

**Farmer Managed Irrigation Systems Promotion Trust**



**Award and Training  
Series 2000**

**REPORT ON FMIS AWARD AND TRAINING ON THE THEME  
OF RESOURCE MOBILIZATION FOR OPERATION  
AND MAINTENANCE OF IRRIGATION SYSTEMS**



**Upendra Gautam  
Ajaya Lal Shrestha  
Ganesh Khaniya**

**December 2001**

**Farmer Managed Irrigation Systems Promotion Trust  
Kathmandu, Nepal**

**Farmer Managed Irrigation Systems Promotion Trust**

**Award and Training  
Series 2000**

**REPORT ON FMIS AWARD AND TRAINING ON THE THEME  
OF RESOURCE MOBILIZATION FOR OPERATION  
AND MAINTENANCE OF IRRIGATION SYSTEMS**

**Upendra Gautam  
Ajaya Lall Shrestha  
Ganesh Khaniya**

**December 2001**

**Farmer Managed Irrigation Systems Promotion Trust  
Kathmandu, Nepal**

Title : Report on FMIS Award and Training on the Theme of Resource Mobilization for Operation and Maintenance of Irrigation Systems

ISBN : 99933-328-2-8

Authored by : Upendra Gautam, Ajaya Lall Shrestha and Ganesh Khaniya

Published by : Farmer Managed Irrigation Systems Promotion Trust  
Min Bhawan, GPO Box No. 1207  
Kathmandu, Nepal  
Phone : 977-1-482201/493664  
Fax : 977-1-482008  
E-mail : [fmist@wlink.com.np](mailto:fmist@wlink.com.np)  
Website : [www.cms.com.np](http://www.cms.com.np)

Copyright © : FMIS Promotion Trust

Computer Layout and Design : Consolidated Management Services Nepal (P) Ltd.

Cover Photographs : FMIS Promotion Trust, Nepal

Price : NRs. 30.00

Printed by :

Printed and Bound in Nepal

**All rights reserved. No use of this publication may be made for commercial purposes without prior written permission of FMIS Promotion Trust. Portions of this text may be reproduced with proper attribution to the Trust for the purpose of furthering the cause of FMIS.**

## TABLE OF CONTENTS

	<b>Page</b>
List of Acronyms	
Map of Nepal	
1. INTRODUCTION.....	8
2. FMIS PROMOTION TRUST AWARD AND TRAINING PROGRAM.....	10
2.1 FMIS Promotion Trust Award Procedure.....	10
2.1.1 Selection of Theme for Award.....	10
2.1.2 Development of Application Form.....	10
2.1.3 Dissemination of Award Information.....	10
2.1.4 Dissemination of Application Form.....	11
2.1.5 Processing of Application Form and Short-listing.....	11
2.1.6 Field Verification.....	12
2.1.7 Final Evaluation and Selection of the Best Practicing FMIS...	12
2.1.8 Lessons Learned.....	12
2.1.9 Best Practicing FMIS Recognition Ceremony.....	13
2.2 Training on Resource Mobilization of FMIS.....	14
2.2.1 Theme of Training.....	14
2.2.2 Training Venue and Duration.....	14
2.2.3 Participants of the Training.....	14
2.2.4 Training Program.....	14
3. CHHATTIS MAUJA IRRIGATION SYSTEM: AWARD WINNING FMIS.....	17
3.1 General Introduction.....	17
3.2 Water Acquisition.....	18
3.3 Maintenance Works and Operation & Maintenance Cost.....	18
3.4 Financial Management.....	19
3.5 Agricultural Production and Food Sufficiency.....	21
3.6 System Strengths.....	22
3.7 System Weaknesses.....	23

## **LIST OF TABLES AND ANNEXES**

### **List of Tables**

Table 1	Numerical Scoring of CMIS
Table 2	Labour Mobilization (gross) in the Fiscal Year 1998/99
Table 3	Operation and Maintenance Cost in the Fiscal Year 1998/99
Table 4	Annual Income and Expense of the Central Committee
Table 5	Estimated Annual Budget and Actual Income and Expenses of <i>Premanager Mauja</i> for the Fiscal Year 2055/56
Table 6	Average Crop Yields, Total Production and Food Availability

### **List of Annexes**

Annex I	Model of the Questionnaire for FMIS Award Contest
Annex II	Evaluation Criteria for Contesting WUAs in FMIS Award
Annex III	General Description of the Short-listed FMIS
Annex IV	List of the Professionals Assigned for Field Verification for FMIS Award 2000 of the FY 1999/2000
Annex V	Field Verification Indicators and Measures
Annex VI	Scoring Status of the Short-listed WUAs before Field Verification
Annex VII	Final Scoring Status of the Short-listed WUAs after Field Verification
Annex VIII	List of Participants
Annex IX	Recognition Ceremony and Training Program
Annex X	<i>Chhattis Mauja</i> Irrigation System

## LIST OF ACRONYMS

CKSS	–	<i>Chhattis Kulopani Sinchain Samitee</i>
CMIS	–	<i>Chhattis Mauja</i> Irrigation System
CMS	–	Consolidated Management Services Nepal (P) Ltd.
DIO	–	District Irrigation Office
DOI	–	Department of Irrigation
FMIS	–	Farmer Managed Irrigation System
FY	–	Fiscal Year
ha	–	hectare
IWMI	–	International Water Management Institute
JVS	–	<i>Jalsrot Vikas Sanstha</i>
MU	–	Municipality
NISP	–	Nepal Irrigation Sector Project
NRs.	–	Nepali Rupees
O&M	–	Operation and Maintenance
RID	–	Regional Irrigation Directorate
SMIP	–	Sunsari Morang Irrigation Project
SMIS	–	<i>Soraha Mauja</i> Irrigation System
VDC	–	Village Development Committee
WC	–	Working Committee
WUA	–	Water Users Association



**CHHATTIS MAUJA  
IRRIGATION SYSTEM**

LEGEND:-

	KATHMANDU VALLEY
	INTERNATIONAL BOUNDARY
	DEVELOPMENT REGION BOUNDARIES
	ADMINISTRATION ZONE BOUNDARIES
	DISTRICT BOUNDARIES



## **REPORT ON FMIS AWARD AND TRAINING ON THE THEME OF RESOURCE MOBILIZATION FOR OPERATION AND MAINTENANCE OF IRRIGATION SYSTEMS**

### **1. INTRODUCTION**

Nepal is known for its tradition of Farmer Managed Irrigation Systems (FMIS). Farmers are collectively engaged in irrigated agricultural development as an enterprise since time immemorial. They have been constructing irrigation systems at their own initiative to intensify their agricultural production. There are thousands of FMIS in the country. These FMIS provide irrigation services to 70 percent of the country's total irrigated area of about one million hectare (ha). Hence, FMIS have gained on their own a status that is symbolic of the national heritage of the country. They are the mainstay of the country's food security, and hence social and political stability. Usually, these FMIS are indigenous in their management practices and responsive to the local organizational needs and services. They represent a sustained autonomous pattern of organization. Indigenous and autonomous strengths of FMIS provide reliable basis for the sustainable management and development of the resources with irrigation as starting point in an agrarian economy.

There has been no dedicated, self-initiated and systemic institutional support in facilitating these FMIS to develop their comparative capacity vis-à-vis the challenges. Only in 1981, the government realized the existence of FMIS and their contribution in the nation's agricultural economy. Despite the fact that these FMIS are functioning in the indigenous manner since ancient period, the comprehensive study and documentation of these FMIS have been lately started, that too, not adequate enough which impedes their exposure within and outside the nation. Hence, FMIS largely remained incommunicative to the global community. Such a situation has constrained the FMIS from evolving into a competitive socio-economic entity. There was a clear need to conserve and preserve such a national heritage. It was an imperative to recognize and promote them as a key functional institution in the diverse socio-economic and geographical settings of Nepal.

In this background, in June 1998, the FMIS Promotion Trust as a non-profit, non-partisan, non-governmental professional organization was legally registered with the Government under the Association Registration Act 2034 B.S. The Trust is moving ahead in the following identified areas of program activities:

- Providing FMIS their due recognition, thereby enhancing them for their organizational and management innovations, and indigenous performance;
- Promoting the values of the FMIS in the wider context and sharing of information about their institutions;
- Bringing them into the global stream of creativity, well-being and self-governance in a way that makes themselves aware of the value and uniqueness of their own institutional assets;
- Disseminating the knowledge on FMIS through seminars, dialogue, workshops and research contributions; and
- Developing human resources through applied research, education and training in FMIS.

