



Progress Report

December 2005 -November 2006 Capacity Building, Dissemination,
Demonstration and Promotion of
Rainwater Harvesting in
Kathmandu and selected towns in
Nepal





NGO Forum for Urban Water and Sanitation
November 2006

#### Table of Contents

- 1. Background
- 2. Objectives
- 3. Progress
  - 3.1 Organization of first national workshop
  - 3.2 Installation of rainwater harvesting apparatus in a popular historical building at the city center as a 'flagship' demonstration site
  - 3.3 Training on basic plumbing skills to youths
  - 3.4 Rainwater Harvesting Standard Manual in local language
  - 3.5 Organization of Training of trainers
  - 3.6 Orien Seminar on Rainwater Harvesting by Japanese Professor tation of instructors
  - 3.7 RWH installation at Multipurpose Martial Arts Center
  - 3.8 'Jalpari' at Mexico Film Festival
  - 3.9 Installation of RWH apparatus in Kirtipur Squatter Rehabilitation
    Community Housing
  - 3.10 Installation of RWH apparatus in Community hospital in Banepa Municipality
  - 3.11 Installation of RWH system in Department of Urban Development and Building Construction
  - 3.12 Training on Rainwater Harvesting Installation Techniques to Plumbers
  - 3.13 Training on Rainwater Harvesting Installation Techniques to Civil/Architect students.
  - 3.14 Training on Rainwater Harvesting Installation to Practicing Civil/Architect Engineers
  - 3.15 Orientation to Civil Society on RWH

LIBRARY IRC
PO Box 93190, 2509 AD THE HAGUE
Tel.: +31 70 30 689 80
Fax: +31 70 35 899 64
BARCODE: 1000 4

- 3.16 Agreement with Nepal Red Cross Society Kathmandu District and Lalitpur District and Guthi- youth network
- 3.17 Agreement with Kathmandu Metropolitan City Enforcement

  Department
- 3.18 Establishment of Rain Center in Trichandra College
- 3.19 Dialogue initiated with leading bank(Bank of Kathmandu) for Micro Credit Financing
- **3.20** Conducted Second Steering Committee Meeting for RWH Guidelines
- 3.21 Participation in World Urban Forum
- 3.22 Presentation at Rotary Clubs
- 3.23 International Conference of Water, Waster water and Environment
- 3.24 RWH training to Luthern World Federation Nepal

#### 1. Background

Rainwater Harvesting is one of the most promising approaches for alleviating the problem of water crisis in the Kathmandu valley and in other urban centers of the country. The simplicity of the technique for harvesting rainwater and the one-time costs that it entails makes it the most viable option for individual households as well as for agricultural, industrial and business establishments.

NGOFUWS, an umbrella organization comprising of 7 core NGOs engaged in the water sector and a further 144 affiliated organizations, is engaged in promoting and popularizing rainwater harvesting and has for the cause been conducting several promotional activities.

The dissemination, demonstration and promotional activities proposed hereto would greatly substantiate on our efforts to make the rainwater harvesting year a successful undertaking, now and in the years following.

#### 2. Objectives:

The objective of this project is to disseminate, demonstrate and promote the concept and skills of rainwater harvesting, and its practical usage for daily living – health, hygiene and sanitation on a wider scale by capacity building of civil societies and local authorities.

- A. DISSEMINATION of concept and skills of rainwater harvesting
- B. ESTABLISHMENT of Demonstration sites
- C. PROMOTION of audio, visual, press materials on a regular basis

#### 3. Progress

During the reporting period - December 2005 to November 2006, progress has been made as follows:

#### 3.1 Organization of first national workshop

RWH PP successfully launched and a national level workshop conducted on 16 and 17 January, 2006.

Follow up meeting decided to establish a National Steering Committee on Rainwater Harvesting under the chairmanship of Mr. Poorna Das Shrestha, Joint Secretary, Ministry of Physical Planning and Works. NGO Forum has been nominated member secretary to the committee.

The committee is planning to organize an interaction programme on RWH among the rainwater harvesters and the technicians.

A study proposal to investigate the artificial groundwater recharge with rainwater is under process.

NGO Forum for Urban Water and Sanitation has formed 'Rainwater Club' to promote Rainwater harvesting practices. The club was formed after a meeting of rainwater harvesters and plumbers in the office of NGO Forum on Wednesday 18 May 2006.

