

PART VI: FINAL SESSION

PANEL DISCUSSION ON FUTURE DIRECTIONS FOR FMIS

CHARLES L ABERNETHY¹

The title of this seminar is very good. It refers to the changed, and changing, context in which Farmer Managed Irrigation Systems (FMIS) have to function. It seems to me that response to change is an aspect where developing countries have often suffered by being too slow to react: slow in grasping new opportunities, and slow in adjusting to new external circumstances. So the organizers of the seminar have done well to identify the need to consider the changed context in which a traditional institution has to operate.

The papers and discussions in the seminar, as well as the enormous amount of literature that has been produced concerning Nepal's FMIS, have shown that there is high interest nationally and internationally in this Nepali tradition. Nepal can indeed be proud of this heritage, and the FMIS Promotion Trust should be congratulated on its efforts to promote studies and to disseminate information about these systems.

However our perspective in this final session of the seminar is to try to identify future directions for the evolution of these systems. That involves trying to predict what kind of new challenges, and new opportunities, may face them in the coming years; and then trying to see whether the present arrangements are going to be adequate to survive difficulties and to take advantage of potential opportunities.

The first point I want to make is that we should not allow a sort of nostalgia or pride in these traditional systems to become an obstacle to change. All institutions, however good, need to move and change, adapting to new contexts. Sometimes, respect or admiration for some tradition can lead people to try to perpetuate it without change, even after the conditions have changed. We should take care that this does not occur in relation to the Nepali FMIS.

One of the best indicators of whether a traditional system like this is remaining viable is the behavior of young people. Young people are not always so much satisfied by traditions as the older people are. But we can be sure that, if young people do not want to remain actively within the

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irrigation systems, then these systems will ultimately fail. So I would like to recommend to the FMIS Promotion Trust that they may promote some demographic research or monitoring, aiming to find out the proportions of young people who are active in these FMIS, and to see over several years whether this portion is rising, falling or stable.

In the world in general, not only in Nepal, we can now see three major types of organization. There are FMIS (meaning systems where the facilities are owned, and the water is legally controlled, by an organization of its users); there are government managed systems, usually built and operated by some agency of government; and there is a relatively new category, systems operated by government-sponsored users' organizations. This last category has been produced by the management transfer programs which have been adopted by an increasing number of countries over the last 25 years. It includes two sub-sets: fully transferred systems (sometimes called "turned-over" systems) and systems where the government agency has retained a role in control (called "jointly-managed" systems).

Fully transferred systems become very similar to FMIS, and Nepal has many lessons for this category. But jointly managed systems are different. In general, globally, the level of success with new organizations for jointly managed irrigation has not been very high: these organizations are often ineffective. Nepal's success in this category does not seem to be much better or worse than that of other countries. This is surprising, in view of the strong tradition of organization that is represented by the Nepali FMIS. Maybe this is another direction in which the Trust may make beneficial studies. What is the reason why this strong tradition has not led to strong institutions in the cases of joint management?

People build an organization because they want to achieve something which they could not achieve as individuals. (In the richer countries we increasingly see that they also organize to prevent something that they do not want; but that is another matter that is not yet so prominent in the developing countries). They may organize for a positive objective, for example when they see an opportunity of economic or social benefit through co-operative actions. Or they may organize to remove some constraint that is keeping their lives at lower economic or social levels.

So, to form a view of how we should expect the traditional FMIS to evolve over the next ten or twenty years, we need to try to predict what new constraints and opportunities they will be likely to face. I would like to

suggest three changes that seem to be imminent, or are already in progress to some extent. One of these is economic, one physical, and one is in the socio-economic domain.

