sectors and the leadership of the Quartier;
- The manner of dealing with interpersonal conflicts.

4. Specific cultural issues

They concern the "do's and don'ts" in a locality. For example:
- Do not step on the parapet of a well with your shoes on
- Do not touch certain sacred objects
- Do not violate the Islamic prohibition against granting loans with interest.

5. Economic activities

Economic activities identify the socio-economic groups in the Quartier.
- Economic activities may cause environmental pollution. This is either a lack of will or a lack of ability (lack of financial and other means) to take precautionary measures.
- Economic activities point to types of waste generation (e.g. garages, textile dying, restaurants, etc.)
- Economic activities point to the potentials for recovery materials such as using and recycling waste materials (e.g. in urban agriculture).

6. Collective infrastructure and its management

This concerns all physical structures, such as mosques, health centres, schools, garages, public streets and parks, municipal buildings, petrol stations etc. These infrastructures are important centres of waste generation and have developed (or not developed) suitable modes of waste management.

7. Type of soil

The type of soil gives information on the ground water level. The form, depth and the cost of construction of wells and latrines are a function of the ground water level. Sanitation projects should take account of this.

8. Aspects of waste management
- Type of waste generated
- Cycle of waste management by households, primary collection, secondary collection
- Role of Municipal departments

- Recycling and re-utilisation practices. Both positive and negative experiences
- Norms and sanctions on waste management in force in the community

9. Constraints and potential benefit
   Planning of concrete waste activities is only possible with excellent knowledge on what is realistically possible in the present context.

10. Previous and present waste management interventions
    Identification of previous interventions in waste management serves to find out why they have stopped, what they have achieved, and to avoid their mistakes. Identification of present interventions serves to avoid isolation and overlapping activities.

11. Pyramid of constraints and solutions
    In order to give the population an indication of the usefulness of the action research project, the participatory diagnosis identifies the major constraints confronting the population, and places them in a hierarchy applying the appropriate techniques. Then a pyramid of solutions in reference to each of the constraints is elaborated.

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