The specific objectives of the Trust are: i) to annually recognize one FMIS by awarding it for its best practice in an operational theme that helps in sustainable organization, management and technology of an irrigated agricultural system; ii) to provide the representatives of this FMIS the latest global exposure and orientation to the irrigated agricultural system development and management practices; iii) to globally disseminate the basic features of the Award winning FMIS; iv) to conduct and encourage FMIS related research, education and training that directly helps to promote a knowledge-base on FMIS; and v) to provide a forum



for national and international dialogue on FMIS.

## **2. FMIS PROMOTION TRUST AWARD AND TRAINING PROGRAM**

### **2.1 FMIS Promotion Trust Award Procedure**

As per the specific objectives mentioned above, the FMIS Promotion Trust annually selects one FMIS for its best performance in a theme specified for that year. The award theme for the Fiscal Year (FY) 1999/2000 was **Resource Mobilization for Operation and Maintenance of Irrigation Systems**. The stated theme was chosen taking into account the need of knowing the strength of the system in terms of its resource generation and its subsequent utilization. To assess the organizational patterns and sustainability of the overall system, the mentioned theme was instrumental.

*Chhattis Mauja* Irrigation System (CMIS), Shankarnagar, Rupendehi district in western development region was selected for the best practice award in FY 1999/2000.

#### **2.1.1 Selection of Theme for Award**

The Working Committee (WC) meeting of the Trust approved the theme **Resource Mobilization for Operation and Maintenance of Irrigation Systems** for the FY 1999/2000. This was done after deliberation in the committee taking into consideration other relevant topics as well.

#### **2.1.2 Development of Application Form**

As per the provision of Section 10 Sub-section 19 (*Ga*) of the Trust Constitution, preparation of application form for the Award contest was essential which was to be filled in, later, by aspiring FMIS from all around the country. Accordingly, the Trust officials prepared the application form with a set of questionnaire. The questionnaire was divided into following three sections:

##### **(a) Description of WUAs**

It mainly deals with the location and status of the system and other aspects of Water Users Association (WUA)

##### **(b) Information on Award Theme**

It is a crucial part of the questionnaire. The questions in this section encompass the wide range of issues pertaining to the theme **Resource Mobilization for Operation and Maintenance of Irrigation Systems** such as, what types of resources generated and how.

##### **(c) Economic Activities**

This part focuses on the possible sources of income and their subsequent expenses.

The details of questionnaire are given in **Annex I**.

#### **2.1.3 Dissemination of Award Information**

Information about the FMIS Award was developed and circulated for the mass dissemination throughout the country by airing them three times each through the "Agriculture Program" of Nepal Television and the Radio Nepal during the month of November 1999. The broadcast was done with the co-operation of the Agriculture Communication Division of the Ministry of Agriculture, His Majesty's Government, Nepal.

### 2.1.4 Dissemination of Application Form

The Trust used the vernacular national daily *Gorkhapatra* for disseminating the information regarding its Award and Training program. Accordingly, the application form to be filled in by the candidate FMIS along with the application procedures was published in *Gorkhapatra* on 17 November 1999. A notice was issued on 16 November 1999 giving prior information about the publication of the application form including the questionnaire and another notice was published on 18 November 1999 notifying the publication of the application form the previous day.

For enhancing the participation of larger number of FMIS from all around the country, following measures were taken:

- o All Regional Irrigation Directorates (RIDs) and the District Irrigation Offices (DIOs) were requested to disseminate the information relating to the application procedures and assist the FMIS in filling questionnaire.
- o The process of information dissemination was also followed up with the consultants of Second Irrigation Sector Project in the Eastern and Central Development Regions and the consultants of Nepal Irrigation Sector Project (NISP) in the Western, Mid-western and Far-western Development Regions.

### 2.1.5 Processing of Application Form and Short-listing

Duly filled forms were received from contesting FMIS through the normal public postal services. Information duly filled in by the FMIS were crosschecked and computed. The Trust officials developed a standard format for the evaluation of the contesting FMIS based on the questionnaire. Keeping account of the 24 questions contained in the questionnaire-set, necessary weightage was given based on the selected theme, out of 20.00 full marks. Accordingly, the three headings ie, Description of WUAs, Information on Award Theme and Economic Activities carried respectively 3.25, 9.00 and 7.75 marks. On the basis of this criteria of evaluation, the process of scoring and short-listing was undertaken. Based on their initial scores, six FMIS were short-listed for field verification. This process was completed by April 2000. The criteria developed for the scoring and short-listing the FMIS are given in **Annex II**.

On the basis of the evaluation criteria as given in **Annex II**, the numerical score of each FMIS was determined. To illustrate the application of the criteria, calculation of numerical score of CMIS, Shankarnagar, Rupandehi district is cited in **Table 1**.

**Table 1**  
Numerical Scoring of CMIS

SN	Description	Specific Allocation of Score to Sub-units	Weightage
<b>A. Description of the WUAs</b>			
1.	WUA registration status	Registered	0.25
2.	Women representation in the WUA	1	1.00
<b>Total</b>			<b>1.25</b>
<b>B. Information on Award Theme</b>			
1.	Resource mobilization	Internal resource mobilization	3.00
2.	Minuting status	Written Minuting System	2.00
3.	O&M rules	Full set of rules (defined 5 Nos.)	2.00
4.	Rules amendments	Rules amended after formation	2.00
<b>Total</b>			<b>9.00</b>

<b>C. Economic Activities</b>			
1.	Resource generation	Internal resource generation (water fee collection, donation, fine collection, provident funds interest etc.	2.75
2.	Rules implementation	Strict implementation of rules	2.00
3.	Status of bank account	Bank account opened	1.00
4.	Status of fund	Fund deposited (provident/other)	1.00
5.	Incremental status fund	Fund status increased (in few years)	1.00
<b>Total</b>			<b>7.75</b>
<b>Grand Total (A+B+C)</b>			<b>18.00</b>

*Note:* The full marks of the competition was 20 only.

Six short-listed FMIS were from Jhapa, Parbat, Kathmandu, Makawanpur, Chitwan and Rupendehi districts. The general description of these FMIS is given in **Annex III**.

### **2.1.6 Field Verification**

The objective of the field verification was to observe reliability and consistency between the information filled in the questionnaire by contesting FMIS and information received during the field verification. The Trust professionals carried out the field verification in the month of May 2000. The name of the professionals and the area of their expertise are given in **Annex IV**. Field verification indicators were identified in advance as given in **Annex V**. The professionals assigned were provided orientation before they started their field visit.

### **2.1.7 Final Evaluation and Selection of the Best Practicing FMIS**

Following are the methods adopted for the final selection of the best practicing FMIS.

#### **o Numerical Scoring**

As a result of field verification, the scoring of each short-listed FMIS did slightly change in which CMIS, Shankarnagar, Rupendehi district secured the highest score, that is, 18.00 out of 20.00 full marks. The scoring status of each short-listed FMIS is given in **Annex VI**.

#### **o Consideration of Confounding Variables**

With an objective of protecting the evaluation process from the sheer numerical score as well as several other social biases, the confounding variables were also considered while finalizing the score. Some of the examples of these variables were record keeping and minute keeping systems of the WUAs, bank account, contribution of the physical labor for the Operation & Maintenance (O&M) of the system, charging fee for informing the outsiders about the system etc. Their enthusiasm regarding O&M was also a factor taken into consideration.

#### **o Identification of Best Practicing FMIS of the Year**

After the evaluation of all short-listed FMIS on the basis of numerical scoring as well as confounding variables, final scoring of the contesting FMIS was determined. Consequently, the CMIS situated in Rupendehi district was selected as the best practicing FMIS on the theme of **Resource Mobilization for Operation and Maintenance of Irrigation Systems** for the FY 1999/2000. Final scoring status of the short-listed WUAs after field verification is given in **Annex VII**.

### **2.1.8 Lessons Learned**

For the FY 1999/2000, the FMIS Promotion Trust published the application form along with

the questionnaire in *Gorkhapatra*, which is the most circulated national daily throughout the country. The dissemination of information regarding the procedures of application was assisted by RIDs. However, the outcome was rather disappointing. The Trust received only 13 duly filled-up questionnaires from ten districts. From such a dismal outcome of the dissemination activities, the Trust has derived this lesson: Even the oldest and widely circulated vernacular newspaper is not within the reach of FMIS. The DIOs, after the construction works are over, are not engaged in any type of participatory works with the FMIS on a regular basis. Therefore, there is a clear need to identify and establish a mechanism that assures maintaining a credible communication linkage with the target FMIS.

