

Table 4.13 Conclusions (Kanpur)

Location	Workshop A (1 st day)		Workshop B (2 nd day)	
	Male	Female	Male	Female
Kanpur	1. Due to irregularity in the collection of waste and cleanliness there is always the dirty and unhygienic environment in the area. Government should take appropriate action to improve the situation.	1. The area is very densely populated and there is no proper mechanism for the extracting wastewater. So the wastewater flows in to the nearby ponds. Because of the dirty water and polluted surroundings lot of infectious diseases takes place in the area. Every year around 10-15 people die of cholera and diarrhoea. Health facilities are also in a very bad shape. There are often no medicines on health center. Doctors are not regular.	1. The waste/ Solid waste should be collected from each household and one person should be made in charge of collection and disposal.	1. The biggest problem faced by residents is related to waste management. People throw the domestic as well as other waste on road. Although, sweepers collect the waste but it is not disposed to the dumping site regularly and on time. Therefore, a strong monitoring mechanism should be worked out to ensure timely and prompt collection and disposal of solid and other waste matters
	2. Nagar Nigam Workers are not prompt and they don't dispose/dump the waste materials at a particular place but they just leave the materials near the residential areas only on the corner of street. Which attracts lot of pigs and creates a lot of problems for the residents.	2. There should be arrangement for fogging to prevent malaria as there are lot of mosquitoes in the area.	2. Due to ignorance of govt. officials it takes fifty years to complete the sewer line in most part of the city. We are paying tax but of no use. There is ignorance from the people side also.	2. Public participation and mutual cooperation between Govt. and People is very much necessary in the solid waste management programme. Nagar Nigam should initiate and coordinate public participation but involvement of local people is very much necessary in the planning, implementation and monitoring of the programme.
	3. The situation of sanitation is very bad in our area. Public toilets are in bad shape and also the operation and maintenance agency charge the users on their own wins and fancies. Water supply is also not adequate in the area.	3. Waste disposal system is very poor. Everywhere on the roads lot of waste/garbage are scattered. Making the whole surrounding polluted and unhygienic.	3. The roads are dug most often and waste materials are thrown on the road openly.	3. Regarding river pollution, we (participants) feel that solid waste and other domestic waste which taken to the river are the major cause of pollution. So, there should be arrangement for dustbins across the riverside and people should be made aware, for its usage and not to throw any kind of materials including the prayer offering in the river.
	4. There is great scarcity of the drinking water also. There are only limited hand pumps, which are located at long distance from the residential areas.	4. Recommendations 1. The cleaning workers should be made responsible to collect waste/ garbage and dispose it timely. 2. There should be arrangement for sewer lines to manage the wastewater and stop it from flowing on the road. 3. There is urgent need for safe drinking water. While discussing the environment and pollution it is very important to address the safe drinking water as an important component of environment and health. 4. There should be dustbins on the road and people should be encouraged to put all garbage in the dustbins, through awareness campaigns.	4. Sewer lines and Water lines are very old and water flows in each other. Most of these pipes are broken.	4. Industries/ factories located near riverside either should be closed or shifted. There should be strong monitoring of the pollution created by industries on regular basis.
	5. Nagar Nigam is totally ignorant about our problems and does not take any corrective measures on complain.	5. The waste bins should be timely disposed to the dumping sites and promptness should be ensured in the disposal of the waste.	5. Water circulation/percolation plant is not being implemented resulting in to lowering of water level.	5. Drains that meet to river should be diverted. Public toilets condition and numbers should be improved but it should not be free of cost. People should pay nominal amount according to their economic conditions for O&M.
	6. We want that Govt. along with local people should initiate a special campaign to address all the problems and work out a sustainable mechanism to short out the problems related to solid waste, sanitation and overall pollution.	6. The factory operating along the riversides must be shifted to other area or closed. 7. There should be strict regulation to prevent flowing / throwing dead animals and dead bodies in the river. 8. The drains carrying domestic and other wastes should be diverted to some other areas and not allowed to flow in the river. 9. Open defecation is very rampant in the area. It is mostly because of the poor conditions of the public toilets and also insufficient number. There is urgent need to address this problem effectively. 10. Water supply in the public toilet is very irregular. And it is very unclean and unhygienic, which further encourage open defecation. 11. To meet the needs of drinking water, water tank should be arranged. 12. There should be intensive public participation and public cooperation and to ensure this Govt. should formulate policy and take action.	6. Nagar Nigam has no definite time for disposal of waste. That too is carried in open truck/van resulting to lot of health problems.	6. Public toilets condition and numbers should be improved but it should not be free of cost. People should pay nominal amount according to their economic conditions for O&M.
			7. All the drains open in River and most of the sewage Treatment plants are not functional.	7. Women should be given special attention while planning and implementation of any programme and their involvement should be made necessary.
			8. The ashes after cremation are thrown to river Ganga that is a major cause of river pollution.	
			9. There is no awareness and consciousness amongst people.	
			10. The factories are still flowing their industrial wastes in to river despite regulation and there is no check on them.	
			11. Due to waste deposition everywhere there are lot of pigs roam in the area, making the whole environment very dirty.	
			12. Polythene is a big problem it should be banned	



Photo 4.1 Workshop (Varanasi 1)



Photo 4.2 Workshop (Varanasi 2)



Photo 4.3 Workshop (Allahabad 1)



Photo 4.4 Workshop (Allahabad 2)



Photo 4.5 Workshop (Lucknow 1)



Photo 4.6 Workshop (Lucknow 2)



Photo 4.7 Workshop (Kanpur 1)



Photo 4.8 Workshop (Kanpur 2)

CHAPTER 5

HYGIENE EDUCATION PLAN
FOR
URBAN RIVER ENVIRONMENT

CHAPTER 5 HYGIENE EDUCATION PLAN FOR URBAN RIVER ENVIRONMENT

5.1 PREFACE

Generally, 'Public Participation' is indispensable for a sound operation and maintenance of sewerage systems as well as non-sewerage wastewater treatment facilities like LCSs. In addition, only construction and operation of such systems and facilities will not attain considerable improvement in environmental sanitation, public health, surrounding environment and abatement of pollution of river water bodies. Therefore, greater public awareness on the health and environmental impacts, importance of those systems and facilities among communities and encouragement of their positive participation in the share of the obligation, which would work out problems related to operation and maintenance for the systems and facilities.

Based on the present situation on Social Consideration and Public Participation activities on river pollution and education on hygiene, sanitation and environment at the central and the local levels including the study area, which have been reviewed in Chapter 1 in this Volume, it is pointed out that the following are the critical issues to be overcome for preparing effective plans and necessary actions to be taken for this study.

- Lack of a suitable plan and definition on Public Enlightenment and Education on hygiene and Sanitation, and Public Participation for river water management projects.
- Lack of clear multi-sectoral cooperation systems for Public Enlightenment and Education on hygiene and sanitation among related ministries, local authorities, private entities, NGOs, CBOs and communities.
- Lack of preparations of specific budgets, basic data, research and development for methodology for Public Enlightenment and Education on hygiene and sanitation and Public Participation activities.

In this section, we would like to examine these critical issues to be used for the important information for considering a basic concept and a plan of Public Enlightenment and Education on Hygiene, Sanitation and PP/PA (Public Participation/Public Awareness).

5.2 BASIC RECOGNITION

5.2.1 Human Health and Urban River Environment

The primary consideration in preparing a policy and a plan on Public Enlightenment and Education on Hygiene, Sanitation related to urban river pollution should be the issues on environmental health and sanitation, and urban river environment.

From the viewpoint of the abatement urban river pollution and sanitation, generally, it can be stated that hygiene education has two aspects of human health (public health and hygiene) and river environment.

In fact, the situations of communicable diseases in UP can be roughly evaluated that Water-Borne Diseases (Acute Diarrhea Diseases, Viral Hepatitis), Water-Related Disease (Malaria, Filariasis, Japanese Encephalitis) are prevalent as shown in Chapter 2 in this volume, so that the first thing to consider in two aspects should be the human health.

In addition, the results of the Public Awareness Survey (See Chapter 3 in this volume) have revealed the several points as follows.

- Almost all respondents (85.3%-100% of each group) consider that they want to have awareness

programs in their areas. (Household Survey)

- It is evaluated that preferred themes for awareness programs envisaged by the respondents who want to have awareness programmes, are “Sanitation” “Solid Waste & cleanliness”* and “Health & hygiene” rather than “Environment”. (Household Survey)

As well, the Community Workshops (See Chapter 4 in this Volume) have identified the following public opinions.

- Public awareness programme should specifically focus on health aspects. (MIG+HIG Male Allahabad)
- People should be educated about health and disease problems due to unhygienic environment. (MIG+HIG Female Group Allahabad)
- Health & sanitary education should be started at primary level of school for students/ children, which will be effective and change the mindset of society in future. (LIG Male Group Allahabad)
- Sometimes the water supply lines breaks and mix with the sewage, resulting in to contaminated water supply in households, which creates many health problems. (LIG Female Group Lucknow)
- Because of the dirty water and polluted surroundings lot of infectious diseases takes place in the area. Every year around 10-15 people die of cholera and diarrhea. (LIG Female Group Kanpur)
- There should be arrangement for fogging to prevent Malaria, as there are lots of mosquitoes in the area. (LIG Female Group Kanpur)

Therefore, it is reasonable to suppose that the human health and Sanitation has priority over urban river environment in the preparation order of a hygiene education plan for urban river areas.

5.2.2 The Definition of ‘Hygiene Education’

In India, there are lots of publications including reports, provisions, documents and printed materials and so on in the field of health, sanitation and environment. The term of ‘education on hygiene or sanitation’ as well as ‘education on health or environment’ has been seen often in such publications.

Depending on the situation and the occasion, however, ‘hygiene education’ implies different meanings. For example, a medical doctor may think ‘hygiene education’ is a measure for preventing communicable diseases of the population. On the other hand, a civil engineer may suppose ‘hygiene education’ is a means for changing wastewater discharge manner of the public. This is because that ‘hygiene education’ covers considerably extensive fields from hand wash practices to elimination of endemic diseases.

In addition to ‘hygiene education’, as mentioned above, there are similar terms related to education on health, sanitation and environment, namely ‘Health Education’ and ‘Environmental Education’. As well, an environmental expert may deal with an instruction on a wastewater discharge manner to the population as ‘environmental education’.

For instance, when a health authority considers an education plan on a communicable disease, in case that the plan focuses on ‘expanding immunization practices’ for the people, then it can be defined as ‘Health Education’. However, in case that the plan on a communicable disease focuses on a human behaviour like defecation manners of the public, then it can be defined as ‘hygiene education’.

Of course, some fields involved in every term are overlapped with each other as conceptualised in Figure 5.1.

In order to avoid leading to out of the focus of the discussing point, consequently, it is necessary for this study to integrate those terms into ‘a suitable one term’ and give a clear definition to the term.

*Note: Full scale of Solid Waste Management is in principle out of this study scope, which may be dealt with related to river water

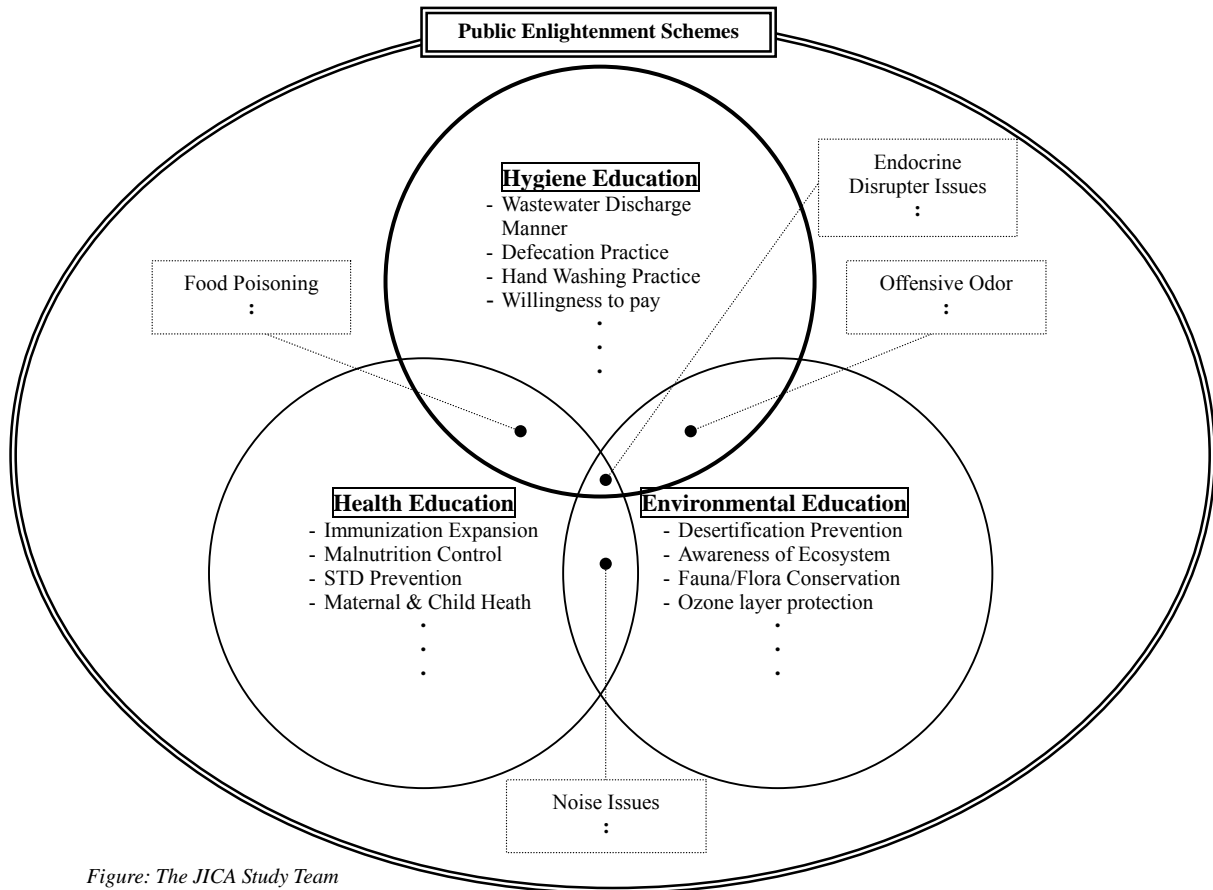


Figure: The JICA Study Team

Figure 5.1 Public Enlightenment Schemes

Based on the figure, it can be stated that “Hygiene Education” is a more focused action on environmental health and sanitation, than “Health Education” and “Environmental Education”. In addition, it is evaluated that “Hygiene Education” is not “forced action” such as expanded programme on immunization (EPI) by a Health Authority, but “spontaneous action” such as defecation manner, wastewater discharge manner and Willingness to Pay (WTP) and so on, which are very personal behaviours and recognition.

In this JICA study, therefore, taking the above comprehension into consideration the suitable term of those education shall be integrated into “hygiene education”. As well, taking the purpose and the framework of the study and the present situation of the study area into consideration, and definition of “hygiene education” handled by the study shall be given as follows:

- Actions to heighten public awareness on consciousness and notion on health & sanitation.
- Actions to heighten mutual understanding between communities and authorities concerned.
- Actions to heighten recognition of burden sharing for operation and maintenance.
- Actions to heighten public awareness on urban river environment.

5.3 ORGANIZATIONS AND APPROACHES

5.3.1 Actors

A great deal of effort has been made by various entities from the central level of Indian Government including Ministries and affiliated organizations such as NRCD and CPCB, to the community level within each competence, for heightening public awareness on hygiene & sanitation, health, environment and water pollution and so on through diverse schemes such as hygiene education, health education, environmental education and other related activities with several approaches.

As well there are several specific sections or functions that handle those education in both of the public sector and the private sector. As discussed above, hygiene education covers extensive fields and the definition of the education for this study has been given.

Therefore, leading actors to be involved in the education and their possible involvement in the education can be summarised in Table 5.1. In the table, “The Private Sector” includes communities, civil societies, NGOs, CBOs and individuals.

In addition, as mentioned in the previous section in this report, powers, functions as well as finances of ‘Urban Local Bodies’, Municipal Corporations, Municipal Councils and Nagar Panchayats, have been empowered by the ‘74th Amendment of Indian Constitution’ in 1992, which include the formulation of 18 functions of the Urban Local Bodies (ULBs), constitution of a Metropolitan Planning Committee for each metropolitan and so on. Therefore, positive involvements of the ULBs are expected as key actors.

As for the terms of “NGO” and “CBO” utilized in India, an explanation for each entity may be provided as follows.

(1) NGO

NGO (Non-Governmental Organization) is a society registered under the Society Registration Act 1860. It consists of a governing body comprising of at least seven members, which includes the office bearers such as President, Secretary and treasurer. The Society has approved rules and regulations and Aims and Objectives.

(2) CBO

CBO (Community Based Organization) is a group of members/representatives from the local area comprising the members of resident groups. The CBO may be in the form of a Youth Club, Ladies Club, Residents Association, Priest Association and so on. The functions of such organizations depend on the objectives of a programme they decide to undertake through a cooperative action. The CBO may be registered as well as unregistered. Its functions are basically need based and carried out on the basis of mutual understanding on any specific issue of the local area which may be of any kind, such as health awareness, cleanliness, education programmes, sanitation, operation & maintenance etc.

Table 5.1 Leading Actors and the Involvement

Leading Actors		Health & Sanitation	Mutual Understanding	Burden Sharing	Urban River Environment
The Public Sector	Ministry of Environment and Forest (MOEF)				
	- Environmental Education Division				
	- National River Conservation Directorate (NRCB)				
	- Central Pollution Control Board (CPCB)				
	Ministry of Health & Family Welfare (MOHFW)				
	- Hospitals/Health Posts				
	- Community Health Centres (CHCs)				
	- Primary Health Centres (PHCs)				
	Ministry of Human Resource Development (MHRD)				
	- Elementary and Secondary School				
	Ministry of Information and Broadcasting (MOIB)				
	- National TV/ Radio Networks				
	Ministry of Urban Development and Poverty Alleviation				
	Ministry of Rural Development				
	The National Waste Management Council				
	Ministry of Water Resources				
	- Central Ground Water Board (CGWB)				
	- Central Water Commission (CWC)				
	UP Jal Nigam				
	- Human Resource Development (HRD) Cell				
	Nagar Nigams				
The Private Sector	Local Consultants				
	Local NGOs/CBOs				
	Local Associations/Unions (Women, Youth and so on)				
	Commercial Associations/Unions				
	Community Representatives				
	PTA/Board of Education				
	Religious Groups				
	Private Mass Media				

Note; □ : Most Important Involvement □ : Important Involvement □ : General Involvement

5.3.2 Multi-Sectoral Cooperation

(1) Flexible Implementation

As for the Hygiene, Health and Environmental education, MOEF, NRCB, CPCB, MOHFW, UP Jal Nigam, Nagar Nigam, NGOs/CBOs and others have conducted many attempts to heighten public awareness on hygiene, health and river environment and etc.

Some of attempts were implemented in cooperation with two or three actors, for example, as has reviewed in Chapter 1 in this Volume, that “MOEF has been interacting with the MHRD, National Council of Educational Research and Training (NCERT), State Departments of Education etc. to ensure that environmental components are adequately covered at the school levels by infusion into the school curricula at various level”, however, some PP/PA activities have sporadically been implemented within a project based framework (need based) like YAP or each actor implemented some of them respectively.

In order to make the attempts efficacious measures, as a matter of course, it is necessary to make the best use of the competence, expertise and ability of each actor. Therefore, more aggressive multi-sectoral cooperation systems for the education are required to introduce among actors listed in

Table 5.1. For an effective and a flexible implementation of the multi-sectoral cooperation, the following coordination is necessary at least.

- To create specific functions or offices for handling hygiene education in each sector, especially in NRCD for urban river water pollution for the future plans and programmes to be proposed by the JICA Study.
- To coordinate lateral communication among actors
- To open related information each other

(2) Specific functions/offices

As for the specific functions/offices mentioned above, NRCD should have such a function/office because that NRCD is the nodal official entity exclusively handling the river conservation programmes at the central level of India. However, as has reviewed in Chapter 1 of this Volume, NRCD does not have such a function/office at present. Only 2-3 persons from the Administration Department who function under overall supervision of the Director Administration are involved to oversee PP/PA programmes. They are not exclusively devoted to PP/PA only and discharge other functions of the Directorate mainly related to general administration. Namely, NRCD does not have special social planners and experts on PP/PA for this purpose and generally managed by the existing officials who are engineers and administrative personnel.

On the other hand, as has reviewed in Chapter 1 of this Volume, NRCD ^(a) organized an institutional arrangement for the implementation of PP/PA programmes under YAP I (Institutional Structure for PP/PA under YAP I). In addition, at a study on 'Institutional Arrangements & Guidelines for Effective Collaboration Between Government, NGOs and CBOs for Conductive Community Participation' ^(b) as well as in the draft version of the 'Guideline for Public Participation and Public Awareness under NRCD Schemes' ^(c) has proposed 'Suggested Institutional Framework for YAP II' and 'Proposed National Public Participation & Coordination Cell (NPPC)' for YAP II respectively. Those organizations are not the permanent setting but the project-based arrangements for YAP I as well as II, which are shown for comparison in Figure 5.2.

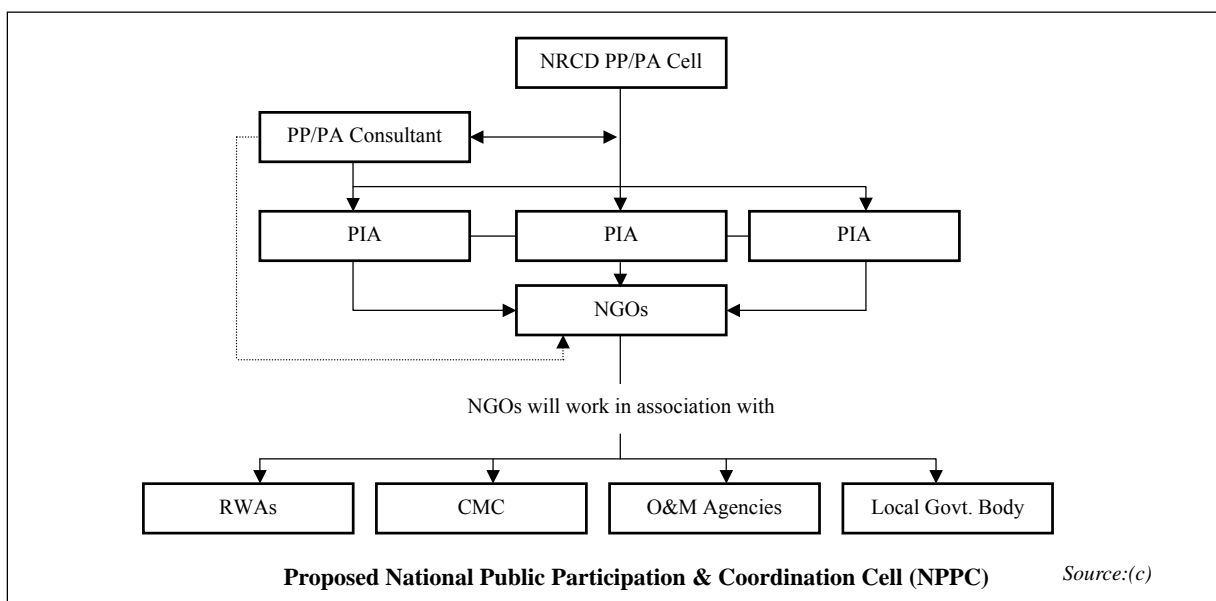
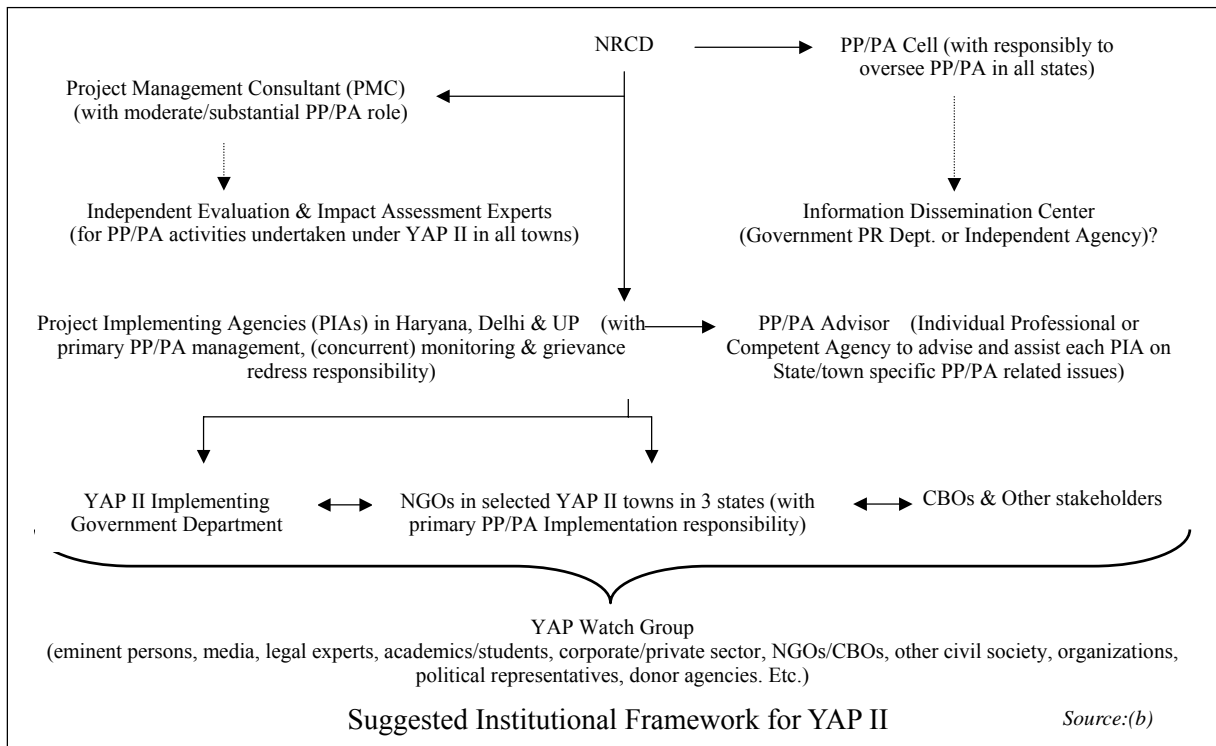
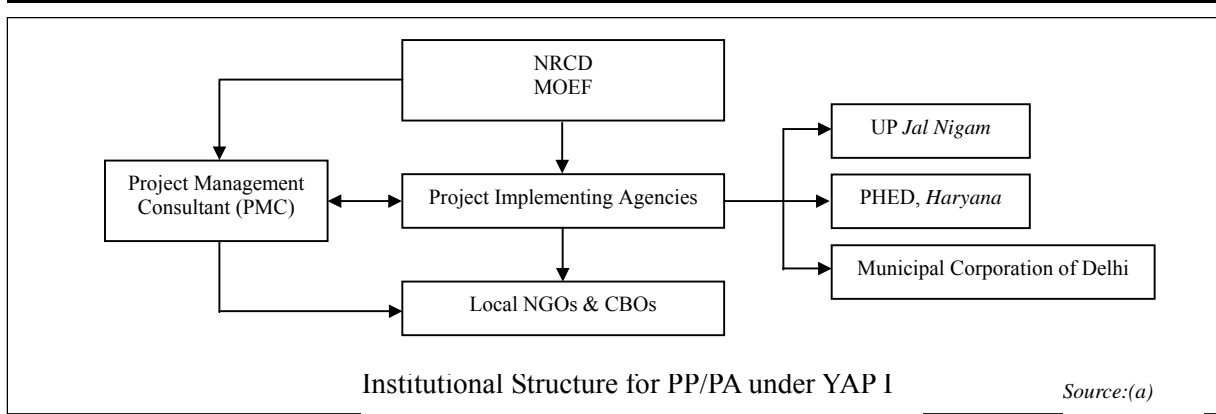


Figure 5.2 Comparison for Organizational Charts for PP/PA for YAP by NRCD

According to the comparison (Figure 5.2), it can be said that the followings;

- Essentially, each organization arrangement has same structure for implementing PP/PA activities using a project management consultant (PMC), Project Implementing Agencies (PIAs) and local NGOs and CBOs in collaboration with other stakeholders such as Citizens Monitoring Committees (CMCs) and Residents Welfare Association (RWA) as partnerships.
- Namely, it is supposed that 'Institutional Structure for PP/PA under YAP I' must be one of original ideas for the organizational arrangement for PP/PA activities of YAP, which leads to 'Suggested Institutional Framework for YAP II' and 'Proposed National Public Participation & Coordination Cell (NPPC)'.
- It is characterized for 'Suggested Institutional Framework for YAP II' that monitoring and evaluating functions of 'monitoring & grievance redress responsibility' in PIA and the assignment of PP/PA 'advisers' are set up in the institutional structure for the PP/PA activities.
- As well, it is characterized for 'Proposed National Public Participation & Coordination Cell (NPPC)' that a monitoring function of CMCs is set up, and Residents Welfare Associations (RWAs) is included as one of the key entities at the community level.
- It may be evaluated that 'Proposed National Public Participation & Coordination Cell (NPPC)' is more simplified or shaped-up version of 'Suggested Institutional Framework for YAP II'.