The economic change refers to crop patterns. Irrigation in most south and south-east Asian countries has traditionally been dominated by cereal crops: rice principally, but wheat and maize are also significant. The price of rice has been in decline for nearly 20 years, and seems likely to continue to decline, as the potential for supply exceeds the demand. Land that formerly grew irrigated rice has been falling out of use in many countries of the region that are higher up the wealth ladder than Nepal. In future, cereal production will not be so dominant in Asian irrigated agriculture. So the organizations in charge of irrigation systems have to assist their members to cultivate new crops, which will be more competitive, and more able to attract the labor required to keep the irrigation systems going.

The second change that I expect is in the physical technology of irrigation water distribution systems. I think that the days when open-channel distribution systems were the norm will soon be over, and we will see a steady movement towards piped and pressurized water-delivery systems. This refers both to lift irrigation systems where water is pumped up from river or well sources, and to systems that are pressurized in order to make it possible to use water-application devices such as drip, sprinkler and micro-jets. We have seen for the past 20 to 30 years plenty of evidence that the farmers like these modes. There are many irrigation systems, in India and Thailand for example, which were designed and operated by governments as surface canal systems, but where the farmers have paid for installation of shallow wells and pumps. Why have farmers made these investments? There are many reasons, but the most prominent ones are probably that with a private well the farmer obtains personal control of irrigation timing and quantity, which in turn gives him or her freedom of crop choice and reliability of delivery.

Piped irrigation is relevant also to my third, socio-economic item of change. The demands for water for non-agricultural uses are growing, as we have heard several times during this seminar. These demands, especially for domestic and industrial uses, and for protection of the natural environment, are going to continue to grow. It seems quite certain that the share of total water resources taken by agricultural users will have to decrease, in almost all countries. FMIS leaders will have to accommodate their members' activities to this trend. Water-saving

technologies, including pipe systems, and adjustments of crop patterns towards less demanding crops, will be part of these strategies of change.

These three trends, towards less dominance of rice, more pressurized delivery systems, and reduced overall abstraction of water, will involve various institutional changes, such as new rules about water scheduling, water distribution and other aspects of joint decision-making among the farmers. They will imply a further movement away from subsistence cultivation towards market-oriented production, which in turn may require the FMIS organizations to adopt a more multi-functional stance, helping their members with marketing, and other supports such as crop storage and input procurement.

In the longer term, I wonder whether it may be possible for some of the Nepali FMIS to adapt their role further, and become the basic organization for general water management and water apportionment among different users, taking on responsibility for small-scale watershed management.

NORMAN UPHOFF

In understanding and assisting Farmer Managed Irrigation Systems (FMIS), it is always important to consider **the time dimension** of irrigation systems and their management, given the continuous evolution and change that they undergo. The ancient Greek philosopher Heraclites should be the patron philosopher of irrigation management if not its patron saint for his profound observation that has come down to us through 2,400 years: You can never step in the same river twice. He said it was always changing, if only because we stepped in it.

Thus it was very appropriate that the theme of this conference was FMIS in the Changed Context. Irrigation systems are not fixed or permanent but rather always in some kind of flux, for better or for worse or – more likely, with some encouraging and some disappointing trends coexisting. Our challenge is to figure out how to identify and reinforce the positive trends, and to comprehend and check the negative ones.

In the opening session, we were told that the changed context includes a "disabled state" that is less capable than previously of playing a supportive role for irrigation systems and their water users. There are many aspects to this problem: economic, political, administrative, socio-cultural. Friends of FMIS should not put "all of their eggs in one basket." They should be trying to strengthen and reinforce state capabilities to assist water users in

constructive ways at the same time they try to improve water users' own capacities for irrigation management.

In this consideration, it is important to think anew about "who are the beneficiaries?" of irrigation improvement. Conventionally, we say that farmers, as irrigation water users, are the beneficiaries. But one needs to do some sophisticated economic analysis to be sure about this. Much of the technological change in irrigation in some countries has had the effect of increasing productivity with accompanying declines in the price for agriculture produce. Sometimes with rising costs of production, farmers are left worse off than before by what looks like a technological or managerial advance.

