

210 97LE



Deutsche Stiftung für internationale Entwicklung

German Foundation for International Development



Zentralstelle für Ernährung
und Landwirtschaft

Charles L Abernethy, Franz Heim, Thomas Petermann, (eds)

LEGAL AND INSTITUTIONAL CONDITIONS FOR LAND AND WATER RESOURCES DEVELOPMENT

with special reference to
Lao PDR and Vietnam



Zentralstelle für Ernährung und Landwirtschaft - Feldafing/Zscho: 210-97LE-18829
Food and Agriculture Development Centre

DSE in Brief

The German Foundation for International Development (DSE) provides a forum for development policy dialogue and offers initial and advanced training of specialists and executive personnel from developing and transitional countries. In addition, it supports German experts in their preparation for assignments in developing countries and maintains the largest documentation and information centre on development co-operation issues in Germany.

The DSE works in the areas "Education, Science and Documentation", "Economic and Social Development", "Public Administration", "Industrial Occupations Promotion", "Food and Agriculture", "Health", and "Print Media".

Conferences, meetings, seminars and training courses support projects which serve economic, social, and ecologically compatible development, thus contributing to an effective, sustainable and wide-ranging development.

The DSE co-operates with partners at home and abroad. A considerable number of the programmes take place in developing countries, and the rest in Germany. Since 1960 the DSE has given advanced professional training to more than 140,000 decision-makers, specialists and executive personnel from over 150 countries. Every year more than 10.000 participants take part in the DSE's dialogue and training programmes.

The DSE contributes to development co-operation on the basis of the guidelines of the German Federal Government's development policy. The German Foundation is funded by the Federal Ministry for Economic Co-operation and Development (BMZ). Some of its programmes, however, are financed by other donors (e.g. other Federal ministries, the Federal States, the European Union).

Additionally, the Federal States of Baden-Württemberg, Bavaria, Berlin, North Rhine-Westphalia, Saxony and Saxony-Anhalt provide conference and training centres. Since its foundation in 1959 the DSE has been jointly financed by the Federal Government and the Federal States. This corresponds to the German Foundation's decentralised structure with specialised departments (Centres) and conference centres in a number of Federal States.

**Legal and Institutional Conditions for Land and Water
Resources Development**

**with special reference to
Lao P.D.R. and Vietnam**

LIBRARY IRC

PO Box 93190, 2509 AD THE HAGUE

Tel.: +31 70 30 689 80

Fax: +31 70 35 899 64

BARCODE: 10029

LO:

210 97LE

Deutsche Stiftung für internationale Entwicklung
German Foundation for International Development

**Legal and Institutional Conditions for Land and Water
Resources Development**

with special reference to Lao P.D.R. and Vietnam

Proceedings of the International Workshop
held from March 3 to 8, 1997 in Hue, Vietnam
and the two national meetings held on
May 11, 1997 in Hanoi, Vietnam and
May 14, 1997 in Vientiane, Lao PDR

Zentralstelle für Ernährung und Landwirtschaft (ZEL) – Feldafing/Zschortau
Food and Agriculture Development Centre

Published by:

Deutsche Stiftung für internationale Entwicklung (DSE)
Zentralstelle für Ernährung und Landwirtschaft (ZEL)
D-82336 Feldafing
Germany
Tel. +49-8157-938-0 ; Fax + 49-8157-938-777, 938-315
E-mail <zel@dse.de>

Editors:

Charles L. Abernethy
Consultant on Irrigation and Water Management
5 Havelock Road
Colombo 5
Sri Lanka
Tel. +94-1-584810 ; Fax +94-1-503175
E-mail <abernethy@itmin.com>

Franz Heim
Thomas Petermann
DSE-ZEL

DOK 1915 a
IT 735-200-97ex
ISBN 3-934068-39-1

Contents

Foreword	3
<i>Franz Heim</i>	
Welcome addresses	5
<i>Pham Ba Chat</i>	
<i>Franz Heim</i>	
Introduction and objectives of the workshop	7
Session 1 : International experiences	9
1.1 Legal aspects of integrated land use and watershed planning	10
<i>Michael Kirk and E. Krause</i>	
1.2 Principles of intersectoral water management	17
<i>Charles L. Abernethy</i>	
1.3 Legal aspects of water resources development	28
<i>Lawrence MacDonnell</i>	
1.4 Legal aspects in irrigated agriculture	32
<i>Jeffrey Brewer</i>	
1.5 Discussion by national participants	48
Session 2 : Country experiences – Actual legal and institutional situations	51
2.1 Land and water management issues : Lao PDR	52
2.2 Irrigated agriculture development, legal land use and laws concerned in Thailand	60
<i>Vira Vongsangnak</i>	
2.3 Vietnam : Land and water resources	63
<i>Tien Viet Pham and Bui Cong Quang</i>	
Session 3 : Policy framework for managing natural resources	67
3.1 Land management policies	68
3.2 Water resources policies	72
Session 4 : Legal framework for managing natural resources	77
4.1 Legal issues in managing land resources	79
4.2 Legal issues in managing water resources	81
4.3 Plenary discussion on legal issues	84
Session 5 : Institutional issues in effective management of natural resources	85
5.1 Organisations for land and water management	86
<i>Jeffrey Brewer</i>	
5.2 Institutions for managing land and water resources	93
<i>Charles L. Abernethy</i>	
5.3 Institutional frame : land resources	97
5.4 Institutional frame : water resources	100

5.5 Plenary discussion on institutional frame	103
Session 6 : Synthesis	107
6.1 Land-related issues	108
6.2 Legal issues	109
6.3 Points to consider	109
6.4 General considerations	110
6.5 Comments	111
6.6 Final group work	112
National follow-up presentations to senior Vietnam officials	115
National follow-up presentations to senior Lao officials	121
Annexes	
Annex 1 : Addresses	127
Annex 2 : Workshop schedule	132
Tables	
Table 1 : Summary of natural resources legislation in Lao PDR	56
Table 2 : Sharing of responsibilities for operation and maintenance (Thailand)	61
Table 3 : Organisations responsible for land-related issues in Lao PDR	97
Table 4 : Organisations in charge of introducing, amending and enforcing the legal and regulatory framework for land-related issues in Vietnam	99
Table 5 : Organisations responsible for the legal framework of water-related issues in Vietnam	102

Foreword

by Franz Heim

Lao PDR and Vietnam are both transitional countries. The change from a centralised planned economy to an economic form with elements of a market economy, opening up to foreign investment in industry, and adjustment to the demands of the world market, pose major challenges to natural resources. A major impediment to the economic transformation of transitional countries such as Lao PDR and Vietnam is that the existing legal framework does not clearly define basic rights and obligations in relation to property, contracts, formation of companies, and the like necessary for a market-oriented economy.

Both countries are at different stages regarding the legal situation of land and water resources. Lao PDR just issued a water law that became effective in March 1997 but has not yet a land law. Vietnam has a land law but is struggling already for many years to issue a water law.

An effective legal framework is important in land and water resources development. Rules and procedures under which these resources are allocated, used and protected are needed through legalised policies. Only these will maximise the social and economic benefits of natural resources. Land and water rights are crucial elements of the overall institutional structure of any society and economy. Laws are rules by which actions are governed. Important hereby are the elements of allocation and issues of enforcement and conflict resolution.

Development is a complex and dynamic process in which humans play the essential role and whose ultimate aim is the well-being of people. This can only happen in an institutional setting. An institution is a pattern or system of human relationships and activities that continues to exist over a long period of time. To make complex, interactive human activities succeed, there must be a surrounding set of institutions which deliver support, solve problems and disputes, and help to acquire and develop resources.