# 3.3 Installation of rainwater harvesting apparatus in a popular historical building at the city center as a 'flagship' demonstration site

Rani Pokhari is a beautiful historical pond at the heart of Kathmandu City. As per the inscription, Rani Pokhari was built 336 years ago in Aashwin, 1727 B. S. (790 N.S.) during the reign of King Pratap Malla in Kathmandu

The pond was built in the name of Chakravartendra Malla, the second son of King Pratap Malla and his queen Anantapriya after untimely death of the prince. Rani Pokhari is named so as it was inaugurated by the queen herself. It is notable that seven wells were seen in the pond during its cleaning.

The persisting melancholy of Rani Pokhari, once a majestic historical site is clearly visible: Drying water level revealing the bare grounds and pitiful condition of fishes, once a vitality of the pond. The question remains, what is to be done to resurrect its past glory?

NGO Forum for Urban Water and Sanitation in collaboration with UN-HABITAT Water for Asian Cities Programme Nepal initiated revitalizing Rani Pokhari by harvesting rainwater to recharge the pond. This project integrates rainwater harvesting scheme at Tri-Chandra College in prospect of discharging the collected water into Rani Pokhari.

An area of 13,470 sq ft. roof area of Tri-Chandra College is being used as rainwater catchments surface. The catchments area collects the rainwater of approximately 1,612,576

litres/ year, 20 percent of which is transferred to the storage tank for use of college while 80 percent which is 1,290,061 litres is discharged into Rani Pokhari.

#### 3.3 Training on basic plumbing skills to youths

### 3.3.1 Rainwater Harvesting Training to the Plumbers of Nepal Water Supply Corporation (NWSC)

Twenty-five plumbers of NWSC were trained on Rainwater Harvesting technique from 23<sup>rd</sup> - 24<sup>th</sup> Feb 2006. The plumbers were given knowledge on theoretical and practical aspects of RWH. During the training interaction on RWH processes was done. The emphasis was given to the important factors of harvesting rainwater such maintenance of RWH system all year round and how one can take advantage of rainwater in water scarce place like Kathmandu Valley. Another important point discussed during the training was to promote and to build awareness through demonstrating RWH system at public institutions.

### 3.3.2 Rainwater Harvesting Training to the Local Youth Plumbers from Lalitpur District

Rainwater Harvesting Training to the Local Youth Plumbers was held on 10<sup>th</sup> June 2006 at Shree Shanti School, Saugal, Lalitpur. 25 local plumbers of Lalitpur took part in the training. Senior Vice Chairperson of Red Cross Society Lalitpur Chapter, Mr. Purna Chandra Sharma inaugurated the training program. Vice Chairperson of Lalitpur Red Cross Society, Mr Bishnu Prasad Ghimire welcomed the trainees. Mr. Prakash Amatya, Executive Director of NGO Forum explained the objectives of the training program. He appreciated the cooperation of Red Cross Society in popularizing RWH system.Dr. Roshan Raj Shrestha, CTA, UNHABITAT gave away the certificates to the trainees.

Rainwater Harvesting Training to the Local Youth Plumbers was held on 11<sup>th</sup> June 2006 at Panga Club, Kitipur. 25 local plumbers of kirtipur took part in the training. Inaugurating the training program, chairperson of Red Cross Society-Kathmandu Chapter, Mr. Mukunda Bahadur Pradhan told he is very happy to work together with NGO Forum in the field of water and sanitation. He said this training would be very important to generate job for the plumbers. He wished the success of the training.

Mr Bhushan Tuladhar, Executive Director of ENPHO talked about the quality of the rainwater. He said water is scarce and rainwater is the best option to meet the crisis. He

believed that trainees would promote Rainwater Harvesting. They would be taken as water ambassadors.

#### 3.4 Rainwater Harvesting Standard Manual in local language

Based on the manual Rainwater Harvesting and Utilization - Blue Drop series published by UNHABITAT and with added field level experiences a manual in Nepali language has been brought out. This has been being tested out during the training programs at various levels. It is envisaged to shape into a standard national rainwater harvesting manual endorsed by government of Nepal.

#### 3.5 Organization of Training of trainers

NGO Forum conducted two days Training of Trainers program in January 8 and 9, 2006.