Those proposed organizational arrangements of 'Suggested Institutional Framework for YAP II' and 'Proposed National Public Participation & Coordination Cell (NPPC)' are well considered for the implementation of PP/PA activities under the YAP II. For future of NRCD, furthermore, the arrangements could be upgraded as a specific organizational function or section (cell) of NRCD, which deals with PP/PA activities for all river conservation programmes to be conducted by NRCD.

However, in the JICA study framework, the following expertise and disciplines shall be in any event incorporated into those arrangements to be upgraded as a new function of NRCD for sound implementation of the 'Hygiene Education' and heightening public awareness on hygiene, mutual understanding among actors, burden sharing and urban river environment through the PP activities and other approaches.

- Public Health and Environmental Sanitation
- Public Education
- Environmental Education as a Whole

(3) Multilateral cooperation scheme

In order to incorporate those expertise and disciplines mentioned above into the new function of NRCD, therefore, not employ those experts, but a multilateral cooperation scheme shall be established among those nodal Ministries as shown in Figure 5.3 by which their expertise and disciplines as well as their past experiences (methods, success or failure stories and so on) of PP/PA and IEC (information, Education and Communication) activities can be shared among them. This scheme will be considered as the initiation of the multi-sectoral approach to be implemented by NRCD.

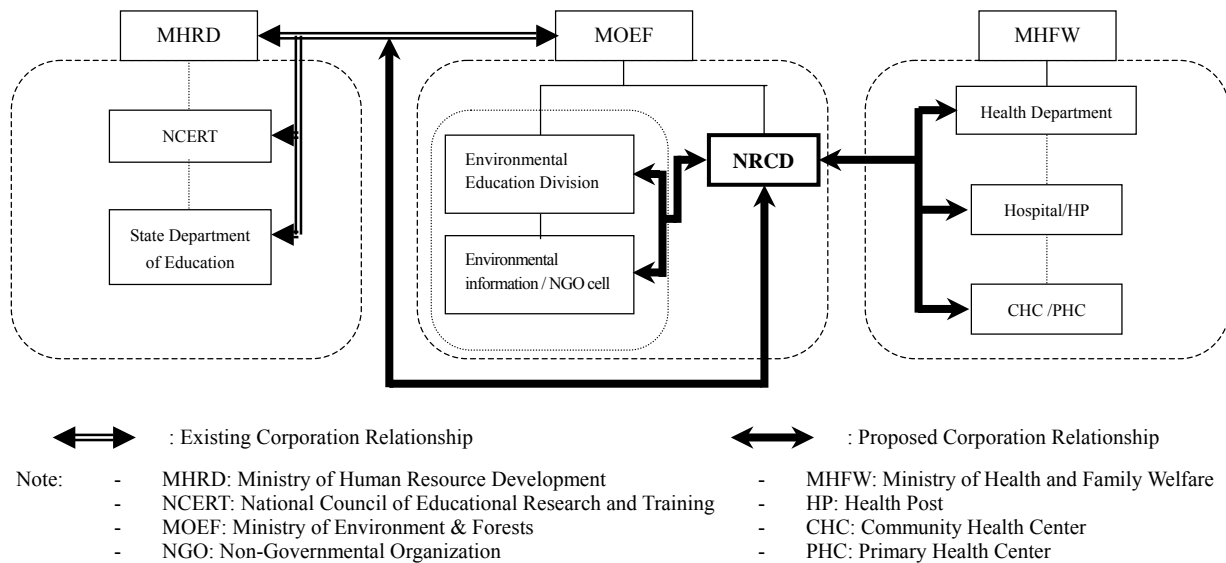


Figure: the JICA Study Team

Figure 5.3 A Multilateral Cooperation Scheme among the Nodal Ministries

5.3.3 Approaches

(1) Top-down Approach

There have been various attempts on public awareness on hygiene, river pollution and environment as pointed out above. Most of them were conducted by a so-called top-down approach such as a one-way instruction on related issues and measures from an authority to a target population through the mass media or printed materials, and so on. This approach, however, is essentially required for a certain relationship of the mutual trust between authorities and target groups such as communities or the population. If there is no such a relationship, then the approach is going to do nothing as a disposal of information.

For example, through a radio program an authority can easily say, “Do not defecate in public areas or roads for hygiene and environmental sanitation reasons”. But if there is no public toilet available, then apparently nobody follows such an instruction. (Actually, according to the public awareness survey, from 64.3% to 96.3% of HIGs in the four cities perceive that availability of LCS and numbers of LCSs are not sufficient in their surroundings. In addition, especially, from 71.4% to 96.3% of all groups in Allahabad and Lucknow that not enough LCSs are available in each municipality.)

As to the situation of ‘mutual-trust’ between the authorities and the people in the four cities, the public awareness survey shows:

- From half to approximately 80% of the respondents have not contacted to respective Municipalities about saying their surrounding sanitation problems, especially LIGs except Varanasi. (Household Survey)
- From 42% to 75.3% of the respondents who did not complain feel ‘Useless to complain’, excluding the HIG of Kanpur of which only 24% answered “Useless”. However, 38% of the HIG of Kanpur did not answer for the question, which is a relatively high figure compared to others groups that did not answer. (Household Survey) (Note; It is supposed that those who refused to answer may include ones who hesitate to answer for such a question.)
- Considering all the various factors together, almost half of the respondents feel “Useless to complain” which is followed by “Don’t know where to complain” (Household Survey)

In addition, the public opinions on 'mutual trust' identified in the Community Workshops are as follows;

- Nagar Nigam should ensure that waste materials/garbage collected every day. (LIG Male Group Lucknow)
- Nagar Nigam Workers are not prompt and they don't dispose/dump the waste materials at a particular place. (LIG Male Group Kanpur)
- Nagar Nigam is totally ignorant about our problems and does not take any corrective measures on complain. (LIG Male Group Kanpur)
- Due to ignorance of govt. officials it takes fifty years to complete the sewer line in most part of the city. We are paying tax but of no use. There is ignorance from the people side also. (MIG+LIG Male Group Kanpur)

According to the survey and the community workshops results, it can be evaluated that the relationship of the mutual trust is not formed between the people and the Municipalities yet. In order to improve the situation toward the "mutual trust", the following are the critical points to recognise each other at least.

- Each authority concerned shall identify the area which the communities and the population are not satisfied, such as wastewater treatment, other related cleansing services and activities.
- Meanwhile, each community and population shall understand the present situation and the factors of constraints on river water abatement activities, wastewater treatment services of sewerage and non-sewerage schemes planned, operated and maintained by those authorities.

Therefore, in principle, the approach of "top-down" should be introduced to actions of public awareness on 'Hygiene Education' if these critical points are sufficiently satisfied.

(2) Participatory Approach

It is, generally, expected for communities and the population as a generation source of wastewater, as well as domestic garbage, cremation ash and religious offering and others which contribute river water pollution, to positively participate in cooperating authorized wastewater treatment of sewerage and non-sewerage schemes and other cleansing services by a method of reducing a total amount of the generation at the source and so on. In order to build up the cooperative relationship, as a matter of course, the following conditions are necessary to consider among actors in the first place.

- A sound relationship of mutual trust between the public sector and the private sector including individuals.
- A good interactive communication among the actors involved.
- An active involvement with the private sector in every stage from planning to implementation of the wastewater treatment of sewerage and non-sewerage schemes and other cleansing services.

In order to attain each condition above, the following activities and coordination are required to be implemented by each actor in the next place.

- To recognize the critical points mentioned in the previous section.
- To set up communication channels among the actors including a preparation of a specific office and a function in each ministry involved, UP including UP Jal Nigam, Nagar Nigams and the communities.
- To hold regular meetings and dialogues among actors, and related campaigns to discuss and to make information exchange how they can abate urban river water pollution and improve present sanitary conditions around those river basins in the four Cities and so on at each stage from planning to implementation as well as the operation and maintenance.

Therefore, a positive participation of the private sector including communities, civil societies and individuals in those activities is very much important. This participatory approach can be called 'Community Participation' or 'Public Participation, details of which will be discussed below.

(3) Community Participation/Public Participation as an Approach

As discussed above, that is to say, the 'Community Participation/Public Participation' (herein after referred to as 'Public Participation') can be clarified for the JICA study as follows;

'Public Participation': When communities of the four cities, which are actors/beneficiaries of projects and programmes on the river water pollution abatement, and sewerage and non-sewerage schemes, may participate in some form in these projects and programmes, and then opinion, intentions and ideas of the communities such as improvement goals of degrees of environmental sanitation and health, the service levels, levels of willingness to pay, degrees of urban river cleanliness and so on, are expected to be reflected on these projects and programmes.

It can be, therefore, identified for the JICA study that the goals of the Public Participation are to look forward the following;

- Improved public health
- Heightened public awareness of cost sharing (such as Polluters' Pay Principal and so on)
- Heightened public awareness on projects' efficiency
- Enhanced public (communities' and residents') capacities
- Sustainability of projects and programmes to be implemented
- Promoted public consciousness and sense of 'Clean Urban River Environment and Beautification'.

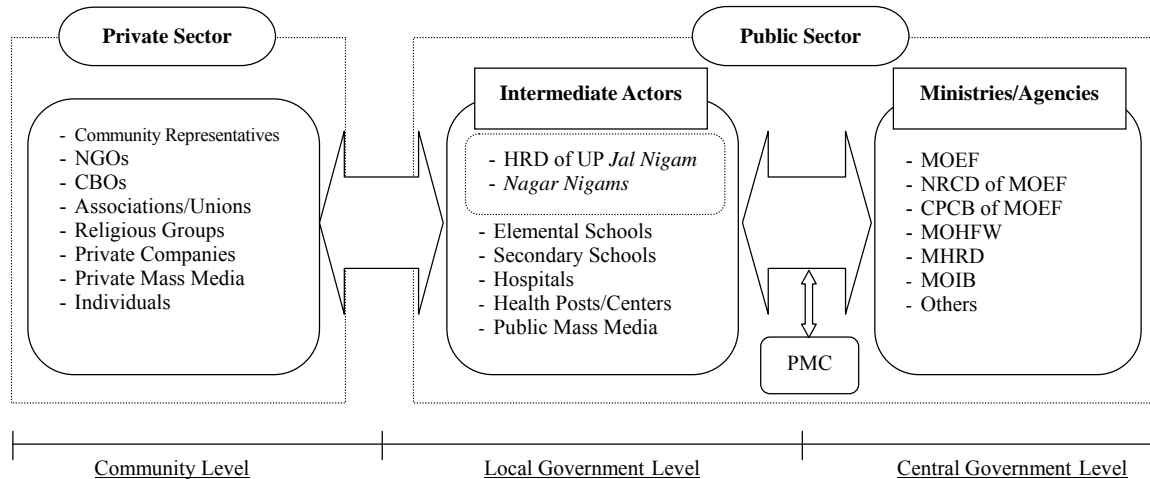
At this point, it is recognized that the 'Public Participation' is not purpose of some kind of activates, but an approach to achieve goals of projects and programmes successfully, namely to heighten 'Public Awareness' on the goals.

(4) Approach of Intermediation by Local Bodies

In order to efficaciously implement the 'Public Participation', intermediation of local governmental bodies is necessary. As mentioned above, the Constitution (74th Amendment) Act 1992 has empowered the Urban Local Bodies as self-governing local institutions.

Therefore, their active involvements in the Public Participation are expected as follows.

- The intermediation of the Human Resource Development (HRD) cell at UP Jal Nigam, Nagar Nigams, as Project Implementing Agencies (PIA) in the four cities are required for the approach, which may be a basic idea of PP/PA activities of YAP-I, proposed institutional arrangements for YAP II by NRCD as discussed section of 'Multi-Sectoral Cooperation' in this chapter.
- Because these local authorities are placed between the related ministries/agencies at the central government level, and the private sector including individuals so as to be able to work as the intermediate actors for connecting and communicating between them, which is conceptually illustrated as shown in Figure 5.4.
- As well, local functions of each Ministry such as the Hospitals, Health Posts, Health Centres, elementary and secondary schools, and public mass media like the national TVs are expected to work as the intermediate actors.



PMC: Project Management Consultant
Figure: The JICA Study Team

Figure 5.4 Intermediation and Relations among Actors

(5) Willingness to Participate

In addition to the above, it goes without saying that willingness to participate by communities, civil society and individuals are extremely required to implement sound public participation. As the public opinion of the four cities in this matter, the public awareness survey shows:

- From 75% to 90% of each income group has not participated in related campaigns so far. (Household Survey)
- However, more than nearly 90% of them perceive that these campaigns are useful and are to be reinforced. (Household Survey)
- As well, almost all respondents consider that they want to have awareness programs in their areas and more than 71.6% of each income group show their willingness to participate in such campaigns. (Household Survey)
- More than 80 % of the respondents show willingness to participate in community activities to improve river water pollution through cleansing/desludging, monetary contribution, which is followed by awareness programmes. (Facility Survey)
- The respondents also show willingness to improve LCSs, crematoria and bathing ghats by community initiative (around 50%), which is followed by a voluntary participation in O&M activities. (Facility Survey)

As well, public opinions on willingness to participation identified in the Community Workshops are summarized in Table 5.2 and 5.3.

Table 5.2 Public Opinion on the Participation in the Community Workshops (1)

City	Group	Opinion on Willingness to Participation	
Varanasi	LIG	M	<ul style="list-style-type: none"> - There was strong consensus on public participation in all aforesaid activities such as sanitation improvement plan, solid waste management and River Pollution. - However, Participants were strongly of the view that Public participation approach should be very localized and medium of public awareness should take care of communication acceptability of the target population
		F	<ul style="list-style-type: none"> - Public participation should be largely encouraged in tackling aforesaid problems. - The some of the important methods suggested for the public participation by the participants were group meetings, and printed materials.
	MIG+ HIG	M	<ul style="list-style-type: none"> - Participants said with consensus that situation of River Pollution, environment and sanitation can be well be addressed through Private-Government partnership and by working together in close cooperation. Government should encourage private partnership such by associating with NGOs, Community Based Organization (CBOs) and even Private Companies. Public Awareness should be given the top priority and sustainable public awareness programme should be initiated and continued. - Thus, participants broadly concluded that the problem related with cleanliness and Solid Waste Management, sanitation and river pollution can only be tackled through planned and sustainable public participation and awareness building on all these aspects
		F	<ul style="list-style-type: none"> - There should be intensive and planned public awareness programmes and activities to check open defecation across the riverside, disposal of waste materials in to river etc. The awareness programme should be area specific and should be implemented with the help of and involvement of people. There is a need for planned and gradual approach of public participation and awareness programmes for the usage of electric crematoria. - Situation of River Pollution, environment and sanitation can be well addressed through Private-Government partnership and by working together in close cooperation. Government should encourage private partnership such by associating with NGOs, Community Based Organization (CBOs) and even Private Companies. Public Awareness should be given the top priority and sustainable public awareness programme should be initiated and continued.

Note: LIG; Low Income Groups, MIG; Middle Income Groups, HIG; High Income Groups, M; Male, F; Female
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Table 5.3 Public Opinion on the Participation in the Community Workshops (2)

City	Group	Opinion on Willingness to Participation	
Allahabad	LIG	M	- Public participation is very important matter for sanitation and it should be implemented with proper and planned manner.
		F	- Public awareness can spread through media, cultural activities and education.
	MIG+ HIG	M	- Public participation activities should be designed need based and area specific awareness package.
		F	- For public awareness, local medium of communication, which is most popular in the area, should be used and it should be decided in consultation with local people.
Lucknow	LIG	M	- Public participation should be made an important component at each stage in order to ensure the sustainability.
		F	- Intensive public awareness programmes should be launched targeting each segments and groups. Village/Ward committees should be constituted and sensitised towards sharing responsibility in terms of sanitation, solid waste and public awareness.
	MIG+ HIG	M	- Effective and planned public awareness and public participation programme should be initiated to address the problems of all issues related with river pollution and improvement of sanitation and environment.
		F	- Public participation and awareness programmes on all aforesaid issues should be initiated intensively. - There should be door-to door education programme for the women on sanitation and waste management.
Kanpur	LIG	M	- We want that Govt. along with local people should initiate a special campaign to address all the problems and work out a sustainable mechanism to short out the problems related to solid waste, sanitation and overall pollution.
		F	- There should be intensive public participation and public cooperation and to ensure this Govt. should formulate policy and take action.
	MIG+ HIG	M	- There is no awareness and consciousness amongst people.
		F	- Public participation and mutual cooperation between Govt. and People is very much necessary in the solid waste management programme. <i>Nagar Nigam</i> should initiate and coordinate public participation but involvement of local people is very much necessary in the planning, implementation and monitoring of the programme.

Note: LIG; Low Income Groups, MIG; Middle Income Groups, HIG; High Income Groups, M; Male, F; Female
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Accordingly, the active cooperation of the people and communities of the four cities is well expected to implement the 'Public Participation' approach.

5.4 PREPARATION AND EVALUATION

5.4.1 Preparation

(1) Technique for Public Participation

In order to implement the public participation approach, the following points shall be considered thoroughly.

- Degrees of public (communities and residents) participation have a huge variety from region to region, namely social and cultural background, qualification of community representatives and leaders, the mutual trust between authorities concerned, past experiences with related activities in each society, and so on.
- Therefore, before starting a related project/program with the “Public Participatory Approach” the project organizer shall conduct a survey on the present condition of target communities and people as noted above and so on, and capacities, resources and past experiences of local authorities as well as possible project implementing agencies (PIAs).
- Based on the above noted survey results, detailed plans on ‘Public Participation’ schemes shall be elaborated.
- In addition, local administrators, facilitators and project implementing agencies as well as NGOs and CBOs to be involved in the public participation shall be trained the survey methods like social analysis and interviews, as well as techniques of communication and planning with local people.

As for the analysis, communication and planning techniques, the International Development Society (such as FASID for PCM) and Universities in the field (for example, Sussex University, United Kingdom) have developed several types of techniques. The leading such participatory techniques are summarised in Table 5.4. Those techniques may be utilized for the future actions.

Table 5.4 Participatory Analysis and Planning Techniques

Participatory Planning Techniques	Description
RRA (Rapid Rural Appraisal)	A social appraisal approach for development assistance projects using interviews and other methods. This is said to be an effective way to understand the qualitative needs of residents in the project area within a relatively short period.
PRA (Participatory Rural Appraisal)	The basic concept is the same as for RRA, except that this method is more oriented to regional residents than RRA. Among the RRA approaches, this method utilizes means (discussions among residents, etc.) that allow implementation by residents themselves.
PCM (Project Cycle Management)	A method to control a series of cycles including planning, implementation, and evaluation of the development project by means of a project outline table called the Project Design Matrix (PDM).

Source: ‘Tentative Guidelines for Optimisation of Operation and Maintenance of Sewage Works in Developing Counties’, IDA Water Series No.12, October 2001, Infrastructure Development Institute (IDI) – Japan

RRA and PRA methods can be utilized for social surveys, which are named ‘Rural’, however, they can be applied for urban cities with very flexible manners to identify all social aspects including present issues in specific areas or communities, which would impacts the public participation.

(2) Resources

Lots of resources including budgets, experts, tools and data are required to implement the activities of public awareness and hygiene education. Table 5.5 shows a summary of the necessary resources and the present situation.

Table 5.5 Necessary Resources and Present Situation

Resources	Present Situation
Budgets	<ol style="list-style-type: none"> 1. NRCD <ul style="list-style-type: none"> - An amount of Rs. 4.80 Crores has been spent by NRCD towards publicity and awareness during the period 1990-91 to 2002-2003 through State Governments, Local bodies, NGOs, Voluntary Agencies. Therefore, about Rs. 37 Lakhs/year has been spent by NRCD for the 13 years. - The budgetary allocation for PP/PA schemes under the River Action Plans is based on the individual need based schemes and requirements from the Project Implementing Agencies (PIAs) in the respective states which is proposed in the Detailed Project Report (DPR) submitted by the concerned PIAs in the states. Also, NRCD has provision of some special budget to take up general public participation and awareness activities. - As far as earmarking of funds for future public participation works is concerned, NRCD would be making efforts to allocate Rs. 60 to 80 Lakhs for the works of the types mentioned above each financial year. The allocation is more than twice of the past expense of about Rs.37 Lakhs/year mentioned above. - Budget allocations of staff for the National Unit and each State Coordination Unit of “National Public Participation & Coordination Cell (NPPC)” under NRCD are not specified. 2. CPCB <ul style="list-style-type: none"> - CPCB spends about 5% of a project budget for public awareness activities in related projects - Namely, approximately Rs. 50 Lakhs was spend by CPCB past five years. 3. HRD/UP Jal Nigam <ul style="list-style-type: none"> - IEC and Community Participation (CP) activities by HRD were founded by Foreign Donors like UNICEF, DFIF, SIDA and Internal Donors like Rajiv Gandhi National Drinking Water Mission and so on. - Specific budgets for IEC and PP/PA activities are not clear. 4. Municipalities (Allahabad, Kanpur, Lucknow and Varanasi Nagar Nigams) <ul style="list-style-type: none"> - All Municipalities have not specific budget for PP/PA and related activates, which are occasionally implemented - All Municipalities have perceived lack of such a budget
Experts	<ul style="list-style-type: none"> - No specific expert exclusively for PP/PA and hygiene education is available in NRCD. - Such an expert there is not available in other entities including CPCB, UP Jal Nigam and the Municipalities.
Educational Tools	<ul style="list-style-type: none"> - Lots of educational tools like video films and printed materials were produced under YAP and other river development programs, some of which are available in CPCB and HRD/UP Jal Nigam. - Audiovisual-aids like VTR, OHP and others are available in CPCB, CGWB and HRD/UP Jal Nigam - However, such devices like audiovisual-aids are not available in the Municipalities.
Information & Data	<ul style="list-style-type: none"> - There are no data on morbidity and mortality/water borne diseases at the Municipality level. - Health and Environmental Impacts are not clear and no such a scientific information in the study area.

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(3) Constraints

Based on the summary of Table 5.5, it can be stated that there are no regular specific budget, but are project based allocations which are generally limited, no exclusive experts and detailed data on human health at the municipal level at present in NRCD and even in the Municipalities. Meanwhile as for the educational tools, several devices were equipped with CPCB, CGWB and UP Jal Nigam, and related video films and printed and teaching materials were produced by YAP, CPCB UP Jal Nigam but, the number of those are not enough for the all activities to be expected for the local levels. In addition, it is said that there are no specific budgets, experts, information, devices and materials necessary for hygiene education at all in the Municipalities. It can be identified, therefore, that these circumstances are the “Factors of Constraints” to implement hygiene education through public participation activates and approach in order to heighten the public awareness.