### **2.1.9 Best Practicing FMIS Recognition Ceremony**

After the selection of best practicing FMIS, the Trust organized a ceremony for the recognition of Award winning FMIS for the year 1999/2000. The ceremony was held on 8 September 2000 at Nepal Administrative Staff College, Jawalakhel, Lalitpur. The CMIS of Rupandehi District in the Western Nepal was awarded the best practicing FMIS. Dr. Prachanda Pradhan, chairman of the Trust, chaired the opening ceremony. The ceremony was attended by the farmer representatives of CMIS, NISP as well as Sunsari Morang Irrigation Project (SMIP). The function was also attended by members of the Trust and other professionals related to the irrigation development in Nepal. Mr. Ratneshwor Lal Kayashtha, director general, DOI was the chief guest of the program. Mr. Rajan Subedi, member secretary of the Trust welcomed the invitees and the participants on behalf of the Trust. Mr. Subedi gave a brief introduction of the activities of the Trust and the process adopted to select the best practicing FMIS. He also argued that the objective of awarding the best FMIS based on the related theme is primarily to recognize their performance and encourage them to perform better ever in future. On the occasion, Mr. Subedi cited that the gross O&M generated among the beneficiary farmers is about Rs. 747 per ha which is about 9.91 man days labor force per ha.

The chief guest highlighted the importance of FMIS in Nepal and its contribution to the national economy in terms of agricultural production and employment to rural population. He also extended his thanks to the Trust for conducting the activities relating to the promotion of FMIS. He also congratulated the WUAs of CMIS for winning the award and appreciated its aspect of mobilizing larger resources. He emphasized on the need of replicating the same in other similar systems. However, he indicated that despite the large investment made by the farmers for O&M, cropping intensity within the project area is not very much encouraging. He felt that adequate efforts are not made in agricultural activities in terms of extension services, agricultural inputs and market outlets. He suggested the WUA members to pay proper attention towards the agricultural intensification with crop diversification. Mr. Kayastha sincerely expressed his willingness to support the system through his department, if needed, in order to promote the performance of the system. He hoped the outcomes of the workshop would be helpful for policy makers as well as WUA members in intensifying the performance of FMIS in Nepal.

The award consisting of a cash prize of NRs. 5,000 and a copper plaque of honor was presented to Mr. Keshav Prasad Neupane, chairman of *Chhattis Kulopani Sinchain Samitee* (CKSS), WUA of CMIS by the chief guest.

After receiving the award, Mr. Neupane extended his thanks to Dr. Pradhan and the executive committee of the Trust for recognizing their hard work in managing the irrigation system under such a difficult social, political and environmental condition. He also appreciated the activities of the Trust in the promotion of FMIS in Nepal. He explained about the current problems of CMIS mainly at the water diversion point and requested the DOI to support them in managing the diversion structure.

Dr. Upendra Gautam, vice-chairman of the Trust elaborated the past and present activities of the Trust in order to promote the FMIS in Nepal. He mentioned that FMIS which are the national heritage need appropriate preservation and adequate support from different organizations to make them strong and sustainable. He stated the various activities undertaken by the Trust for strengthening the FMIS.

At the end of the recognition ceremony, Dr. Pradhan highlighted the importance of FMIS in Nepal and their uniqueness as well as indigenous manner of functioning. He mentioned the increasing responsibility of FMIS in Nepal since many Agency Managed Irrigation Systems are in the transitional phase. He also cited the need to preserve the FMIS in Nepal as they are our national heritage, thus being our national pride. Dr. Pradhan explained the prime objectives of the Trust to promote FMIS through research and training as well as disseminate knowledge through seminars and workshop. He also congratulated WUA of CMIS on emerging as the best practicing FMIS to receive the award. The detail of the recognition ceremony and training program is attached in **Annex VIII**.

## **2.2 Training on Resource Mobilization of FMIS**

### **2.2.1 Theme of Training**

After the recognition ceremony, a training program was conducted. The training was held on the Award theme **Resource Mobilization for the Operation & Maintenance of Irrigation Systems**. Both the recognition ceremony and training parts of the program were facilitated by Mr. Krishna Murari Gautam, member, FMIS Promotion Trust.

### **2.2.2 Training Venue and Duration**

The training program immediately followed by recognition ceremony was also held at Nepal Administrative Staff College, Jawalakhel, Lalitpur. It started at 10:30 a.m. on 8 September 2000 and continued till 5:00 p.m. It resumed at 9:00 a.m. and concluded at 1:15 p.m. on 9 September, 2000.

### **2.2.3 Participants of the Training**

There were all together 29 farmer representatives in the Training Program. Out of them, 21 were the WUA members of CMIS and rest were the representatives of NISP and SMIP sub-projects. The list of the training participants is given in **Annex IX**.

### **2.2.4 Training Program**

After the award giving ceremony, the interactive training was conducted at the same venue. The main objective of the training was to identify the areas of opportunities for CMIS and to assess its current as well as emerging challenges in the mobilization of resources for the O&M of irrigation system and to explore the appropriate solutions. During the training session, chairman of CKSS presented his perspective on problems and prospects of resource mobilization and management for the O&M of CMIS. His presentation is given below:

CMIS has been managed by a strong farmer organization, and it has effective norms for internal labor mobilization for routine as well as emergency maintenance. The contribution in this regard from the beneficiary-farmers is equitable based on *Kulara*<sup>1</sup>, and task allocated to *Kulara* is based on work volume rather than simply counting heads of *Kulara*. Each *Mauja*<sup>2</sup> committee has been mandated to provide *Kulara* for the maintenance of main canal

---

<sup>1</sup> Requirement of one man-day of labor for each twenty-five *bigha* (15 ha).

<sup>2</sup> Large track of land.

and diversion work. If a person fails to provide labor contribution, (s)he is charged with *Khara*<sup>3</sup> or will be denied water for irrigation. The amount collected against *Khara* is also one of the resources collected for O&M. Irrigation water is delivered to each branch canal based on the *Kulara* contribution. The responsibility of main committee, *Mauja* committee and *Ilaka*<sup>4</sup> committee, is clearly defined and they actively are engaged in resource mobilization for O&M, water allocation and distribution. Water allocation and distribution are made on rotational basis when there is shortage of water in source and in continuous supply during monsoon. Despite the strong WUA and equitable water allocation and distribution, the volume of works for regular and emergency maintenance is so high that farmers sometime become reluctant to contribute. The maintenance work at diversion site is critical. Machines are requested from Department of Roads. The expenditure of fuel and operation cost of the machine is high. However, there is no guarantee of obtaining such machines at the time of need. In order to meet the cost, the rate of *Khara* has been increased. The construction of a more stable structure has become imperative. The people of young generation do not take much interest in system maintenance and management. People of this generation are encouraged to go to off-farm employment in urban center.

After the chairman's presentation, Mr. Nara Bahadur Pun, treasurer of CKSS made his presentation on the annual O&M system as well as on its financial aspects. He said that the source of cash for WUA is primarily *Khara*, assistance from other agencies, fees collected from outside visitors, fines against defaulters and entrance fee to new *Mauja*. However, no support from the government has been made so far except providing a few gabion boxes. Similarly, on the expenditure side, the large amount of cash collection is spent on operation of machine for the maintenance of diversion structure. Other expenditure includes salaries to *Meth Mukhtiyar*<sup>5</sup>, repair of by-cycles as well as dress of *Chaukidars*<sup>6</sup>. He expressed that the collection of fine is a very difficult task. The amount collected is deposited in the bank and regular auditing is done as per the financial rules. He explained the way of collecting labor contributions for regular and emergency maintenance and opined that it was equitable based on water allocation. During the course of maintenance, if cash is required for buying construction materials or skilled manpower; the additional cash amount is collected from among the *Mauja* committees. The person who fails to pay the penalties in time may be charged with the interest on the amount fined. However, those who cannot contribute due to genuine reasons are exempted. If a person who wishes to pay cash and doesn't contribute as labor can pay *Khara* for a year round.