The 35 trainees were students of civil engineers, architects, environment science and other

backgrounds.

The training program was successful to accomplish its goal. It has been helpful in disseminating information on the importance of rainwater harvesting and value based water education. The enthusiasm and willingness showed by the participants to promote the rainwater harvesting in the valley is well appreciated. This will encourage valley dwellers to take up rainwater harvesting to fulfill the partial water demand. The technical tour has also strengthened the training program.

A database of the trainees has been generated so that in the future, the trainees will be hired to take up training sessions of the rainwater harvesting systems undertaken by rainwater harvesting promotion program.

#### 3.6 Orientation of instructors

Orientation training on rainwater harvesting to the 35 instructors at Bharatpur Municipality was conducted on 19-22 February 2006. Similarly, 25 professionals at Banepa Municipality have been trained besides Kathmandu, Lalitpur and Kirtipur.

The instructors Ms. Rashmi Kiran Shrestha, Mr. Dipesh Shrestha, Ms. Kamana Dhakwa, Mr. Naresh Thapa, Mr. Naresh Pradhan who have been trained under the RWHPP were already engaged to conduct various levels of RWH training programmes.

#### 3.7 Seminar on Rainwater Harvesting by Japanese Professor

Dr. Makoto Murase (Vice president of IRCSA and secretary general of People for Rainwater), Mr. Nobu Tokunaga (Vice President of People for Rainwater) and Hisakazu Imazeki, member of People for Rainwater, Japan visited Nepal to share their experience about Rainwater Harvesting, which they have been practicing from last 25 years. They visited school, organization and residence to inspect the rainwater harvesting system installation in Kathmandu.

During the visit, a seminar on Rainwater Harvesting was held on 2<sup>nd</sup> March 2006 in Hotel Royal Singhi. 40 participants took part in the talk program. The talk program was mainly focused on the rainwater harvesting in Urban as well as rural areas. Dr. Roshan Raj Shrestha, Chief technical advisor from UN Habitat welcomed the participants. Dr. Makoto Murase was the speaker of the program. Mr. Purna Das Shrestha, Joint Secretary for MPPW expressed his gratitude to the delegates from government concluding the seminar. He informed that government is drafting the policies to make RWH mandatory in new buildings, public buildings and government buildings.

#### 3.8 RWH installation at Multipurpose Martial Arts Center

The Multipurpose Martial Arts Center (MMAC), Nayabazzar, undertaken by the Kathmandu Metropolitan City (KMC) has installed rainwater harvesting system in its 800 sq. meter roof-area. The inauguration of the system was held on June 5, 2006. Mr. Koji Tomita, first secretary of Embassy of Japan in Kathmandu, inaugurated the system.

The initiation of rainwater harvesting was made when technically the NGO Forum supported by UNHABITAT Water for Asian Cities Programme Nepal promised MMAC to assist in this regard. Now the trainers, trainees and other staff of the center one benefited as they have now enough water for a bath and daily use. The center is—using the harvested water for drinking as well. This has ended the scarcity of water in—the center.

MMAC is a token of friendship between Kathmandu and Matsumoto City of Japan. With the installation of rainwater harvesting system, MMAC can be an environment friendly sports center, which is further believed to be replicated by the other sports center or gymnasiums as a good practice.

Meanwhile, NGO Forum has decided to use the center as the rainwater harvesting—training center, where the local and other people will benefit for solving the burning—problem of water scarcity.

#### 3.9 'Jalpari' at Mexico Film Festival

'Jalpari' a popular tele-film on rainwater harvesting promotion was nominated in the World Water Forum '06 Film Festival, Mexico. The tele-film was a joint production of UNHABITAT, NGO Forum for Urban Water and Sanitation, Environment and Public Health Organization, Water Aid Nepal and International Water and Sanitation Centre.

'If you have water problems at your place, watch Jalpari to ease your water scarcity problems' wrote every national newspaper. More than 60 percent of the population watched it for an hour in their TV sets. The response was overwhelming expressed Dr. Roshan Raj Shrestha, Chief Technical Advisor for Water for Asian Cities-UN Habitat.

The film Jalpari not only delights and amuses the audience but also teaches how to harvest the rain at the same time responded the audience. To observe the year 2005/06 as the year of Rainwater, Jalpari is part of NGO Forum's effort at improving the urban water crisis.