The workshop started off with keynote papers giving a comprehensive overview of the current state of

- **Legal aspects of integrated land use and watershed planning.** Michael Kirk answered the question why land tenure matters, discussing principal property regimes, and explaining issues of land tenure and land use on national, regional and local level. Specifics of Asia on how land tenure regimes cope with the on-going rapid socio-economic changes were his final topic.
- **Principles of intersectoral water management.** Charles Abernethy described the principal sectors using water. He focuses on valued characteristics of water resources such as quantity, quality, time, reliability, elevation and location. Changing demands, changing resources and responses to these changes are given which include laws, administrative methods, political elements, and market methods. The institutional framework for intersectoral water management embraces systems of water rights and licences, financing mechanisms and compliance mechanisms. Water right systems should be

based on three principal characteristics, which are clarity, security and transferability. The protective tasks of a basin management organisation and how to avoid conflicts are finally discussed in his paper.

- **Legal aspects of water resources development.** Lawrence MacDonnell introduced general policy objectives, water law, water rights, environmental law for water, allocation elements and issues of enforcement and conflict resolution.
- **Legal aspects in irrigated agriculture.** Jeffrey Brewer of the International Irrigation Management Institute (IIMI) examined operations and maintenance, water user organisations, resource mobilisation for irrigation, conflict resolution and the question of access to land for irrigated agriculture.

In session two the actual legal and institutional situations of land and water resources in Lao PDR, Vietnam and Thailand were presented by participants.

Session three provided an answer to the question: what improvements are needed to reach a sound pattern of land or water resources use in the two countries during the next 20 years? This took care of policy framework conditions for managing natural resources.

What changes or elaborations are needed in the existing or proposed legal and regulatory framework for achievement of the identified policies? Session four aimed to elaborate on the legal frame conditions which would be needed to fulfil the policy objectives regarding sustainable land and water management.

Session five analysed institutional issues for effective management of natural resources, including which institutions/organisations are involved in developing laws and regulations, which new capacities should be built up or modified, and what co-ordination or collaboration is needed between institutions/organisations at different levels to secure efficient management of land and water resources. Two keynote papers were presented, by Jeffrey Brewer on organisations for land and water management, and by Charles Abernethy on institutions for managing land and water resources. Participants of Lao and Vietnam discussed the questions of 1) which organisations are in charge to introduce, to amend, to implement, and to enforce the legal and regulatory framework at different levels; 2) which institutions should be engaged to secure implementation of the legal and regulatory framework; and 3) in which ways should organisations work and co-ordinate?

The last session of the workshop identified what legal and institutional improvements would be required to achieve the identified policies and policy objectives regarding integrated land use and water resources development. The resource persons gave final comments. Participants from Vietnam and Lao elaborated a synthesis of issues for improved land and water resources management in their countries.

During the week after the workshop, selected participants from Vietnam and Lao PDR presented and discussed the major findings of the workshop in their national languages with senior political and operational decision makers in their respective countries. This took place in Vietnam on 11 March and in Lao PDR on 14 March.

Welcome Addresses

Mr. Pham Ba Chat, Representative of the People's Committee of Thua Thien Hue Province, said :

Dear Mr. Franz Heim, Head of Section Agriculture Production, German Foundation for International Development, Germany;

Dear Mr. Dao Trong Tu, Deputy Director, Representative of Ministry of Agriculture and Rural Development;

Distinguished delegates, Ladies and Gentlemen,

Today, I am very glad, on behalf of the People's Committee of Thua Thien Hue province and Department of Agriculture and Rural Development of TTH, to warmly welcome Mr. Franz Heim, representative of DSE, Mr. Dao Trong Tu, representative of MARD, International Experts, and delegations from Lao PDR, Thailand and Vietnam who attend this workshop.

The objectives of the workshop aim at exchange of experiences among national and international experts in the field of legal and institutional implications and conditions for environmentally appropriate planning and management of land and water resources. We found that this workshop is a very good opportunity in which administrative, scientific and technical officials from Lao PDR, Thailand and Vietnam can learn from international experts and exchange their experiences with each other concerning the above subjects. My understanding is that the legal and institutional conditions are taking a more and more important role in the field of development and management of land and water resource in Vietnam.

Thua Thien Hue is a province with high potential of land, forests and water. These natural resources are being exploited to serve for provincial economic development and improvement of the living standard of our people. However, how to develop these resources in a sustainable and environmentally sound manner is still questionable. Our administrative, scientific and technical officials as well should learn and should be trained more in this subject.

The experiences that will be learnt from the workshop are very useful for the sector of agriculture and rural development which is assigned by our Government to manage the water, land and forest resources. We highly appreciated the content of the workshop. I do hope that after the workshop, Vietnamese officials from different sectors will have very good experiences and approaches, which will be introduced and applied in practice, in accordance with our conditions and policies. Natural resources are used for prosperity for our generation but also have to be maintained for our next generations.

Once again, I thank very much MARD and DSE to have selected our beautiful Hue city to organise this important workshop in the days of spring 1997. I thank DSE for its financial support for the workshop. Thanks also to the presentations of all international experts, delegations of Lao PDR, Thailand, and Vietnam.

I have the honour to declare the workshop opened.

I wish the workshop to be successful! I wish you all health and happiness!

Thank you for your attention.

Mr. Franz Heim of DSE welcomed the representatives of MARD and the Provincial Representatives as well as participants from the Lao PDR, Thailand and Vietnam to this workshop. A short overview on the structure, mission and task of German Foundation for International Development (DSE) and its Food and Agriculture Centre (ZEL) was given.

The background and the programme of the long-term DSE programme in the two countries of Lao PDR and Vietnam on *Management of Land, Forest and Water Resources* was explained. This programme started already in 1995 with some seminars and workshops and was finally approved at the end of 1996 by the German Ministry for Economic Co-operation and Development (BMZ). It is based on the findings of the national and regional experts who identified options and prospects for improving the situation in managing natural resources.

Mr. Heim explained the objectives, components, target groups and instruments of the programme, of which this workshop was an important initial event. He wished the participants success in achieving the aims of this workshop, which would have a follow-up of two national meetings on 11 and 14 March in Hanoi and Vientiane respectively for policy decision-makers, where the discussions and results of the workshop would be presented.

Introduction of the Workshop

This workshop on *Legal and Institutional Conditions for Integrated Land Use, Watershed Planning and Irrigated Agriculture Development* has its origin in needs identified in the 1995 meetings by experts from the two countries, Vietnam and Laos. It was explicitly mentioned that this topic is of utmost concern in the countries.

There is a need for analysing informal and formal systems of land and water rights at local and national levels. Experiences at international level can give indications that should be considered, by examining the compatibility of land and water right systems with overall land and water policy objectives, and also the impacts of changing such land and water right systems.

Externally defined systems of land and water rights will lack legitimacy and will fail to meet the needs of all users, if they do not take account of land and water users' perceptions and customs. Methodologies, if available, should therefore be applied for assessing users' perceptions and customary rights.

Successful development of land and water policies depends on the existence of certain overall conditions, especially:

- stable long-term objectives;
- consistent policy;
- involvement of users' organisations and the private sector, in partnership with government;
- holistic approach to land use and water resources planning.

These policies should be aligned towards overall national policy objectives, recognising that land and water are scarce and vulnerable natural resources. Tools need to be developed which can facilitate the implementation of policies. Institutions should take care that laws are enforced and policies are carried out effectively.