After the presentations of chairman and treasurer of the committee, the entire participants were divided into four groups for detailed discussions relating to the opportunities and challenges of resource mobilization in CMIS. These groups belonged to:

- Labor mobilization
- Material mobilization
- Cash mobilization
- Information dissemination

The group discussion on labor mobilization was coordinated by Mr. Khumanand Ghimire, executive secretary, CKSS and facilitated by Dr. Pradhan. Material mobilization group was coordinated by Mr. Mumeshwor Pant, vice-chairman, CKSS and facilitated by Mr. Ajaya Lall Shrestha, director, Consolidated Management Services Nepal (P) Ltd. (CMS). Similarly, cash mobilization and information dissemination groups were coordinated by Mr. Dadhi Ram Gautam, *Meth-Mukhtiyar* and Mr. Keshav Prasad Neupane, chairman of CKSS

---

<sup>3</sup> Penalty against failing to provide labor contribution.

<sup>4</sup> Area.

<sup>5</sup> Employee selected by the Executive Committee to monitor the daily irrigation fieldwork and keep records of work completed.

<sup>6</sup> Person employed to take care of the system/Peon.

respectively. They were facilitated by Mr. Abinash Panta, member, FMIS Promotion Trust and Dr. Upendra Gautam respectively.

The groups conducted the discussions in details relating to opportunities and challenges in conjunction with the suggestions in the respective groups. The findings of group discussions were presented in full house for a panel discussion. The group of panelists was headed by Dr. Ram Prakash Yadav, senior agriculturist, Winrock International and included Dr. Upendra Gautam, Mr. Abinash Panta, Mr. Ajaya Lall Shrestha, Mr. Dorak Bahadur Thapa and Dr. Madan Pariyar, TA Team, NISP as well as Mr. Krishna Chandra Shaha, representative, International Water Management Institute (IWMI).

The main points of the panel discussion are as follows:

- New areas for resource generation and mobilization are to be explored;
- The cash flow either through farmers contribution or other new sources are to be mobilized;
- Role of WUA should be diversified and involve income generating activities such as establishing rice mills and dealership of agriculture inputs. However, due care should be given to the primary task of system management while doing this;
- The present level of resource generation can be increased by improving the agricultural production and enhancing agricultural support services in conjunction with crop diversification;
- Large labor-intensive O&M can not be continued for long. Therefore, alternatives should be looked to improving the activity of labor in the system.
- Diversion structure should be improved in a way that farmers can operate and maintain it easily;
- Improving the quality of labor would help attract the young people to participate in the irrigation system management.
- Telephone facility at the diversion structure and in the office of WUA and in each *Mauja* should be installed to communicate fast on the operational needs of the system. These facilities can also be utilized as Pay Phone by local people.



### 3. CHHATTIS MAUJA IRRIGATION SYSTEM: AWARD WINNING FMIS

#### 3.1 General Introduction

CMIS is located in Rupandehi District of Western Development Region. It covers almost all wards of Shankarnagar, Aanandban, Karaiya, Makrahar and Gangoliya Village Development Committees (VDCs) as well as ward numbers 10,11,12 and13 of Butwal Municipality. It is believed that it was initially constructed by the local people (Tharus) between the years 1846 and 1863 during the Rana prime minister, Jung Bahadur. At that time the system used to serve only a few *Maujas*. Due to the migration of people from the hills, it is observed that there is a significant expansion of land currently serving 59 *Maujas* with a command area of 3500 ha (about 5,200 *bigha* or 67,600 *ropani*<sup>7</sup>). At a time when this system used to serve only 36 *Maujas*, it was given the name CMIS. The salient features of this system are given in **Annex X**.

The system is about 150 years old. The name of WUA of the system is CKSS and is in existence since long. It was formally registered with the government agency in 2051 Bikram Sambat (1994 AD).

Total benefited population is approximately 53,000 – 26,000 males and 27,000 females. Total household is about 13,000. An irrigation area unit is considered to be 25 *bigha* land. This unit is used for two purposes of WUA management. One is a criterion of assigning one farmer per unit, called *Kulara*, in maintenance works of main canal and intake. Another is four representatives from each *Kulara* in the mass meeting representing the farmers of that *Kulara*. At present there are 162 *Kulara* in the system and 648 representatives.

The system has a central WUA committee and 59 *Mauja* committees for branch canals. In addition, the *Mauja* committees are grouped into nine *Ilakas*. Each *Ilaka* has one *Ilaka* member who is elected or chosen by consensus from among the representatives and functions as a linkage between the central committee and its *Mauja* committees.

The central committee consists of 15 members of which twelve are elected members from among 648 representatives. Chairman, vice-chairman and member secretary of the committee are elected by 648 representatives in the mass meeting. These twelve elected members nominate three other members in the committee. The Treasurer is nominated from among twelve members. At present there is one female member nominated in the central committee. In addition, there are three paid staffs – *Meth Muktiyar* and two peons. *Meth Muktiyar* is a key person in the WUA management who undertakes the following tasks:

- Documentation of WUA records in maintenance works;
- Implementation of the decision of the executive committee;
- Schedule dates for irrigation;
- Supervision of water distribution and rotation;
- Conflict resolution due to water stealing; and
- Information dissemination to the *Mauja* committees.

The committee consists of 1-11 members depending upon the size of the *Mauja*. Generally, the committee chairman acts as *Muktiyar*<sup>8</sup> of that committee. There are two management staffs in each committee - *Muktiyar* (also paid in some committees) and *Chaukidar*/peon. The *Mauja* committees assign their respective *Kularas* in the maintenance works of main canal and intake as a part of their participation. In addition, these *Kularas* have also to carry

<sup>7</sup> *Bigha* and *ropani* (1 *bigha* = 13 *ropani* and 1 ha = 20 *ropani*) are the units of land measurement.

<sup>8</sup> Employee lower in rank than *Meth-Muktiyar* who monitors water distribution at *Mauja* committees.

out regular as well as emergency maintenance works of their branch and sub-branch canals.

### 3.2 Water Acquisition

Irrigation water is abstracted from the Tinau river by a temporary type open intake. The intake is made of river boulders and brushes. The farmers have to engage repetitively and continuously for keeping the intake functioning during the monsoon period. The location of the intake is near the East-west Highway bridge at Butwal.

The first 4 km canal is commonly used by CMIS and *Sorah Mauja* Irrigation System (SMIS). At chainage 4 km, canal water is divided for two systems by a proportional divider – 60% for CMIS and 40% for SMIS. The total length of CMIS main canal is 11.0 km. The discharge available for the system is approximately 4.0 m<sup>3</sup>/sec. There is continuous water supply to the branch canals during the monsoon period. So water duty for paddy used in the system is about 1.10 liter/sec/ha.

The central committee is responsible for water acquisition from the river, and delivery of the allocated water to the branch canals, that is, at the off-take points of the branch canals. These works are managed and supervised by *Meth-Mukhtiyar*. Water distribution in the branch and sub-branch canals is managed by the respective *Mukhtiyars*.

### 3.3 Maintenance Works and Operation & Maintenance Cost

The main resource of the system management is labor mobilization. Major activities are maintenance works of intake, main canal, branch canal and sub-branch canals. These activities are carried out with the mobilization of *Kularas*. There is no regular source of cash income of the central and *Mauja* committees. The management and administrative cost of the committees is covered by *Khara* and entrance fees.

The schedule for maintenance work of main canal and intake is prepared by the central committee. The maintenance of main canal is carried out once in a year, i.e. in the month of Falgun (February/March). The regular maintenance work of the intake is done before the monsoon period. The intake is of a temporary type. The intake is to be maintained with frequent engagement of the *Kularas* during the monsoon period.

The maintenance works in branch and sub-branch canals are done as and when needed. These works are carried out by the respective *Mauja* committees.

Each *Mauja* committee has a number of user farmers in its workforce. The basis for labor mobilization is the area of the user farmer served by the system. The man-days to be contributed per unit land is determined on the basis of total number of days required for maintenance works in case of branch canal maintenance. There are mainly two types of fine levied by the *Mauja* committees – annual *Khara* and daily *Khara*. The user farmer unable to participate in the maintenance works during the whole year is charged with annual *Khara*. Annual *Khara* is different in different *Mauja* committees varying from Rs 1,500 to 3,000 per ha land. If a user farmer, a member of the workforce, is absent from the daily works, he is charged with daily *Khara*. Daily *Khara* is Rs 75-100.

Maintenance works of intake and main canal are carried out by the central committee with the supervision of *Meth-Mukhtiyar*. For the maintenance works of the main canal, all the members of the workforce of the *Mauja* committees are engaged for the required number of days. All the members must be present in the work. For example, *Pradipnagar Mauja* deputed 55 farmers for five days in the fiscal year 1998/99. However, the rule for maintenance works of the intake is different. The *Mauja* committee deposes the assigned number of *Kularas* from the workforce on rotational basis. If any assigned *Kulara* is absent

in the working days, he is charged with daily *Khara* by the central committee. For example, *Pradipnagar Mauja* deputed six *Kularas* for 91 working days in the fiscal year 2055/56.