Nepal's most celebrated comedians; Madan Krishna and Hari Bamsa Acharya acted and directed Jalpari, which focuses on rainwater harvesting and wastewater management technology.

As a solution to scarcity of water in Kathmandu Valley, the film introduces the rainwater harvesting technology. Most of the urban buildings have provision to collect roof water, but that usually goes down the drain.

### 3.10 Installation of RWH apparatus in Kirtipur Squatter Rehabilitation Community Housing

The banks of the Vishnumati River have been home to squatter settlement for decades. Displacement of these poor communities in the process of the expansion of Vishnumati Link Road (VLR) not only left them homeless but also affected their livelihood. Nonetheless, the positive response of the KMC mayor and the ward offices (ward 13 and 15) to the housing needs of the VLR affected poor families should be regarded as a major achievement for

Lumanti and squatters alike, and will hopefully serve as a guide for future demolitions and evictions.

There are 44 houses in this housing community. All the houses now have completed. Rainwater Harvesting System. The total catchment area of these 44 community houses is 928 square meter. The total rainwater collected from this catchment area is 1 196 552 liters annually. 334 440 liters of rainwater is harvested only in the month of July (peak of monsoon season).

There is an underground tank with 40,000 L capacity in this community. Rainwater is collected in this tank, which is used for all purposes. The women are in peace now. They do not have to walk a mile to fetch water. The time consuming queue and the inconvenience is now over. This demonstration site has proved RWH can mitigate the water scarcity of the whole community. Many national and international delegates along with rainwater harvesting trainees and communities have visited this system.

#### 3.11 Installation of RWH apparatus in Community Hospital in Banepa Municipality

Banepa Hospital is a charity hospital. The hospital has 150-bed that provides a full range of outpatient and inpatient services to a service area, which now includes Kathmandu.

The major problem for this Hospital is water supply. The hospital needs 40,000 to 50,000L of water daily. The piped line provided through community could not mitigate the water demand of Hospital. It had been very difficult to deal with community while bringing water from there. They had to buy water from tanker, which is not cost effective, and they could not depend on that.

In the mean time, NGO Forum approached Scheer Memorial Hospital for the preliminary talk for Rainwater Harvesting System Installation. The hospital signed the MOU with NGO Forum for the design of Rainwater Harvesting System Installation.

NGO Forum has designed Rainwater Harvesting System for the Hospital. According to the design, the hospital has huge catchment area of 5060 square meter. The total harvesting potential of this catchment area is 80, 95,800L annually. The annual rainfall of this area is 1600L.

An innovative man in the hospital Mr. Stuart Forbes, Director Support Services along with the mechanic of the hospital harvested rainwater from the main building of the hospital.

In the mean time, the hospital invested to build pipelines from the spring of the community to supply water to the Hospital. The one-inch pipeline water supply is already helping to fulfill the demand of water in the Hospital i. Where as rainwater is used for laundry and cleaning purposes.

Among this catchment area, some of the buildings are used for the collection of rainwater. The rest is discharged to the fields of the communities. As community complains when they do not need water, NGO Forum has proposed different collection points. If the rainwater from whole catchments area is collected, it will help to fulfill the water demand as the spring may dry out. For being independent in water supply, rainwater collection from every catchments area is recommended.

### 3.12 Installation of RWH system in Department of Urban Development and Building Construction

In the national workshop, different high officials participated from DUDBC. In the same workshop, the director general appreciated the initiative started to lessen the water scarcity. He committed to help at the most from government side, and wanted to experience RWH and its benefits in its own office buildings.

This is the department, which deals with urban development and building construction by laws. Many engineers and technicians are involved in this department and its 25 divisional offices through out the country. RWH system in this department could be the best demonstration site for all of them, and it would create pressure on government in legislating RWH policies, which is one of the major objectives of RWH promotion.

There are many buildings with considerably high catchments area. Rainwater Harvesting Expert of NGO Forum designed the system. The engineer of this department also involved himself in the design and survey. The five plumber technicians trained by NGO Forum installed the system

RWH system is installed in five major buildings of DUDBC. They are all one-storey buildings. The roof type is slope and tiled. There is 5,000 L tank, 16 recharge pits and the existing pond for rainwater collection. There are many trees in the periphery of these buildings. In the end of every conveyance, there is small open pit with leaf screen with outlet, which leads to recharge pits.