Objectives

The aims of this international workshop were :

- to exchange experiences among national and international experts in the field of legal and institutional implications and conditions for environmentally appropriate planning and management of land and water resources;
- to develop different methodologies for establishing solid foundations for land and water rights and suitable institutional frames for the management of natural resources;
- to elaborate leading characteristics of successful land and water rights systems, in accordance with national policies and land and water users' perceptions and customs;
- to develop recommendations for improving legal conditions of natural resource tenure and their implications on institutional collaboration.

Session 1: International experiences

Four keynote papers were presented by specialists from outside of the south-east Asian region.

These papers introduce various ideas, specific experiences, and general principles that have been found elsewhere, and that may be useful for the development of new legal and institutional conditions in Vietnam and Lao PDR.

At the end of this section, there is a record of issues discussed between the Vietnam and Lao PDR groups and the external specialists.

1.1 Legal Aspects of Integrated Land Use and Watershed Planning

by Michael Kirk and E. Krause

1 Why does land tenure matter?

Talking of land and water rights, the need arises for the analysis of informal and formal systems of land and water rights at local as well as at national levels. This paper is meant to contribute to such analysis.

Clear-cut definitions in this field cannot easily be arrived at, as the thematic complex cannot be assigned to one particular discipline. Instead, a multi-disciplinary approach is required, including all the difficulties linked to such an approach, one of which is the lack of clear-cut definitions acceptable to all the disciplines. It may therefore be more helpful to bear in mind a few concepts and some terminology. First of all, land and water rights cannot in any way be separated from society. They are crucial elements of the overall *institutional structure* of a society and its economy. Furthermore, *land and water rights* are to be understood as *property rights*, i.e. a social institution based on a system of relations between individuals, involving rights, duties, powers, privileges, etc. Finally, using the term land tenure system or land tenure regime refers to the system or structure of land rights in a particular country or a region.

But why is land tenure an important issue deserving our attention? Several underlying and strongly interrelated problems are undeniable and have become even more pressing in the last years. First and foremost, high population growth rates, inevitably linked with an increasing food demand, put immense pressure on the available arable land. Resource degradation increases at disquieting rates, and more and more conflicts over agricultural land, pastures, forests, water and watersheds arise. Mexico, Rwanda, Northern Ghana, Brazil, Ecuador to name but a few - all of these countries or regions have faced and often still face violent conflicts, rebellions or even outright civil wars. Along with a changing environment and changing societies, autochthonous, indigenous property rights are eroded to an alarming extent. At the same time, viable alternative tenure systems are often absent, a situation in which state property is often resorted to. With most of the centrally planned economies having collapsed, however, the role of the state has again become an important topic of discussion and a new understanding of it has emerged. This process has already had a remarkable impact on international declarations, treaties and conventions such as, for example, the United Nations Conference on Environment and Development in Rio de Janeiro, the FAO World Food Summit, the Conventions on Biodiversity and on Desertification. This discussion was substantially livened up by new approaches in economic theory collectively taken together under the heading New Institutional Economics (Kirk 1999, Kirk et al. 1998).

2 Property regimes (or land tenure systems) in principle

Four separate property regimes can be distinguished, each of them having its own structure, hence varying transaction costs regarding legal provisions, enforcement

systems and the costs of collective action processes (Bromley 1991). These property regimes are:

- state property,
- private property,
- common (communal) property,
- open access.

In the following sections, all of these four will be described and characterised briefly.

2.1 State Property

If resources are classified as state property, it is most important to note that ownership and control over the use thereof rests in the hands of the state. Indeed, individuals or groups of individuals can make use of the resources, but they can do so only at the forbearance of the state. Often the direct management of these resources is assigned to government agencies in such arrangements that allow for the leasehold of groups and individuals. National forests, national parks, pastures, military reservations - all of these may serve as examples here. It should be kept in mind at this point that shifts from state property to other types of property are possible and are recently being discussed widely as state divestiture or devolution (Meinzen-Dick and Knox 1999, Ngaido and Kirk 1999).

As the example of the leasehold of government land shows, different land tenure types may exist even if officially we are talking of state-owned land. What are these existing types of land tenure?

A situation of "first come, first served," where no one actually enjoys property rights, is referred to as *open access*. We can distinguish legal open access, meaning that it is explicitly not the intention of the state to create a system of rights, but rather to maintain a system of reciprocal privileges and de facto open access. The latter is often due to the disintegration of formerly existing institutional arrangements and therefore represents the end of a long process of destabilisation and erosion. In another case the access to the land as such may not be open, but de facto there is access to it for certain purposes, for example hunting, grazing, or removal of timber or other forest by-products. Squatter cultivation on "wild" settlements can be found, too. The state can also recognise traditional (indigenous) user rights or accord legal or quasi-legal user rights, while the ultimate control over the land still remains with the state. Such user rights may consist in the right to engage in shifting cultivation, in cultivation on small plots, in hunting, fishing or grazing on the land in question. Instead of giving separate user rights to individuals only, they may also be enjoyed as a whole bundle of rights by a group of individuals. Various forms of land "owned" or used in common exist on these communal lands. State management as another possibility is usually found on state farms, in forestry, in wildlife and other forms of environmental management. Furthermore, state-owned land can also be subject to local government management or its use may be laid down in by-laws (regulations) or contracts.

2.2 Private property

Private property exists as individual or corporate property, and it therefore belongs to distinct individuals or to legal entities such as, for example, stock corporations. The

constituent characteristic of private property lies in the ability to exclude others, which is legally and socially sanctioned. But it should not be forgotten that while owners have pervasive rights, they have duties stemming from the social responsibility of property as well.

A common tendency of privatisation of the best land can be observed, leaving the worst in the "public domain" (including the following categories: state property, common property and open access). At the same time this form of property regime appears to be sufficiently stable while also adaptive to a changing environment as well as effective in resisting unwanted intrusions. In the past it was especially this last characteristic which became the focal point for socialist revolutions. It seems that private property is not necessarily 'theft' (as Proudhon put it), but a good deal of theft has ended up as private property (Bromley and Cernea 1989:13).

We should differentiate, however, between private and individual property. First and foremost, private property is characterised by the right (and the feasibility) of exclusion which may be exercised either by an individual or by a group. But then the private property of a group would be referred to as common property (next section). Here, we refer to private property rather in the sense of private and individual property.

In reality, private tenure takes on different forms and offers numerous possibilities. It may, for example, be rented for fixed, possibly extendible, periods resulting in short-term or long-term, even inheritable, rights. Private ownership or private possession can be based on traditional rights of occupancy or on allocation by traditional authorities. Thus, private property is not only encountered in the form of legally owned property through registration which provides the owner with a legal title to (for example) land. Even long-term user rights come close to private property, although the land might legally be state land: "... if the new land laws are appropriately administered, land use rights in Viet Nam may become little different from private land property in modern market economies in their effects on resource allocations, even though 'state ownership' is maintained" (Hayami, in: FAO 1994:9).

2.3 Common Property

As already mentioned, common property is private property for the group. All others, the non-members, are excluded from the use of the resource and from the decision-making regarding that resource, whereas the individuals within the group have rights of utilisation, not forgetting duties.

These property-owning groups mostly are social units characterised by some interaction between the group members, common interests distinguishing that group from other groups and therefore by definite membership and boundaries to the 'outside'. Usually the group members also share common cultural norms and their authority systems are of an endogenous type as, for example, chiefs and/or land priests. Examples for such social units are manifold. They may be ethnic groups, neighbourhoods, small trans-human or mobile livestock-keeper groups, kin systems or extended families. Among the resources held in customary common ownership there are farmland, grazing land, water sources and wells, common forests, catchments and watersheds.