Based on the field verification, labor mobilization in the maintenance works undertaken by the central committees and two *Mauja* committees, namely, *Premnagar* and *Pradipnagar*, is summarized in **Table 1**. The gross O&M cost per ha land for these *Mauja* committees are Rs 751.00 and Rs 743.00 respectively.

### 3.4 Financial Management

- **Operation & Maintenance Cost**

The labor mobilization has been evaluated in a financial term as shown in **Table 2** which also includes the *Khara* to be paid by the *Kularas* for absent days. The gross O&M cost, based on average of the two *Mauja* committees, is approximately Rs. 3.92 million and O&M cost per ha comes to be Rs. 747 which is shown in **Table 3**.

- **Financial Status**

The main source of cash income in the central committee is daily *Khara* paid by *Kularas*. The financial status of the central committee is reviewed from the audit reports and a summary is presented in **Table 4**.

As an example of a *Mauja* committee, the financial status of *Premnagar Mauja* for the FY 1998/99 is presented in **Table 5**.

Every year, the WUA has to make great effort to maintain the intake for diverting the water from the river. All *Mauja* committees assign a number of *Kularas*, depending on their command area in performing the maintenance works of the intake. **Table 2** shows that about 10 man-days of labor per ha lands are mobilized in the system maintenance works by each of two *Mauja* committees.

**Table 2**  
**Labour Mobilization (gross) in the Fiscal Year 1998/99**

Description	Unit	<i>Premnagar Mauja</i>	<i>Pradeepnagar Mauja</i>
Kulara		7	6
Area	<i>bigha</i>	225	200
Workforce	man	85	55
1. Maintenance works carried out by the central committee			
- Intake (91 days of single kulara)	man-day	637	546
- Main canal (5 days)	man-day	425	275
		1,062	821
- Man-days per ha		7.08	6.16
2. Maintenance works of branch canals		440	500
- Mandays per ha		2.93	3.75
<b>Total man-days</b>		<b>1,512</b>	<b>1,331</b>
<b>Total man-days per ha</b>		<b>10.01</b>	<b>9.91</b>
<b>O&amp;M cost per ha (@ Rs. 75/day)</b>		<b>751</b>	<b>743</b>

**Table 3**  
**Operation and Maintenance Cost in the Fiscal Year 1998/99**

(In NRs.)

Description	Unit	Total Labor	Total Valuation Cost	O&M Cost/ha
<b>For entire system:</b>				
Intake and main canal	man-day	34,755	2,606,625	497
Branch canals (based on average of two Mauja committees)	man-day	17,535	1,315,125	251
<b>Total</b>		<b>52,290</b>	<b>3,921,750</b>	<b>747</b>

- Note:**
- (a) Labor rate is NRs. 75 per man-day
  - (b) From **Table 2** average labor mobilization per ha for intake and main canal and branch canals is 6.62 and 3.34 man-days
  - (c) Total man-days are inclusive of absent days of *Kularas*

**Table 4**  
**Annual Income and Expense of the Central Committee**

Expense		Income	
Description	Amount	Description	Amount
FY 2051/52			
Salary	68,600.00	fine	74,890.00
Dozer	14,072.00	entrance fee	17,500.00
Others	27,168.00	interest	2,648.00
		others	4,670.00
		deficit	10,132.00
<b>Total</b>	<b>109,840.00</b>		<b>109,840.00</b>
<b>Total bank balance</b>			<b>33,998.00</b>
FY 2052/53			
Salary	71,400.00	fine	105,180.00
Joint committee	34,500.00	entrance fee	4,900.00
Others	31,521.00	interest	3,265.00
		others	1,400.00
		deficit	22,676.00
<b>Total</b>	<b>137,421.00</b>		<b>137,421.00</b>
<b>Total bank balance</b>			<b>13,095.00</b>
FY 2053/54			
Salary	48,070.00	fine	96,030.00
Dozer	16,000.00	entrance fee	4,500.00
Others	18,052.00	interest	2,397.00
Saving	20,805.00		
<b>Total</b>	<b>102,927.00</b>		<b>102,927.00</b>
<b>Total bank balance</b>			<b>31,187.00</b>
FY 2054/55			
Salary	49,370.00	fine	110,500.00
Joint committee	7,550.00	entrance fee	6,500.00
Others	26,075.10	interest	2,827.00
Saving	44,987.90	others	8,156.00
<b>Total</b>	<b>127,983.00</b>		<b>127,983.00</b>
<b>Total bank balance</b>			<b>69,122.20</b>

**Table 5**  
**Estimated Annual Budget and Actual Income and Expenses of Premanager Mauja**  
**for the Fiscal Year 2055/56**

Estimated Income		Actual Income		Actual Expense	
Description	Amount	Description	Amount	Description	Amount
1. Annual fine due for this year	36,963.75	1. annual fine received of this year	27,381.25	1. salary to Muktiyar	12,000.00
2. Daily fine due for this year	24,870.00	2. daily fine received of this year	5,415.00	2. salary to Chaukidar	9,000.00
3. Annual fine received of last year	2,775.00	3. annual fine received of last year	2,775.00	3. bicycle maintenance	1,500.00
4. Daily fine received of last year	14,580.00	4. daily fine received of last year	14,580.00	4. stationary & consumables	365.00
5. Others	940.00	5. others	940.00	5. fine paid for this year	4,375.00
6. Bank balance	733.52	6. bank balance	733.52	6. fine paid for last year	2,500.00
7. Last year's cash balance	10,507.27	7. last year's cash balance	10,507.27	7. puja expense	8,987.00
				8. bank balance	733.52
				9. cash balance	22,871.52
<b>Total</b>	<b>91,369.54</b>	<b>Total</b>	<b>62,332.04</b>	<b>Total</b>	<b>62,332.04</b>
<b>Outstanding Amount:</b>			<b>29,037.50</b>		

### 3.5 Agricultural Production and Food Sufficiency

- **Cropping Intensity**

The cropping intensities in the head, middle and tail reaches are 240%, 220% and 190% respectively. The average cropping intensity of the system is estimated to be 217%.

- **Crop Yield and Agricultural Production**

The cropped area of paddy and wheat in 1997 is 97% and 31% respectively. Average yield of these crops and calculated total production are given in **Table 6**.

**Table 6**  
**Average Crop Yields, Total Production and Food Availability**

Crop	Average Yield (MT/ha)	Total Production (MT)	Food Availability per Person (kg)
Paddy	2.89	14,717	320
Wheat	0.99	3,238	70
<b>Total</b>		<b>17,955</b>	<b>390</b>

*Source:* Basudev Banskota, Farmer Managed Irrigation Systems in Nepal. A Case Study of CMIS of Rupandehi District, MA Dissertation, Tribhuvan University, Kirtipur, 1998.

- **Food Security**

Paddy, mustard, corn, potatoes and wheat are main crops produced here. 90% farmers of this system have adopted improved seed varieties. The average cereal requirement per person is about 160 kg per year, hence the system is producing surplus cereal to fulfill the need of 66,000 additional population of the country.

### 3.6 System Strengths

The WUA has established rules and procedures for system O&M. These rules and procedures are practiced by all concerned. The strengths of the WUA are briefly described below.

- **Meeting Minutes**

Three types of meetings are held in the central committee – monthly meeting, general body meeting and mass meeting. Monthly meetings are held in each month. In addition to regular monthly meetings, extra meetings are also called on to discuss specific issues arisen and activities to be carried out by the central committee. General body meetings are held twice in a year, i.e. in the month of Poush (December/January) and Srawan/Bhadra (July/August). Mass meeting with participation of 648 representatives is held for two main purposes: (a) discussion on the matters that are not authorized to take decision by the general body meeting and (b) election of the central committee which is held every two years. Mass meeting is generally held once in a year. The central committee properly documents the minutes of all the meetings.

- **Strong Enforcement and Implementation of Rules and Criteria**

The rules and criteria for effective participation by the user farmers are clearly mentioned in its constitution. Since the WUA historically possesses strong organizational coherence in implementing the set rules, the central committee is in an advantageous position for effective enforcement of its rules and criteria in system O&M. These are also being amended as per the contemporary needs. The system has strict implementation mechanism of the rules. For example, if any farmer violated the rules, s/he is either forced to contribute reasonable physical labor while maintaining the system or pay required cash in the form of fine. Similarly, if s/he does not comply with them, s/he is deprived from irrigation facility for a defined period.