### 3.13 Agreement with Nepal Red Cross Society Kathmandu District, Lalitpur District and Guthi- youth network

Red Cross and Guthi (Local organization that conducts cultural activities) have wider network of its function. Red Cross Kathmandu chapter has 19 branches. Similarly, Guthi has network of many local youth clubs. In the beginning of this project, secretary from Red Cross and Guthi participated in Training of Trainer on Rainwater Harvesting System. Later, agreement was signed with Red Cross and Guthi for the dissemination on RWH to different communities. Until date, in association with Red Cross, 10 communities of Kathmandu Municipality have been oriented on RWH. Similarly, 50 plumbers were trained in association with these social organizations.

It has been very good opportunity to tie up with Red Cross and Guthi for the dissemination program on RWH. Different communities were approached and everybody is facing water scarcity. People have so many queries regarding the quality of rainwater, cost of installation and recharge to their existing well.

#### 3.14 Orientation to Civil Society on RWH

In association with Guthi and Red Cross, NGO Forum gave orientation on RWH to the civil societies of Kathmandu Valley. Ten communities from different part of Kathmandu Valley have been oriented regarding RWH. The civil societies included the resident, students and women of the community. All together 1000 community people are oriented in association with Guthi and Red Cross

Red Cross and Guthi will take forward the RWH dissemination program from door to door through the participants of these orientation programs.

#### 3.15 RWH Training to Plumbers from Guthi (local organization)

In 29 July 2006, NGO Forum organized training for plumbers on RWH in association with Red Cross and Guthi. The idea behind this training is that the communities who were oriented can contact either Guthi or Red Cross if they are interested to harvest rainwater. The database of the plumbers will be available in Red Cross as well as in Guthi. This is just to make the trained plumbers accessible for harvesting Rainwater. Trained plumbers are already in demand for the installation of RWH.

Mr. Anil Stapit, program associate of Guthi inaugurated the training program. He believed that plumbers are very important part of every building construction so they can act as water ambassador. Until and unless they are not trained, the RWH promotion campaign can never achieve its goal. He said it is the pleasure of g\Guthi to collaborate with NGO Forum for the noble cause. Guthi has always been working for the welfare of people.

Training was conducted in two sessions by Ms. Rashmi Kiran shrestha and Dipesh Shrestha, trainers of NGO Forum. Technicalities of RWH and the process were shared among the trainees. They were also taken for field visit. Trainees shared that this is important and every households should adopt this system.

#### 3.16 RWH Training for Civil/Architect students.

#### 3.14.1 Training in Institute of Engineering, Pulchwok, Lalitpur

The training was conducted upon the request of architecture engineering students association and Civil engineering students association. With the active participation of the students from this college, NGO Forum trained 215 engineering students of Civil/Architect/Mechanical group.

Inaugurating the program, Dr. Roshan Raj Shrestha, CTA, UN -Habitat Nepal said it is a good opportunity for engineering students to develop innovative ideas regarding RWH. He believed the youth will take this as a challenge to mitigate water scarcity through rainwater harvesting.

There were three sessions of the training. In the first session, Vice President of NGO Forum and Director of CIUD talked about the relevant situation of water and sanitation, technicalities of RWH along with best examples all over the world.

In the second session, Dr Suresh Das Shrestha, professor at Tribhuvan University talked about hydrogeology of Kathmandu. He talked about Rainwater Harvesting and ground water recharge in Kathmandu valley. He said there are different ways of recharging water according the hydrogeology of Kathmandu. As ground water level is decreasing extensively in Kathmandu Valley, there is no other option rather than recharging groundwater.

In the last session, Dr. Roshan Raj Shrestha, CTA of UN Habitat talked about experience in RWH and water management with examples all over the world. President of Engineers students association, Mr. Gagan Thapa said this training is truly beneficial for the engineering students. RWH is urgent for the Kathmandu Valley where water scarcity is severe.