Within the factors of constraints, all actors have to consider the future actions on heightening public

awareness on sanitation and hygiene education. Of course, the public sector shall call for necessary resources through present official procedures. However, in general, the order of priority in this field of hygiene education is not high in many developing countries. Because that there are lots of other high priority and emergent issues in such counties and cities including the four Municipalities.

How can the actors overcome the factors of constraints? In accordance with the discussion so far, it can be considered that the following series of concepts are the useful solutions as one of the future actions.

- The best use of competence, expertise and ability of each actor
- A multi-sectoral cooperation
- The full utilization of available equipment and tools at present
- Positive introduction of the public participation approach mentioned above

Within these constraints and concepts of the solutions, the JICA study team tries to consider how implement 'hygiene education' below.

5.4.1 Evaluation

It goes without saying that evaluation of all activities on heightening public awareness on sanitation and hygiene education is necessary for enhancing further actions to be taken. However, it is not so easy to quantitatively analyse the effects of those activities. Therefore, a certain analytical methodology shall be studied and developed to evaluate such activities by NRCD and others. To develop the methodology, key points and steps can be summarized as follows and in Figure 5.5:

1. **Activities:** Campaigns, related Public Participation/Awareness Projects and so on.
2. **Survey:** the actors shall conduct an interview survey and/or a questionnaire survey to the participants in such activities.
3. **Analysis:** based on the survey results, quantitative and qualitative analysis shall be done by the actors.
4. **Evaluation:** all actors involved shall make an evaluation on the analysis.
5. **Report:** survey methods, the analysis results and the evaluation shall be compiled as a printed report.
6. **Feedback:** such a report shall be made use of as feedback and an instructional tool for improving the methodology, training the related experts and instructing next related activities and so on.

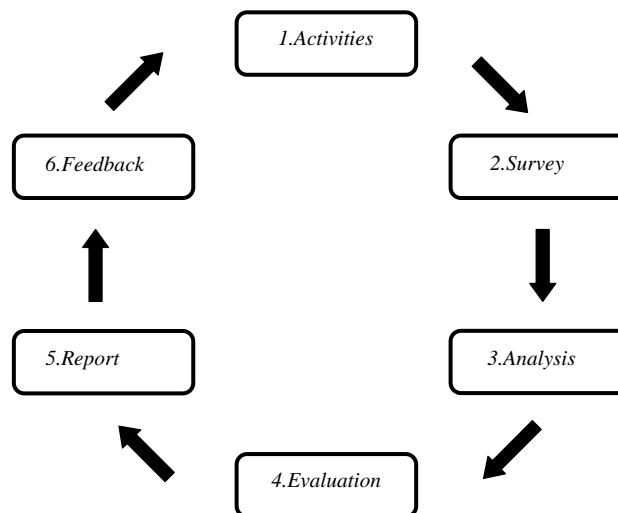


Figure: The JICA Study Team

Figure 5.5 Key Points, Evaluation and Feed Back Cycle

By doing the Feed Back Cycle, the activity level shall be upgraded and enhanced by each related activity with the passage of time as illustrated in Figure 5.6.

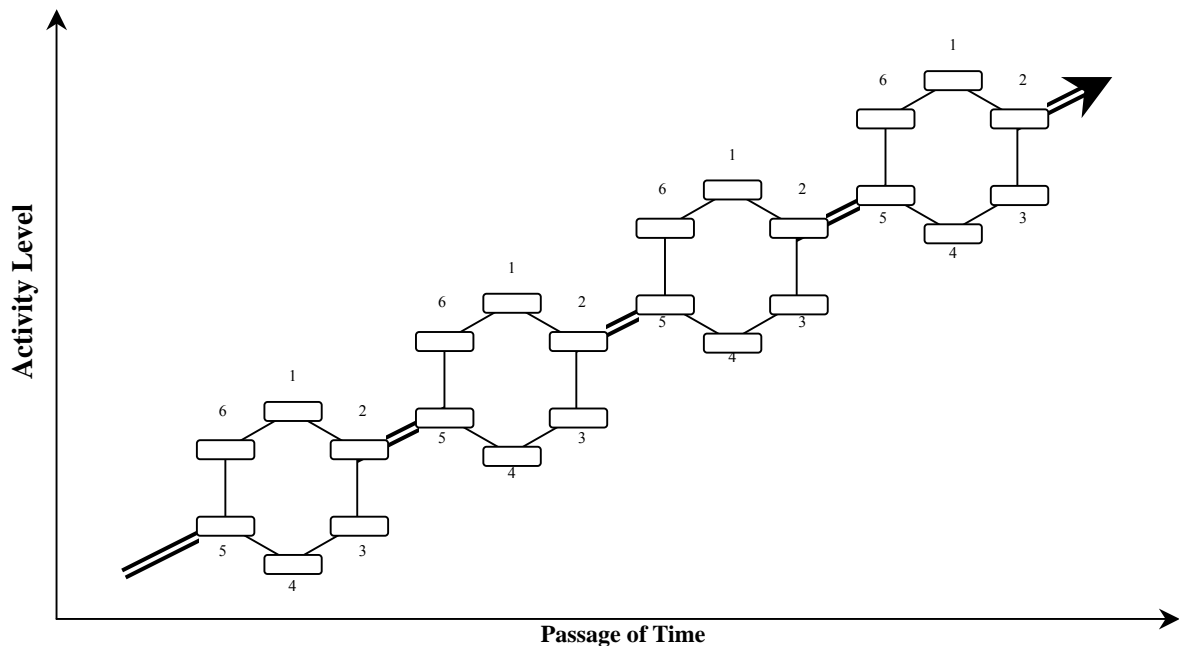


Figure: The JICA Study Team

Figure 5.6 Time Passage and Activity Level

5.5 BASIC CONCEPT OF HYGIENE EDUCATION PLAN

5.5.1 Stepwise Planning

Taking the discussion in the above sections and the framework of the JICA study into consideration, it is reasonable to consider that a step-by-step improvement and heightening plan shall be introduced as the basic concept of hygiene education. Namely, in order not to try to do everything at once, it is necessary to priorities the hygiene education.

From the year 2004 to 2015, the four terms can be proposed in the stepwise plan on hygiene education for the Study Area as shown in Table 5.6. As well, the awareness level at each term can be illustrated in Figure 5.7.

Table 5.6 Stepwise Plan on Hygiene Education

Terms	Main Awareness to be heightened	Core Themes
1. Short-Term	To heighten public awareness on consciousness/notion on health & Sanitation	Personal Health and Sanitation
2. Medium-Term	To heighten mutual understanding between communities and authorities concerned.	Community Issues and Public Participation
3. Mid and long Term	To heighten recognition of burden sharing for operation and maintenance.	Cost sharing and Willingness to Pay
4. Long-Term	To heighten public awareness on urban river environment	Environmentally Friendly Urban River

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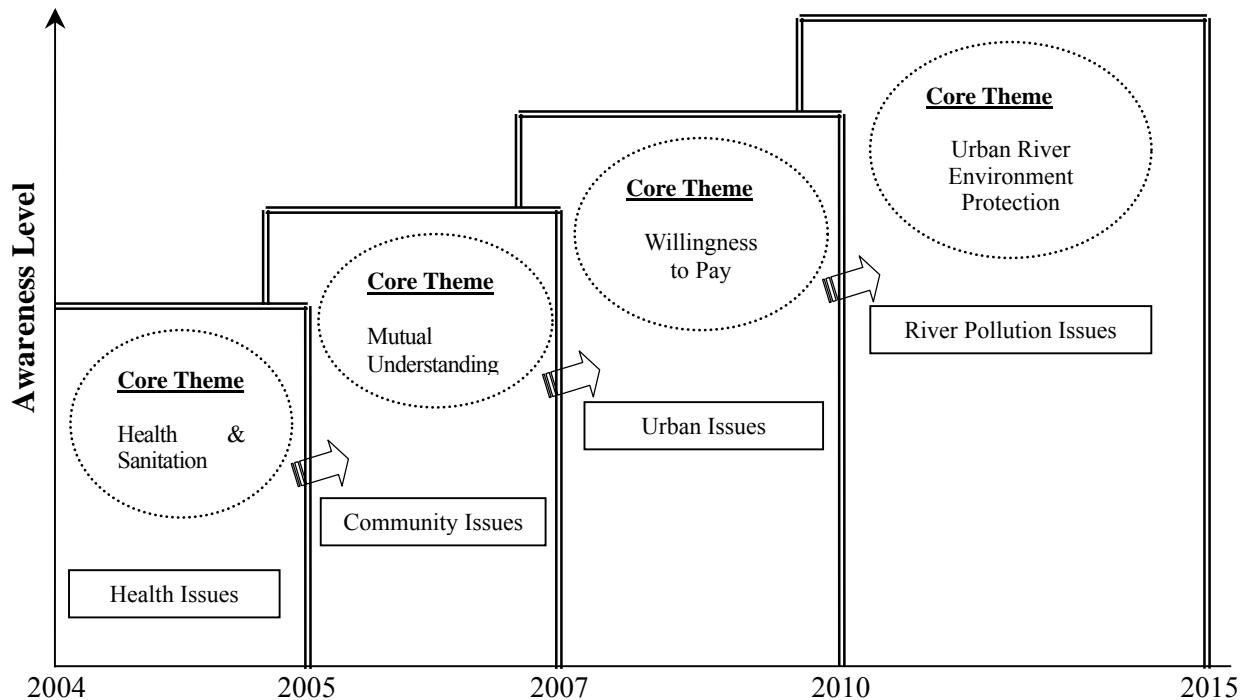


Figure: The JICA Study Team

Figure 5.7 Awareness Level of the People

(1) The First Step (Short Term Target)

The first step shall be the initiation stage to heighten the health and sanitation notion and consciousness. Namely in the short term, the population in the four cities shall identify more specifically the link between health and sanitation as individual issues.

(2) The Second Step (Medium Term Target)

The second step shall be the term of mutual understanding among all actors involved. The people of the four cities and related official authorities shall identify each other that not only individual efforts, but also cooperation among actors concerned can attain the improvement of the sanitation as community issues. Namely in this term, the following are expected to be attained;

- To set up a relationship of mutual trust between the public sector as the official sewerage and sanitation service side and communities including individuals as the wastewater discharge side.
- To identify proper responsibilities of both sides on the sewerage and sanitation activities including initiation of the concept Polluter-Pays Principal (PPP) and so on.

(3) The Third Step (Med and Long Term Target)

The third step shall be the incubation period of the mutual trust and specially burden sharing among actors as Urban Issues. That is to say, financial contribution (willingness to pay) of the people of the four cities, which has been initiated with the concept of PPP in the second stage.

(4) The Fourth Step (Long Term Target)

The fourth step shall be the final stage to heighten awareness on urban river environment protection and beautification. Namely in the long term, the plan shall reach a concept of the “Environmentally Friendly Urban River and City” by reducing every load into river water environment caused by

wastewater and solid waste with reasonable systems in cooperation with all actors.

5.5.2 Planning

On the ground of the basic concept of hygiene education discussed above, the actors shall consider an annual plan and each term plan. Especially, NRCDC, the leading official entity for the national river conservation, plays the important role in coordination of a multi-sectoral cooperation among actors for considering such plans. In addition to this, the following efforts and actions are necessary to the consideration.

5.5.3 Effort Level and Specific Actions

To attain each target in the stepwise plan of hygiene education, an effort level to be attained and be overcome by all actors can be illustrated in Figure 5.8. In the level, the following two actions shall be implemented to sustain the effort in a suitable timing.

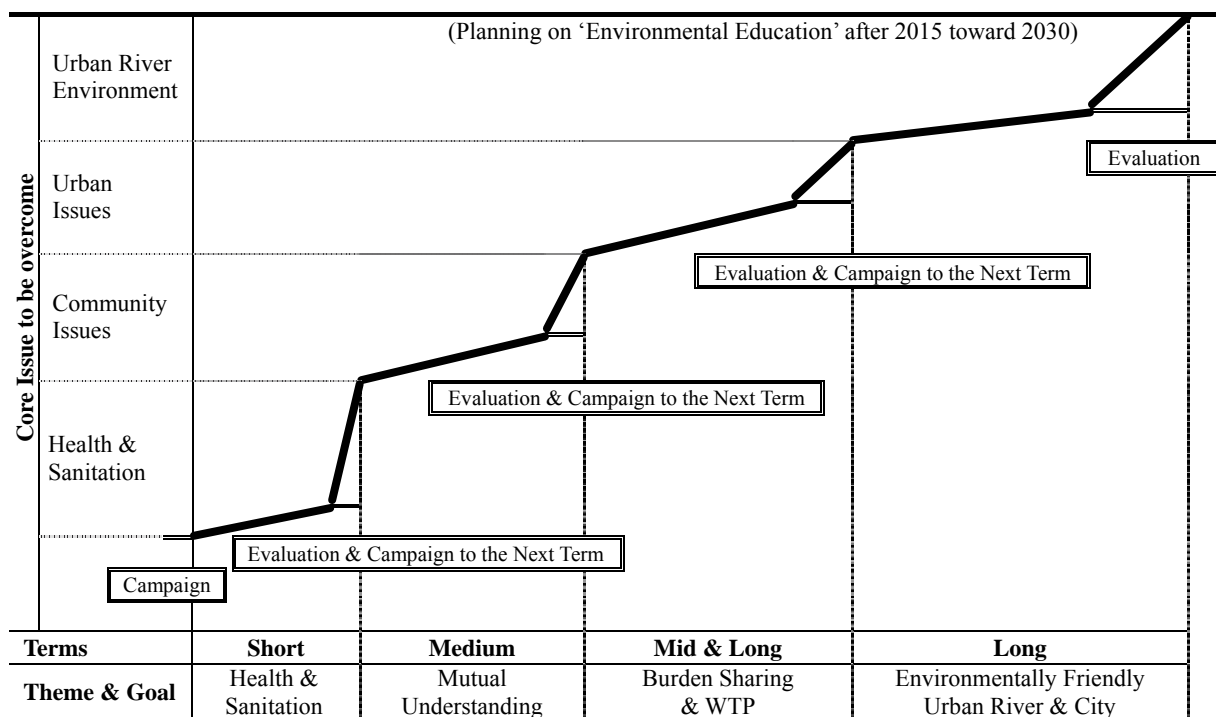


Figure 5.8 Effort Level and Specific Actions

- Before the start of each term, related activities such as a hygiene campaign shall be conducted with the public participation approach for identifying targets and considering necessary actions for each term.
- At the final stage of each term, evaluation shall be implemented the feedback every achievement and lesson to the next term with the public participation approach.

Therefore, campaigns to be implemented and evaluation of each term activities shall be carried out stepwise at least four times as shown in Figure 5.8.

5.5.4 Implication for Environmental Education

After the people awareness heightened and the mutual trust built among the actors in the target year of 2015 with the hygiene education mentioned above, a full-scale "Environmental Education" which may include not only sanitation issues but also river ecosystem conservation, endocrine disrupting chemical substances issues, and amenity issues and etc. could be started as the next step toward 2030. The

Environmental Education may be planned by the partnership between the public sector (NRCD) and the public with the public participation.

5.6 PREPARATION OF ACTION PLANS

In order to seek sustainability of projects to be proposed by the JICA study team, public involvement and participation in the projects are indispensable. However, public participation (PP) is an approach or process for heightening public awareness (PA) on public health, cost sharing and so on which are the goals to be attained by certain activities based on the stepwise 'hygiene education' concept as discussed above.

5.6.1 Critical Points to be Considered

Reasonable action plans for such activities are necessary for respective cities of the study area.

For the planning of the actions, several critical points to be considered are identified as follows.

- The actions to be taken shall concurrently implement with sewerage/non-sewerage plans.
- Objectives of the actions and core theme
- Degree of participation
- Activities to be implemented
- Target groups
- Women's cooperation and enhancement of children awareness
- Languages to be used
- Mutual cooperation among the four cities

(1) Concurrent implementation with Sewerage & Non-sewerage plans

Table 5.7 and Table 5.8 respectively show the proposed implementation plan of Sewerage System and proposed implementation plan of Non-sewerage System. By preparing those bar charts, it is easy to identify the events and timing of the proposed each system. In this regard, the following are the critical points.

- For effective implementation of the actions to be taken, therefore, each action shall be concurrently planned with respective events of the sewerage and non-sewerage plans.
- It is necessary to recognize that operation & Maintenance activities are important event.

However, those are still the Master Plan ideas and Feasibility Study (F/S) will propose detailed project plans. Therefore, detailed action plans to be taken shall be discussed the preparation of F/S study.

Table 5.7 Implementation Plan of Sewerage System

	Phase I						Phase II					Phase III
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2015-2030
1. Varanasi												
1.1 Core Area												
Rehabilitation of Old Trunk Sewer				***	***							
Installing of Relief Trunk Sewer	***	***	***	***	***	***						
Installing of Interceptor Sewers for Tapping			***	***	***	***						
Rehabilitation of Ghat Pumping Stations along Ganga			***	***	***							
Augmentation of Existing Pumping Station				***	***							
Construction of New Pumping Station			***	***	***							
Rehabilitation of Existing Treatment Plant				***								
Construction of New Treatment Plant			***	***	***							
Installing of Branch Sewer			***	***	***	***	***	***	***	***	***	
House Connection			***	***	***	***	***	***	***	***	***	***
1.2 Peripheral Area												
Installing of Trunk Sewer							***	***				
Installing of Branch Sewer							***	***	***	***	***	***
Construction of Pumping Station							***	***				
Construction of Treatment Plant							***	***				
House Connection							***	***	***	***	***	***
1.3 Future Developing Area												

2. Allahabad												
2.1 Core Area												
Installing of Trunk Sewer				***	***	***	***	***				
Installing of Branch Sewer				***	***	***	***	***	***	***	***	***
Construction of Pumping Station for Tapping				***	***	***						
Augmentation of Treatment Plant				***	***							
House Connection				***	***	***	***	***	***	***	***	***
2.2 Peripheral Area												
Installing of Trunk Sewer							***	***				
Installing of Branch Sewer							***	***	***	***	***	***
Construction of Pumping Station							***	***				
Construction of Treatment Plant							***	***				
House Connection							***	***	***	***	***	***
2.3 Future Developing Area												

3. Lucknow												
3.1 Core Area												
Installing of Trunk Sewer				***	***	***	***	***	***	***	***	***
Installing of Interceptor Sewers for Tapping				***	***	***						
Installing of Branch Sewer				***	***	***	***	***	***	***	***	***
Construction of Pumping Station for Tapping				***	***				***	***		
Construction of Treatment Plant				***	***	***						***
House Connection				***	***	***	***	***	***	***	***	***
3.2 Future Developing Area												

4. Kanpur												
4.1 Core Area												
Installing of Trunk Sewer				***	***	***	***	***	***	***	***	***
Installing of Branch Sewer				***	***	***	***	***	***	***	***	***
Construction of Pumping Stations				***	***	***						
Construction of Treatment Plant				***	***	***						***
House Connection				***	***	***	***	***	***	***	***	***
4.2 Future Developing Area												

Table 5.8 Non-sewerage components for the Four Cities

Facilities	2004	2005	2006	2007	2008	2009	2010	---	2030
LCS (CTC and IHL)		=====	=====	-----	-----	-----	-----	-----	-----
Improvement of washing activities in river		=====	-----	-----	-----	-----	-----	-----	-----
Sanitary improvement of ghat (toilet facility & solid waste management)			-----	-----	-----	-----	-----	-----	-----
Improvement of cremation ground *1*2									
Prevention of cattle wallowing in Ghat area *3									
Pilot project (Manikarnika Ghat, only for Varanasi)	=====	-----	-----	-----	-----	-----	-----	-----	-----

- ===== Pilot project (designing, construction and O&M)
- Planning and designing
- Construction
- O&M

*1: In this stage, we do not recommend improved or electrical cremation facility due to cultural and religious constraint.

There exist electric crematoriums but their usage level is very low due to frequent breakdown, malfunction of facility and people's perceptions.

*2: The prevention of throwing un-burnt and half burnt bodies shall be done through PP/PA activities

*3: The prevention of cattle wallowing shall be done by mainly through PP/PA activities.

(2) Objectives of the Actions and Core theme

In initiation stage of each system plan, namely the short-term period of the hygiene education concept, implementing agencies shall consider the linkage between each event in the initial stage (for example: installing of relief trunk sewer of the sewer system plan in Varanasi) and public health. Because that the core theme of the short term is 'Health and Sanitation' as discussed above.

Accordingly, the implementing agencies may consider that the differences of public health benefits between 'with the installation' and 'without the installation'. Namely, the installation may have not only benefit of wastewater flush but also public health improvement as another benefit of the specific area, if the present situation in the installation area is submerged with wastewater due to lack of such sewer lines and leakages and so on as well as high cases of waterborne diseases. This health benefit is an incentive for the population because the installation of sewer lines generally is very difficult for the population to observe those lines (under drains or covered conduits) and identify the immediate benefits (wastewater goes out of the view once flushed) if compared with other infrastructure constructions such as water supplies and pavement of roads etc. This is one of the reasons for

difficulties of mobilizing public participation approach in sewer scheme projects.

Therefore the initiation of the public participation in the sewer scheme projects, health benefits shall be incorporated into the objectives of the public participation activities. In this regard, the following is the critical point.

- With same manner, implementing agencies shall consider the linkages between the events and each core theme of every term of the hygiene education concept for the actions to be planned.
- The possible linkage and benefits may be considered as shown in Table 5.9.
- Anyhow, personal health & projects shall be the fundamental benefit as illustrated in Figure 5.9.

Table 5.9 Core Themes and Possible Benefits and Linkage

Terms	Core Themes	Possible Benefits and Linkage
1. Short-Term	Personal Health and Sanitation	Personal health & projects
2. Medium-Term	Community Issues and Public Participation	Community health & projects
3. Mid and long Term	Cost sharing and Willingness to Pay	Urban health & Projects' sustainability
4. Long-Term	Environmentally Friendly Urban River	River beatification & Projects' sustainability

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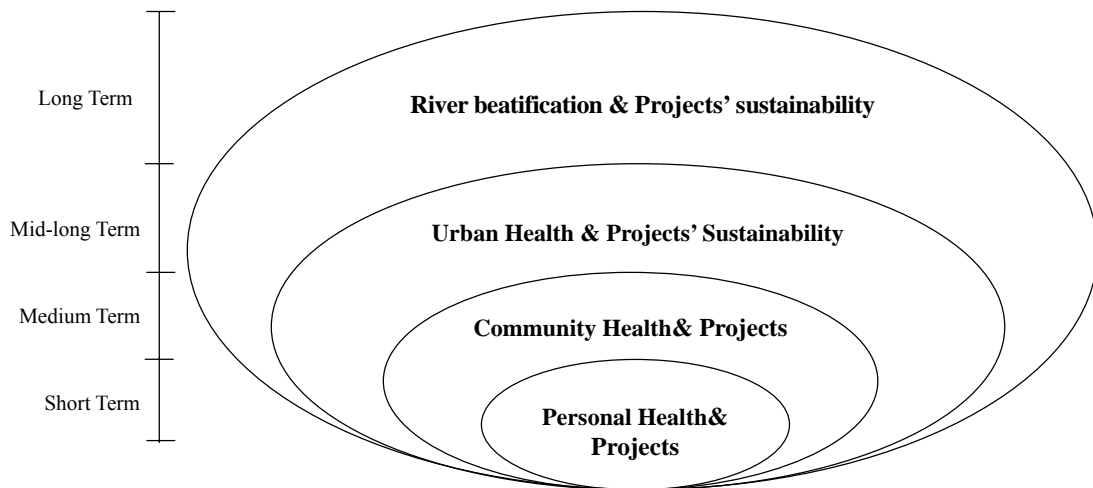


Figure: The JICA Study Team

Figure 5.9 Position of the Possible Benefits and Linkage

(3) Degree of Participation

There are several degrees of ‘participation’ namely passive participation, active participation and spontaneous participation.

- **Passive Participation:** receiving information and instruction such as explanatory meeting from authorities concerned
- **Positive Participation:** Planning a project in cooperation with authorities concerned, physical contribution in the execution phase of activities such as de-sludging activities, monitoring activities such as reporting to authorities regarding operation and maintenance situation of the projects and so on.
- **Spontaneous Participation:** If a facility which is planned and constructed by a community or individual initiative, the sense of ‘ownership’ will be established among those communities and individuals. In this case, communities and individuals involved in the facility spontaneously participate in operation and maintenance of the facility with various forms of contribution of

physically, monetary and so on.

In this regard, the following is the critical point.

- Implementing agencies shall consider what degree of participation of each stage of the project cycle is required for each specific action to be planned.

(4) Activities to be implemented

The following activities on public participation are being conducted by NRCD scheme in some NRCP (National River Conservation Plan) towns as has reviewed in Chapter 1.

1. Seminar/workshops
2. Rallies, Padyatras, meetings and exhibition
3. Publication of resource material
4. Preparation & installation of hoardings
5. Organizing quiz and other competitions among school and college students
6. Training of community groups/beneficiary groups/watchdog groups
7. Awareness camps
8. Shramadaan
9. Meetings with religious leaders
10. Folk media and street theatre performance
11. Meetings with Media persons
12. Preparation of films & audio-visuals (only in Delhi)

Based on the experiences above, NRCD has proposed the future activities as follows.

1. Publications
2. Exhibitions
3. Seminars & Workshops
4. Public Meetings
5. Rallies/Padyatras
6. School programmes
7. Training Courses for Target Groups
8. Awareness Camps
9. Folk media & Street theatre
10. Meetings with Media
11. Sharmdaan
12. Meetings with religious leaders
13. Training Courses for Volunteers

The experienced and proposed activities are well considered as satiable activities for public participation. But there is no intention and idea of 'moderators' or 'facilitators' for such activities. For example, in the school programmes it is easily image that the facilitators could be teachers of schools and target groups are the school children.