However, one must be careful not to mix up common property, neither with collective farms since they are established on state land, nor with producer co-operatives. Also, unlike collective farms and producer co-operatives, the management authority over common property is often vested in leaders, who are in many cases traditional. It is important to note, too, that common property comprises a whole bundle of rights including use rights, exchange rights and distribution entitlements.

Quite understandably, the rather complicated structure of common property gives rise to a number of problems. In particular the compliance by co-owners to their system of rights and duties may not always be ensured, resulting in the breakdown of the common property regime as a consequence. Finally a disregard of the state leads to external threats which then may develop into an open access situation briefly discussed below.

2.4 Open access

Correctly speaking open access does not actually describe a property regime as it refers to a situation where property does not exist. In other words, "everybody's access is nobody's property" (Bromley 1991). In such a situation resources like a grazing forage, fish, firewood, etc. belong to the party that first exercises control over them. It rather has to be seen as the result of the absence or the breakdown of a management and authority system, hence of a policy failure, than as an intentionally devised and maintained property regime.

3 Land tenure and land use

The reason for going into such detail in categorising different property regimes is that the conditions under which land is occupied, allocated and distributed within society and under which it is exploited are extremely important for the way it is used. They determine whether land is used in a sustainable way, maintaining its capacity to produce, or whether it is effectively "mined" by individuals, communities or state agencies. Ultimately the latter leads to degradation and/or loss of biodiversity. Therefore, land tenure systems lie at the core of understanding land use patterns.

4 Preconditions for functioning land tenure systems

The preconditions to be met in order for land tenure systems to function have to be analysed according to the administrative level authorised and most apt to set them. Consequently, a differentiation between the national level on the one hand and the regional and local levels on the other is necessary.

4.1 National level

The national level being the one responsible for land legislation, it has to pay utmost attention to the fact that all kinds of land be covered by legislation in order not to leave room for unstable and resource-degrading situations of open access. Accordingly, land legislation should include agricultural as well as non-agricultural land, permanently used as well as non-permanently used land (such as pastures, shifting cultivation). It also has to be co-ordinated with forest legislation, and it has to deal with the question how to combine agro-forestry with legislation on agricultural

land (Kirk et al. 1998). Likewise, water legislation can be an important neighbouring field taking into consideration the nexus between the two regarding irrigated agricultural land.

Moreover, to provide the basis for legal certainty there is a need for land registration and a form of titling system. But this then leads to further needs also located at the national level in order to actually put legal certainty into practice. Among these prerequisites are an independent judiciary, an independent bar as well as independent lawyers who have to be able to call on courts at different levels meaning that there must be appeal courts, not only those of first instance. On the side of the executive, enforcement instruments of the legislation such as the police and an efficient, non-corrupt administration must not only be established but enabled and allowed to work, too.

All of this already points to various links and further implications of well-devised land legislation. But there is an even wider framework to be taken into account. Interdependencies exist with land tax legislation, with legislation on land management issues, on customs and tariffs as well as on foreign investment as regards, for example, concessions and benefit transfers. Not very surprisingly, land and resource legislation in general is strongly interrelated with environmental legislation and legislation on property and contracts. But there are also links to legal topics, seemingly far away from land legislation such as family and inheritance law. Having depicted the broader context it becomes clear that these tasks fall to the national level, whereas those dealing more closely with regional differences and operationalisation as such are better passed on to regional and local levels.

4.2 Regional and local levels

If actually the regional and the local levels are to fulfil the tasks assigned to them, a decentralisation of responsibilities becomes absolutely necessary. They have to be allowed to give the instructions for implementation at district and village level while at the same time they have to dispose of co-ordination capacities with other authorities at the same level as well as at the national level, for example the land, forest and water administrations, the Ministry of Finance, the Ministry of Environment, to name but a few.

Here, the big challenge consists in integrating statutory law with customary rights, with the aim of ensuring equal access to land. This is not at all easy if one only thinks of gender-specific rules and regulations regarding access to land or conflicts between different ethnic groups that may already exist or arise in the future. To start with, a careful and participatory process of land use planning has to be carried out during which plots are delineated, land use patterns (agricultural land, pasture, forests, commercial lands) can be identified and boundaries between villages are determined. Thus, the cornerstone is laid for resource management plans.

At the same time simple and appropriate instruments for land registration have to be developed, and a process of participatory law and regulation-making at the administrative level in question (regional or local) has to be initiated. On the basis of all these data collected, plans made and regulations agreed on, management contracts between village(r)s and companies can then be envisaged. Logging, for example, or the use of water may be subject to such contracts. But since a wide variety of actors are concerned by these developments, with all their interests

unfortunately often just as widely differing, it is equally important to create capacities for conflict resolution. These stake-holders range from agriculturists through settled and trans-humant livestock owners, hunters, collectors or traders of forest products to entrepreneurs (such as logging companies, hydro-power construction firms, sellers of firewood), the forest administration or other administrative authorities. In each specific context, the list has to be completed with great care to avoid or at least manage future conflicts threatening to obstruct all plans made.

Coming to the geographical focus of interest here, the observations made so far need to be linked to the Asian context.

5 Asia: Will land tenure regimes cope with the ongoing rapid socio-economic changes?

Land reforms are still a very controversial issue in Asia. While re-distributive but market-oriented land reforms have proved to be a cornerstone of the economic success stories of Taiwan and Korea, also known as "Asian Tigers", they have also created immense environmental problems which are rarely taken into account (Kirk 1998). In other countries such as the Philippines land reforms still remain incomplete and represent a ticking time bomb of social tensions and ongoing resource plundering. Restricted military areas may be cited as just one example. Demographic pressure further adds to these social tensions and helps landlord-tenant relationships to persist. For millions of peasants in India, for example, tenure insecurity continues to leave few, if any, incentives for long-term investment in sustainable land use and active resource protection. But this is not to say that private ownership of registered land is a panacea for sustainable land management as the cases of Thailand, Indonesia, Laos and Cambodia show, where customary rights, decentralisation and local co-operation have not sufficiently been taken into consideration.

In addition to these remaining problems new threats for sustainable agricultural and rural development are predictable already. There are resource conflicts emerging between winners and losers of globalisation and the second, biotechnological Green Revolution, conflicts that will urgently have to be dealt with (Kirk 2000). Moreover, along with the fast economic development of many Asian economies, the need to cope with the dramatic conversion of land, with land grabbing and with the new and fierce competition about its best use becomes ever more pressing. Finally it has to be acknowledged that the demand of the younger generation in these countries is not any longer for "access to land" but "access to income" instead. While this may sound a little bit surprising after years of struggles over land and land reforms this could also turn into a challenge to make use of this changing attitude through finding new ways of environmentally sound land management.

Land reforms may already have taken place, but the rapid socio-economic changes occurring in Asia make it necessary to keep working on them and at the same time to rethink them carefully under the new circumstances. Land tenure is a relation between man and land, and relations are prone to change, challenging the actors to find suitable arrangements.