- **Effective Resource Mobilization**

The maintenance works in the system are done through mobilization of labor. There is no cash mobilization for performing the works. This is equally applicable to the maintenance works done by the central committee as well as the *Mauja* committees. Every year, the WUA has to make great effort to maintain the intake for diverting the water from the river. All *Mauja* committees assign a number of *Kularas*, depending on their command area, in performing the maintenance works of the intake. **Table 2** shows that about 10 man-days of labor per ha land are mobilized in the system maintenance works by each of two *Mauja* committees.

- **Accountability**

There is a clear-cut sharing of accountability for operation of canal systems between the central committee and *Mauja* committees.

- **Account Keeping**

The central committee maintains regular account keeping in a transparent manner. Annual external auditing is regularly carried out. Summarized trial balance sheets taken from the audit reports are presented in **Table 4**.

- **Knowledge and Skill**

Most of the central committee members have gained knowledge and skill for system O&M through training programs. Some have also enhanced their skill by performing as a resource person in effective labor mobilization for system O&M in training programs conducted by other agencies.

### **3.7 System Weaknesses**

Despite strong and effective implementation of the rules in maintenance works, some weaknesses of the WUA can be noted as mentioned below.

- **Limited Documentation of the Information**

An effort has recently been made to prepare a list of user farmer members and corresponding area served by the different branch canals. Hence, the documentation of relevant information is in the beginning stage.

- **Lack of Adequate Fund for Emergency Maintenance**

The management and administrative cost of the central committee and *Mauja* committees are met by annual *Khara* and daily *Khara* paid by the absentee *Kularas*. There is no regular fund generation mechanism practiced in the system. Hence there is a great problem in generating fund for emergency works.

- **Traditional Method**

Most of the functions of the WUA are confined to system O&M through labor mobilization. The central committee members have felt the need of modernizing the system in terms of resource generation and mobilization and improved agricultural activities.

- **Lack of Interest Among Youths**

The people of young generation do not take much interest in the system management. People of this generation are encouraged much towards off-farm employment in urban center. If this persists for long, this system may be jeopardized some years later.

## **ANNEXES**



### Model of the Questionnaire for FMIS Award Contest

#### A. Description of WUAs

- (i) Name of the river/stream, which provides water to the irrigation system or Deep Tube-well or Cluster of Shallow Tube-well .....
- (ii) Name of Institution/committee or community .....
- (iii) Date of establishment .....
- (iv) Full address  
 District ..... VDC ..... Ward  
 No.....  
*Name of Municipality if any covered*  
 Name of Municipality ..... Ward No. ....
- (v) Please  $\surd$  (tick) whether the FMIS is registered with the district administration.  
 Registered  
 Not-registered
- (vi) The total number of farmers or water users under the irrigation system  
 Male farmers number .....  
 Female farmers number .....
- (vii) Number of the member of executive committee of the FMIS  
 Total number .....  
 Male farmers number .....  
 Female farmers number .....
- (viii) Number of households using water .....
- (ix) Name of water using  
 VDCs ..... Ward No. ....  
*Name of Municipality if any area of the municipality is covered*  
 Name of Municipality ..... Ward No. ....
- (x) Total Area irrigated (In *bigha* or *ropani*) .....  
 During Rainy Season .....  
 During Dry .....  
 Season.....

#### B. Information on Award Theme

- (i) What types of O&M problems were faced in your FMIS and except for bank loan, what types of resources were mobilized?

SN	Types of Problems Faced	Types of Resources Mobilized	
		Internal Resources	External Resources
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

- (ii) For O&M of your irrigation system, which of the following resources are mobilized? Please write your answers on priority basis as 1, 2, 3, 4 numbers.

- Cash mobilization                       Bullock and animal power
- Labor mobilization                       Leadership
- If others (specify) .....

(iii) What are the basis of resource mobilization for O&M of your irrigation system? Please number in the boxes with priority as 1, 2, 3, 4.

- Land area                                       Household number
- Crop production                               Village/tole/area
- Affording capacity                               Crop types
- Family member                               Water use
- If others (specify) .....

(iv) Is there minuting systems of meetings held for resource mobilization? Please tick  $\checkmark$  in the following boxes.

- Yes     No
- If others (specify) .....

(v) Mention the five major O&M related rules made by the WUA/community and give five major suggestions for effective correction of the rules.

**Rules**

- 1.
- 2.
- 3.
- 4.
- 5.

**Suggestions**

- 1.
- 2.
- 3.
- 4.
- 5.

(vi) Are any changes/correction made in the rules mentioned above? If yes write the years.

.....  
 .....

**C. Economic Activities**

(i) From which of the following sources, cash money needed for O&M of irrigation system is arranged? Give your answer on priority basis as 1, 2, 3, 4.

- Water fee collection                       Fines
- Governments' grants                       Non-governments' grants
- Donation money                               Provident fund
- If any others (specify).....

(ii) Where the cash money collected for O&M is kept? Please tick  $\checkmark$  in the relevant boxes.

- Individual                                       Bank
- No cash     Given for interest
- If any others (specify).....

(iii) Mention the amount of income, expense and surplus of last three Fiscal Years.

SN	Fiscal Years	Amount of Income	Amount of Expenses	Amount of Surplus
1.	1996/1997			
2.	1997/1998			
3.	1998/1999			

(iv) If there is provident fund, where from that was derived and when was deposited?

SN	Derived Source	Amount	Derived Date	Deposit Date
1.	From the users			
2.	External sources			
3.	Others			

(v) For O&M of Irrigation System, WUA has taken bank loan in the last three years.

Amount of Loan	Purpose of Loan	Name of Bank	Interest Rate	Date of Loan Taken	Due Amount of Loan

(vi) When and how the users are informed about the details of income and expenses? Tick  $\checkmark$  in the appropriate boxes.

- Yearly meeting                       At any time the users want  
 Economic sub-committee  
 If others (specify) .....

(vii) How one is punished if he/she does not mobilize the required resource?

.....

.....

.....

(viii) Who is responsible for income and expense related matters?

.....

.....

.....

### Evaluation Criteria for Contesting WUAs in FMIS Award

For the Award of the Fiscal Year 1999/2000 under the theme of **Resource Mobilization for Operation and Maintenance of Irrigation Systems**, altogether 24 questions were asked with the Water Users' Association (WUA). The questionnaire was broadly divided into three categories, viz. description of the WUAs, information on award theme and economic activities. In order to develop evaluating criteria for the purpose of providing weightage to the WUAs as per their response, the following procedure was designed whereby short-listing of the contesting WUAs could be done.

SN	Description	Specific Allocation of Score to Sub-units	Weightage	Remarks
<b>A. Description of WUAs</b>				
1.	WUA registration status	– For registered WUA	0.25	Total 3.25 full marks
2.	Women representation in the WUA	– Representation of one female member in WUA WC Committee	1.00	
		– Representation of two female member in WUA WC Committee	2.00	
		– Representation of three or more female member in the WUA Executive Committee	3.00	
<b>Total</b>			<b>3.25</b>	
<b>B. Information on Award Theme</b>				
1.	Resource mobilization	– Internal resource mobilization • Labor contribution – 2 • Cash contribution – 1 • Both contribution – 3 – External resource mobilization	3.00 1.00	Total 9 full marks
2.	Minuting status	– For minuting practice – For not minuting practice (verbal)	2.00 1.00	
3.	O&M rules	– Full set of rules (defined 5 Nos.) – Half set of rules (defined but upto 3 Nos.) – Partial set of rules (less than 2 Nos.)	2.00 1.00 0.50	
4.	Rules amendments	– Rules amended after formation – Rules not amended after formation	2.00 1.00	
<b>Total</b>			<b>9.00</b>	
<b>C. Economic Activities</b>				
1.	Resource generation	– Internal resource generation (water fee collection, donation, fine collection, provident funds interest etc.) – External resource generation (government & non-government assistance)	2.75 1.00	Total 7.75 full marks
2.	Rules implementation	– Strict implementation of rules – Less strict implementation rules	2.00 1.00	
3.	Status of bank account	– Bank account opened – Bank account not opened	1.00 0.00	
4.	Status of fund	– Fund deposited (provident/other) – Fund not deposited given in the village	1.00 0.50	
5.	Incremental status fund	– Fund status increased (in few years) – Fund status stagnant (after collection once) – Fund status decreasing	1.00 0.50 0.00	
<b>Total</b>			<b>7.75</b>	

*Note:* The full marks of the competition was 20 only.