The real beneficiaries in such a situation are the consumers, who pay less in real term for their food. In such situations, it makes good sense for the government, which gets its revenues from all or most citizens, to pay the costs of irrigation systems construction and improvement, since all citizens are consumers whereas only some of them are producers. It would make for better and fairer policy if we could know with more certainty who really benefits, and how much, from irrigation improvements, so that the costs of system construction and operation could be apportioned accordingly. The FMIS Trust might well address this issue for sake of both equity and efficiency.

The changing context is one where irrigation is increasingly linked to sectors and activities outside itself. There are three major domains with which irrigation is inextricably connected though these connections are thus far not fully understood or documented. FMIS Trust might well look at these linkages:

- a) Links to **agriculture** which affect the productivity of irrigation activities. Water should not be acquired and distributed for its own sake but for what it can contribute to greater agricultural production and efficiency. Here the concern is optimization of resource use.
- b) Links to the **environment** which affect the natural resource base—obviously water, but also soil and associated vegetation. Irrigation practices can undermine or reinforce the natural resource foundations on which not just agriculture but also society depend. Here the concern is **sustainability** of resource use.
- c) Links to **civil society** which are probably the least explored. Participatory irrigation management can enhance the experience,

skills and confidence of millions of rural people to participate in processes of governance. Here the concern is **democratization** of society, to which FMIS can contribute at the same time they enhance livelihoods and food security.

It is very gratifying to see how much and widespread is the interest in FMIS in Nepal. The FMIS Promotion Trust has done a remarkable job in focusing, on and building up knowledge about farmer managed systems, being concerned with the welfare of farmers and their families, with the efficiency of water use, and with the preservation of a fine cultural heritage.

Given the changes that are seen in the irrigation sector, with agency managed irrigation systems being reorganized to give farmers a larger role, and with many such systems being transferred to farmer management, it might make sense for the Trust to redefine its name to address Farmer Management in Irrigation Systems, rather than Farmer Managed Irrigation Systems, which puts a focus on the systems rather than their management.

By now, FMIS has become a well-known concept, so maybe no change is advisable. But those who use this honorable acronym should henceforth give more focus to the processes and potentials of farmer management than to the systems themselves. There have been substantial advances in understanding and practice, but there is still more to be known and done in the years ahead. I wish the FMIS Promotion Trust success in this endeavor.

LINDEN VINCENT¹

This workshop has brought forth many new lessons about Farmer Managed Irrigation Systems (FMIS). I would like to present the following points on which I think more research is necessary. My points focus on understanding more about the nature of transformations in FMIS in their management activities, output, and the forces driving them.

In Nepal today FMIS are affected by several forces of change, but these include increasing miniaturization and the transformation of local political organizations. Increasingly work once done by hand by individuals or collective action is done by monetary exchange. Local politics have also

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been transformed by recent history. There is a growing maturity of not only of FMIS organizations, but also Village Development Committees (VDC). How do these organizations interact and influence each other? How do both now act, together or independently, to get resources for repairs, or new development? There is evidence that much general funding for repairs may come from local allowances to councils and constituencies.

How do FMIS access services and markets, and how do we now see key production and marketing zones for FMIS. Studies were originally done by ICIMOD, but these are now old. We need to revisit this work and see changes. Irrigation organizations can be single purpose or multi-purpose – we can talk of Multi-purpose Organizations (MPO) that may organize inputs or other services as well as management irrigation. Do we see MPOs in farmer-managed irrigation in Nepal?

As we look into this change, we can also see whether generations of FMIS exist in terms of the breadth and scope of their management. This concept of ‘generations’ was used first by Benjamin Bagadian to look at changing FMIS in the Philippines. He used this to emphasize how there were stages and degrees of change that FMIS organizations went through, for which different kinds of training and support were needed. He also warned that some programs of management transformation had expectations of change to sophisticated monitoring and accounting that were too high without understanding of the time change took. He called more sophisticated organizations ‘fourth generation’ water user organizations, in recognition of the time it could take for change to come and that some organizations might never get beyond a second or third generation level. (A generation was at least one change of management but could also be linked to the local cultural time equivalent.