References:

- Bromley, D. (1991). Environment and Economy. *Property Rights and Public Policy, Cambridge, Mass.*
- Bromley, D. & M. Cernea (1989). The Management of Common Property Natural Resources. *World Bank Discussion Paper no 57, Washington, DC.*
- Kirk, M. (1998). Land tenure and land management : Lessons learnt from the past, challenges to be met in the future? *Advances in GeoEcology, Vol. 31:1485-91.*
- Kirk, M. (1999). Land tenure, technological change and resource use. *Transformation processes in African agrarian systems, Frankfurt am Main, ed. Peter Lang.*
- Kirk, M. (2000). Resource tenure problems and innovative land policy options in an Asian context. *Paper presented at the International Conference on Growth, Poverty Alleviation and Sustainable Resource Management in the Mountain Areas of South Asia, DSE and ICIMOD, Kathmandu.*
- Kirk, M., Löffler, U. & W. Zimmermann (1998). Land Tenure in Development Co-operation: Guiding Principles. *GTZ, Wiesbaden, Universum Ed.*
- Meinzen-Dick, R. & A. Knox (1999). Collective action, property rights, and devolution of natural resource management: a conceptual framework. *Paper presented at the International Workshop on Collective Action, Property Rights, and Devolution of Natural Resource Development (IFPRI/ICLARM/DSE), Puerto Azul, Philippines.*
- Ngaido, T. & M. Kirk (1999). Collective action, property rights and devolution of rangeland management: selected examples from Africa and Asia. *Paper presented at the International Workshop on Collective Action, Property Rights, and Devolution of Natural Resource Development (IFPRI/ICLARM/DSE), Puerto Azul, Philippines.*

1.2 Principles of Intersectoral Water Management

by Charles L Abernethy

1 Introduction

Our topic is called intersectoral water management. We can begin by examining each of these words and considering what they mean.

When we speak about a **sector**, we mean one of the principal categories or types of water use: for example, agriculture. We are not speaking about categories of **users**, because one user may use water for two or three different types of **function**. The word sector means the kind of functions or activities in which water is used. We will discuss soon what the major sectors are.

Inter means the same as "between." So intersectoral management means management between sectors. Why should we be particularly concerned about management between sectors? This is because (in most countries) management inside each sector is already quite firmly organised, and there is a department of government looking after each sector, but there is often defective co-ordination between the activities of these sectoral organisations. In fact the sectoral organisations are often competing against each other. So another way of expressing "intersectoral water management" could be "co-ordinated management of national water resources."

Management means the process of making and implementing decisions about the application of resources, in order to achieve agreed objectives. Of course, decisions must be prepared, by gathering and analysing many kinds of information, and decisions must be followed up by many sorts of implementing actions. Management includes those tasks too, but the central core of a manager's job is to make good decisions.

Lastly, let us think about the word **water** itself. Is management of water so much different from management of other resources, like land? Do we need special management principles for water? Yes, we do. One of the major reasons for this is that water is a moving, variable resource, which is quite difficult to measure and to quantify. Land resources are fixed and definable; but water resources are statistical. We feel very familiar with water, and it is one of the most common, normal things in our environment. This can make us forget, sometimes, how different it is from everything else in our world. Water is a very special, unique substance, and its management needs special rules.

So intersectoral water management means making good decisions about sharing these special, mobile, flexible resources, among the numerous categories of possible human uses of them.

2 Principal sectors

The **domestic** or **personal** uses are the first of the major sectors that we should consider. This sector is different from all the others, because these uses - drinking, washing, cooking and sanitation - are essential for healthy human life. So, in

situations where water is scarce, such as in deserts or in time of drought, this sector will always have priority over all others. But, although these uses are essential, the quantities involved are not large. Our basic needs can be satisfied with 30 - 40 metres per person per year. This is equivalent to 5% of total water consumption, if we speak of global averages. But the variations from these averages are huge. In poorer societies of Africa, "basic domestic needs" are about 15% of all water uses; but in the rich societies of North America, about 2%. Rich societies use very much more water than poor ones.

The **agricultural** sector is the sector that usually consumes most water in Asian countries. In Asia, high ratios of people to land make it impossible for most countries to sustain adequate food production without irrigation. So in many parts of Asia the agriculture sector is almost as essential for human life as the domestic sector. In other continents, the role of irrigated agriculture is not so central as in Asia, but it is still large.

The role of the **industrial** sector is increasing fast, especially in the countries of south-east and south Asia. Economic growth rates of around 8 - 9% per year have become regarded as normal. This implies very rapid increases of water demand for industries of many kinds. Often, the availability of reliable water is a pre-condition of industrial investment, and this may determine the locations where investments will occur.

The **energy** sector uses water but does not consume it, at least in hydro-power facilities. This sector is interested in places where transference of water from high to lower elevations can be easily done. On the other hand, thermal energy stations require abundant water for cooling.

Fisheries, navigation, sports and tourism are other sectors of water uses, which are highly significant in some countries, but are relatively negligible in others.

3 Valued characteristics of water resources

It is difficult for a manager to make good decisions about resource uses, unless a good definition of the available resources exists. That means we must have measurement and quantification of these resources. These are the functions of the hydrologists.

To define the water resources of a country or a province or a river basin does not mean only measuring how much these resources are. The quantity of water is not the only significant parameter alone. Various international organisations publish tables that show how many cubic kilometres of "renewable water resources" each country has in each year. Then people may begin to think that the quantity of water is the only criterion of "good" water resources.

In reality, we can see that governments and ordinary people invest large amounts of money in order to obtain and improve other aspects of their water resources. When the government of Egypt, for example, decided to build the Aswan High Dam on the river Nile, they knew that this would reduce the quantity of water received by their country, because more than 10% of the water previously received by Egypt would evaporate from the surface of such a large reservoir.

Why does the government of a desert country, which has practically no rain at all, invest hundreds of millions of dollars in a scheme which will reduce its quantity of water resources? The reason, of course, is that other valuable parameters of the water resources can be improved by the project, and these other parameters have sufficiently high economic values to justify the investment. In this specific case, the other parameters that Egypt wanted were timing, reliability and elevation.

So, by examining the reasons why users of water make investments and purchases, we can identify a set of valued characteristics of water resources. Different sectors may give value to different characteristics.

The **quantity**, although we should not make it too dominant, is important to most sectors. We try usually to express it in parameters such as the average annual renewable water resources of a river basin or an underground aquifer, and we may also need to know the static volumes that exist in lakes or aquifers. We often try to relate water quantity to human population, in units such as m³/person/year, because this gives us a rough indication of its abundance or scarcity in relation to typical human demands.

The **quality** of water is significant for all sectors except navigation. Over 97% of all the water in the world is not useful for most human uses, because it is in the sea and therefore too saline. As we extract fresh water from our rivers and aquifers, the saline sea waters may penetrate much farther inland.

The **time** at which water is available is of great significance to some sectors, especially agriculture. Agriculture may have its highest rates of water use during an annual dry season, at just the same time as the naturally available supplies in the rivers are at their lowest levels. So a major reason for investing in dams is to change the times of river flows, by retaining some of the wet season's water and making it available to be used in the dry season.

Reliability is another important characteristic. All river flows vary statistically, and the ranges of variation tend to be greatest in the regions of least rainfall. Users of water like to know that the amounts of water on which their activities depend will regularly be available. Different users need different degrees of continuity, but all want the availability of water to be predictable. Industrial investors are highly interested in reliability of water. So also are small farmers who often invest in wells and pumps in order to have reliable access to water at times which they can choose for themselves.

The energy sector is interested in the **elevation** of water. Hydro-power is generated by dropping water from a higher to a lower elevation. Dams can retain water at higher elevations, capturing and storing energy that would otherwise have been consumed as friction on the river beds. But the energy sector may be in competition with the agriculture sector over the timing parameter, because energy demands do not vary over the year as agricultural demands do. So the energy generators would like to continue dropping their water to lower levels all through the year, while the agricultural sector would like to keep it up in the reservoirs until the dry season comes.

Lastly, the **location** of water is very important. Transportation of water from one place to another is expensive, in relation to the value of the water itself. This is the major reason why most old-established towns and cities are near to rivers. As our

economies have grown more complex, we invest heavily in canals, pipelines and tunnels to achieve location transfers, and to bring water from its natural locations to new points of use.