## General Description of the Short-listed FMIS

SN	Name of WUA	Description of FMIS/WUA					Number of Users		
		Irrigated Area ( <i>bigha/ropani/ha</i> )		Full Address of WUA			Male	Female	Total
		Monsoon	Winter	District	VDC	W. No.			
1.	Chhattis Kulopani Sinchain Samitee	3500 ha	1750 ha	Rupandehi	Shanka- rnagar	5	26,000	27,000	<b>53,000</b>
2.	Panchakaya Canal WUA	600 ha	300 ha	Chitwan	Ratnagar (MU)	1 & 4-10	1,000	300	<b>1,300</b>
3.	Rapti Nawalpur Tallo Tal WUA	200 ha	200 ha	Makawan- pur	Hetauda (MU)	11	141	15	<b>156</b>
4.	Taukhel WUA	30 ha	30 ha	Kathman- du	Dakshin- kali	5	425	200	<b>625</b>
5.	Paticaur- Modikhet Irrigation WUA	20 ha	10 ha	Parbat	Bajung	1,2	300	295	<b>595</b>
6.	Bhutlung WUA	150 ha	100 ha	Jhapa	Toapgac- hhi	3	-	-	-

**Annex IV**

**List of the Professionals Assigned for Field Verification for FMIS Award 2000 of the  
FY 1999/2000**

SN	Name of WUAs	Full Address of WUAs			Name of the Professionals	Discipline of the Professionals	Field Verification Date
		District	VDC	W. No.			
1.	Chhattis Kulopani Sinchain Samitee	Rupandehi	Shankarnagar	5	Ajaya Lall Shrestha Dhirendra B. Parajuli	Senior Engineer Sociology/Anthropology	30 May, 2000
2.	Panchakaya Canal WUA	Chitwan	Ratnagar (MU)	1 & 4-10	Mohan Lohani	Engineering	27 May, 2000
3.	Rapti Nawalpur Tallo Tal Irrigation WUA	Makawanpur	Hetauda (MU)	11	Dhirendra B. Parajuli	Sociology/Anthropology	22 May, 2000
4.	Taukhel WUA	Kathmandu	Dakshinkali	5	Dhirendra B. Parajuli	Sociology/Anthropology	16 May, 2000
5.	Patichaur-Modikhet Irrigation WUA	Parbat	Bajung	1,2	Dhirendra B. Parajuli	Sociology/Anthropology	25 May, 2000
6.	Bhutlung WUA	Jhapa	Toapgachhi	3	Dhirendra B. Parajuli	Sociology/Anthropology	12 May, 2000

### Field Verification Indicators and Measures

The field verification indicators and measures are presented here into three sections: first related to the description of the WUA, second related to the award theme focused information and third related to economic activities. The field verification indicators and measures are clearly stated below in the tabular form. Accordingly, the professionals assigned for field verification were expected to verify the information filled-in by contesting and shortlisted WUAs.

SN	Description of the Indicators	Methods of Verification
<b>Section I : Description of WUA</b>		
1.	Registration status of the WUA	- Review of registration certificate/related document
2.	Representation of female member in the executive committee	- Review of minutes/list of executive committee

<b>Section II : Information on the Award Theme</b>		
1.	Resource mobilization and minuting	- Review of related decisions and minuting records
2.	Implementation of O&M rules	- Review of written rules relating to implementation.
3.	Amendments of O&M rules	- Review of minuting made for the amends of rules
4.	Resource generation patterns	- Review of economic records of last three years with reference to internal & external sources and amount of the resources generated by the WUA.
5.	Resource generation related to rule implementation	- Sources of resource generation, review of rules and steps taken towards rule implementation.
<b>Section III : Economic Activities</b>		
1.	Status of bank account, fund and its increasing/ decreasing trend	- Review of check-book, fund deposited, increasing records and other related information.

**Notes:**

- i. Exact name of the WUA (registered name) should be checked and noted.
- ii. Irrigated area should be verified exactly in *bigha/ropani/ha*.
- iii. Number of beneficiary households and population composition should be clearly verified.
- iv. Name of the members of executive committee should be noted.
- v. Name and address of the immediate contact person should also be noted.

## Scoring Status of the Short-listed WUAs before Field Verification

SN	Name of WUA	Description of WUA					Secured Score (out of 20)
		Irrigated Area (bigha/ropani/ha)		Full Address of WUA			
		Monsoon	Winter	District	VDC	W. No.	
1.	Chhattis Kulopani Sinchain Samitee	3500 ha	1750 ha	Rupandehi	Shankarnagar	5	18.00
2.	Panchakaya Canal WUA	600 ha	300 ha	Chitwan	Ratnagar(MU)	1&4-10	16.75
3.	Rapti Nawalpur Tallo Tal WUA	200 ha	200 ha	Makawanpur	Hetauda (MU)	11	15.75
4.	Taukhel WUA	30 ha	30 ha	Kathmandu	Dakshinkali	5	14.50
5.	Patichaur-Modikhet Irrigation WUA	20 ha	10 ha	Parbat	Bajung	1,2	14.25
6.	Bhutlung WUA	150 ha	100 ha	Jhapa	Toapgachhi	3	14.00



## Annex VII

## Final Scoring Status of the Short-listed WUAs after Field Verification

SN	Name of WUA	Description of FMIS/WUA					Score Before FV*	Final Score After FV*
		Irrigated Area (bigha/ropani/ha)		Full Address of WUA				
		Monsoon	Winter	District	VDC	W. No.		
1.	Chhattis Kulopani Sinchain Samitee	3500 ha	1750 ha	Rupandehi	Shankar-nagar	5	18.00	18.00
2.	Panchakaya Canal WUA	600 ha	300 ha	Chitwan	Ratnagar (MU)	1&4-10	16.75	16.75
3.	Rapti Nawalpur Tallo-Tal WUA	200 ha	200 ha	Makawanpur	Hetauda (MU)	11	15.75	15.75
4.	Taukhel WUA	30 ha	30 ha	Kathmandu	Dakshinkali	5	14.50	15.50
5.	Patichaur-Modikhet Irrigation WUA	20 ha	10 ha	Parbat	Bajung	1,2	14.25	13.25
6.	Bhutlung WUA	150 ha	100 ha	Jhapa	Toapga-chhi	3	14.00	14.00

Note: \* FV = Field Verification.

## List of Participants

## 1 Farmer Representatives

SN	Name of Participants	Institution	Position
1.	Mr. Arjun Prasad Chaudhari	CMIS	<i>Mukhtiyar (Madrani Mauja)</i>
2.	Mr. Bodhraj Subedi	NISP (WUA, Rampur Irrigation Project)	Farmer
3.	Mr. Bularam Pandey	CMIS	<i>Mukhtiyar</i>
4.	Mr. Chet Prasad Poudel	CMIS	Area-Member (No. 6)
5.	Mr. Chintamani Neupane	CMIS	<i>Mauja-Mukhtiyar</i>
6.	Mr. Dadhiram Gautam	CMIS	<i>Meth-Mukhtiyar</i>
7.	Mr. Dambar Bahadur Bhandari	CMIS	Farmer
8.	Mr. Dev Kumar Chaudhari	SMIP	Synya - Distributory Minor - Member
9.	Mr. Dhan Bahadur Srish	CMIS	Area-Member(No. 3)
10.	Mrs. Dhana Kumari Bhandari	CMIS	Farmer
11.	Mr. Ghan Shyam Dahal	NISP (WUA, Kankai Irrigation Project)	Chairman
12.	Mr. Keshav Raj Neupane	CMIS	Chairman
13.	Mr. Khaganath Neupane	NISP (WUA, Rampur Irrigation Project )	Farmer
14.	Mrs. Khimakala Sharma	CMIS	Farmer
15.	Mr. Khumand Ghimire	CMIS	Executive Secretary
16.	Mr. Krishna Prasad Aryal	CMIS	Farmer
17.	Mr. Madan Chaudhari	SMIP	Synya - Distributory Minor - Member
18.	Mr. Makbul Miya	NISP (WUA, Rampur Irrigation Project )	Farmer
19.	Mr. Muneshwor Pantha	CMIS	Vice-Chairman
20.	Mr. Nara Bahadur Pun	CMIS	Treasurer
21.	Mr. Padam Chaudhari	CMIS	<i>Mukhtiyar (Bargadahi Mauja)</i>
22.	Mr. Purna Chandra Tiwari	NISP (WUA, Rampur Irrigation Project )	Farmer
23.	Mr. Ram Bahadur Malla	CMIS	<i>Mukhtiyar (Pedrani Mauja)</i>
24.	Mrs. Ramkali Neupane	CMIS	Farmer
25.	Mr. Ranga Prasad Rijal	NISP(WUA, Kankai Irrigation Project)	Member
26.	Mr. Resmi Raj Pandey	CMIS	Area-Member (No.4)
27.	Mr. Toyanarayan Pantha	CMIS	Area-Member (No. 6)
28.	Mr. Umakant Bhandari	CMIS	Area-Member (No. 9)
29.	Mr. Yog Prasad Kharal	CMIS	<i>Mauja-Mukhtiyar (No. 2)</i>