However, as for the public meetings, who should be facilitators, what information should be disseminated, what kind of activities should be initiated, by which methods should be utilized and who should be target groups?

Before thinking those questions, implementing agencies shall conduct social surveys to identify all social aspects including present issues in specific areas or communities, which would impacts the public participation. As mentioned above, RRA (Rapid Rural Appraisal) and PRA (Participatory Rural

Appraisal) methods can be utilized for such surveys, which are named ‘Rural’, however, they can be applied for urban cities with very flexible manners.

Table 5.10 shows possible moderators/facilitators/target groups for proposed activities.

Table 5.10 Possible Moderators/Facilitators/Target Groups

Activities	Possible Mediators/Facilitators	Possible Target Groups
1. Publications	Authorities Concerned at the Central/Local	Population/Communities
2. Exhibitions	Authorities Concerned at the Central/Local	Population/Communities
3. Seminars & Workshops	NGOs/CBOs Authorities Concerned	Communities
4. Public Meetings	NGOs/CBOs Authorities Concerned	Communities
5. Rallies/Padyatras	NGOs/CBOs Authorities Concerned	Communities
6. School programmes	Teachers	Students
7. Training Courses for Target Groups	Authorities Concerned at the Central/Local	Communities/Municipalities
8. Awareness Camps	Teachers/Community leaders/Eco-Clubs	Communities/Students
9. Folk media & Street theatre	NGOs/CBOs /Teachers/Community leaders/Eco-Clubs	Communities/Students
10. Meetings with Media	Media/TVs/Radios/News Papers/Publishers	Population/Communities
11. Sharmdaan	NGOs/CBOs /Teachers/Community leaders/Eco-Clubs	Communities/Students/VOs
12. Meetings with religious leaders	Religious Leaders	Communities/Pilgrimages
13. Training Courses for Volunteers	NGOs/CBOs Authorities Concerned	Communities/VOs

In this regard, the following are the critical points.

- Proposed activities shall be examined within the social contexts
- A suitable moderators/facilitators shall be considered for smooth implementation of those activities.

(5) Target Groups

A target group is the principal group for which a positive impact will be expected by implementation of related activities and projects. By ordinary, the target group is taken from possible beneficiaries of those activities and projects

In order to identify the target groups, the following procedure can be applied, of which basic idea and processes are of PCM (mentioned above) developed by FASID (Foundation for Advanced Studies on International Development), Japan.

- Analysing the target communities, areas and local population, groups, organizations and entities concerned for identifying the present condition and the problems of the target areas
- Confirming an expected activity and project framework
- Listing of the stakeholders (individuals, groups, related entities) within the projects framework
- Categorization of the list
- Analysing the stakeholders selected above
- Selecting a target group

As for the possible stakeholders, the PCM method identifies stakeholders as shown in Table 5.11.

Table 5.11 Possible Stakeholders identified by PCM Method

Stakeholders	Explanation
Beneficiaries	: Who will likely benefit from the project
Negatively Affected Groups	: Who will be negatively affected by the project
Decision-makers	: Decision-making authority
Funding Agencies	: Who will bear expenses
Implementing Agencies	: Who will implement the project
Community Leaders	: Who represent the community
Potential Opponents	: Who may oppose or obstruct the project
Supporting Groups	: Who will likely cooperate with project implementation

Source: PCM -Management Tool for Development Assistance (Participatory Planning), 5th Edition, March 2001,FASID

For the identification of a target group, other method of PRA, RRA may be applied in combination with the PCM methods, all of which are very flexible methods.

In this regard, the following are the critical points.

- It should be clarified for the target group selection that which groups' or whose awareness on health & sanitation, mutual-trust, burden sharing and Environmentally Friendly Urban River & City are to be heightened by the related activities and projects to be planed.
- It is expected that several existent participatory survey and planning methods such as RRA, PRA, PCM and others (ZOPP of GTZ, SWOT and so on) shall be introduced and studied to modify those methods for Indian oriented.

(6) Women's Cooperation and Enhancement of Children Awareness

Women's, especially housewives and widows' cooperation is extremely required for the improvement of environmental health and sanitation. From the point of view of social consideration as well as women in development (WID), accordingly, cooperation of women's unions and related ladies' community entities is positively expected for the women's involvement in the related activities.

In addition, children are important information disseminators from schools to their family members and communities. As well, children will be core actors in the next generation. Therefore, specific awareness programmes and campaigns aiming at the next generation, which may include not only 'Hygiene Education' but also 'River Environmental Education' shall be specifically planed and implemented.

In this regard, the following is the critical point.

- In the planning stage of specific actions, implementing agencies and planners for the actions shall at any time consider their special attentions for the women's cooperation and enhancement of children awareness.

(7) Languages to be Used

As has reviewed in Chapter 2 of this volume, Hindi is the official language of UP. More than 90% of the population speaks Hindi. As a matter of fact, Hindustani is a popular variant of Hindi/Urdu spoken widely throughout northern India but is not an official language. Other 17 Scheduled Languages are spoken in UP. English as well is widely spoken in UP.

However, the Community Workshops (LIG, Male Group Varanasi) have identified the following public opinion.

- Public participation approach should be very localized and media of public awareness should take

care of communication acceptability of the target population.

- In this regard, dialect for communication etc. should be local.

In addition, literacy rate of the four cities and divisions are not 100%. LIG and female are less literate compared to MIG and HIG, and male respectively.

Therefore, most acceptable languages including dialects for the target groups and communities shall be used. As well, media to be used for the communication shall be selected based on the literacy rate of the target groups and communities.

In this regard, the following is the critical point.

- Special attention shall be made to the languages and media (printed material in letters or pictures and so on) to be used depending on the target groups and communities circumstances.
- Social survey shall be conducted in terms of languages and literacy rate and the target groups and communities' social circumstances and demands in advance of the preparation and actions.

(8) Mutual cooperation among the Four Cities

The projects of sewerage & non-sewerage schemes have been planned by the Master Plan study for the four cities as shown in Table 5.7 and Table 5.8. Basically, most of technical alternatives to be adopted for those plans are similarly proposed.

Main differences of those plans are timing, scales and some technical options. Namely, proposed projects and a pilot project in Varanasi are scheduled earlier than those of other cities. As mentioned above, activities of public participation shall be planed concurrently with Sewerage & Non-sewerage plans. Actually, F/S and a study on PP/PA plan have been started in Varanasi in accordance with the plans. Meanwhile, however, it does not mean for those other three cities of Allahabad, Lucknow and Kanpur to do nothing during no such event terms of first two or three years.

As has reviewed in Chapter 1, each municipality (Nagar Nigam) is lack of specific budget, tool and expert on PP/PA activities. For breakthrough of those constraints of the municipalities, the following have been proposed section 5.4.2 in this chapter.

- The best use of competence, expertise and ability of each actor
- A multi-sectoral cooperation
- The full utilization of available equipment and tools at present
- Positive introduction of the public participation approach

In accordance with above noted concepts, therefore, experiences and preparations of PP/PA activities and institutional arrangements for those Varanasi projects which are preceded than those of other municipalities, can be referred and utilized for other three municipalities. That is to say that a horizontal cooperation system shall be established among the four municipalities, which may call 'Nagar Nigam –Nagar Nigam Cooperation'.

For example, if an educational video on health and sanitation is produced as one of the activities in Varanasi, the video as an important educational tool may utilize in other municipality even when there is no specific event of the project in the municipalities. As well, all outcomes of the Varanasi experiences on PP/PA activities can be feed backed to not only Varanasi as itself but also to other three municipalities. Contrary to this, those experiences to be implemented by the three municipalities in the future can be shared with Varanasi Municipality. As a matter of course, those experiences and feedbacks may be modified in the social contexts of each municipality.

In this regard, the following is the critical point.

- A horizontal cooperation system for PP/PA and related activities among the four municipalities.
- All preparation, outcomes and results of PP/PA and related activities shall be shared by the four municipalities each other.

5.6.2 Organizational Arrangements

In accordance with schedules of the sewer and non-sewer plans shown in Table 5.7 and 5.8, necessary preparation and coordination for actions on promoting public participation and heightening public awareness based on the Hygiene Education concept should be started in respective Municipalities. Therefore, each municipality shall set up a public awareness section or function to enforce necessary actions on the public participation and awareness in advance, which is expected the following actives.

- A function to serve as contacts between the public sector and the private sector.
- A coordinating function between each function and the HDR cell of UP *Jal Nigam* for the specific actions.
- A coordinating function among other cities for necessary information, resources and tools, and experience exchange for the specific actions.
- A coordinating function among other official entities like Health Centers and Public Schools for the specific actions.

(1) Varanasi

Varanasi Nagar Nigam has the Health Department. Under the City Health Officer, there are two sections of 'Health Section' and 'Sanitation' section. The Sanitation Section is in exclusively charge of public sanitation and hygiene activities. Therefore, the role of this section shall be enhanced for including public awareness function as mentioned above.

(2) Allahabad

Allahabad Nagar Nigam doesn't have a specific department and section in charge of related public participation and awareness. But there is a department handling health and sanitation issues. Therefore, the role of this department shall be enhanced for including public awareness function as mentioned above.

(3) Lucknow

The Health Department of Lucknow Nagar Nigam is in charge of health and environment matter. The Department consists of three sections, which occasionally coordinates health and hygiene awareness and education activities. Among them, the Environmental Sanitation Section exclusively handles hygiene and sanitation issues. Therefore, the role of this department shall be enhanced for including public awareness function as mentioned above.

(4) Kanpur

The Urban Community Development Department (UCD) at Kanpur Nagar Nigam is in charge of public involvement and awareness activities for the population of Kanpur to the rural level. In addition, there is the Health Department by which health and sanitation awareness programs are occasionally conducted.

In this occasion, the role of the Health Department shall be enhanced for including public awareness function as mentioned above as well as coordinating function between the Health Department and UCD shall be set up for promoting the specific actions.

5.6.3 Basic Action Plans (Draft)

(1) Varanasi

1) Distinct Features of the City

Varanasi is a holy city for Hindu. Therefore, Varanasi has different social and cultural features compared to other three cities involved in the study. The distinct features are as follows.

- Existence of religious ablution ghats.
- Existence of religious crematoria ghats.
- Existence of holy and religious places like Hindu temples
- Prevail religion is Hindu.
- Approximately 90% of the population is Hindu.

Accordingly, a lot of pilgrims, attendees of funeral and domestic and foreign tourists are visiting Varanasi. Actually, the number of the visitors is more than 100 thousands annually recent years. Those people are considered as polluters of the river and, therefore, shall be recognized as important target groups to be heightened their awareness on the hygiene and river pollution. In addition, specific activities for awareness programmes shall be planned for those visitors.

2) Draft Basic Action Plans

In accordance with the above features of Varanasi, plans of sewerage and non-sewerage projects proposed by the JICA Study team, as well as basic concept of the ‘Hygiene Education’, draft basic action plans to be taken for promoting public participation and heightening public awareness for phase 1 (2004-2010) of the plans are summarized in from Table 5.12 to Table 5.16. As for Phase 2 (2011-2015) and Phase 3 (2016), draft basic action plans may be prepared with same idea and manner of the phase 1.

Detailed plan shall be discussed and prepared after the F/S study.

3) Regular Activities

In addition to the basic action plans discussed above, for heightening public awareness on hygiene, burden sharing and river pollution and so on, continual efforts shall be done as general actions as follows.

- Regular actions such as a yearly campaign.
- Periodic Activities such as setting up “River Cleaning Day” and “Week of beautiful river City” and so on.

(2) Allahabad

1) Distinct Features of the City

Allahabad is another holy city for Hindu located at the confluence of Ganga River and Yamuna River. The confluence is called ‘Sangam’ in which all pious Hindus want to bathe at least once. The social and cultural features of Allahabad are as follows.

- Existence of religious ablution ghats and Sangam.

- Existence of religious crematoria ghats.
- Existence of holy and religious places like Hindu temples
- Prevail religion is Hindu.
- Approximately 90% of the population is Hindu. .

Accordingly, a lot of pilgrims, attendees of funeral and domestic tourists are visiting Allahabad. Those people are considered as polluters of the river and, therefore, shall be recognized as important target groups to be heightened their awareness on the hygiene and river pollution. In addition, specific activities for awareness programmes shall be planned for those visitors.

2) Draft Basic Action Plans

In accordance with the above features of Allahabad, plans of sewerage and non-sewerage projects proposed by the JICA Study team, as well as basic concept of the 'Hygiene Education', draft basic action plans to be taken for promoting public participation and heightening public awareness for phase 1 (2004-2010) of the plans are summarized in from Table 5.17 to Table 5.20. As for Phase 2 (2011-2015) and Phase 3 (2016), draft basic action plans may be prepared with same idea and manner of the phase 1.

Detailed plan shall be discussed and prepared after the F/S study.

3) Regular Activities

In addition to the basic action plans discussed above, for heightening public awareness on hygiene, burden sharing and river pollution and so on, continual efforts shall be done as general actions as follows.

- Regular actions such as a yearly campaign.
- Periodic Activities such as setting up "River Cleaning Day" and "Week of beautiful river City" and so on.

(3) Lucknow

1) Distinct Features of the City

Lucknow, the capital city of UP lies on the banks of the Gomti River by which the city is divided into two areas. The social and cultural features of Lucknow are as follows.

- Existence of religious ablution ghats.
- Existence of religious crematoria ghats.
- Existence of holy and religious places not only Hindu temples but also Islamic mosques.
- Prevail religion is Hindu.
- Approximately 86% of the population is Hindu.

2) Draft Basic Action Plans

Accordingly, attendees of funeral, domestic tourists and business travellers due to the capital are visiting Lucknow but not so many like Varanasi. However, those people are considered as one factor of polluters of the river and, therefore, shall be recognized as important target groups to be heightened their awareness on the hygiene and river pollution. In addition, specific activities for awareness programmes shall be planned for those visitors.

In accordance with the above features of Lucknow, plans of sewerage and non-sewerage projects proposed by the JICA Study team, as well as basic concept of the 'Hygiene Education', draft basic action plans to be taken for promoting public participation and heightening public awareness for phase 1 (2004-2010) of the plans are summarized in from Table 5.21 to Table 5.24. As for Phase 2 (2011-2015) and Phase 3 (2016), draft basic action plans may be prepared with same idea and manner of the phase 1.

Detailed plan shall be discussed and prepared after the F/S study.

3) Regular Activities

In addition to the basic action plans discussed above, for heightening public awareness on hygiene, burden sharing and river pollution and so on, continual efforts shall be done as general actions as follows.

- Regular actions such as a yearly campaign.
- Periodic Activities such as setting up "River Cleaning Day" and "Week of beautiful river City" and so on.

(4) Kanpur

1) Distinct Features of the City

Kanpur, the UP's largest city lies on the bank of the Ganga. Industry like tanning is very active in the city. The social and cultural features of Kanpur are as follows.

- Existence of religious ablution ghats.
- Existence of religious crematoria ghats.
- Existence of several religious places not only Hindu temples but also Islamic mosques.
- Prevail religion is Hindu.
- Approximately 80% of the population is Hindu.

Accordingly, attendees of funeral, domestic tourists and business travellers due to the capital are visiting Kanpur but not so many like Varanasi. However, those people are considered as one factor of polluters of the river and, therefore, shall be recognized as important target groups to be heightened their awareness on the hygiene and river pollution. In addition, specific activities for awareness programmes shall be planned for those visitors.

2) Draft Basic Action Plans

In accordance with the above features of Kanpur, plans of sewerage and non-sewerage projects proposed by the JICA Study team, as well as basic concept of the 'Hygiene Education', draft basic action plans to be taken for promoting public participation and heightening public awareness for phase 1 (2004-2010) of the plans are summarized in from Table 5.25 to Table 5.28. As for Phase 2 (2011-2015) and Phase 3 (2016), draft basic action plans may be prepared with same idea and manner of the phase 1.

Detailed plan shall be discussed and prepared after the F/S study.

3) Regular Activities

In addition to the basic action plans discussed above, for heightening public awareness on hygiene, burden sharing and river pollution and so on, continual efforts shall be done as

general actions as follows.

- Regular actions such as a yearly campaign.
- Periodic activities such as setting up “River Cleaning Day” and “Week of Beautiful River City” and so on.

Table 5.12 Basic Action Plan in Varanasi for Phase 1 (2004 –2010) (1)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
2004	Start of Construction of Manikarnika Ghat Pilot Project	-Explanatory Meetings -Campaigns (Themes: Health, Sanitation, & Wastewater, Personal Issues)	-Surrounding Communities -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities involved, Health Posts/Centers, Religious Leaders, Clerics, NGOs, CBOs
2005	Start of Installation of Relief Trunk Sewer Completion of construction of Manikarnika Ghat Pilot Project	-Explanatory Meetings on the Installation -Opening Campaigns of the facilities installed	-Communities involved -NGOs/CBOs -Surrounding Communities -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the designing of the LCS Pilot Project	-PP designing -Explanatory Meetings on the project -Campaigns (Themes: Health, Sanitation, Wastewater, Mutual trust, Community issues)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centers, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of the designing of the Pilot Project on the Improvement of washing activities in river	-PP designing -Explanatory Meetings on the project -Campaigns (Themes: Health, Sanitation, washing wastewater, Burden Sharing Mutual trust, Community issues)	-Communities involved -Washer men -NGOs/CBOs	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centers, NGOs, CBOs
2006	Completion of the construction of the LCS Pilot Project	-PP planning for the O/M of the facilities -Campaigns (Themes: Health, Sanitation, Wastewater, Mutual trust, Community issues, How to use the facilities)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centers, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Completion of the Pilot Project on the Improvement of washing activities in river	-PP planning for the O/M of the facilities -Campaigns (Themes: hygiene, Washing wastewater, Burden Sharing)	-Communities involved -Washer men -NGOs/CBOs	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centers, NGOs, CBOs

Table 5.13 Basic Action Plan in Varanasi for Phase I (2004 –2010) (2) (Continued)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
2006	Start of the Planning & Designing of the LCS Project	-PP Planning & designing -Explanatory Meetings on the project -Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of Planning & Designing of the Project on the improvement of washing activities in river	-PP planning & designing -Explanatory Meetings -Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues)	-Communities involved -Washer men -NGOs/CBOs	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs
	Start of Planning & Designing of the Project on Sanitary Improvement of Ghats (Toilets & SWM)	-PP for Planning & designing -Explanatory Meetings on the project -Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
2007	Start of Installation of Interceptor Sewers for Tapping	-Explanatory Meetings on the Installation	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the rehabilitation of Ghat Pumping Stations	-Explanatory Meetings on the rehabilitation -Observation tour to the Stations with Target groups	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the construction of a New Pumping Station	-Explanatory Meetings on the construction -Observation tour to the new pumping Station area with Target groups	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the construction of a New Treatment Plant	-Explanatory Meetings on the construction -Observation tour to the new treatment plant area with Target groups	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the Installation of Branch Sewer	-Explanatory Meetings on the Installation	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of house connection	-Explanatory Meetings on the connection -Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs

Table 5.14 Basic Action Plan in Varanasi for Phase I (2004 –2010) (3) (Continued)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
(2007)	Start of construction of the LCS Project	-Explanatory Meetings on the construction -Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of construction of the Project on the improvement of washing activities in river	-Explanatory Meetings on the construction -Campaigns (Themes: Health, Sanitation, washing wastewater, WTP Urban issues)	-Communities involved -Washer men -NGOs/CBOs	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs
	Start of Construction of the Project on Sanitary Improvement of Ghats (Toilets & SWM)	-Explanatory Meetings on the construction -Campaigns (Themes: Health, Sanitation, Wastewater & Solid waste, WTP, Urban issues)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of O/M for some of the facilities constructed by the LCS Project	-PP planning for the O/M of the facilities -Opening Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of O/M for some of the facilities constructed by the Project on the improvement of washing activities in river	-PP planning for the O/M of the facilities -Opening Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues)	-Communities involved -Washer men -NGOs/CBOs	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs
	Start of O/M for some of the facilities constructed by the Project on Sanitary Improvement of Ghats (Toilets & SWM)	-PP planning for the O/M of the facilities -Opening Campaigns Health, Sanitation, Wastewater & Solid waste, WTP, Urban issues)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics

Table 5.15 Basic Action Plan in Varanasi for Phase I (2004 –2010) (4) (Continued)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
2008	Start of the rehabilitation of Old trunk sewer	-Explanatory Meetings on the rehabilitation	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the augmentation of the Existing Pumping Station	-Explanatory Meetings on the augmentation -Observation tour to the Station with Target groups	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Completion of the augmentation of the Existing Pumping Station	-Explanatory Meetings on the Completion -Observation tour to the Station with Target groups	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of O/M for the remaining facilities constructed by the LCS Project	-PP planning for the O/M of the facilities -Opening Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	-Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Completion of the LCS Project	-Explanatory Meetings on the Completion -Evaluation Meetings for the projects	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of O/M for the remaining facilities constructed by the Project on the improvement of washing activities in river	-PP planning for the O/M of the facilities -Opening Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues)	-Communities involved -Washer men -NGOs/CBOs	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs
	Completion of the Project on the improvement of washing activities in river	-Explanatory Meetings on the Completion -Evaluation Meetings for the projects	-Communities involved -Washer men -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Completion of the rehabilitation of Old trunk sewer	-Explanatory Meetings on the Completion	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Completion of the rehabilitation of Ghat Pumping Stations	-Explanatory Meetings on the Completion -Observation tour to the Stations with Target groups	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Completion of the augmentation of the Existing Pumping Station	-Explanatory Meetings on the Completion -Observation tour to the Stations with Target groups	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
2009	Completion of a New Treatment Plant	-Explanatory Meetings on the Completion -Observation tour to the plant with Target groups	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of O/M for the remaining facilities constructed by the Project on Sanitary Improvement of Ghats (Toilets & SWM)	-PP planning for the O/M of the facilities -Opening Campaigns Health, Sanitation, Wastewater & Solid waste, WTP, Urban issues)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics

Table 5.16 Basic Action Plan in Varanasi for Phase 1 (2004 –2010) (5) (Continued)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
(2009)	Completion of the Project on Sanitary Improvement of Ghats (Toilets & SWM)	-Explanatory Meetings on the Completion -Evaluation Meetings for the projects	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
2010	Completion of the installation of relief trunk sewer	-Explanatory Meetings on the Completion	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Completion of the interceptor sewer for tapping	-Explanatory Meetings on the Completion	-Communities involved -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs

Table 5.17 Basic Action Plan in Allahabad for Phase 1 (2004 –2010) (I)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
2005	Start of the designing of the LCS Pilot Project	-PP designing -Explanatory Meetings on the project -Campaigns (Themes: Health, Sanitation, Wastewater, Mutual trust, Community issues)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of the designing of the Pilot Project on the Improvement of washing activities in river	-PP designing -Explanatory Meetings on the project -Campaigns (Themes: Health, Sanitation, washing wastewater, Burden Sharing Mutual trust, Community issues)	-Communities involved -Washer men -NGOs/CBOs	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs
2006	Completion of the construction of the LCS Pilot Project	-PP planning for the O/M of the facilities -Campaigns (Themes: Health, Sanitation, Wastewater, Mutual trust, Community issues, How to use the facilities)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Completion of the Pilot Project on the Improvement of washing activities in river	-PP planning for the O/M of the facilities -Campaigns (Themes: hygiene, Washing wastewater, Burden Sharing)	-Communities involved -Washer men -NGOs/CBOs	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs
	Start of the Planning & Designing of the LCS Project	-PP Planning & designing -Explanatory Meetings on the project -Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of Planning & Designing of the Project on the improvement of washing activities in river	-PP planning & designing -Explanatory Meetings -Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues)	-Communities involved -Washer men -NGOs/CBOs	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs

Table 5.18 Basic Action Plan in Allahabad for Phase 1 (2004 –2010) (2) (Continued)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
(2006)	Start of Planning & Designing of the Project on Sanitary Improvement of Ghats (Toilets & SWM)	PP for Planning & designing Explanatory Meetings on the project Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	Communities involved Women Students Tourists Pilgrims Funeral Attendees NGOs/CBOs	NRC, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
2007	Start of construction of the LCS Project	Explanatory Meetings on the construction Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	Communities involved Women Students Tourists Pilgrims Funeral Attendees NGOs/CBOs	NRC, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of construction of the Project on the improvement of washing activities in river	Explanatory Meetings on the construction Campaigns (Themes: Health, Sanitation, wastewater, WTP, Urban issues)	Communities involved Washer men NGOs/CBOs	NRC, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs
	Start of Construction of the Project on Sanitary Improvement of Ghats (Toilets & SWM)	Explanatory Meetings on the construction Campaigns (Themes: Health, Sanitation, Wastewater & Solid waste, WTP, Urban issues)	Communities involved Women Students Tourists Pilgrims Funeral Attendees NGOs/CBOs	NRC, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of O/M for some of the facilities constructed by the LCS Project	PP planning for the O/M of the facilities Opening Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	Communities involved Women Students Tourists Pilgrims Funeral Attendees NGOs/CBOs	NRC, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of O/M for some of the facilities constructed by the Project on the improvement of washing activities in river	PP planning for the O/M of the facilities Opening Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues)	Communities involved Washer men NGOs/CBOs	NRC, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs

Table 5.19 Basic Action Plan in Allahabad for Phase 1 (2004 –2010) (3) (Continued)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
2008	Start of Installation of Trunk Sewer	-Explanatory Meetings on the Installation	-Communities involved -NGOs/CBOs	NRCDD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the Installation of Branch Sewer	-Explanatory Meetings on the Installation	-Communities involved -NGOs/CBOs	NRCDD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the construction of pumping station for Tapping	-Explanatory Meetings on the construction -Observation tour to the station with Target groups	-Communities involved -NGOs/CBOs	NRCDD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the augmentation of the Existing treatment plant	-Explanatory Meetings on the augmentation -Observation tour to the plant with Target groups	-Communities involved -NGOs/CBOs	NRCDD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of house connection	-Explanatory Meetings on the connection -Campaigns (Themes: Health, Sanitation, Wastewater, WTP Urban issues)	-Communities involved -NGOs/CBOs	NRCDD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of O/M for some of the facilities constructed by the Project on Sanitary Improvement of Ghats (Toilets & SWM)	-PP planning for the O/M of the facilities -Opening Campaigns Health, Sanitation, Wastewater & Solid waste, WTP, Urban issues)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCDD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities, Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of O/M for the remaining facilities constructed by the LCS Project	-PP planning for the O/M of the facilities -Opening Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	-Communities involved -Women -Students -Tourists -Pilgrims -Funeral Attendees -NGOs/CBOs	NRCDD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities, Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Completion of the LCS Project	-Explanatory Meetings on the Completion -Evaluation Meetings for the projects	-Communities involved -NGOs/CBOs	NRCDD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of O/M for the remaining facilities constructed by the Project on the improvement of washing activities in river	-PP planning for the O/M of the facilities -Opening Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues)	-Communities involved -Washer men -NGOs/CBOs	NRCDD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs
	Completion of the Project on the improvement of washing activities in river	-Explanatory Meetings on the Completion -Evaluation Meetings for the projects	-Communities involved -Washer men -NGOs/CBOs	NRCDD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs

Table 5.20 Basic Action Plan in Allahabad for Phase 1 (2004 –2010) (4) (Continued)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
2009	Completion of the augmentation of the Existing Treatment Plant	<ul style="list-style-type: none"> - Explanatory Meetings on the Completion - Observation tour to the plant with Target groups 	<ul style="list-style-type: none"> - Communities involved - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of O/M for the remaining facilities constructed by the Project on Sanitary Improvement of Ghats (Toilets & SWM)	<ul style="list-style-type: none"> - PP planning for the O/M of the facilities - Opening Campaigns Health, Sanitation, Wastewater & Solid waste, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Pilgrims - Funeral Attendees - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Completion of the Project on Sanitary Improvement of Ghats (Toilets & SWM)	<ul style="list-style-type: none"> - Explanatory Meetings on the Completion - Evaluation Meetings for the projects 	<ul style="list-style-type: none"> - Communities involved - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
2010	Completion of the pumping station for tapping	<ul style="list-style-type: none"> - Explanatory Meetings on the Completion - Observation tour to the station with Target groups 	<ul style="list-style-type: none"> - Communities involved - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs

Table 5.21 Basic Action Plan in Lucknow for Phase 1 (2004 –2010) (1)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
2005	Start of the designing of the LCS Pilot Project	<ul style="list-style-type: none"> - PP designing - Explanatory Meetings on the project - Campaigns (Themes: Health, Sanitation, Wastewater, Mutual trust, Community issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of the designing of the Pilot Project on the Improvement of washing activities in river	<ul style="list-style-type: none"> - PP designing - Explanatory Meetings on the project - Campaigns (Themes: Health, Sanitation, washing wastewater, Burden Sharing Mutual trust, Community issues) 	<ul style="list-style-type: none"> - Communities involved - Washer men - NGOs/CBOs 	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs
2006	Completion of the construction of the LCS Pilot Project	<ul style="list-style-type: none"> - PP planning for the O/M of the facilities - Campaigns (Themes: Health, Sanitation, Wastewater, Mutual trust, Community issues, How to use the facilities) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Completion of the Pilot Project on the Improvement of washing activities in river	<ul style="list-style-type: none"> - PP planning for the O/M of the facilities - Campaigns (Themes: hygiene, Washing wastewater, Burden Sharing) 	<ul style="list-style-type: none"> - Communities involved - Washer men - NGOs/CBOs 	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs
	Start of the Planning & Designing of the LCS Project	<ul style="list-style-type: none"> - PP Planning & designing - Explanatory Meetings on the project - Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of Planning & Designing of the Project on the improvement of washing activities in river	<ul style="list-style-type: none"> - PP planning & designing - Explanatory Meetings - Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Washer men - NGOs/CBOs 	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs

Table 5.22 Basic Action Plan in Lucknow for Phase 1 (2004 –2010) (2) (Continued)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
(2006)	Start of Planning & Designing of the Project on Sanitary Improvement of Ghats (Toilets & SWM)	<ul style="list-style-type: none"> - PP for Planning & designing - Explanatory Meetings on the project - Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs 	<p>NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics</p>
2007	Start of construction of the LCS Project	<ul style="list-style-type: none"> - Explanatory Meetings on the construction - Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Pilgrims - Funeral Attendees - NGOs/CBOs 	<p>NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs</p>
	Start of construction of the Project on the improvement of washing activities in river	<ul style="list-style-type: none"> - Explanatory Meetings on the construction - Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Washer men - NGOs/CBOs 	<p>NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs</p>
	Start of Construction of the Project on Sanitary Improvement of Ghats (Toilets & SWM)	<ul style="list-style-type: none"> - Explanatory Meetings on the construction - Campaigns (Themes: Health, Sanitation, Wastewater & Solid waste, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Pilgrims - Funeral Attendees - NGOs/CBOs 	<p>NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs</p>
	Start of O/M for some of the facilities constructed by the LCS Project	<ul style="list-style-type: none"> - PP planning for the O/M of the facilities - Opening Campaigns (Themes: h Health, Sanitation, Wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Pilgrims - Funeral Attendees - NGOs/CBOs 	<p>NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs</p>

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
	Start of O/M for some of the facilities constructed by the Project on the improvement of washing activities in river	<ul style="list-style-type: none"> - PP planning for the O/M of the facilities - Opening Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Washer men - NGOs/CBOs 	NRC, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs

Table 5.23 Basic Action Plan in Lucknow for Phase 1 (2004 –2010) (3) (Continued)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
2008	Start of Installation of Trunk Sewer	- Explanatory Meetings on the Installation	- Communities involved - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the Installation of Branch Sewer	- Explanatory Meetings on the Installation	- Communities involved - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of Installation of Interceptor Sewers for Tapping	- Explanatory Meetings on the Installation	- Communities involved - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the construction of pumping station for tapping	- Explanatory Meetings on the construction - Observation tour to the station with Target groups	- Communities involved - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the construction of a treatment plant	- Explanatory Meetings on the construction - Observation tour to the station with Target groups	- Communities involved - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of house connection	- Explanatory Meetings on the connection - Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	- Communities involved - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of O/M for some of the facilities constructed by the Project on Sanitary Improvement of Ghats (Toilets & SWM)	- PP planning for the O/M of the facilities - Opening Campaigns Health, Sanitation, Wastewater & Solid waste, WTP, Urban issues)	- Communities involved - Women - Students - Tourists - Pilgrims - Funeral Attendees - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs
	Start of O/M for the remaining facilities constructed by the LCS Project	- PP planning for the O/M of the facilities - Opening Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	- Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Completion of the LCS Project	- Explanatory Meetings on the Completion - Evaluation Meetings for the projects	- Communities involved - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
	Start of O/M for the remaining facilities constructed by the Project on the improvement of washing activities in river	<ul style="list-style-type: none"> - PP planning for the O/M of the facilities - Opening Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Washer men - NGOs/CBOs 	<p>NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs</p>
	Completion of the Project on the improvement of washing activities in river	<ul style="list-style-type: none"> - Explanatory Meetings on the Completion - Evaluation Meetings for the projects 	<ul style="list-style-type: none"> - Communities involved - Washer men - NGOs/CBOs 	<p>NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs</p>

Table 5.24 Basic Action Plan in Lucknow for Phase 1 (2004 –2010) (4) (Continued)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
2009	Completion of the construction of the pumping station for tapping	<ul style="list-style-type: none"> - Explanatory Meetings on the Completion - Observation tour to the station with Target groups 	<ul style="list-style-type: none"> - Communities involved - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of O/M for the remaining facilities constructed by the Project on Sanitary Improvement of Ghats (Toilets & SWM)	<ul style="list-style-type: none"> - PP planning for the O/M of the facilities - Opening Campaigns Health, Sanitation, Wastewater & Solid waste, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Completion of the Project on Sanitary Improvement of Ghats (Toilets & SWM)	<ul style="list-style-type: none"> - Explanatory Meetings on the Completion - Evaluation Meetings for the projects 	<ul style="list-style-type: none"> - Communities involved - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
2010	Completion of the interceptor sewer for tapping	<ul style="list-style-type: none"> - Explanatory Meetings on the Completion 	<ul style="list-style-type: none"> - Communities involved - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Completion of the treatment plant	<ul style="list-style-type: none"> - Explanatory Meetings on the Completion - Observation tour to the plant with the target groups 	<ul style="list-style-type: none"> - Communities involved - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs

Table 5.25 Basic Action Plan in Kanpur for Phase 1 (2004 –2010) (I)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
2005	Start of the designing of the LCS Pilot Project	<ul style="list-style-type: none"> - PP designing - Explanatory Meetings on the project - Campaigns (Themes: Health, Sanitation, Wastewater, Mutual trust, Community issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of the designing of the Pilot Project on the Improvement of washing activities in river	<ul style="list-style-type: none"> - PP designing - Explanatory Meetings on the project - Campaigns (Themes: Health, Sanitation, washing wastewater, Burden Sharing Mutual trust, Community issues) 	<ul style="list-style-type: none"> - Communities involved - Washer men - NGOs/CBOs 	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs
	Completion of the construction of the LCS Pilot Project	<ul style="list-style-type: none"> - PP planning for the O/M of the facilities - Campaigns (Themes: Health, Sanitation, Wastewater, Mutual trust, Community issues, How to use the facilities) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
2006	Completion of the Pilot Project on the Improvement of washing activities in river	<ul style="list-style-type: none"> - PP planning for the O/M of the facilities - Campaigns (Themes: hygiene, Washing wastewater, Burden Sharing) 	<ul style="list-style-type: none"> - Communities involved - Washer men - NGOs/CBOs 	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs
	Start of the Planning & Designing of the LCS Project	<ul style="list-style-type: none"> - PP Planning & designing - Explanatory Meetings on the project - Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of Planning & Designing of the Project on the improvement of washing activities in river	<ul style="list-style-type: none"> - PP planning & designing - Explanatory Meetings - Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Washer men - NGOs/CBOs 	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs

Table 5.26 Basic Action Plan in Kanpur for Phase 1 (2004 –2010) (2) (Continued)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
(2006)	Start of Planning & Designing of the Project on Sanitary Improvement of Ghats (Toilets & SWM)	<ul style="list-style-type: none"> - PP for Planning & designing - Explanatory Meetings on the project - Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
2007	Start of construction of the LCS Project	<ul style="list-style-type: none"> - Explanatory Meetings on the construction - Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of construction of the Project on the improvement of washing activities in river	<ul style="list-style-type: none"> - Explanatory Meetings on the construction - Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Washer men - NGOs/CBOs 	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs
	Start of Construction of the Project on Sanitary Improvement of Ghats (Toilets & SWM)	<ul style="list-style-type: none"> - Explanatory Meetings on the construction - Campaigns (Themes: Health, Sanitation, Wastewater & Solid waste, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of O/M for some of the facilities constructed by the LCS Project	<ul style="list-style-type: none"> - PP planning for the O/M of the facilities - Opening Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of O/M for some of the facilities constructed by the Project on the improvement of washing activities in river	<ul style="list-style-type: none"> - PP planning for the O/M of the facilities - Opening Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Washer men - NGOs/CBOs 	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs

Table 5.27 Basic Action Plan in Kanpur for Phase 1 (2004 –2010) (3) (Continued)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
2008	Start of Installation of Trunk Sewer	- Explanatory Meetings on the Installation	- Communities involved - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the Installation of Branch Sewer	- Explanatory Meetings on the Installation	- Communities involved - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the construction of pumping stations	- Explanatory Meetings on the construction - Observation tour to the stations with Target groups	- Communities involved - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of the construction of a treatment plant	- Explanatory Meetings on the construction - Observation tour to the station with Target groups	- Communities involved - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of house connection	- Explanatory Meetings on the connection - Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	- Communities involved - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of O/M for some of the facilities constructed by the Project on Sanitary Improvement of Ghats (Toilets & SWM)	- PP planning for the O/M of the facilities - Opening Campaigns Health, Sanitation, Wastewater & Solid waste, WTP, Urban issues)	- Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Start of O/M for the remaining facilities constructed by the LCS Project	- PP planning for the O/M of the facilities - Opening Campaigns (Themes: Health, Sanitation, Wastewater, WTP, Urban issues)	- Communities involved - Women - Students - Tourists - Funeral Attendees - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs, Religious Leaders, Clerics
	Completion of the LCS Project	- Explanatory Meetings on the Completion - Evaluation Meetings for the projects	- Communities involved - NGOs/CBOs	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Start of O/M for the remaining facilities constructed by the Project on the improvement of washing activities in river	- PP planning for the O/M of the facilities - Opening Campaigns (Themes: Health, Sanitation, washing wastewater, WTP, Urban issues)	- Communities involved - Washer men - NGOs/CBOs	NRCD, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, NGOs, CBOs

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
	Completion of the Project on the improvement of washing activities in river	<ul style="list-style-type: none"> - Explanatory Meetings on the Completion - Evaluation Meetings for the projects 	<ul style="list-style-type: none"> - Communities involved - Washer men - NGOs/CBOs 	NRC, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs

Table 5.28 Basic Action Plan in Kanpur for Phase 1 (2004 –2010) (4) (Continued)

Year	Proposed Projects	Possible Actions	Possible Target Groups	Possible Actors to be involved
2009	Start of O/M for the remaining facilities constructed by the Project on Sanitary Improvement of Ghats (Toilets & SWM)	<ul style="list-style-type: none"> - PP planning for the O/M of the facilities - Opening Campaigns Health, Sanitation, Wastewater & Solid waste, WTP, Urban issues) 	<ul style="list-style-type: none"> - Communities involved - Women - Students - Tourists - Pilgrims - Funeral Attendees - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Mass Media, Communities, Health Posts/Centres, Hotels, Tourism Authorities Schools, NGOs, CBOs, Women's Associations, PTAs
	Completion of the Project on Sanitary Improvement of Ghats (Toilets & SWM)	<ul style="list-style-type: none"> - Explanatory Meetings on the Completion - Evaluation Meetings for the projects 	<ul style="list-style-type: none"> - Communities involved - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
2010	Completion of the pumping stations	<ul style="list-style-type: none"> - Explanatory Meetings on the Completion - Observation tour to the stations with the target groups 	<ul style="list-style-type: none"> - Communities involved - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs
	Completion of the treatment plant	<ul style="list-style-type: none"> - Explanatory Meetings on the Completion - Observation tour to the plant with the target groups 	<ul style="list-style-type: none"> - Communities involved - NGOs/CBOs 	NRCD, UP Jal Nigam, Nagar Nigam, Communities, Local Mass Media, NGOs, CBOs