Each of these six characteristics, quantity, quality, timing, reliability, elevation and location, is of interest to some sectors of use. Therefore, we need information about all of them in order to specify and define the available water resources of a river basin.

4 Changing demands

Management of water resources is therefore quite complex, even if we are living in a stable situation. But our situation is not stable. Changes of many kinds are a feature of the present time. The present economic growth rates in South-east Asia mean that the total amount of economic activity is doubling in about 8 years. These rates of development imply enormous changes in human demands for water, and in the balances or ratios between the different sectors of water uses.

Population Increase is the most obvious source of changing water demands. Just to satisfy the basic needs of people, the domestic sector needs 2-3% additional water every year, and the agricultural sector needs some similar increases in order to provide these extra people with food.

But the people do not remain in the same places. **Urbanisation** is another major trend of our times. City populations are growing much faster than rural populations. So, in addition to the general increases in the quantities of water demands, the locations of the demands are changing. We need more water, and we need it in different places.

Much of our current economic growth is happening through **industrialisation**. The industrial sector uses large amounts of water, and requires high levels of reliability, because it expects to recover the benefits of its investments over many years.

People want better levels of **food security**. In the past, episodes of food scarcity or famine occurred quite often in Asia. In the preceding 25 years such food scarcity events have almost ceased. The large investments in irrigation facilities are a major part of the reason for this. The proportion of food that is grown under irrigated conditions is likely to continue to increase, because of its higher stability. So the demands for water for irrigation will continue to grow, unless we can adopt technical methods of improving the productivity of the water used in irrigation.

People also want to experience a steady improvement in their general **quality of life**. This improvement is normally accompanied by higher consumption of electricity and water. If we compare the two groups of countries which the World Bank classifies as "high-income" countries and "low-income" countries, we find that in the high-income countries the consumption of water per person is about three times more than in the low-income countries. Economic growth increases the total demand for water, and it also changes the distribution of demands among the sectors.

5 Changing resources

While human demands for water are changing rapidly, the water resources themselves are also changing. Some of these changes occur naturally, but most of them are caused by human actions.

We make some deliberate or purposeful actions, which aim to change the water resources of a basin in ways that we may think desirable. Construction of **storage** reservoirs, or tunnels and canals for **transferring** water from one basin to another, are examples of these deliberate changes, by which we adjust the timing, location and reliability of water flows.

Other changes which are produced by human actions may be less helpful and also less deliberate. **Pollution**, which means downward change in water quality, is common. It occurs because almost every sector which uses water returns some part of that water back into the river/aquifer system, after it has been used. The water that is returned often contains contaminating materials: chemicals, biological organisms, solid particles, and heat. These can change the quality of much larger amounts of water, within the rivers, aquifers or lakes that receive them. The processes of pollution therefore can make significant amounts of the available resources unsuitable for many of the categories of human uses.

Our rising demands for fresh water mean that we are abstracting more and more out of the rivers, and leaving less in them. This has effects on other users: not only human users, but fish, birds and animals too. In many rivers, new growth of **abstractions** in the upper regions has left insufficient water flowing down to the lower areas, where existing, long-established users suddenly discover that their water, which was reliable before, is disappearing, and their traditional life-style may be no longer viable.

Another consequence of our current increases of population and of economic activities is rapid changes of **land use**. We see these changes in many countries, and they are especially evident in south-east Asia. The areas under forests are reducing rapidly, grasslands are weakened by excessive feeding of cattle, sheep and goats, agriculture is appearing on steeper slopes which were not used by people in the past, and other artificial changes to the landscape are caused by human activities such as mining and road-building. Many of these changes affect the water systems. Soils are much more exposed to the energy of rain impact and the stresses of high-speed surface flows. There is more sediment in the river systems than there used to be. Water runs off from the catchments faster, so its opportunity to infiltrate and to recharge the aquifers is less. This affects the timing of river flows, making the dry seasons drier than they used to be.

6 Responses to change

So we face this problem: water demands are increasing and changing, and at the same time water resources are changing, especially in aspects like quality, reliability and timing. In general the changes in resources are reducing the amounts of water that are suitable for our human needs.

We can see that these facts mean that we have to develop appropriate responses to these changes. Perhaps we will be able to prevent some of the changes, but many of them are certainly going to proceed much farther. We have no real alternative except to learn how to manage these changes.

This means that we must seek for ways of influencing the growth of demands, and also ways of influencing those activities which reduce and change the available resources. That is easy to say, but difficult to do. It is going to require significant changes in the things which people are doing with water at present. As we have just discussed, many things which people do have unsatisfactory effects on our water resources. But the people who do these things do not always have evil motives. In most cases, people are doing these things because they seem sensible, to those people, in response to their present circumstances. It is not easy to make them change behaviour which seems economically necessary to them.

Let us look at some of the ways by which societies try to adjust people's behaviour, when we recognise that changes of behaviour have to happen. I think we can identify four main channels by which governments have tried to react to the changes that are necessary in water-related behaviour. These are laws, political processes, administrative processes, and markets. I do not mean that these are alternatives. Probably we need to have some mixture of all of these, in order to get a successful result.

Laws are a major topic of this Workshop, so it is not necessary to say a great deal about them at this stage. Laws are a way by which we try to *prevent* some kinds of behaviour. Laws can also be used to develop standards or *agreed norms* of behaviour. The role of law in controlling some of the kinds of undesirable behaviour is *limited*, especially in developing countries, by the problem of enforcement, or (as I would prefer to call it) ensuring compliance. *Enforcement* of law means that we have some system of penalties and punishments against those who break the law. **Compliance** mechanisms include these enforcement techniques, but may also include other methods of obtaining the behaviour society wants, such as persuasion and incentives.

Administrative (or bureaucratic) methods of promoting change involve setting up public systems to organise and supervise changes: for example, special boards to allocate the right to use water in certain ways. These systems may be within the existing government machinery, or they may be specially established outside it. Public officials tend to be in favour of systems of this kind, but ordinary people are usually less so. There are often problems of *transparency*, meaning that people who are affected by these processes have difficulty to find out what is going on, what is being decided, and why. There are also likely to be compliance difficulties, especially if transparency is weak.

It is natural that there should be a **political** element in the process for arranging any changes, because access to water becomes a strong political issue if the water is scarce. It is important that the political part of the process should be as transparent as possible, in order to ensure that there is wide understanding of the reasons for the changes, and therefore wide support for implementing them. Unfortunately there are sometimes cases where political influence is used in non-transparent ways, and may enable powerful individuals or groups to obtain control of water, by removing the

rights of previous users. These unsatisfactory and inequitable political processes are most frequent in countries where the legal framework is weak or unclear, or has not been brought up to date.

Market methods for facilitating change are proposed very enthusiastically by some people at the present time. Market methods involve transferring the right to use water, from one person or group who hold that right, to a different person or group who want it, in exchange for a payment. It can be a permanent transfer by sale, or a temporary transfer, meaning that the right to use the water is not sold but is rented. Market systems can exist satisfactorily only if there is a basic legal framework that

recognises the existence of water rights and a legal or administrative system that identifies the existing possessors of rights. The absence of these requirements means that there are not many countries at present where the solution of our basic problem of responding to the need for rapid change can be achieved through market mechanisms. It is happening to some extent in the south-west United States, and, among developing countries, Chile is the example mentioned most frequently.

7 Institutional frameworks for intersectoral water management

The processes for promoting change are important, but they will not work well unless we also create an adequate institutional framework in which these processes can occur.