How do FMIS created or transformed through Irrigation Management Transfer programs and project finance compare with locally-developed FMIS? To what extent are any differences present a result of models of transfer or community organization, and what other factors are involved. Under government policies many systems managed jointly with government have been turned over to local organizations, or local management has been transformed. But does the nature of government involvement and turnover approach have different outcomes? What other theoretical frameworks can help us understand how FMIS organizations transform themselves?

What difference does size make in how FMIS organizations evolve, survive and get representation? Many of Nepal's FMIS are small – under 100 ha, and are not yet involved in the wider federation which seems to be influenced more by the larger systems and systems which have been turned over and influenced by external interventions. Investigation of this topic might also show both what local small FMIS want, and also what is possible locally, but also how the federation might have to change to give such systems a voice.

The points raised so far have been about management of irrigation. Now I end with some points about production and water use.

We need to understand more about the farming systems of FMIS, both their productivity and ecological integrity. We have begun to understand a little more about how local designs in FMIS have adapted to their habitat, in terms of physical ecology and human dynamics. But there is still more to do, in the different hill areas and the Terai, for more sustainable design and intervention.

Much of the funding for FMIS assistance and expansion has been justified from the perspectives of food security as well as economic development and poverty alleviation. Many figures are generalized about the impacts FMIS should have had. But do food deficits still exist locally in areas of Nepal? Are yields and areas increasing alongside of demand? We need to refocus again on the significance of FMIS as a local engine of food security and decreased vulnerability, and also to see what future food deficits may still be present locally and at national level that FMIS are expected to meet. Work on this by the FMIS Promotion Trust would link into the international debates on irrigation and food security.

Much of the change in agricultural technology used in irrigation has been tested and driven by regional agricultural research stations, often funded by donors. These research stations have been important, but now their funding and continuity is increasingly under threat. We need to understand much more about how farmers will access technical advice in the future, but also of the social dynamics that underpin local exchange of information and change in production and water use.

Finally, but not least, we need to see FMIS in their wider hydrological context, to understand more about the inter-actions and effects that irrigation systems have on each other and the wider river basin. What dialogue can FMIS have with each other and new organizations for river

basin management, and how effectively can FMIS and their water needs and use be portrayed in river basin planning?

Although there is much we do know about FMIS, the rapid nature of changes in society, production and water management still bring many new questions for research in the future.

SURYA NATH UPADHYAY¹

Irrigation is intertwined with culture, history, anthropology, sociology and so on all connected to the softer side human relationship, desire and behavior. This provides Farmer Managed Irrigation Systems (FMIS) a flexible informal set of behavior to manage these systems. It grew and remained sustained because it had in it the attributes like flexibility, responsive to needs and informality but yet sanction of moral values. However, with the changes basically on two fronts-social relationship on the one hand and the growing conflict and competition on the use of water on the other hand, FMIS faced increasing challenges for its sustainability. In this kind of situation, it was natural to turn to written rules than unwritten, somewhat more specific guidelines than unwritten ones. The need to be recognized under the eyes of law was necessary for not only managing the internal behavior but also to get support from outside.

As the social life style changed, the labor which was to be made available by *sramdana* (voluntary labor) took the form of money. It became easier for people to contribute in cash than to contribute labor for the whole day. Similarly, the need to construct intake and some portion of the canal more stable necessitated the purchase of cement and other materials. Hence, it was natural to shift from informal regime to a formal regime. In this transition the shift however, did not become smooth. Varieties of legal models emerged to make this shift. The institutional and legal model that are generally practiced are co-operatives, NGO's, WUA etc. All these institutional and legal frameworks again have various characteristics in their content, forms and operational rules. In many cases, even the objective could be broader or specific, single or multiple. Countries seem to have tried these models as it situated to their legal regime and the historical evolution of FMIS. This transition that FMIS faced is still going on.