Appendix A

APPENDIX A

Social Consideration and Hygiene Education

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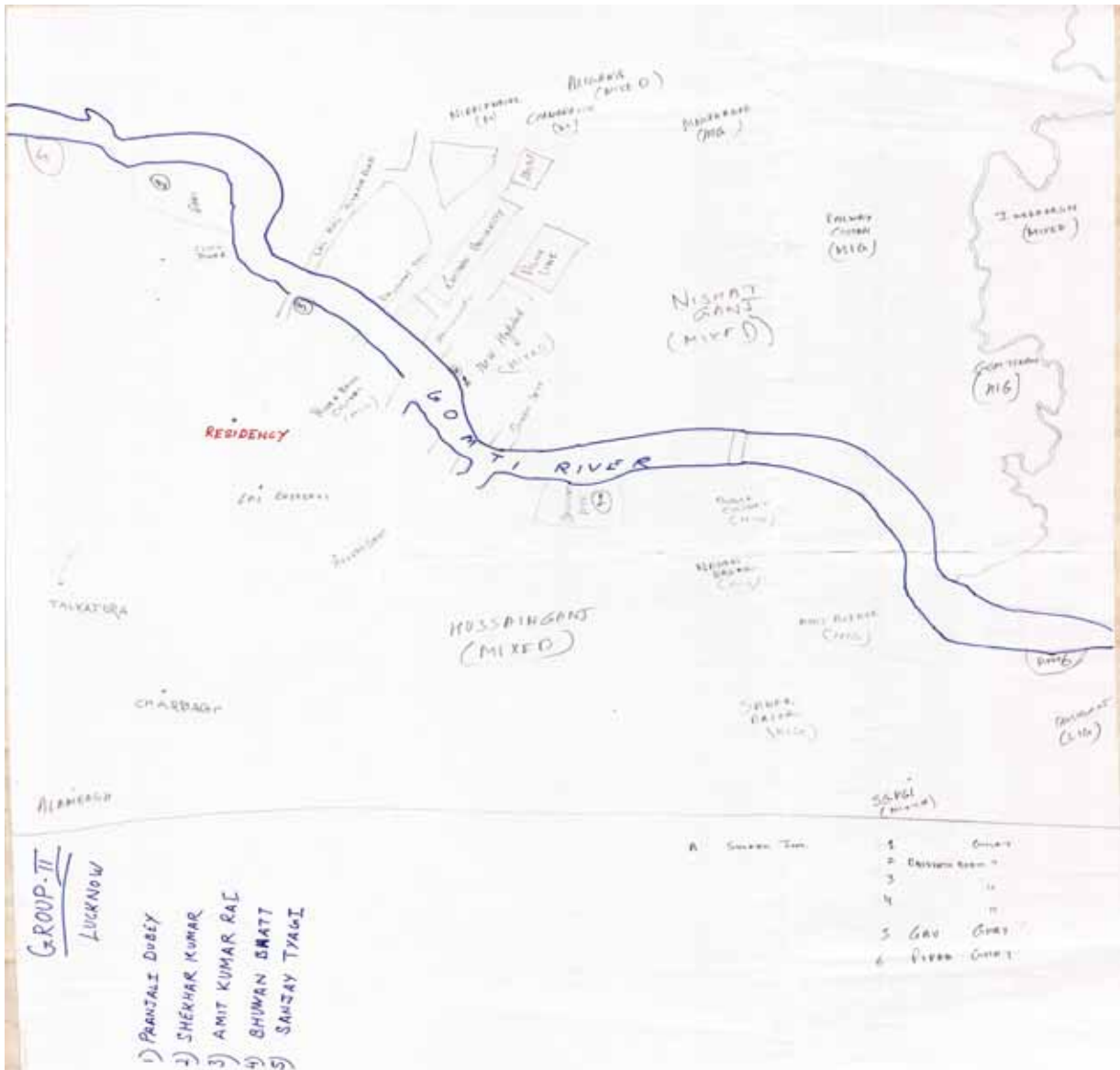
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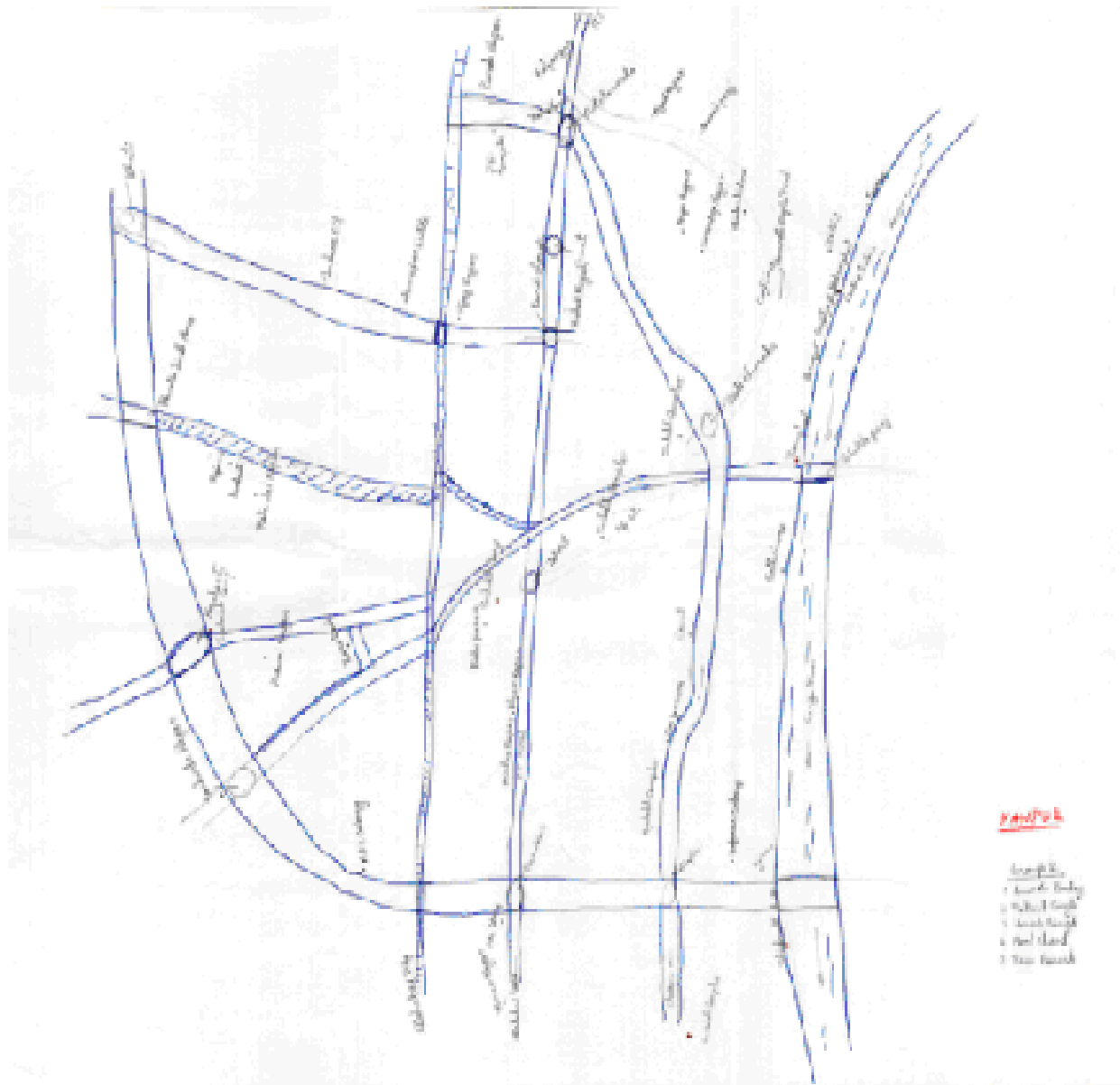
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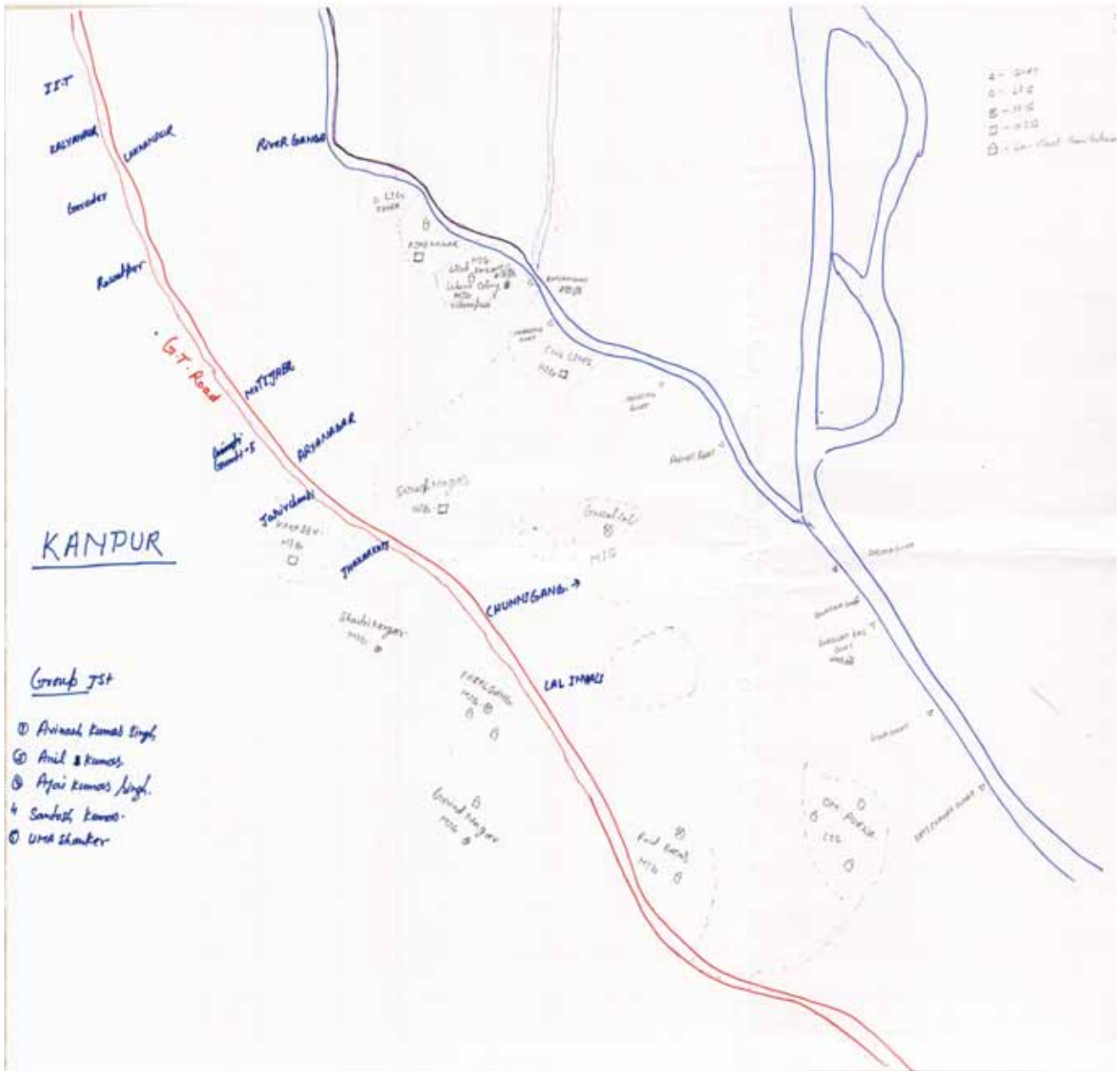
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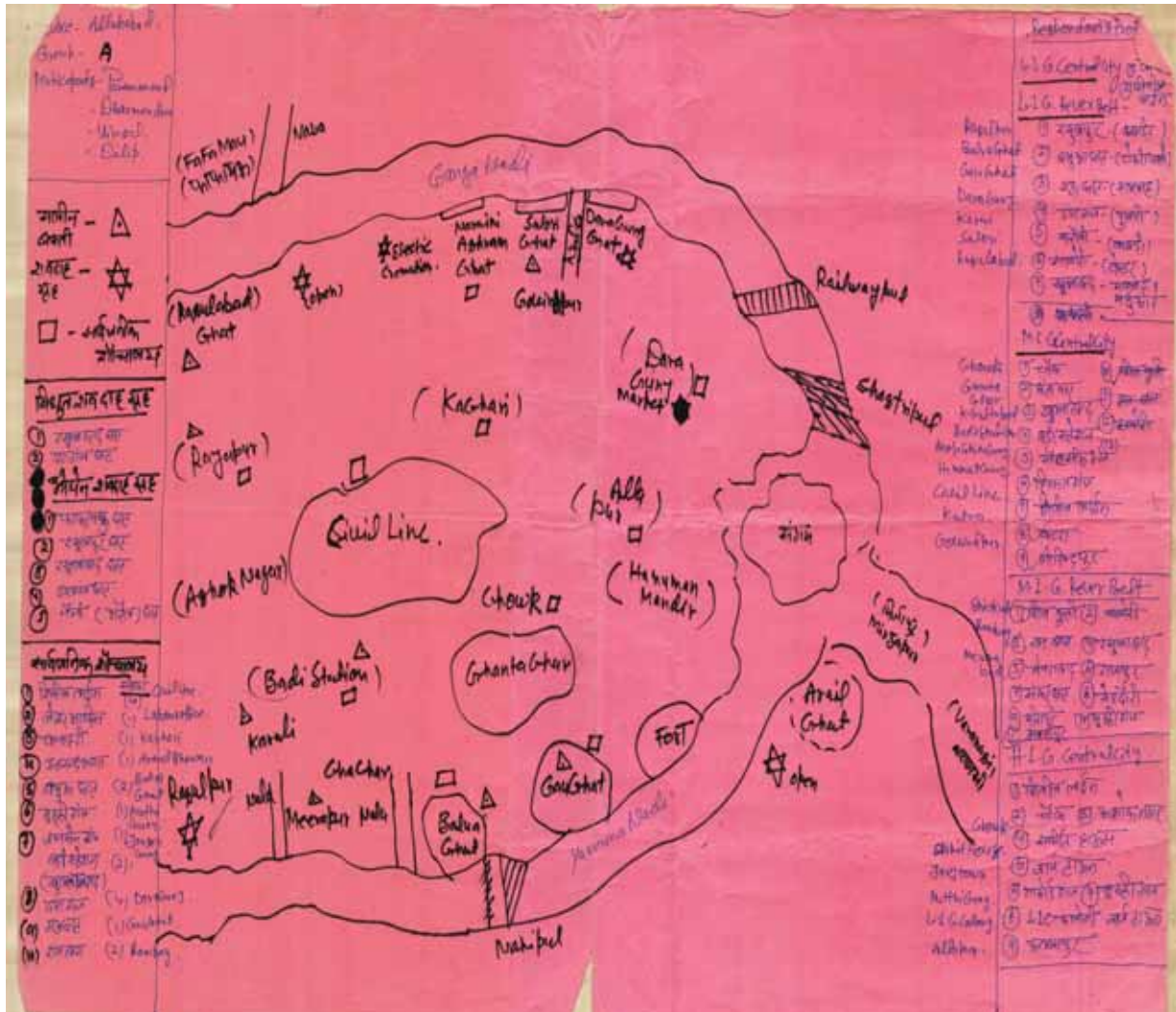
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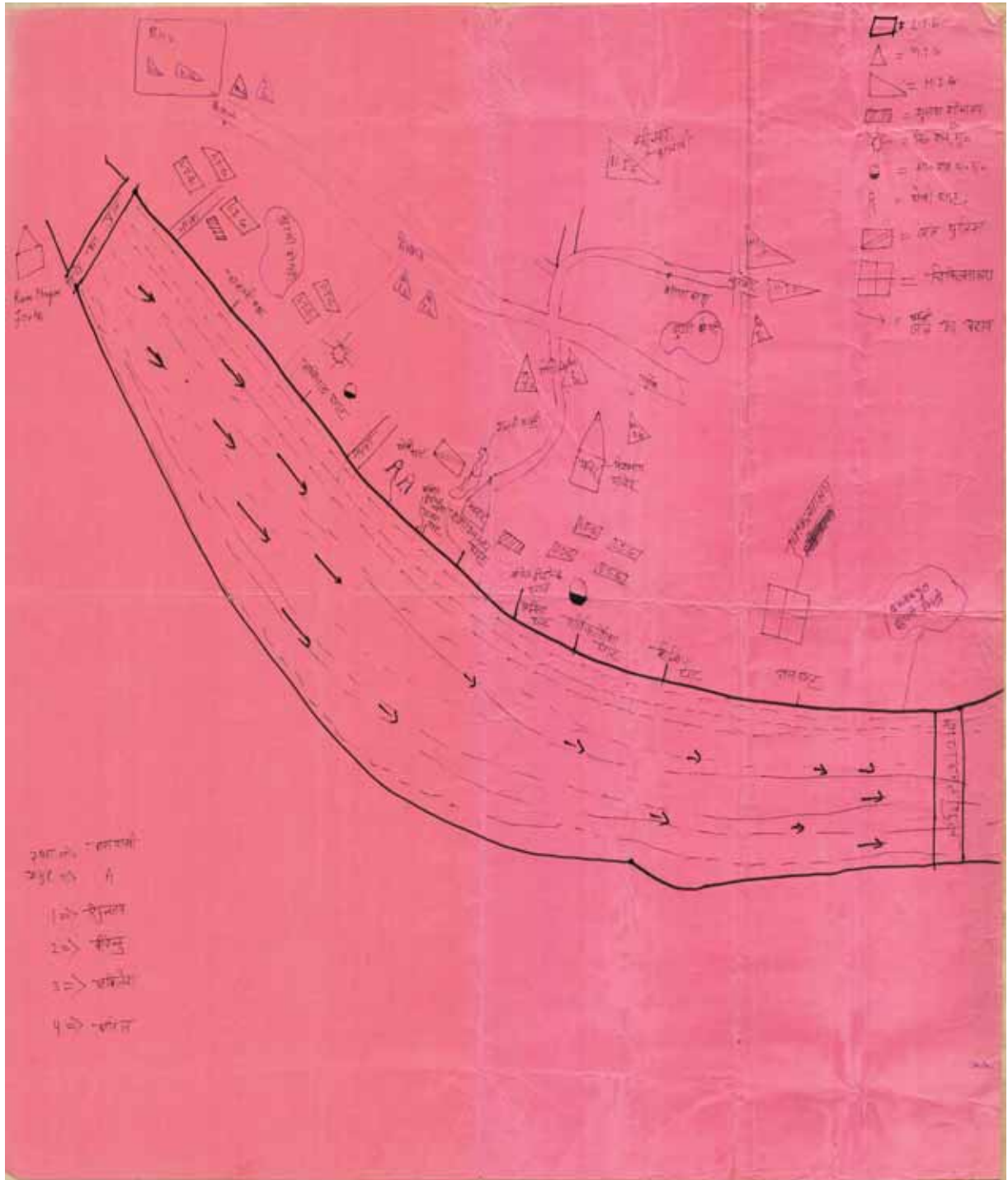
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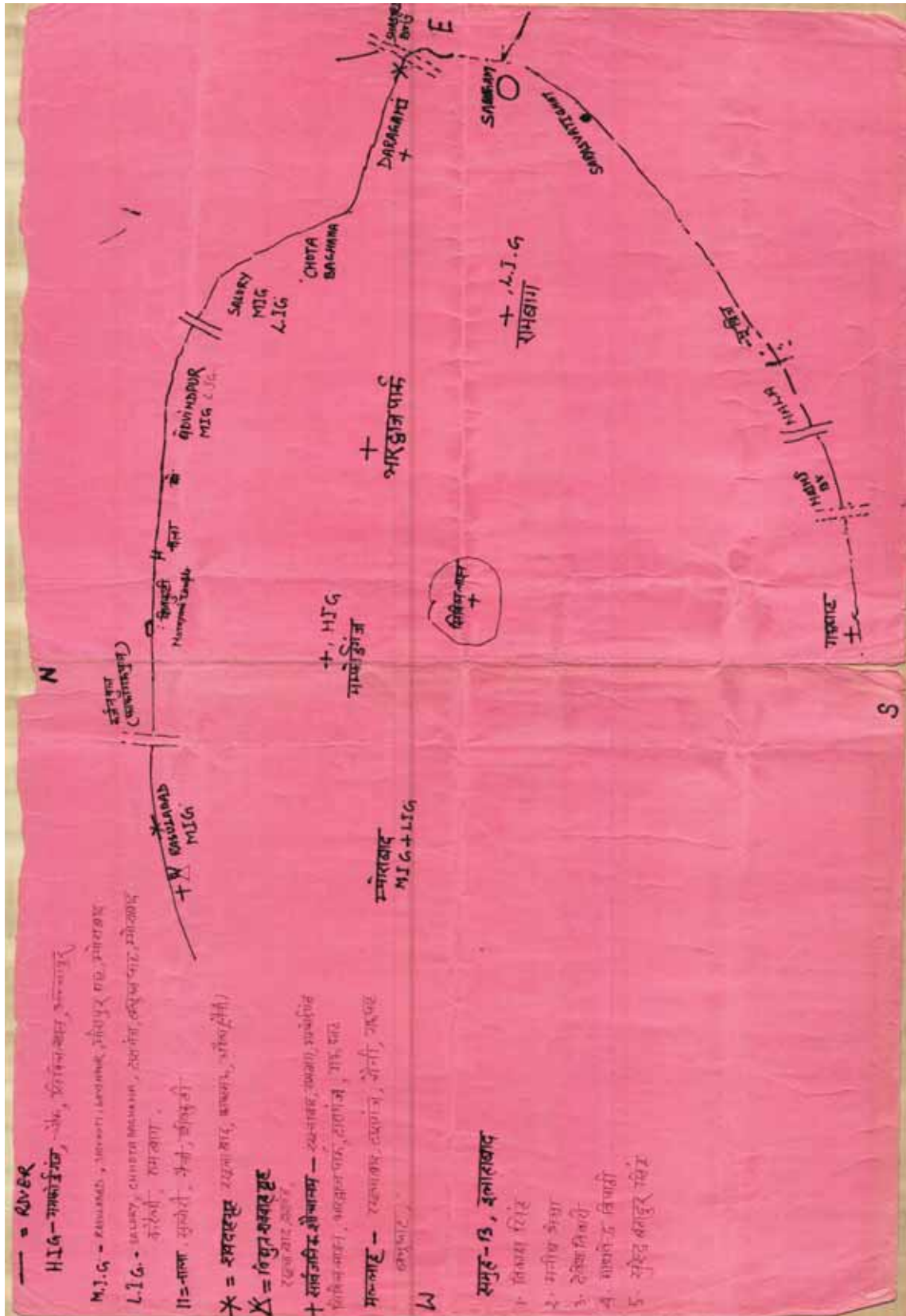
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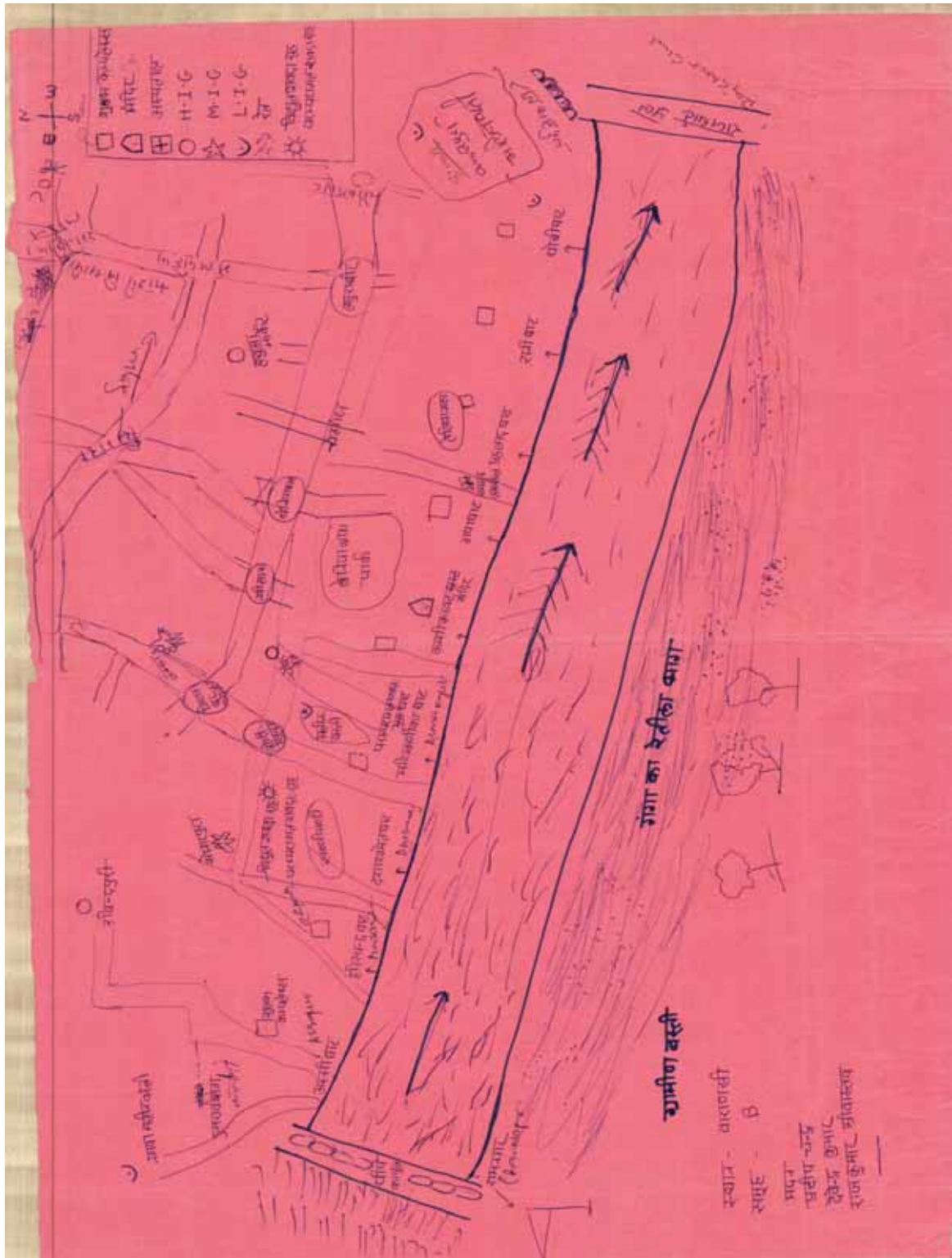
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Varanasi – Public Awareness Survey Map by Group – II



2. THE QUESTIONNAIRES

2.1 HOUSEHOLD SURVEY

**Water Quality Management Plan for Ganga River
Assessment of Public Awareness (Household)**

Questionnaire

Survey Town: (1.Allahabad 2.Kanpur 3. Lucknow 4. Varanasi)

Questionnaire No.	Date(/ /2003)	Site ID()	Surveyor ()	Leader ()
Questions		Answer		
Q1 Respondent Profile				
Q1 - a Personal Profile				
Q1 - a - 1	Name			
Q1 - a - 2	Status in family	1.Head of household	2.Housewife	3.Retired Elderly 4. Children 5. Others (Specify)
Q1 - a - 3	Sex (M/F)	1. Male	2. Female	
Q1 - a - 4	Age	()		
Q1 - a - 5	Religion	1. Hinduism	2. Muslim	3. Sikhism 4. Buddhist 5.Jaina 6.Others ()
Q1 - a - 6	Occupation	1.Farmer/ Agriculture	2.Commerce/ Business	3.Government/ City Official 4.Private office employee 5. Factory/Industry employee 6.Agricultural Labor/ peasant
Q1 - a - 7	Marital status	7. No job/ Unemployed	8. Others (Specify)	
Q1 - a - 8	Educational Status	1. Married	2. Unmarried	
Q1 - a - 9	(For respondents answered 1. & 2. Above) Can you read/write Hindu ?	1. No educational background	2.Withdrew from Primary school	3. Primary school 4.Jr. high school(Middle) 5.Senior high school (10th-12th) 6.College/University (Graduate/Above) 7.Others (Specify.)
Q1 - a - 9	(For respondents answered 1. & 2. Above) Can you read/write Hindu ?	1. Yes	2. No	
Q1 - b Family Profile of the respondent				
Q1 - b - 1	Total number of family members	Male ()	Female ()	Adults () Children ()
Q1 - b - 2	Whether Joint Family?	1. Yes	2. No	
Q1 - b - 3	Average monthly income of the household	(Rs.)		
Q1 - b - 4	Average Household Expenditure/Month	(Rs.)		
Q1 - b - 5	What do you spent more on ?	1.Food (Rs)	2. Housing (Rs)	3. Water and electricity expense (Rs)
		4. Others (if any) (items) (Rs)		
Q2 House Profile of the respondent				
Q2 - 1	Is it your own house?	1. Yes	2. No	
Q2 - 2	How many years have you been living in this house (Number of years)?	1. <2 years	2. 3-5 years	3. 10 years 4.10-20 years 6. >20 years ()
Q2 - 3	Number of rooms in the house?	1. One room	2. Two rooms	3. Three rooms 4. Four rooms 5. Five rooms 4. More()
Q2 - 4	Have you farm animals in your house?	1. Yes	2. No	
Q2 - 5	If yes, what kind of animals and how many heads ?	1.Cows (y/n)	2. Goats (y/n)	3. Baffallos(y/n) 4. Hens (chicken) (y/n) 5. Donkey (y/n) 6. Pigs (y/n)
		()	()	() () () ()
		7. Horses (y/n)	8. Others (specify)	
		()	()	
Q3 Water & wastewater issues				
Q3 - 1	What is the source of drinking water in your household?	1. Own Tap water	2. Own hand pump	3. Own Open well 4. Community Water 5.Communal Well 6. Water Vender* Supply
Q3 - 2	Do you know the source of water supply to your household?	7. River water	6. Rain water	7. Others (Specify)
Q3 - 3	Do you treat the water before drinking?	1. River	2. Ground water	3. Public water supply 4. Others () 5. Don't know
Q3 - 4	Do you treat the water before drinking?	1. Yes	2. No	
Q3 - 4	If yes, how?	1. Boiling	2. Filtering	3. Chlorination 4. Boiling + Filtering 5. Boiling + Chlorination 6. Filtering + Chlorination 7. Boiling + Filtering + Chlorination 8. Others (Specify)
Q3 - 5	Do you occasionally drink river water directly from the river?	1. Yes	2. No	
Q3 - 6	If yes, why?	1. Religious feeling	2. Any other reason (Specify)	3. Don't know
Q3 - 7	If not, why?	1. River water is too Polluted	2. Have adequate drinking water at home	3. Others(Specify)
Q3 - 8	Where do you take a bath daily?	1. In house	2. Community wells	3. Public Toilet 4. A river 5. Others (Specify)
Q3 - 9	Where do you wash your clothes?	1. In house	2. Community wells	3. Public Toilet 4. A river 5. Others (Specify)
Q3 - 10	Who is responsible for managing water in your house?	1. Head of Household	2.Housewife	3.Retired Elderly 4. Children 5. Others (Specify)
Q3 - 11	Does your house connect with an existing sewerage system?	1. Yes	2. No	3. Don't know
Q3 - 12	Do you pay for charges of the sewerage system?	1. Yes	2. No	3. Don't know
Q3 - 13	If yes, how much do you pay for the charge the wastewater treatment services?	Rs /month		
Q3 - 14	How do you pay such the charge?	1. Including in the Property Tax.	2. Surcharge on the water charge	3. Pay directly to municipality 4. Others (Specify)
Q3 - 15	If not connected sewerage systems, where does your domestic waste water flows?	1. Directly to open drain	2. Flows unmanaged across the area	3. Flow directly into the river 4.Others (Specify)
Q3 - 16	If wastewater treatment services with a suitable sewerage system will be established in your area, will you be willing to pay for this?	1. Yes	2. No	3. Don't know
Q3 - 17	If yes, how much can you pay for it monthly?	Rs /month		
Q3 - 18	Who has responsibility for de-sludging drainages and road side gutters in your area?	1.City Services	2. Your Community	3. The nearest houses 4. Yourself alone 5. No services at all 6. don't know 7. Others ()

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Q4 Solid Waste								
Q4 - 1	How do you dispose domestic waste of your household?	1. Collection by Municipality services	2. Contracted with a private collection service company	3. Dispose on roads/gali	4. Dispose in rivers	5. Others (Specify)		
Q4 - 2	If dispose on Road /Gali, why?	1. No facility for collection		2. Not aware of the facility		3. Others (Specify)		
Q4 - 3	Do you have any other system for solid waste management in addition to above mentioned?	1. Yes 2. No						
Q4 - 4	If yes, what kind of?	1. Burying	2. Burning	3. Animal feeding of organic waste	4. Composting of organic waste	5. Selling valuable waste like metals	6. Others ()	
Q4 - 5	Who is responsible for solid waste management in your house?	1. Head of Household	2. Housewife	3. Retired Elderly	4. Children	5. Maid-servent/servent	6. Others ()	
Q4 - 6	What do you think is the most important problem to be resolved in the city in order to improve your environmental & sanitary conditions?	1. Cleansing of public place	2. Waste collection services	3. Health care services	4. Drainage water	5. Waste water	6. Can't say	
Q4 - 7	How do you deposit domestic waste in your house?	1. In buckets	2. In Plastic Bags	3. In unglazed potteries	4. In baskets	5. don't know	6. Others ()	
Q4 - 8	If you are requested to separate your solid waste into organic, non-organic and others for improving public solid waste management services by your municipality, can you cooperate in such a separation activities?	1. Yes	2. No	3. Don't know	<i>Note) Interviewees shall explain briefly the meaning of waste separation to respondents on this question.</i>			
Q4 - 9	In order to improve present solid waste management services by your municipality, would you be willing to pay to contribute to the improvement?	1. Yes	2. No	3. Don't know				
Q4 - 10	If yes, how much do you pay for the contribution?	1. <10Rs/month	2. 10-30 Rs/month	3. 30-50Rs/month	4. 50-100Rs/month	<i>Note): Surveyor is advised to fill the figure himself and not to give options to respondent.</i>		
		5.>100Rs/month	6. Others (Specify)	7. don't know				
Q5 Sanitation								
Q5 - 1	Where do you go for toilets?	1. Own toilet	2. Public toilet	3. Open field	4. Rivers	5. Others()		
Q5 - 2	If own toilet, then what kind of toilet you have in your house?	1. Pour Flash Latrine	2. Kuccha	3. Bore hole Toilet	4. No toilet	5. Others()		
Q5 - 3	Whether your toilet is connect to sewer line	1. Yes 2. No						
Q5 - 4	If no, what kind of treatment facility connects to your toilet?	1. Septic tank	2. Direct discharge to drainage		3. Community sewer	4. Others()	5. Don't know	
Q5 - 5	Do you know that the open defecation is hazardous for health and environment?	1. Yes 2. No						
Q5 - 6	Is there any public toilet in your neighborhood ?	1. Yes 2. No						
Q5 - 7	If yes, do you use it?	1. Yes 2. No						
Q5 - 8	If yes, how often	1. Everyday		2. Sometimes		3. Rarely		
Q5 - 9	If no, why?	1. Have to pay		2. Not clean		3. Privacy factors		
		6. Have to wait		7. Any other (specify)		4. Don't Like 5. Far from the place of residence		
Q5 - 10	In case there are no public toilets in you area, do you think there is need for such facilities in your area ?	1. Yes 2. No 3. Don't know						
Q5 - 11	If yes, would you like to pay for using the public toilets?	1. Yes 2. No 4. Don't know						
Q5 - 12	If yes, how much will be the affordable price to pay for using the public toilet?	1. 50 Paise		2. Rs. 1		3. Other (Specify) 4. Can't say		
Q6 Health & hygiene								
Q6 - 1	Did any major illness suffered in your family in last one year?	1. Yes 2. No						
Q6 - 2	If yes, any of the given	1. Malaria	2. General Diarrhea	3. Dysentery	4. Cholera	5. Skin disease	6. Typhoid	
		7. Trachoma	8. Schistosomiasis	9. kala-azar (leishmaniaysis)	10. Ascariasis	11. Tapeworm	12. Others()	
Q6 - 3	What do you do first in case of illness?	1. Go to hospital	2. Go to the nearest Health Center	3. Go to a pharmacy to get	4. Self medication and Treatment	5. Consult Ojha	6. Ayurvedic medicine	
Q6 - 4	Who takes care of health in your household?	1. Housewife		2. Head of the family		3. Retired elderly 4. Any other		
Q6 - 5	What kind of role?	1. Daily hygiene education of children		2. Care for drinking and cooking water		3. Cleansing of toilets and yard		
		4. Cleansing of kitchen		5. Care for family health		6. Others()		
Q6 - 6	When do you wash your hands in your house?	1. After defecation		2. After urination		3. Before cooking		
		4. Before eating		5. After taking care of babies		6. Before praying		
Q6 - 7	How do you wash your hands?	1. Water only 2. Water with soap					3. Ash	4. Sand
							5. Others(specify)	
Q6 - 8	Do your children receive any information at school about health & hygiene?	1. Yes 2. No 3. Don't Know						
Q6 - 9	Have you ever received any information about health & hygiene before?	1. Yes 2. No						
Q6 - 10	If yes, from whom?	1. Govt/city Department	2. Panchayat/ Community base Institutions	3. Hospitals	4. Health Centers	5. Pharmacies	6. Mass Media (TV/Radio/Papers)	
		7. NGOs		8. Religious places like temples or shrines		9. Religious leaders		
		10. Ayurvedic healers		11. Others(specify)				
Q6 - 11	Type of advice?	1. To dispose of the household waste correctly in Authorized places.						
		2. To maintain roads and public areas clean (waste-bin, yard, toilets).						
		3. To Adopt hygiene rules in the household (hands & body hygiene)						
		4. To avoid drinking river waster directly						
		5. Don't know						
		6. Others (specify)						