#### 3.14.2 Training in Khwopa Engineering College, Bhaktapur

NGO Forum in association with civil engineering department of Khwopa Engineering College conducted training for 180 students and staffs from same department of this college. In the inaugural session, Dr Rajan Suwal, Principal of Khwopa Engineering College said RWH is the best alternative to mitigate water scarcity. He said Khwopa Engineering College in association with NGO Forum is drafting the course of study regarding RWH to include in 4th year of the engineering course, which will give students more time to know better about RWH system and its techniques. It will also give opportunity for the students to research and develop RWH system so that it can provide diverse options for consumers.

There were three sessions of the training. In the first session, Ms. Rashmi Kiran Shrestha, program support officer of NGO Forum talked about the relevant situation of water supply and sanitation, rainwater harvesting and its consequences with best examples of RWH all over the world.

In the second session, Engineer Naresh Pradhan from NGO Forum talked about the technicalities of RWH. This session was purely technical which helped trainees to get idea about the design of RWH system.

In the third session, Dr. Suresh Das Shrestha, professor at Tribhuvan University talked about hydrogeology of Kathmandu. He talked about Rainwater Harvesting and ground water recharge in Kathmandu valley. He said there are different ways of recharging water according the hydrogeology of Kathmandu. As ground water level is decreasing extensively in Kathmandu Valley, there is no other option rather than recharging rainwater to ground.

#### 3.17 RWH Training to Practicing Civil/Architect Engineers

NGO Forum organized training for 25 practicing architect engineers from technical interface of Kirtipur Municipality on 5<sup>th</sup> August, 2006. Inaugurating the program Mr. Prakash Amatya, Director of NGO Forum presented the current scenario of water scarcity in Kathmandu Valley. He highlighted the reason why civil/architect engineers are focused for RWH training. Similarly, other sessions included the technicalities of Rainwater Harvesting System and groundwater recharge.

In closing program, trainees said they felt enlightened by the training and they will consider RWH system in the houses they design. They will contact NGO Forum for further support.

# 3.18 Agreement with Kathmandu Metropolitan City Enforcement Department

Kathmandu Metropolitan City Enforcement Department, municipal polices, are cutting the pipes, which drain rainwater directly from the terrace of the building to the main road. They have been doing this to all the houses which lies to the main road. This has saved the structure of the road and its durability which otherwise have been destroyed by the drain. Cutting the pipes from the terrace is not the sustainable solution. Knowing this, NGO Forum contacted the head of this enforcement department. With this initial talk, NGO Forum gave training to the municipal police of this department. Now they will not only cut the pipelines but also advice and distribute leaflets to the residents to collect rainwater rather than draining it to the road. There is an agreement between NGO Forum and Enforcement department for the dissemination of RWH in Kathmandu Valley.

#### 3.19 Establishment of Rain Center in Trichandra College

Trichandra College, which is one of the demonstration sites of RWH system, now has Rain Center. In the active participation of Junior Youth Red Cross Circle, Rain Center is established in the college where materials regarding RWH are available. The students themselves take the visitors to the demonstration sites. They disseminate the knowledge of RWH. There are 8,000 students in this college. This has been the good demonstration site to the students and researchers. All the students in rain center are the TOT trainees.

#### 3.20 Participation in World Urban Forum

President and Director of NGO Forum took participation in World Urban Forum held in Vancouver, Canada on March 23, 2006. There was a presentation on the activities going on regarding rainwater harvesting in Kathmandu by the president. Similarly, the Teleflim "Jalpari" regarding rainwater and wastewater treatment was shown in that forum.

# 3.21 Dialogue initiated with the leading Bank(Bank of Kathmandu) for Micro Credit Financing

Cost of Rainwater Harvesting is a curiosity for the interested candidates. NGO Forum initiated talk with the bank if they can provide loan for the one who is interested in installing RWH system. The meeting was held in Bank of Kathmandu in the following topics.

#### **Topic of Discussion**

- How Bank of Kathmandu can provide loan to the interested individual or community in installing Rainwater Harvesting System.
- What are the policies that the bank of Kathmandu can formulate in providing loan for installing Rainwater Harvesting System to the individual as well as at the community level?

#### Agreed points

BOK principally agreed to provide some incentives in housing loans, if Rainwater Harvesting System is included in the design. For this, detail homework will be carried out. BOK suggested a third party engagement for the supervision and monitoring of the system being installed or not after the loan approval. Somebody should be responsible for supervision if the system is installed or not.