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With the growing pressure of population and demand on agriculture, FMIS have now, in recent years, are facing further challenge to secure their water right light as also to link their activity with other aspects of agriculture. The issue of efficiency which was not much emphasized in earlier days has become the prime issue. Hence, the conflict is bound to occur. Water is no longer easily available. Even if it is available it needs to be utilized in a more efficient manner. There is no space for wasting it. FMIS have to be vary being cautious about it. Their water rights have been conditioned to limitations. Even the quantum of water that they were utilizing has been sanctioned by efficiency because the same water is needed to others or for various other purposes. For FMIS in this situation there is a specific need to know the rules as to how much water is available to them in what from and time and how they should distribute it among their members and how they solve their internal conflict as also face the external conflict. A simple yet clear, a flexible yet specific set of rules need to be developed not only for FMIS but also for the regulatory authorities who are to manage the conflicts between the FMIS.

The second challenge that FMIS is facing is that of the changing pattern of agriculture. In many countries, more specifically countries where agriculture has been more of a subsistence level, the pressure of population has necessitated to change the crop and cropping pattern. If the farmer is to survive, he is bound to move towards more cash crop, more technology, more inputs like seed, fertilizer etc. Marketing which was not an issue earlier has become an important issue now. This new dimension certainly has changed the institutional and legal regime of many FMIS. Now the question is under which law the FMIS are to be registered if they are to function many agricultural activities. In Nepal, for instance, FMIS can be registered under the Water Resources Act. Now with the new dimension, they seem to be more appropriate to be registered under Co-operative or Society Registration Act. In that kind of situation, relation between the authority responsible for registration and the concerned agency also needs to be further clarified. In the case of Society Registration Act, all the NGO's are registered under that same Act. There is a big difference in the function, manner and ways the NGOs' function and the FMIS. Hence, the issue could be whether the same set of rules or regulatory regimes would work for both or whether we need to evolve some special kind of regulation for FMIS. These are some of the pertinent legal issues and those of us who work in this field must find answers so that the legal regime of a country should help the FMIS in their growth and effectively.

Besides the above challenges, there is yet another challenge that has been very pronounced over the years after the introduction of multiparty democracy in Nepal and I am sure, this probably is true in many countries of South Asia. FMIS, as they become effective in the social/economic sector of the society, provide a vehicle for reaching to the people for political ends. Politicians who have votes of the people for being elected in the parliament and all other kinds of political positions have a compulsion to reach the people and pose themselves as the benefactors of the people. They belong to a particular political party and it is within their normal behavior to downgrade or criticize person having allegiance or faith to other political party and be non-co-operative to them. Unfortunately, all our development activities is plagued with the vice of politicization. The ways, means and the internal management of the development are severely affected by such actions. The unfortunate thing is that those who are in the decision making places and have means and resources to influence and intervene the FMIS do utilize their authority for this. One has to find answer to this problem. Law can provide a mechanism to take away the arbitrary authority of the politician and adopt a more transparent, democratic and less interventionist procedure so that FMIS may act in an autonomous and independent way. If this is done, the intervention made for so called strengthening of FMIS is bound to turn into destroying the very institutional strength of FMIS. In this respect, quite often we hear in Nepal *Sarbadaliya Committee* (all party committee) to solve the local issue and more particularly keeping the development efforts away from the political interventions. If it has proved temporarily successful in certain specific cases, it is very doubtful whether the political parties would be away from utilizing the alluring opportunity to their political objective. We must devise ways and means to check politicizing the FMIS and keep them away from political interventions.