## 2 Official Representatives

SN	Name of Participants	Institution
1.	Mr. Abinash Pant	
2.	Mr. Ajaya Lal Shreshtha	CMS
3.	Mr. Ajoy Karki	Butwal Power Company
4.	Mr. Basudev Banskota	SMIP
5.	Mr. Bhairav Risal	Media
6.	Mr. Bhola Chhatkuli	Institute of Engineering
7.	Dr. Binayak Bhadra	ICIMOD
8.	Mr. Dharendra Parajuli	FMIS Promotion Trust
9.	Mr. Dorak B. Thapa	TA Team, NISP
10.	Mr. Douglas Clendon	NISP
11.	Mr. Durga Prasad Bhattarai	National Water Users Federation Nepal
12.	Mr. Giri Dhari Shah	CMS
13.	Mr. Hari Upreti	CMS
14.	Mr. Iswar Onta	East Consult/JVS
15.	Mr. Jaindra Karki	DOI
16.	Mr. Jaya Ram Sharma	IMTP/DOI
17.	Mr. Krishna Chandra Shah	IWMI
18.	Mr. Krishna Murari Gautam	FMIS Promotion Trust
19.	Mr. Lal Bahadur Pun	Freelance Researcher
20.	Mr. Lava Raj Bhattarai	NISP
21.	Mr. Mahesh Raj Giri	NISP/O&M Study
22.	Mr. Nilkantha Ghimire	Researcher
23.	Mr. Pankaj Thapa	NISP
24.	Dr. Prachanda Pradhan	FMIS Promotion Trust
25.	Mr. Pushpa Raj Khanal	DOI, Jawalakhel
26.	Mr. R. M. Masky	Media
27.	Mr. Rajan Subedi	FMIS Promotion Trust
28.	Dr. Ram Prakash Yadav	Winrock International
29.	Mr. Ratneshwor Lal Kayastha	DOI
30.	Mr. Sachin Upadhyaya	CMS
31.	Mr. Sitaram Bilashi	Media
32.	Mr. Som Nath Poudel	SILT Consultants
33.	Mr. Suku Pun	IWMI
34.	Mr. Suryanath Upadhyaya	FMIS Promotion Trust
35.	Dr. Umesh Nath Parajuli	DOI
36.	Dr. Upendra Gautam	FMIS Promotion Trust

## Recognition Ceremony and Training Program

Time	: 9:30 am
Date	: Friday, 9:30 am, 8 September 2000
Venue	: Administrative Staff College, Lalitpur
Program Facilitator	: Krishna Murari Gautam and Rajan Subedi
Program Support	: Dharendra Parajuli and Hari Upreti

### Friday, 8 September 2000

#### Recognition Ceremony Part

9:00-9:25	Registration Of the Participants, and Arrival of the Guests
9:25-9:30	Chairperson of the Program Dr. Prachanda Pradhan, Chairman, FMIS Promotion Trust; Chief Guest, Mr. R.L. Kayastha, Director General, DOI; and Chairman of the Award Winning FMIS Mr. Keshab Neupane are seated on the Dais
9:30-9:40	Welcome, Program Introduction and Highlights on the Award Winning FMIS by Rajan Subedi, Member Secretary, FMIS Promotion Trust
9:40-9:50	Speech by the Chief Guest
9:50-9:55	Handing over of the Plaque of Honor and Cash Award to <i>Chhattis Kulopani Sinchain Samitee</i> Chairman Mr. Neupane, Chief Guest
9:55-10:05	Statement by the Chairman of the <i>Chhattis Kulopani Sinchain Samitee</i>
10:05-10:15	Statement from the Chair and Conclusion of the First Part of the Program
10:15-10:30	Tea and Group Photo

#### Training Part

10:30-10:45	Re-assembly of the Participants; Introduction of the Participants and Observers, Program Organizers/ Facilitators/Resource Persons
10:45-11:00	Sharing of Information on the Training Program Approach and Process by the Program Facilitator  Sharing of Information on the Logistics Support, if any
11:00-11:30	Presentation on the Problems and Prospects of Resources Mobilization and Management for Irrigation O&M in <i>Chhattis Kulopani Sinchain Samitee</i> by Chairman of the <i>Samitee</i>
11:30-11:45	Annual O&M Method and Financial Aspect of the FMIS by the Treasurer/Secretary of the FMIS
11:45-13:00	Plenary Discussion on Resources Mobilization and Management Problems for Irrigation System O&M in the FMIS (Discussion on the Problems may be based on the following Categorization of the Problems)

- Labor Mobilization and Management
- Material Mobilization and Management

- Financial/Cash Mobilization and Management
- *Information Management*

13:00-14:00	Lunch Break
14:00-16:30	Thematic Presentation: Diversification of WUA Activities for Resources Mobilization by Dr. Prachanda Pradhan  Panel Discussion on the Theme: Panel Session Chair: Dr. Ram Prakash Yadav. Panelists: Dr. Madan Pariyar, Mr. Dorak Bahadur Thapa, Mr. Abinash Pant, Mr. Krishna Chandra Shah, Mr. Ajaya Lall Shrestha, and Dr. Upendra Gautam with Participation from the Floor
16:30-17:00	Formation of Four Groups (Each Group may have an Independent Observer and a Resource Person) and Tea Break (End of the First Day's Program)

**Saturday, 9 September 2000**

9:00-9:15	Re-assembly at the Tea
9:15-10:30	Group Work
10:30-11:00	Preparation of Group Report
11:00-11:30	Group Report Presentation in the Plenary
11:30-12:45	Discussion and Comments on Group Presentation  Listing of Priorities and Options for further Enhancement of O&M Resources Management for the FMIS
12:45-13:15	Concluding Remarks by a Representative of <i>Chhattis Mauja Kulopani Samitee</i>  Concluding Remarks by a Representative of FMIS Promotion Trust  Concluding Remarks on Facilitation by Krishna Murari Gautam
13:15	End of the Program and Lunch

**Chhattis Mauja Irrigation System****Salient Features**

Name of the System	:	<i>Chhattis Mauja</i> Irrigation System
Water Source and Type	:	Tinau river (near East-West Highway Bridge), perennial
Location	:	Rupandehi district (Terai plains of the western region)
Name of the Water User Association	:	<i>Chhattis Kulopani Sinchain Samitee</i>
Area Coverage	:	Presently 59 <i>Maujas</i> (villages)
Command Area	:	3,500 ha (about 5,200 <i>bigha</i> )
Tiers of Organization	:	(a) Central Committee (main canal level) (b) Nine <i>ilakas</i> (areas) (c) 59 <i>Mauja</i> Committees (branch canal level)
Date of System Development	:	1846-63 AD
Extension of 16 <i>Maujas</i>	:	1965 AD
Average annual rainfall	:	1,700 mm
Intake Type	:	Temporary boulder brush diversion
Main Canal	:	15 km (including the first four km used commonly by <i>Sorah Mauja</i> System)
Canal width	:	17 m (at the beginning of the combined canal with <i>Shorah Mauja</i> Irrigation System)  7.3 m (24 feet) and 3 m at the beginning and tail end of <i>Chhattis Mauja</i> main canal
Discharge available	:	Approx. 4.0 cubic meter per second
Soil	:	Alluvial, silty loam
Water allocation	:	Proportion to the land
Maintenance rule	:	Participation and mobilization of beneficiary farmers in all maintenance works, mainly, in intake and canals
Meetings	:	General Body Meetings - in Poush (December/January) and Srawan/ Bhadra (July/August) Monthly Meetings plus as and when needed
FY of the Committee	:	Magh (January/February) to Poush (December/January)



ISBN 99933-328-2-8