One of the basic requirements is an organisational structure that is based on hydrological units, which usually means river basins but can also include aquifers. Unless there is some kind of **river-basin organisation**, it is difficult to develop any satisfactory process of deciding rights to use water, because the impacts of water abstraction are automatically felt down the same river course. In many countries at present, water is managed by some different geographic entity, such as a local government authority, which is not responsible for the whole river or its basin.

There must be a strong **hydrological database**. This is similar to the need for good maps in managing land resources. We cannot hope to manage or allocate resources well if we do not know where they are, or how much they are. But the need, in regard to water resources, is more than it is in regard to land resources. Land resources are fixed and relatively stable. Water resources vary from year to year, and so, to define them, we need to maintain hydrological measuring networks over many years. Many countries have allowed these networks to deteriorate, which is an unfortunate policy, because it will make it much more difficult for those countries to formulate effective policies for intersectoral water management.

The organisational arrangements for allocating water among users will not be successful unless they are supported by a framework of **laws**, so that there is no doubt about who has rights to use water, what the extent of the rights may be, and what are the processes by which rights can be transferred or modified.

Systems of **water rights** or **licences** to use water have to be developed, which clarify to the water user and also to other potentially affected people, exactly what the right is. Water rights may be constrained or limited in many ways. There may be restrictions on the quantity or quality of water flows returned to the river or aquifer;

there may be special conditions that become effective only in drought years or in flood years; and so on.

Financing mechanisms have to be developed, which will ensure the protection and development of the water resources. Today, more and more countries are adopting, at least partially, the idea that the people who hold rights to use water should bear much of the cost for its protection, and for investment in improving the resources.

However it is not reasonable to expect people to bear costs if they have no influence at all over the way those costs are decided. So, along with the general principle of "users pay", we see development of **consultative processes** by which representatives of water users can be brought into the planning of basin or aquifer developments. These consultative processes may take a long time to develop. In Germany, for example, systems for community management of drainage basins are in some cases centuries old, and have thus demonstrated that they are very robust. Such organisations draw strength from formal organisational structures that ensure that many different groups of people have a voice in influencing the planning and the costs of basin developments.

Lastly, effective **compliance mechanisms** are an essential feature of these policies. Undesired actions, such as pollution, should be stopped as quickly as possible. Procedures for settlement of disputes should be accessible, swift and cheap. Some countries have special water courts, recognising the special character of water and the need to resolve issues about it without long delay.

8 Water rights systems

Intersectoral water management must be based on a system of water rights, under which people, and groups, and large formal entities such as cities or industrial companies, can all feel that they know what they are permitted to do in regard to water. We cannot expect intersectoral allocation of water to work well unless there are also effective systems of allocation inside each sector.

In order to serve their socio-economic purpose, systems of water rights need to develop three principal characteristics, which are clarity, security and transferability. These three characteristics should be regarded as a series. They cannot all be established at once. Usually, we have to establish them one by one, and it therefore takes a significant number of years to create a fully functioning system of water rights that is respected by the whole community.

Clarity should be established first. The first requirement of any system of rights is that it should be clear what the user can and cannot do. Traditional systems of water rights achieve clarity in many different ways, according to different hydrological and social contexts. These kinds of rights vary from simple rules of access, in which (for example) one group may have total use of a certain stream in certain weeks or months, while a different group has total use at other times, up to much more complex rights which are based on detailed measurements of flow rates and quantities consumed and returned.

Security comes next. A water right has not very much meaning, if another person can easily take it away from the user. For example, suppose that you live beside a

river and believe that you have a right to use the water in that river. But one day you find that there is no more water in the river, because other people have begun to take it out at places upstream. Then you will want a process for making your right secure. That may involve courts or other procedures for hearing the claims of different people, and it may involve police or other methods of stopping users who take water but do not have the proper rights.

Transferability of rights comes finally in this chain of procedures. It is not desirable to make rights rigid and unchangeable, in our modern societies where changes of so many kinds are proceeding. If someone possesses a water right but no longer wants to use it (for example: a farmer living beside a growing city, who sells the land for building purposes), then it is desirable that the holder of the water right should be encouraged to transfer it to someone else. Markets are one possible way of

facilitating this process, but they are not the only way. Market systems can promote improvements in the ways we use water. For example, installation of types of equipment (such as drip irrigation systems) which reduce the amount of water needed in irrigation may be promoted, if the farmers know that when they need less water, they can sell rights to use water which they will no longer want.

However, we cannot have much transferability of water rights, unless first we establish clarity and then security. No one is likely to buy a water right, if it is not clear and not secure. We can imagine a similar situation in regard to land. No one is likely to buy a piece of land, if its boundaries are not known, and if there are other people who believe it belongs to them. So water rights market systems, even if they are desirable, should not be expected to succeed until after we attend to the other requirements, clarity and security.

9 Protective tasks of a basin management organisation

If we create basin management organisations, they will probably have many other tasks as well as the primary one of supervising the allocation of water between the use sectors. A basin management organisation should not itself be a substantial user of water, but it should have a number of protective duties, on behalf of the whole of society.

In many countries, developments in the present century have created seriously inequitable systems of access to water. Old traditional systems broke down or were simply abandoned, but new systems to replace them were not firmly established and could not respond adequately to huge social movements such as urbanisation.

The situation of poorer people, in regard to water, is extremely unsatisfactory. Their access to clean domestic water and to sanitation services is usually very low. It is well known that this has severe consequences for important social indicators such as health and mortality of children. Poor people often have difficulties in dealing with the political, administrative and legal systems, and they cannot join in market systems, so in many countries at present the processes of change are leading to capture of water rights by more affluent groups, and loss of rights by poor groups. Sometimes, the poorer rural people have depended on traditional systems of access rights that had

low levels of formality and clarity, and they have found only recently that these rights are not secure.

There have also been several studies, especially in urban environments, which show that poorer people have to pay much higher unit prices for their water. The differences are not small. There may be a multiple of 10 or more, between the prices paid by the poor, in suburbs where they are supplied by private water-carriers, and the prices paid by better-off people, for piped, clean public water. These inequities in the ways we give access to water for different social groups have to be addressed and reduced by basin organisations, as well as other relevant groups such as non-governmental organisations.

We also have to ensure that various types of non-human needs are secured. Wild life cannot enter market mechanisms, but the need to ensure the protection of food sources, breeding sites and migration routes for animals, birds and fishes is increasing every year.

We should expect basin management organisations to have a leading part in the general struggle to restrain and reduce pollution, by establishing adequate rules and monitoring the state of our water bodies. In the same way, we expect such organisations to pursue the general objectives of society in regard to preservation of landscapes and places of natural beauty, in which water often has an important role.

10 Conflict avoidance

Some people predict that in the 21st century we will experience violent conflicts over rights of access and use of water: so-called "water wars". It is true that inter-group violence occurs already, especially in the drier regions of Africa, and it is also true that *political struggles about water occur at various levels, for example between Turkey and Syria over the water in the Euphrates River or between the states of Punjab and Rajasthan in India over canal flows.* On the other hand, the experience of Egypt and Sudan on the Nile has shown that stable international water-sharing agreements are possible even where water is scarce.

An important function of basin management is to ensure that disputes, at every level, can be resolved without violence. This is more likely to be achieved if basin-scale allocation principles can be agreed and established at an early stage, before competition for water becomes acute.

One of the major sources of potential conflict is simply the difference of location along the river. Countries or provinces which lie downstream want agreements that will give them security, because they are aware that actions upstream, such as dam construction, could have bad effects for them. The people upstream do not feel that they are under any similar pressure to make an agreement. In addition, downstream countries feel vulnerable to various possible effects, such as pollution and siltation, as well as reduction of flow, and in some cases increases of flood flows. A basin organisation can provide a forum for discussing and resolving these tensions.