VOTE OF THANKS

LAVA RAJ BHATTARA¹

On behalf of Farmer Managed Irrigation Systems (FMIS) Promotion Trust, I would like to extend a vote of thanks to all the participants for their valuable time and contribution. This seminar has been made successful by the collaborative efforts of several contributors from 15 different countries. The contributors are: Dr. T. N. Upreti, President, Society for the Promotion of CMC Education, former Vice-chancellor of Tribhuvan University and former Royal Nepali Ambassador to France for Chairing the Initiation and Honor Session;

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Mr. Ganesh Shivakoti, Asian Institute of Technology; Mr. Iswer Raj Onta, Coordinator, Nepal Water Partnership/Jalshrot Vikas Sanstha; Mr. Jitendra Ghimire, DDG, Department of Irrigation; Dr. Prachanda Pradhan, Chairman, FMIS Promotion Trust, Mr. R. L. Kayastha, former Secretary, Ministry of Agriculture; Dr. Ram Prakash Yadav, former Member, National Planning Commission; Franz Heim, Head, Agricultural Production, DSE/ZEL, Germany; Prof. Norman Uphoff, and; Dr. Robert Yoder; for Chairing the Plenary Sessions;

Mr. A.V. Ramana Charyulu, Mr. Devi Dutta Devakota, Dr. Dhurba Panta, Mr. Drik R. Frans, Mr. Duman Thapa, Mr. Min Bikram Malla Thakuri, Tej Prasad Subedi, Ajay C. Lal and Rupa Lamichhane Mr. Emmanuel Reynard, Mr. Ganesh Shivakoti Mr. John Skutsch, Mr. Lakshmi Narayan Choudhari, Mr. Laya Uprety, Mr. Naeem Akhtar, Abdul Hamid and Mian Abdul Wahid Dr. Prachanda Pradhan, Ms. Pranita Udas, Mr. Shambhu Prasad Dulal, Mr. Shiva Kumar Sharma, Mr. Sishir Prasad Aryal, Ms. Synne Movik, Mr. Tofazzal Hossain Miah, Dr. Umesh Nath Parajuli, Dr. Upendra Gautam, Mr. Phalasack Pheddara, Mr. Nguyen Xuan Tiep, Mr. Sona Chy, Mr. Mao Sannay, Mr. Te Oувkim, Mr. Sin Vuthy and Mr. Pang Peng, for paper contribution and presentation.

¹ Senior Engineer and Founding Member, FMIS Promotion Trust, Nepal.

Mr. Abinash Pant, Mr. Ajay Chandra Lal, Mr. Ajoy Karki, Mr. Ajaya Lall Shrestha, Mr. Binaya Shah, Mr. Ganesh Khaniya, Mr. Hari Krishna Shrestha, Mr. Laya Uprety, Ms. Megh Ranjani Rai, Mr. Min Bikram Malla Thakuri, Mr. Rajan Subedi, Mr. Suman Sijapati, and Mr. Umesh Nath Parajuli for coordinating and reporting the sessions;

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Thank you once again.

SEMINAR PROGRAM
Second International Seminar Program on
"Farmer Managed Irrigation Systems in the Changed Context"

Venue : Hotel Annapurna, Durbar Marg, Kathmandu, Nepal
Date : April 18-Thursday and April 19-Friday, 2002
Master of Ceremony: Mr. Krishna Murari Gautam