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Q7 River Pollution	
Q7 - 1	Do you think the river's water is polluted? 1. Yes 2. No
Q7 - 2	Since how long have you identified that river's water has been polluted? 1. 3 Years 2. 5 Years 3. 10 Years 4. Others (specify) 5. Don't know
Q7 - 3	What do you think is the major cause of pollution in the river? (Note down two important causes). 1. Municipal solid waste 2. Untreated sewage flowing in the river 3. Open defecation/ Urination 4. Animal waste 5. Cremated remains 6. Bathing in the river 7. Washing in the river 8. Don't know 9. Others(specify)
Q7 - 4	What are the appropriate measures you suggest for reduction of river's pollution load? 1. Construction of toilet facilities 2. Improving solid waste management mechanism 3. Improving sewerage systems 4. Improving Crematory facilities 5. Heightening public awareness on environmental & sanitation 7. Others (specify)
Q7 - 5	Would you like to contribute to any such programs for reducing river pollution? 1. Yes 2. No
Q7 - 6	If yes, how? 1. Physical contribution 2. Financial Contribution (Rs.) 3. Others (Specify)
Q7 - 7	Have you ever participated in river pollution control activities? 1. Yes 2. No
Q7 - 8	If yes, what way? 1. Contributing money to the related official entities 2. Contributing money to the related NGOs 3. Discussing the issues with communities. 4. Participated in de-sludging and river cleansing activities 5. Claimed to the city officials 6. Others()
Q8 Participation, behavior and perception	
Q8 - 1	Have you ever participated in cleanliness and related campaigns? 1. Yes 2. No
Q8 - 2	If yes, who did participate among the members of your family? 1. Adult women (housewife) 2. Adult men 3. Children 4. Young 5. Others()
Q8 - 3	If women do not participate, why? 1. Not the task of women 2. Family restrictions/ Parda 3. Any other 4. Don't say
Q8 - 4	How do you receive the information when an awareness campaign is launched? 1. Newspaper 2. Radio 3. TV set 4. Direct contact taken by the municipal officials 5. Women's /Youth /Community Associations 7. Health centers 8. Hospitals 9. Community leader 10. Children's school 11. Others(specify)
Q8 - 5	Do you think that these campaigns are useful and should be reinforced? 1. Yes 2. No 3. Don't know
Q8 - 6	Does anyone in your household, belong to any community group, active in the field of environment/ sanitation? 1. Yes 2. No 3. Don't know
Q8 - 7	If yes, type of groups 1. Community association 2. Youth Clubs 3. Panchayat 4. Others(specify)
Q8 - 8	Do you want any awareness programme to be carried out in your area on sanitation and environment? 1. Yes 2. No
Q8 - 9	If yes, which theme of awareness you prefer? 1. Health & hygiene 2. Sanitation 3. Solid Waste & cleanliness 4. Environment 5. Don't know 6. Others()
Q8 - 10	If yes, which medium of awareness you prefer? 1. Audio-visual (Film) 2. Folk media 3. Discussion /Talk 4. Any other 5. Can't say
Q8 - 11	Would you be willing to participate in the environment & sanitation awareness campaign? 1. Yes 2. No 3. Can't say/ Not sure
Q8 - 12	Have you ever contacted to the municipality about your sanitation problems? 1. Yes 2. No 3. Don't know
Q8 - 13	If yes, objects of the complaint? 1. Lack of waste collection 2. Lack of protection against river pollution 3. State of unsalubrity of streets 4. Others(specify)
Q8 - 14	If you did suffer some problems but did not complain, why did you not complain? 1. Useless 2. Lack of motivation 3. Postponed 4. Others(specify)

2.2 FACILITY SURVEY

Water Quality Management Plan for Ganga River Assessment of Public Awareness (Facility)

Questionnaire

Respondents No.	Survey Site ID	Date	Surveyor
	Name of the town	(1.Allahabad 2.Kanpur 3. Lucknow 4. Varanasi)	
Q1 Respondent Personal Profile			
Q1 - 1	Name		
Q1 - 2	Sex (M/F)	1. Male 2. Female	
Q1 - 3	Age	()	
Q1 - 4	Religion	1. Hinduism 2. Muslim 3. Sikhism 4. Buddhist 5. Jaina 6. Others ()	
Q1 - 5	Occupation	1. Farmer/ Agriculture 2. Commerce / Business 3. Government/ City official 4. Private office employee 5. Factory/Industry employee 6. Agricultural labor / Peasant 7. No job / Unemployed 8. Others ()	
Q1 - 6	Educational Status	1. No educational background 2. Withdrew from Primary school 3. Primary school 4.Jr. high school(Middle) 5.Senior high school 6. Intermediate/ (10+2) 7. Graduate 8.Post Graduate () 9.Others (Specify.)	
Q1 - 7	Average monthly income	(Rs.)	
Q2 General			
Q2 - 1	Interested in keeping your health?	1. Yes 2. No	
Q2 - 2	Afraid of virus and disease?	1. Yes 2. No	
Q2 - 3	Dislike surrounding garbage?	1. Yes 2. No	
Q3 LCS (public Toilets)			
Q3 - 1	Are you aware of Low Cost Sanitation facilities in your area?	1: Yes 2: No	
Q3 - 2	If "Yes", how did you know about the LCS?	1. Signboard / Public Poster 2. Through Awareness Program 3. Community / Religious leader 4. Health center 5. Others ()	
Q3 - 3	Do you use the LCS?	1: Yes 2: No	
<i>(if answered "No", move to Q3-20)</i>			
Q3 - 4	How frequently you use the LCS?	1. Regular (everyday) 2. Some times 3. Rarely	
Q3 - 5	What is the main purpose of using the LCS?	1. Defecation 2. Urination 3. Bathing 4. Others () 5. Bathing & defecation both ()	
Q3 - 6	Do you pay for using LCS?	1. Yes 2. No	
Q3 - 7	If "Yes", how much do you pay?	1. Rs. / time 2. Rs. /month (family pass)	
Q3 - 8	How do you feel the charge?	1. Expensive 2. Affordable 3. Cheap 4. Can't say	
Q3 - 9	Reasons for using the LCS?	1. Don't own toilet in house 2. Privacy 3. Close to residence 4. Prevent disease 5. Others ()	
Q3 - 10	Do you know the advantage of using LCS?	1. Yes 2. No	
Q3 - 11	If "Yes", what kind of?	1. Prevent disease 2. Improve environmental surroundings 3. Privacy 4. Others ()	
Q3 - 12	Where did you go for toilet before construction of LCS?	1. Other Public toilet 2. Open defecation / urination 3. Neighbor's toilet 4. Others ()	
Q3 - 13	Will you continue use the LCS?	1. Yes 2. No 3. Can't say / Don't know	
Q3 - 14	Do you find the number of seats in LCS sufficient?	1. Yes 2. No	
Q3 - 15	Do you think the bathing facility to be facilitated in LCS?	1. Yes 2. No	
Q3 - 16	What do you think of operation and maintenance of LCS?	1. Excellent 2. Satisfactory 3. Poor 4. Very poor	
Q3 - 17	What problems do you find with O&M?	1. Not clean 2. Water supply is not adequate 3. No privacy 4. Electricity problem 5. Others ()	
Q3 - 18	Do you have any idea for the LCS improvement?	1. Yes 2. No	
Q3 - 19	If "Yes", what kind of?	1. Heightening awareness 2. Training O&M staff 3. Complain to Municipality 4. Can't say / Don't know 5. Others ()	
(Q3-20-Q3-23 are only for respondents who answered "No" for the Q3-3)			
Q3 - 20	Present toilet	1. Own toilet 2. Neighbor's toilet 3. Open defecation 4. Other ()	
Q3 - 21	Reasons for not using the LCS	1. Not aware 2. Have to pay 3. Too far 4. Not clean 5. No privacy 6. Others ()	
Q3 - 22	Ideas for LCS improvement	()	

2.3 PHOTOS OF SURVEY



Photo 3.1 Surveyor Training (Varanasi)



Photo 3.2 Surveyors (Lucknow)



Photo 3.3 Interview Survey (Varanasi)



Photo 3.4 Interview Survey (Allahabad)



Photo 3.5 Interview Survey (Lucknow)



Photo 3.6 Interview Survey (Kanpur)

3. FACILITY SURVEY

3.1 VARANASI

The respondents are consisted by male (96.5 %) and female (3.5 %), due to the difficulty for interview to female. The average age of the respondents is 34.4 years old, the range is from 17 years old to 75 years old. Almost all the respondents are Hinduism. The occupation is various, 40.9% commerce / business, and others (23.7 %) including riksha pullar, boatman, and daily wage labor. Regarding educational status, 47.6 % has over senior high school education, while 22.9 % has no educational background or withdrawal from primary school. The average monthly income is 3,684 Indian Rupees, the range is from 500 Indian Rupees to 25,000 Indian Rupees.

The respondents are interested in keeping their health (98.7%), afraid of virus and disease (87%), and dislike surrounding garbage (94 %).

Table 1 General Information of the Respondents (Varanasi)

Sex (%)		Age			Religion (%)				Educational Status (%)			
M	F	Max	Min	Ave.	Hinduism	Muslim	Others	N	No education / Dropout of primary school	Primary & Jr. high	Over high school	N
96.5	3.5	75	17	34.4	97.8	0.9	0.9	0.4	22.9	29.0	47.6	0.4

Occupation (%)									Average monthly income (RS.)		
Farmer	Commerce	Officials	Office employee	Factory employee	Peasant	No job / unemployed	Others	N	Max	Min	Ave.
2.2	40.9	3.4	9.9	2.2	8.2	4.7	23.7	4.7	25,000	500	3,684.9

Note: "N" stands for "No Answer"

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3.1.1 LCS

In Varanasi, there are 80 LCSs and 80 % of respondents know the location of LCS near their area, through Awareness Program (24.6%) and living nearby the facility (30.6%) shown in Figure 1.

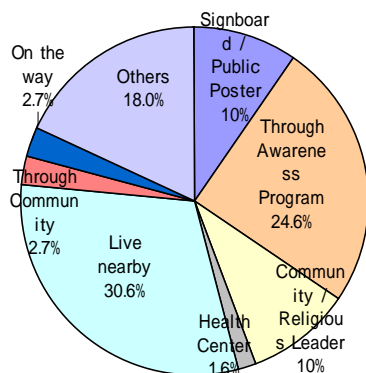


Figure 1 The Channel of LCS Information

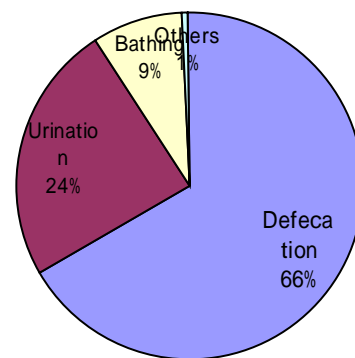


Figure 2 Main Purpose of Using the LCS

Among the respondents, 58.4% use the LCS for everyday (45.2% among the users), sometimes (51.1%) for defecation purpose (66.3%) as shown in figure 2. All the people pay for using the LCS, Rs. 1 per one time (48.2%) and Rs. 2 (45.9%), and 38.5 % feel it expensive, 55.6 % affordable, 5.2 % cheap. Figure 3 shows the reasons for using the LCS, main reason is because they don't own their toilet in house. 66.7 % of LCS users know the advantage of using LCS, the motivations are shown in Figure 4.

Before using the LCS, 58.5 % defecated outside, 18.5 % used other LCS. 73.3 % among the present users would like to continue to use the LCS.



Figure 3 Reasons for Using LCS

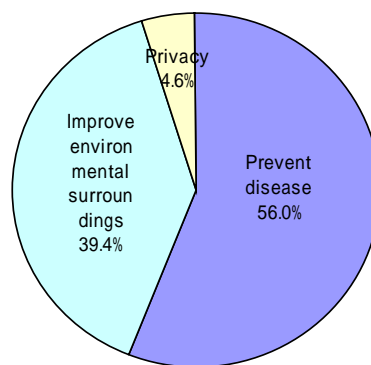


Figure 4 Motivation of Using LCS

Regarding the facility of LCS, 54.1 % find the number of seats in LCS sufficient, and 56.3 % think the bathing facility to be facilitated in LCS.

Figure 5 shows the users' satisfaction regarding operation and maintenance of LCS. 12 % fell excellent, 61 % satisfactory, 16 % poor and 11 % very poor. Though 73 % answered O&M of LCS excellent and satisfactory, only 13.1 % answered no problem in O&M. The main problem of O&M of LCS is not clean (38.9%), followed by inadequacy of water supply (20.6 %), electricity problem (12.0%). As others, nobody for O&M in LCS, costly, and no door, etc.

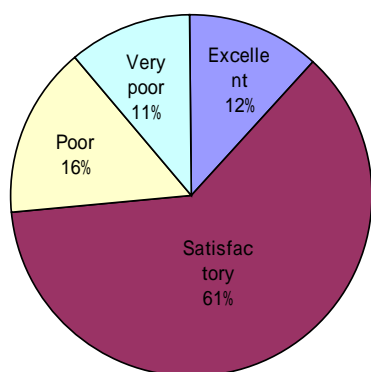


Figure 5 O&M of LCS

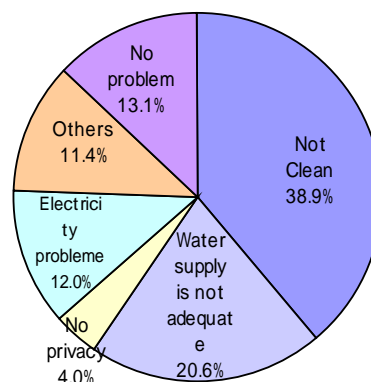


Figure 6 Problems regarding O&M of LCS

72.6 % have the idea for the LCS improvement, and figure 7 shows the ideas. 35.2 % answered training O&M staff is best way for LCS improvement, 27.8 % complain to Municipality, 20.4 % heightening awareness.

41.6 % of all respondents don't use the LCS, they use mainly their own toilets (70.8%), and open defecation (10.4 %). Reasons not using LCS is because the facility is too far, or no facility there (20.0%), not clean (12.5 %), and own toilet (12.5%). The ideas for LCS improvement from non-users, it should be clean and cheap, there should be water and electricity, and need more maintenance.

3.1.2 Bathing Ghats

78.0 % of respondents use bathing ghats, 43.3 % for everyday, 17.2 % 2-3 times per week, 27.2 % 2-3 times per month. 53.8 % live near ghats (within 1 km from ghats), 14.4 % 1-2 km from ghats, 11.7 % 2-3 km. The reasons they use bathing ghats is from religious feeling (81.1 %), there is no other bathing facility (14.4 %). 63.9 % of ghats are maintained properly, and 53.3 % has toilets / LCS facilities, 59.4 % has changing rooms. Almost all the respondents feel necessity to be facilitated toilets / LCS and changing rooms to ghats which has now no such facilities. 63.9 % think bathing contaminates the river water and figure 8 shows the causes of contamination. 57.0 % think the main causes of contamination is using soap, second reason is defecation (25.9 %). 71.7 % would like to continue to use the bathing ghats.

22.1 % answered they don't use the bathing ghats, the main reasons is far from the house (37.3 %), dirty (25.4 %), and having other bathing facility (11.8 %).

3.1.3 Crematoria

97.8 % of respondents know about cremation on pyre and 96.1 % have seen it. 64.9 % feel the traditional wood cremation is polluting river & environment, 23.4 % don't think the source of pollution.

Regarding electric crematoria, 80.9 % know it. 40.6 % come to know the electric crematoria through awareness campaign, 15.6 % living nearby the crematoria, 14.4 % though religious / community leaders as shown in Figure 9. 67.1 % answered there is electric crematoria near their area, 29 % within 1 km from electric crematoria. 77 % of the respondents think electric crematoria is better and reduce river and environmental pollution than traditional crematoria. To increase the users of electric crematoria, awareness (76.2 %) is most important.

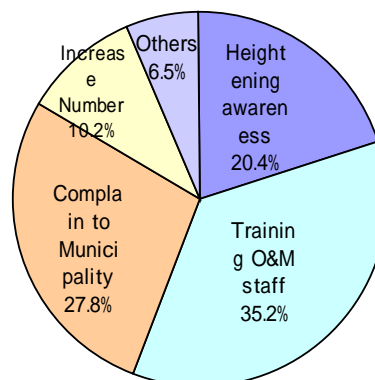


Figure 7 Ideas for the LCS Improvement

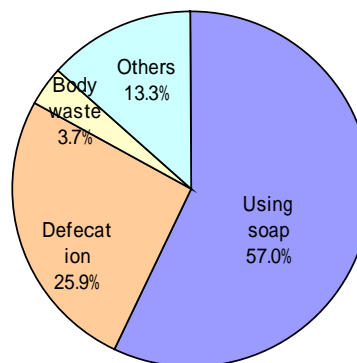


Figure 8 Causes of Contamination

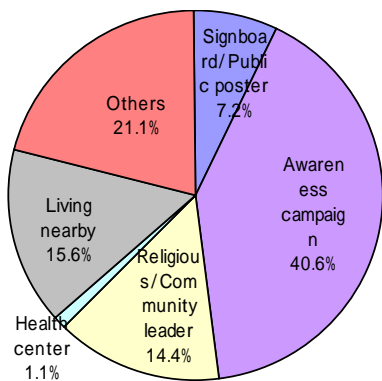


Figure 9 The Channel of Electric Crematoria Information

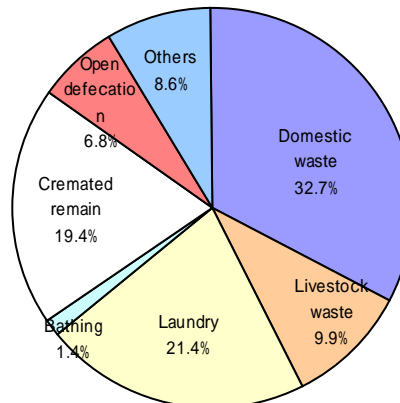


Figure 10 Major Cause of River Water Contamination

3.1.4 River Environment Issues

83.5 % of all respondents feel that river water quality is contaminated, and 96.1 % think it is necessary to improve the river water quality. Figure 10 above shows the major cause for river water contamination. The major cause is domestic waste (32.7%), followed by laundry (21.4 %), cremated remain (19.4 %), livestock waste (9.9 %), open defecation (6.8%).

93.5 % of the respondents know that the open defecation is hazardous for health and environment, and 94.8 % think it necessary for the public toilets in their area to prevent the river pollution. If the public toilets to be facilitated, 91.8 % will pay for using public toilets, the willingness to pay is Rs. 1 per time (78.3 %), 50 paise (19.8 %).

3.1.5 Participation

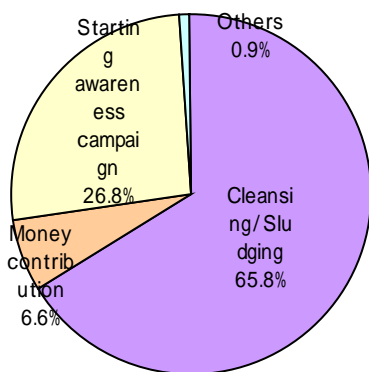


Figure 11 Kind of Activities People Would Like to Participate

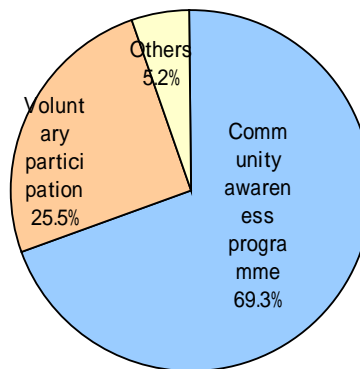


Figure 12 Contribution for Improving the Usage of Facilities

90.5 % of the respondents would like to participate in the community activities to improve river water pollution, and figure 11 shows the kind of activities. 65.8 % would like to participate in the cleansing / sludging activities, 26.6 % starting awareness campaign. Figure 12 shows the contribution for improving the usage of LCS, crematoria and bathing ghats.

3.2 ALLAHABAD

The respondents are consisted of male (87.7 %) and female (12.3 %), due to the difficulty for interview to female. The average age of the respondents is 35.9 years old, the range is from 16 years old to 90 years old. Almost all the respondents are Hinduism, and occupation is various as shown in figure 13. Figure 14 shows the educational status of the respondents, 48.1 % has no educational

background, 13.2 % has been withdrawn from primary school. The average monthly income is 2176.9 Indian Rupees, the range is from 200 Indian Rupees to 25,000 Indian Rupees.

Table 2 General Information of the Respondents (Allahabad)

Sex (%)		Age			Religion (%)				Average monthly income (Rs.)		
M	F	Max	Min	Ave.	Hinduism	Muslim	Others	N	Max.	Min.	Ave
87.7	12.3	90	16	36.9	99.1	0.9	0.0	0.0	22.9	29.0	47.6

Note: "N" stands for "No Answer"

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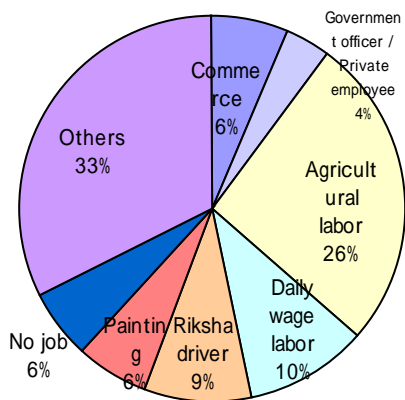


Figure 13 Occupation

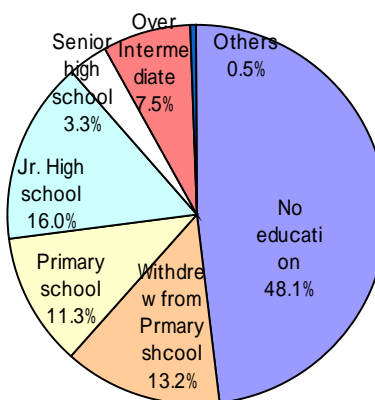


Figure 14 Educational Status

The respondents are interested in keeping their health (93.9%), afraid of virus and disease (68.9%), and dislike surrounding garbage (95.3 %).

3.2.1 LCS

There are 111 LCS in Allahabad, 79.2 % of the respondents are aware of LCS facilities in their area. 36.1 % come to know about the LCS through awareness program, 29.0 % from community / religious leader, 13.5 % living nearby LCS. 29.7 % of the respondents use the LCS and 55.6 % use regularly (everyday) and 33.3 % sometimes. Figure 16 shows the main purpose of using LCS, 71.8 % for defecation, and 14.1 % urination.

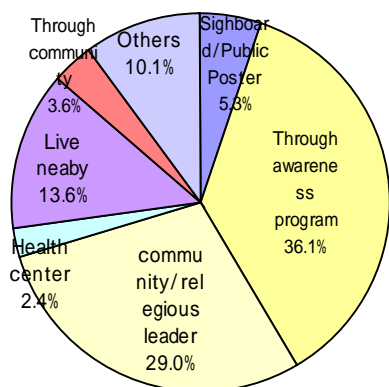


Figure 15 The Channel of LCS Information

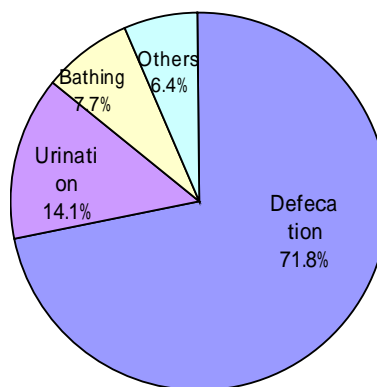


Figure 16 Main Purpose of Using the LCS

Among the users of LCS, 92 % pay the charge. There are two payment system, one is to pay per one time, and the other is monthly pass. Out of 37 respondents 54.1 % pay Rs. 1 per one time, 37.8 % pay Rs.0.5, and the average charge is Rs. 0.9. The range of monthly pass is from Rs. 10 to Rs.60, and the average monthly charge is Rs. 23. 58.6 % feel the charge expensive, 32.8 % affordable. The main

reason why they use the LCS is because they don't own their toilets (77.8 %). Other reason is close to residence (9.5 %). 73 % of users know the advantage of using the LCS, the advantages are prevent disease (56.5 %), and improve environmental surroundings (41.3 %).

Before using the LCS, 69.8 % defecated outside, 23.8 % used other LCS. 85.7 % among the present users would like to continue to use the LCS.

Regarding the facility of LCS, 58.7 % find the number of seats in LCS insufficient, and 80.9 % think the bathing facility to be facilitated in LCS. Figure 17 shows the users' satisfaction regarding operation and maintenance of LCS. 55.9 % feel satisfaction, while 40.6 % feel poor and very poor of O&M. The main problem is the facility is not clean (68.9 %), water supply is not adequate (18%).