- The bank is ready to enter into the loan approval for the RWH installation to the community proposal through civil society organization as guarantee.
- The meeting concluded to continue the initiative and organize further discussion, follow up meeting for formulating policies regarding loaning system to RWH system installation.

### 3.22 Conducted Second Steering Committee Meeting for RWH Guidelines

Under the chairmanship of joint secretary, Mr. Poorna Das Shrestha, follow up meeting of Rainwater Harvesting steering committee was held in the secretary meeting hall of Ministry of Physical Planning and Works, Singha Darbar on Sunday, 9<sup>th</sup> July, 2006.

#### The agendas discussed in the meeting were

- 1. Progress report of Rainwater Harvesting Promotion Program
- 2. Groundwater infiltration research in Kathmandu Valley
- 3. Policy formulation for Rainwater Harvesting in Nepal
- 4. Future program regarding Rainwater Harvesting

#### Presentations on meeting

Mr. Prakash Amatya, executive director of NGO Forum for Urban Water and Sanitation presented progress on Rainwater Harvesting Promotion Program. Dr. Suresh Das Shrestha, professor from Tribhuvan University gave presentation on groundwater infiltration research project on behalf of NGO Forum. Following inputs were given regarding this research program.

#### Inputs from meeting to the above presentation

- Relevant national and international literature should be reviewed regarding ground water recharge
- The reasons for selecting sites should be mentioned

Mr. Birendra Man Pradhan, senior divisional engineer, DWSS gave presentation on "Guidelines on Rainwater Harvesting in rural sector".

Mr. Manoj Kumar Lal from RWSS Fund Dev. Board also gave presentation on "Guidelines on Rainwater Harvesting in rural sector".

#### Inputs from the meeting to the above presentation

- Before formulating RWH policies in Nepal, relevant policies of other countries should be reviewed.
- Guidelines of RWH should clearly distinguish the need and circumstances of Urban,
   Hilly and Terai area.

#### Decisions made after discussion

- A copy of guidelines prepared by DWSS and RWSS Fund Dev. Board will be made available to all the members of steering committee for review at the earliest for next meeting.
- 2. The meeting decided for the need of common guidelines of RWH for urban and rural sectors.
- 3. The draft of RWH policy, which is under review, will be discussed in next meeting.
- 4. Representatives of municipalities should be invited in next meeting.

#### 3.23 Presentation at Rotary Club

Different rotary clubs of Kathmandu and Lalitpur Municipality were oriented on Rainwater Harvesting system and its benefits. Rotary club of Yala, Lalitpur were influenced that they have planned to install RWH system in 1,000 houses of Lalitpur Sub Metropolitan City. They requested NGO Forum for further support to make this plan successful.

#### 3.24 International Conference of Water, Waster water and Environment

There was international Conference in Kathmandu from 13 to 15 September 2006. Director of NGO Forum presented on Rainwater Harvesting program updates, success and challenges amidst national and international delegates. Participants appreciated the development that is taking place in RWH Promotion to mitigate water scarcity of Kathmandu Valley.

#### 3.25 Training of RWH to Luthern World Federation Nepal

Luthern world federation Nepal is working on disaster management program. They are focusing on earthquake disaster. In the time of disaster, water and sanitation is always the major issue.

Luthern World Federation requested NGO Forum for water and sanitation skill training to the task force members of five municipalities of Kathmandu Valley. The training was conducted for 35 volunteers who are task force The training focused on the preventive measures to be taken before, during and after the disaster.

Rainwater harvesting, conservation of traditional water resources, water purification techniques, low cost waste management and sanitation were shared among the trainees in three days training.

#### 3.26 RWH training to the Plumbers of Thimi Municipality

In association with NGO Forum, Thimi Municipality organized training to 25 plumbers of Thimi Municipality. Inaugurating the program, executive officer of Thimi Municipality said if experts, technicians could convince RWH and its benefits to every body such as political parties, intellectual circle and public then it can be legislated by laws. The law can be legislated, as every new construction should include RWH system like septic tank. He said it is not hard to make laws regarding RWH as we are facing huge scarcity of water but the major challenge is the concerned authorities who are working on it should convince its benefits and challenges.

He said Thimi Municipality is ready to help NGO Forum in the coming days. The trainces visited "Bal Premi School" where RWH system has been installed.