Day 1

I. Seminar Initiation and Honor Ceremony

	Chairman	Dr. Trailokya Nath Upreti, President Society for the Promotion of Civic Education, Former Vice-chancellor, Tribhuvan University, and Royal Nepali Ambassador to France
	Reporter	Mr. Ganesh Khaniya, Program Officer FMIS Promotion Trust
8:00-8:30	Registration	Participants
8:30	Welcome	Mr. Rajan Subedi, Member-Secretary FMIS Promotion Trust
8.40	Introduction to the Seminar theme	Dr. Prachanda Pradhan, Chairman FMIS Promotion Trust
8.55	FMIS Promotion Trust in 2000-2002 Announcement of the FMIS Promotion Trust Icons of Honor - Dr. Elinor Ostrom - Dr. Norman Uphoff - Dr. Robert Yoder Brief Introduction of the Icons of Honor	Dr. Upendra Gautam, Vice-chairman FMIS Promotion Trust Mr. Krishna Murari Gautam Dr. Vijaya Shrestha, Member FMIS Promotion Trust
9.10	Presentation of Honors Reading out the Commendation Plaque - Dr. Elinor Ostrom - Dr. Norman Uphoff - Dr. Robert Yoder	Ms. Rupa Lamichhane, Member Researcher, FMIS Promotion Trust
9.25	Keynote Speech: "How Farmer Managed Irrigation Systems Build Social Capital to Outperform Agency Managed Systems that Rely Primarily on Physical Capital"	Dr. Elinor Ostrom, Professor and Co-director Workshop on Political Theory and Policy Analysis, Indiana University

9.45	Keynote Speech: "Understanding and Utilizing the Softer Aspects of 'Software' for Improving Irrigation Management"	Dr. Norman Uphoff, Professor and Director Cornell International Institute for Food, Agriculture and Development, Cornell University
10.05	Keynote Speech: "Farmer Managed Irrigation Systems and Subsistence Agriculture in Nepal"	Dr. Robert Yoder, Senior Associate Associates in Rural Development Inc.
10.25	Closing Remark from the chair	Dr. Trailokya Nath Upreti
10.35-10.50	Tea Break	

II. Parallel Sessions of the Seminar in Two Rooms

Parallel Session I in Banquet Hall		Parallel Session II in Arch Room	
Session Coordinator: Mr. Ajay Lall Shrestha		Session Coordinator: Mr. Rajan Subedi	
Presentation and Discussion: Trust's Collaborative Research			
Chairman: Mr. Jitendra Ghimire, Deputy Director General, Department of Irrigation		Chairman: Mr. R.L. Kayastha, Former Secretary Ministry of Agriculture	
Reporter: Mr. Laya Prasad Upreti		Reporter: Mr. Suman Sijapati	
10.50 – 11.35	"Action Study on New FMIS and their Dynamism" Paper presentation by Mr. Min Bikram Malla Thakuri/Interdisciplinary Group Floor Discussion	10.50 – 11.35	"Sub-Watershed Study in Khadgabhanjyang VDC, Nuwakot to Identify Water Use Inventory" Paper presentation by Mr. Shiva Kumar Sharma/ Interdisciplinary Group Floor Discussion
11.35 – 12.20	"Recrafting the Role of Education For FMIS Knowledge Promotion" Paper presentation by Mr. Lakshmi Narayan Choudhari/ Nepal Engineering College Floor Discussion	10.35 – 12.20	"Inventory of Irrigation Systems in Kathmandu District" Paper presentation by Mr. Shambhu Prasad Dulal Kathmandu District Unit of NFWUAN and Dr. Prachanda Pradhan Floor Discussion

12:20-12:30	Group Photo at the Pool Side		
12.30 – 2.00	Lunch		
Presentation and Discussion: Case Studies			
Chairman: Mr. Ishwer Raj Onta, Coordinator Nepal Water Partnership/Jalshrot Vikash Sanstha Reporter: Mr. Hari Krishna Shrestha		Chairman: Dr. Ganesh Shivakoti, Professor Asian Institute of Technology Reporter: Ms. Megh Ranjani Rai	
2.00 – 2.45	"Public Intervention and Changing Irrigation Institutions: A case of FMIS in Nepal" Paper presentation by Dr. Dhruva Pant Floor Discussion	2.00 – 2.45	"FMIS in High Land" Paper Presentation by Mr. Devi Dutta Devakota and Dr. Prachand Pradhan Floor Discussion
2.45 – 3.30	Assessing the Performance of Farmer Managed Irrigation Systems: An Evidence from "Hakra 4R Distributory, Southern Punjab, Pakistan" Paper presentation by Mr. Naeem Akhtar Floor Discussion	2.45 – 3.30	Farmers' Participation in Large Scale Irrigation Project Paper presentation by Dr. Duman Thapa Floor Discussion
3.30 – 4.00	Tea Break		
4.00 – 4.45	"Indigenous Knowledge and Practices in Shringighat Simunia Satgaon Irrigation System" Paper presentation by Mr. Shishir Prasad Aryal Floor Discussion	4.00 – 4.45	"Diversified Activities of WUA" Paper presentation by Dr. Prachanda Pradhan and Dr. Upendra Gautam/ Alternative Paper Floor Discussion