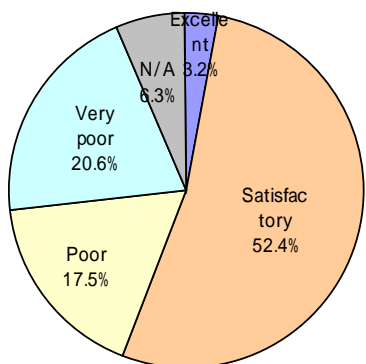


Figure 17 O&M of LCS

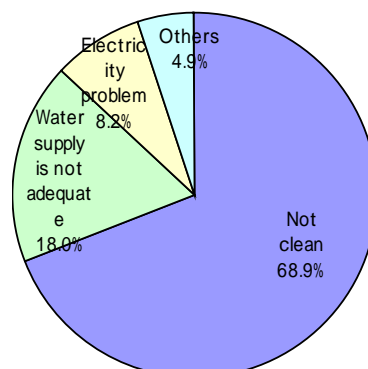


Figure 18 Problems regarding O&M of LCS

58.7 % have the idea for the LCS improvement and it is shown in figure 19. 45.9 % answered training O&M staff is effective for improvement, 27.0 % heightening awareness, 21.5 % complain to Municipality.

70.3 % of all respondents don't use the LCS, 85.2 % of non-users go outside for defecation. Figure 20 shows the reasons why they don't use the LCS. The main reason is that the facility is too far (35.1%), others are not clean (33.1 %), have to pay (12.2 %). The ideas from non-users of LCS are it should be clean and hygienic, necessary of proper operation and maintenance, more facility should be constructed in residential area, it should be free of charge.

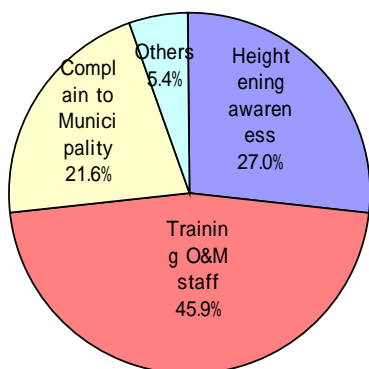


Figure 19 Ideas for the LCS Improvement

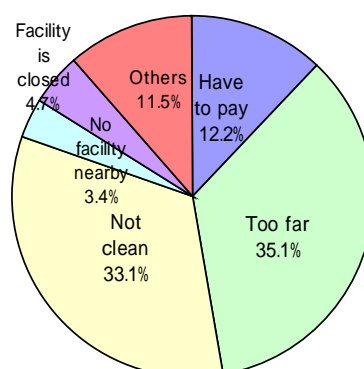


Figure 20 Reasons for Not Using the LCS

3.2.2 Bathing Ghats

72.6 % of the respondents use the bathing ghats, among users 50.0% take bath everyday, 21.4 % 2-3 times per week, 22.7 % 2-3 times per year. 53.9 % live within 1 km from ghats. 59.9 % use the bathing ghats from religious feeling, 34.6 % use because there is no other bathing facility. 87.7 % of users think the bathing ghats are not maintained properly. Toilets / LCS are only facilitated in 6 % ghats, so that 94.5 % who using the ghat without LCS feel it necessary to facilitate LCS. 99.4 % use the ghat without changing room, and 95.4 % need the changing room to be facilitated to bathing ghats.

75.3 % think bathing contaminates the river water and figure 21 shows the main causes of river water contamination. 31.5 % think main cause of river contamination is using soap, 29.8 % body waste, and 26.3 % defecation.

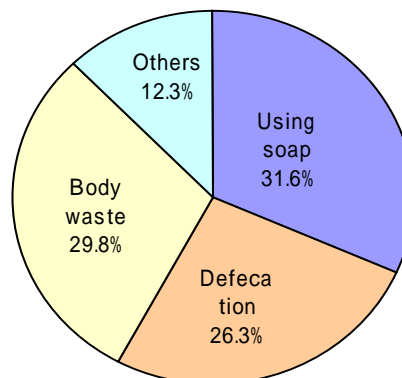


Figure 21 Causes of Contamination

3.2.3 Crematoria

98.6 % of the respondents know about cremation on pyre and

94.3 % have seen it. 61.3 % feel that traditional wood cremation is one of the cause of river and environmental pollution. Regarding electric crematoria, 95.8 % know it and figure 22 shows how they knew electric crematoria. 39.1 % came to know it through awareness campaign, 20.3 % through religious /community leader. 92.1 % answered there is electric crematoria near their area, 41.8 % live within 1 km from crematoria.

74.1 % answered the electric crematoria is better and reduce river and environmental pollution. 71.4 % think it is necessary to increase awareness of electric crematoria for improvement of usage.

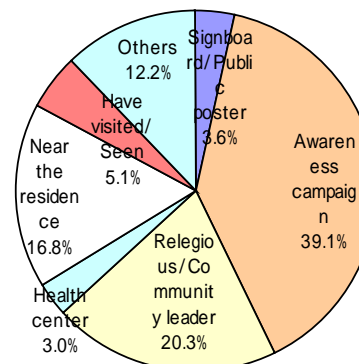


Figure 22 The Channel of Electric Crematoria Information

3.2.4 River Environment Issues

91.5 % of the respondents feel river water quality is contaminated and 96.5 % think it is necessary to improve the river water quality. Figure 23 shows the causes for river water contamination. The main causes are domestic waste (29.5 %), cremated remain (26.0 %), livestock waste (25.2 %). 82.1 % know that the open defecation is hazardous for health and environment, 93.9 % think more public toilets in their area are needed to prevent the river pollution. 73.1 % have willingness to pay for using LCS, 58.7 % can pay Rs. 0.5 per time, 27.8 % Rs. 1.

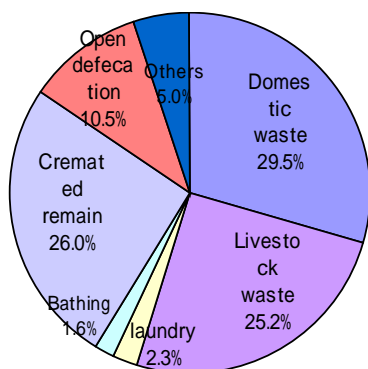


Figure 23 Causes of River Water Contamination

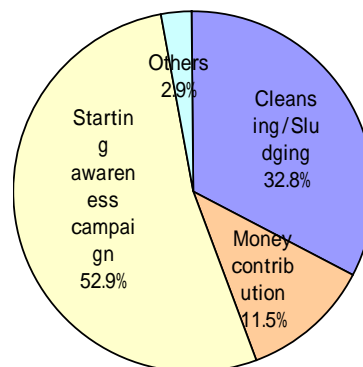


Figure 24 Kind of Activities People Would Like to Participate in

3.2.5 Participation

79.2 % would like to participate in the community activities to improve river water pollution, figure 24 above shows the kind of activities they would like to participate in. 52.9 % would like to start awareness campaign, 32.8 % cleansing / sludging activities. 60 % of the respondents would contribute for improving the usage of LCS, crematoria and bathing ghat by initiative community awareness programme, 19.3 % by voluntary participating in O&M activities.

3.3 LUCKNOW

The respondents are consisted by male (81.9 %) and female (18.1 %). The average age of the respondents is 35 years old, the range is from 16 years old to 73 years old. 78.6 % of the respondents are Hinduism, 18.5 % Muslim. The occupation is various, 28.8 % commerce / business, and 30.9 % others include riksha pullar, driver, and dhobi. Regarding educational status, 63.8 % has over senior high school education, while 28.8 % has no educational background or withdrawal from primary school. The average monthly income is 5,217 Indian Rupees, the range is from 250 Indian Rupees to 35,000 Indian Rupees.

Table 3 General Information of the Respondents (Lucknow)

Sex (%)		Age			Religion (%)				Educational Status (%)			
M	F	Max	Min	Ave.	Hinduism	Muslim	Others	N	No education / Dropout of primary school	Primary & Jr. high	Over high school	N
81.9	18.1	73	16	35.0	78.6	18.5	2.9	0.0	28.8	20.2	63.8	0.0
Occupation (%)									Average monthly income (RS.)			
Farmer	Commerce	Officials	Office employee	Factory employee	Peasant	No job / unemployed	Others	N	Max	Min	Ave.	
1.6	28.8	4.1	8.6	3.7	6.2	15.6	30.9	0.4	35,000	250	5,217.6	

Note: "N" stands for "No Answer"

The JICA Study Team

The respondents are interested in keeping their health (94.7 %), afraid of virus and disease (70.8 %), and dislike surrounding garbage (95.5 %).

3.3.1 LCS

In Lucknow, there are 143 LCS, and 65.0 % of respondents know the location of LCS near their area, through awareness campaign (36.7 %), signboard / public poster (20.3 %), through public / community (14.6 %), shown in Figure 25.

43.2 % of all respondents use the LCS, the frequency is everyday (41.9 %), sometimes (55.2 %). The main purposes of using LCS are defecation (57.7 %), urination (32.5 %), and bathing (9.8 %).

80 % of users pay for using LCS. 80 respondents pay the charge per one time, 75 % pay Rs. 1, 20 % Rs. 2 per, and the average is Rs. 1.2. 5 respondents pay Rs. 30 to 50 for monthly basis, the average monthly charge is Rs. 42. 73.8 % feel the charge is affordable, 19 % expensive, 2.4 % cheap. Figure 26 shows the reasons for using the

LCS, main reason is because they don't own toilet in their house (43.0 %), close to home / shop / office (31.8 %). 71.4 % of users now the advantage of using LCS and answers are shown in figure 27.

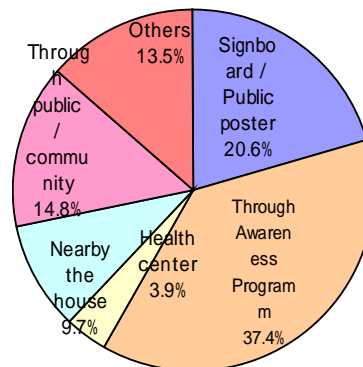


Figure 25 The Channel of LCS Information

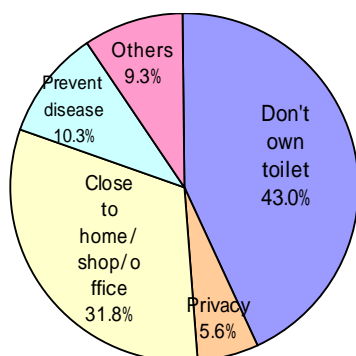


Figure 26 Reasons for Using LCS

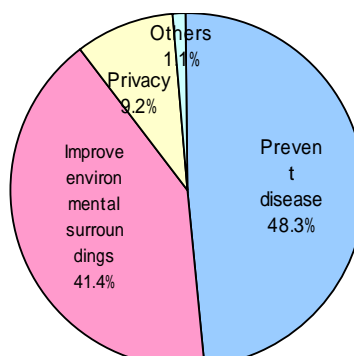


Figure 27 Motivation of Using LCS

Before using LCS, 50.5 % defecated outside, 37.1 % used other LCS. 63.8 % among the present users would like to continue to use the LCS.

Regarding the facility of LCS, 44.8 % of users find the number of seats in LCS insufficient, and 74.3 % think the bathing facility to be facilitated in LCS.

Figure 28 shows the users' satisfaction regarding operation and maintenance of LCS. 8.6 % feel excellent, 57.1 % satisfactory, 22.9 % poor, and 11.4 % very poor. Though 65.7 % answered O&M of LCS excellent and satisfactory, only 5.1 % answered no problem in O&M. The main problem of O&M is not clean (64.1 %), followed by inadequacy of water supply (21.4 %), electricity problem (5.1 %).

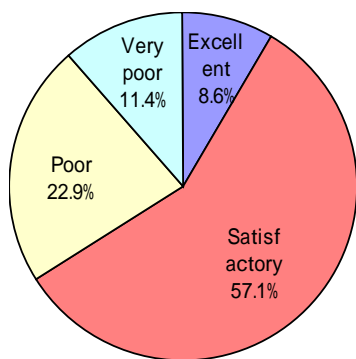


Figure 28 O&M of LCS

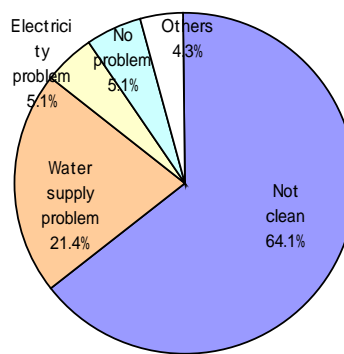


Figure 29 Problems regarding O&M of LCS

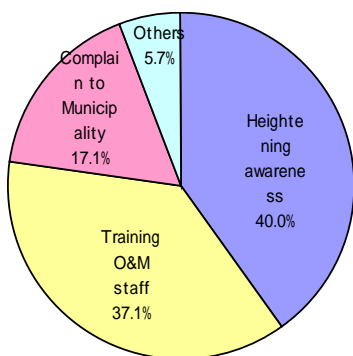


Figure 30 Ideas for the LCS Improvement

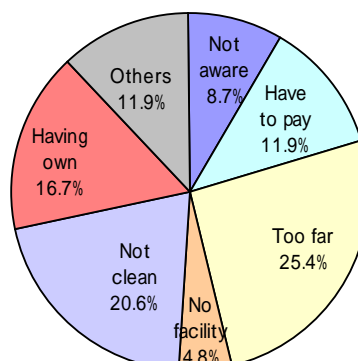


Figure 31 Reasons for Not Using the LCS

63.8 % have the idea for the LCS improvement, and figure 30 shows the ideas. 40.0 % think it is necessary to heighten awareness, 37.1 % training O&M staff, 17.1 % complain to Municipality.

56.8 % of all respondents don't use the LCS, they use mainly their own toilets (64.5 %), and open defecation (24.6 %). Figure 31 shows the reasons for not using the LCS. The reasons are the facility is too far (25.4 %), not clean (20.6 %), and have to pay (11.9 %) and no facility (4.8 %). The ideas for LCS improvement from non-users, it should be clean and cheap, proper water supply, proper operation and maintenance.

3.3.2 Bathing Ghats

In Lucknow, only 25 % of all respondents use the bathing ghats, among the users, 50.8 % use everyday, and 26.2 % 2-3 times per week. 55.7 % of users live within one km from bathing ghats. The reasons for using the bathing ghats are because no other facility of bathing (67.2 %), followed by religious feeling (21.3 %). 63.9 % of users think the bathing ghats are not maintained properly. 83.6 % of ghats don't have the toilets / LCS, 88.5 % don't have the changing room, and over 90 % feel LCS and the changing room should be facilitated to bathing ghats. 65.6 % think bathing in the river contaminates the river water quality, figure 32 shows the causes of contamination. 39.6 % think the main cause of contamination is using soap, followed by body waste (30.2 %), defecation (26.4 %). 65.6 % of users would like to continue to use the bathing ghats.

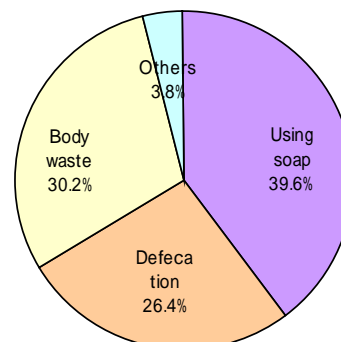


Figure 32 Causes of Contamination

75 % answered they don't use the bathing ghats, the main reasons are as follow; far from the house (31.1 %), have other bathing facility (27.4 %), and dirty (23.6 %).

3.3.3 Crematoria

87.7 % of the respondents know about cremation on pyre and 74.9 % have seen it. 39.9 % feel the traditional wood cremation is polluting river and environment, though 24.4 % don't think the source of pollution. Regarding the electric crematoria, 52.7 % know it. They come to know it through awareness campaign (45.5 %), signboard / public poster (12.2 %), and others as shown in figure 33 above. 43.6 % think the electric crematoria is better and reduce river and environmental pollution, to improve the usage of electric crematoria, 45.3 % increasing awareness is necessary.

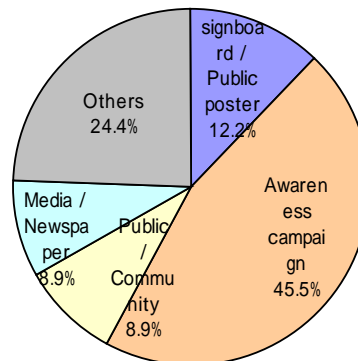


Figure 33 The Channel of Electric Crematoria Information

3.3.4 River Environment Issues

94.2 % of all respondents feel that river water quality is contaminated, and 97.1 % think it is necessary to improve the river water quality. Figure 34 shows the major cause for river water contamination. The major causes are domestic waste (33.7 %), laundry (17.9 %), livestock waste (16.2 %), cremated remain and open defecation (10.8 %). 91.4 % know that the open defecation is hazardous for health and environment. 97.1 % think the public toilets should be needed to prevent the river pollution in their area, and 70 % have willingness to pay for using public toilets. 75.9 % can afford Rs. 1 per one time and 21.8 % Rs. 0.5.

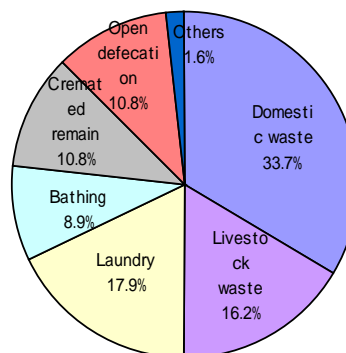


Figure 34 Major Causes of River Water Contamination

3.3.5 Participation

73.7 % of the respondents would like to participate in the community activities to improve river water pollution, and figure 35 shows the kind of activities. 40.1 % would like to participate in the cleansing / sludging activities, 30.5 % money contribution, 29.4 % starting awareness campaign. For improving the usage of LCS, crematoria and bathing ghats, 45.7 % by initiative community awareness programme, and 27.6 % by voluntary participating in O&M activities.

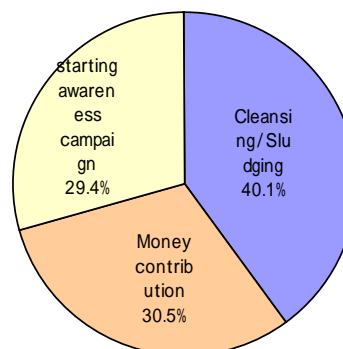


Figure 35 Activities People Would Like to Participate In

3.4 Kanpur

The respondents are consisted by male (83.1 %) and female (16.9 %). The average age of the respondents is 34 years old, the range is from 15 years old to 70 years old. 89.8 % of the respondents are Hinduism, 8.0 % Muslim. The occupation is various, 26.7 % engage in commerce / business, 25.4 % agricultural labor / peasant, while 20.3 % have no job / unemployed, including housewife. Regarding educational status, 33.1 % has over senior high school

education, while 32.2 % has no educational background or withdrawal from primary school. The average monthly income is 2,805.5 Indian Rupees, the range is from 900 Indian Rupees to 15,000 Indian Rupees.

Table 4 General Information of the Respondents (Kanpur)

Sex (%)		Age			Religion (%)				Educational Status (%)			
M	F	Max	Min	Ave.	Hinduism	Muslim	Others	N	No education / Dropout of primary school	Primary & Jr. high	Over high school	N
83.1	16.9	70	15	34.0	89.8	8.1	2.1	0.0	32.2	33.5	33.1	1.3

Occupation (%)									Average monthly income (RS.)		
Farmer	Commerce	Officials	Office employee	Factory employee	Peasant	No job / unemployed	Others	N	Max	Min	Ave.
0.4	26.7	3.4	1.3	6.4	25.4	20.3	13.1	3.0	15,000	900	2,805.5

Note: "N" stands for "No Answer"

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The respondents are interested in keeping their health (97.5 %), afraid of virus and disease (90.3 %), and dislike surrounding garbage (98.3 %).

3.4.1 LCS (Public toilets)

88.1 % of the respondents know the location of LCS near their area, through awareness campaign (84.6 %), living nearby the facility (5.8 %). Among the respondents, only 38.1 % use the LCS everyday (72.2 % of the users), for defecation purpose (58.0 %), urination (32.8 %). 90 % of users pay for using LCS. The charge varies from Rs. 0.5 to Rs.2, out of 64 respondents, 75. % pay Rs. 1 per time, 21.9 % Rs. 2 per time. 52 respondents have monthly pass, 57.7 % pay Rs. 30, 19.2 % Rs. 40 per month. The average monthly charge is Rs.32.3.

66.5 % feel the charge expensive, 29.6 % affordable. Figure 36 shows the reasons for using the LCS, main reason is because they don't own toilets in their house 60.7 %). Others are close to residence (13.5 %), near the shop (9.0 %). 90 % of users know the advantage of using LCS, 54.4 % answered prevent disease, 40 % improve environmental surroundings.

Before using LCS, 51.1 % defecated and urinated outside, 40.0 % used other LCS, and 93.3 % among the present users would like to continue to use the LCS.

Regarding the facility of LCS, 88.9 % find the number of seats in LCS sufficient and 66.7 % think the bathing facility should be facilitated in LCS. 71.1 % of users are satisfied with operation and maintenance of LCS, while figure 37 shows the problems of O&M. The main problem is not clean (51.1 %), followed by inadequacy of water supply (17.8 %), electricity probleme (11.1 %).

65.5 % have the idea for the LCS improvement, and Figure 38 shows the ideas. 37.9 % answered heightening awareness for improvement, 30.3 % complain to Municipality, 28.8 % training O&M staff. 60.0 % of all respondents don't use the LCS, instead of using LCS,

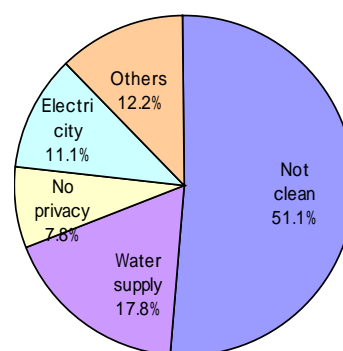


Figure 37 Problems of O&M

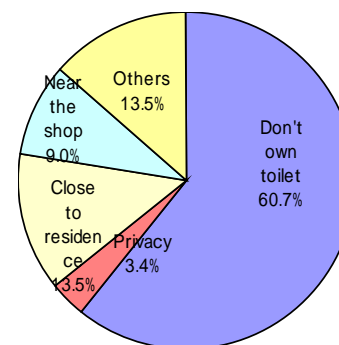


Figure 36 Reasons for using LCS

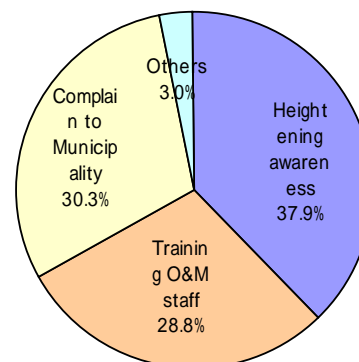


Figure 38 Ideas for the LCS improvement

open defecation (54.9 %), and their own toilets (44.4 %). Reasons not using LCS are the facility is not clean (41.6 %), too far (30.1 %), have to pay (20.4 %). The ideas for LS improvement from non-users, it should be clean and proper maintenance, and nearby the residential area.

3.4.2 Bathing Ghat

17.8 % of the respondents use the bathing ghats, among the users 31.0 % use everyday, 19.0 % 2-3 times per week, 33.3 % 2-3 times per year. Thus only 8.9 % of the respondents use bathing ghats for daily use. They use bathing ghats from religious feeling (83.3 %), no other facility of bathing (14.3 %). 69 % of users think the ghat is not maintained properly, no toilet facility (61.9 %), no changing room (78.6 %). Almost all the users think toilets and changing room should be facilitated. 42.9 % think bathing contaminates the river water quality, because of soap, defecation and body waste.

82.2 % don't use the bathing ghats, the reasons are dirty (56.7 %), far from the house (17.6 %), thing the bathing pollutes river water (13.3 %).

3.4.3 Crematoria

Almost all the respondents know about cremation on pyre, 88.6 % have seen it, and 77.9 % feel traditional wood cremation pollute river and environment.

77.5 % know about electric crematoria, through awareness campaign (87.4 %). 84.3 % think electric crematoria is better and reduce river and environmental pollution. The suggestion for improving the usage of electric crematoria is increasing awareness (84.3 %).

3.4.4 River environment issues

73.7 % of the respondents feel about water quality of the river is contaminated and think it is necessary to improve river water quality (94.9 %). Figure 39 shows the major causes of river water contamination, cremated remain (40.0 %), domestic waste (24.4 %), and laundry (14.7 %).

94.1 % know that the open defecation is hazardous for health and environment, and 93.2 % need the LCS in their area to prevent the river pollution. 81.4 % have the willingness to pay for using LCS, Rs. 0.5 (74.5 %), Rs. 1 (22.4 %).

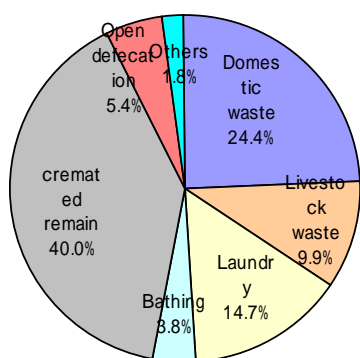


Figure 39 Major cause of river water contamination

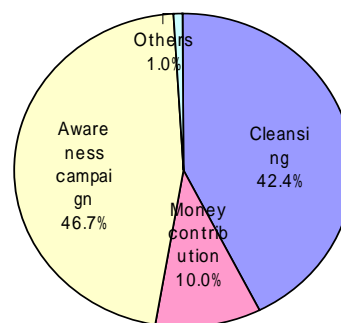


Figure 40 Activities people would like to participate

3.4.5 Participation

87.7 % of the respondents would like to participate in the community activities to improve river water pollution, starting awareness campaign (46.7 %), cleansing / sludging (42.4 %). 66.1 % can contribute for improving the usage of LCS, crematoria and bathing ghat by initiative community awareness programme, 24.2 % by voluntary participating in O&M activities.