Day 2

Parallel Session I in Banquet Hall		Parallel Session II in Arch Room	
Presentation and Discussion: Selected Topics			
Chairman: Prof. Norman Uphoff, Cornell University Reporter: Mr. Binaya Shah		Chairman: Dr. Ram Prakash Yadav Former Member, NPC Reporter: Mr. Ajoy Karki	
9.00 – 9.45	"Irrigation Technology and Devolution of Water Management" Paper presentation by Dr. Umesh Nath Parajuli Floor Discussion	9.00 – 9.45	"Impact of Irrigation on Rural Livelihood" Paper presentation by Mr. John Skutsch Floor Discussion
9.45 – 10.30	"Irrigation Privatization and Role of Shallow Tubewells in the context of Small Holders' Rice Farming in Bangladesh" Paper Presentation by Prof. Tofazzal Hossain Miah Floor Discussion	9.45 – 10.30	"Hill Irrigation and Agricultural Policy Change: Evolution of Communal Irrigation Institutions in the Valais (Swiss Alps)" Paper Presentation by Mr. Emmanuel Reynard Floor Discussion
10.30 – 11.15	"Impact of Increasing Trend of Privatization on FMIS" Paper presentation by Ms. Synne Movik Floor Discussion	10.30 – 11.15	" Case study of Water sharing between two villages in the borders of two States" Paper presentation by Mr. A.V. Ramana Charyulu Floor Discussion
11.15 – 12.00	"Gender Issue in Farmer Managed Irrigation " Paper presentation by Ms. Pranita Udas Floor Discussion	11.15 – 12.00	" Managing Water for Irrigation as a common Property Resource" Paper presentation by Mr. Laya Prasad Uprety Floor Discussion
12.00 – 1.00	Lunch		

Presentation and Discussion: Country Papers			
Chairman: Mr. Franz Heim Reporter: Mr. Ajaya Chandra Lal		Chairman: Dr. Robert Yoder Reporter: Mr. Min Bikram Malla Thakuri	
1.00 – 1.45	Country paper from Laos	1.00 – 1.45	"Reflections on the Bangladesh "Guidelines for Participatory Water Management (2000)" Paper presentation by Mr. Dirk R. Frans
	Floor Discussion		Floor Discussion
1.45 – 2.30	Country Paper from Vietnam	1.45 – 2.30	Country paper from Cambodia
	Floor Discussion		Floor Discussion
2.30 – 2.45	Tea Break		

III. Plenary Session: Comparative Study

2.45– 3.30	Chairman	Dr. Robert Yoder
	Session Coordinator	Mr. Rajan Subedi
	Reporter	Mr. Min Bikram Malla Thakuri
<hr/> <p>" Intervention in Montane Farmer Managed Irrigation Systems in Thailand and Vietnam: How Participatory and Dynamic are the Process?" Paper Presentation by Dr. Ganesh Shivakoti</p>		
	Floor Discussion	

IV. Final Plenary Session: Final Discussion on Future Direction of FMIS

3.30– 4.10	Chairman	Dr. Prachanda Pradhan
	Session Coordinator	Mr. Abinash Pant
	Reporter	Dr. Umesh Parajuli
	Panelists	- Charles Abernethy - Norman Uphoff - Linden Vincent - Surya Nath Upadhyay
4.10– 4.15	Vote of Thanks	Mr. Lava Raj Bhattarai

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