Another source of potential and actual conflict is between agriculture and keepers of livestock. There are many examples, especially in Africa, where modern irrigation developments use water which by tradition was previously available to groups whose

economic system was based on animals. Conflicts between such groups seem to increase as the pressure of population numbers increases, and development planners have not always been sufficiently sensitive to these traditional patterns.

That is only one specific example of the general problem of conflict between traditional and modern rules about water. In some countries this conflict is now producing serious internal stresses, including feelings that influential groups such as politicians and business people are able to remove old water rights from rural communities without giving any compensation to the previous users. It is very clear that we need many adjustments and new methods in the ways by which countries allocate and manage their water resources, but it is also clear that there are strong traditional systems in most places. Those traditional systems were developed in different circumstances, and in many ways they are not suitable to the needs and pressures of today, but they should not be ignored. If it is possible to develop and adapt the traditional systems, in many cases that should produce a stronger, more sustainable result than we can achieve by trying to promote completely new systems.

1.3 Legal Aspects of Water Resources Development

by Lawrence J. MacDonnell

1 Introduction

Water is one of our most important natural resources. It provides innumerable human benefits, both directly and indirectly. It is a resource that is shared among many users and many uses. Sometimes these uses compete with one another. A wide variety of customs and rules have been developed as necessary to help sort out conflicts among and between users. In many countries these customs and rules have been formalised as laws, and administrative and judicial procedures are followed to implement the rules and resolve conflicts.

2 Water law

From a societal perspective we want to use water resources in a manner that provides the greatest possible benefit. Fundamental human needs for drinking, cooking, bathing, and growing food must be satisfied. Other economic uses such as hydro-electric power generation are likely to create important benefits. In-stream uses of water such as for maintaining a fishery may also be important. To some degree we have choices about the manner in which water resources development and use will provide the benefits we desire. Water law is intended to create a framework within which these choices are made.

Broadly speaking, water law incorporates the rules chosen by a society to guide human intervention in the hydrologic cycle to obtain benefits. It includes the means by which individuals and entities obtain the ability to make a particular use of water : these are allocation rules. It includes rules and procedures providing for compliance with allocation and use rules (enforcement), and the rules and procedures for managing disputes (conflict resolution). It also includes rules relating to protection of the resource itself and the shared functions and values it provides (environmental rules).

3 Water allocation

A fundamental consideration is allocation of the water resource among human users. All living things require water for their survival. Particularly in situations where water availability for human use is limited, procedures for allocating water to particular human uses can be important. The more competition there is for use of water the more critical is the need for clarity respecting who is entitled to use water, how much water can be used, and under what conditions.

As it moves through the hydrologic cycle, water is a common resource. Some human uses of water, such as swimming or boating, can occur without need to alter the hydrologic cycle. Most human uses, however, require some alteration of the cycle such as out-of-stream diversions or groundwater withdrawals to produce desired benefits. Because such interventions preclude other uses of water they represent choices about social benefits provided by water. A society's allocation rules

represent its views about the manner in which the social benefits of water are to be determined.

For example, the *prior appropriation* doctrine followed in the western United States generally places the allocation decision in the hands of one who is willing to expend the time and money needed to physically control water and apply it to use. In the first instance the appropriator determines the allocated quantity of water by the size of the facilities developed to capture and use the water. Ultimately the quantity of water allocated is measured by the reasonable needs of the use or uses to which the water is placed. To sort out conflicts when the supply of water is insufficient to meet demands, the rule of priority is applied. The first to appropriate and use water from a given source is entitled to fully satisfy that appropriation before junior appropriators may divert and use water. Because of the sometimes considerable investment required to be able to develop and use water, the allocation is regarded as permanent so long as the use continues. Generally an appropriator may change the use, but only so long as the changed use can occur without injury to other appropriators.

Given the increasingly intense competition for water in this rapidly growing but water limited area, allocation rules in the American West are relatively well defined. The specific source of water is identified, as is the exact location at which water is diverted or withdrawn. A maximum rate of diversion or withdrawal is specified; in some cases a maximum volumetric quantity is stated. If water uses are not continuous round the year, a diversion period may be specified. The purpose or purposes for which the water is to be used are identified. The location of use also is specified. These allocation elements are stated in a legal document issued by a governmental entity charged with administering the allocation system.

4 Water use administration

In regions with limited water resources, administration can also be important for *sorting out conflicts among and between different users*. Enforcement may be needed to ensure that users stay within the bounds of their allocation. In times of scarcity, administration may be needed to determine how that scarcity is shared. Water users may themselves be able to develop agreement respecting allocation and administration of water. They may create an organisation to manage these matters for them. Or government may play the role both of allocator and administrator.

To use the example of the American West once again, states are regarded as holding legal authority over water uses within their boundaries. State legislatures have enacted laws establishing rules and procedures governing human uses of water. Typically these laws require a would-be user to apply to a state agency for permission to use water. The application identifies the various allocation elements. The agency reviews the application for adequacy of information and compliance with state law requirements. Once a permit is granted, the permittee (the person to whom the permit has been granted) has a specified period of time (typically no more than 5 years) in which to take the steps necessary to be able to physically divert or withdraw the water and apply it to use. Then the permittee submits proof of actual

use to the agency and receives a permanent allocation of water for continuing that use.

This same state agency also has responsibility to ensure that those holding allocations are using them according to the terms on which they were issued : for example, by diverting only that amount of water specified in the allocation.

5 Dispute resolution

Conflicts between users inevitably arise. Resolution may be possible through informal means such as direct negotiation. Users may themselves establish more formal mechanisms for dispute resolution such as through local councils. The state agency may have administrative processes for resolving disputes. Legal disputes may be resolved through court proceedings.

6 Public uses of water

Under most legal systems water is regarded as a public resource. As it moves unregulated through the hydrologic cycle water is a common resource, shared by all who enjoy and benefit from its presence. The legal system may seek to protect the public in its enjoyment of the benefits provided by in-common water uses. In general, public uses are protected not by water allocations but by limiting private actions that would impair desired public uses.

Thus there may be rules assuring public use of rivers and lakes for navigation, especially for commercial purposes. Such rules may limit the placement of obstructions to navigation within rivers and lakes. There may be rules providing for public recreational uses of water, such as for swimming or boating. So long as public access is available, private parties may not prevent such uses.

Waste disposal is a valuable function of water. Human use of water for this purpose *reduces its ability for provide other uses, both public and private.* Pollution control laws place limits on the manner in which humans can dispose of wastes in water systems to protect other uses of water.

In water-short regions, private allocations and uses of water may affect public uses. For example, large-scale diversions of water may reduce stream flows so that navigational or recreational uses are impaired. In such cases the necessity for such private uses may be regarded as more important than competing public uses.

7 Ecological / morphological functions of water

Aquatic and riparian ecosystems require water so that they can function. The movement of sediments created by erosion requires flows of water. These valuable functions of water typically are not accounted for when allocations are made for human uses. Nor have they been legally protected public uses of water. Increasingly, however, we have come to recognise the value and importance of these natural functions.

One approach is to allocate particular quantities of water to these purposes just as water is allocated to human uses. Thus a legislative body may declare that some portion of water in streams, lakes, and perhaps aquifers must be maintained to support natural functions. Alternatively, some entity (typically public) may be authorised to file an application for a specified flow of water between two specified points on a stream or for a specified lake elevation level for some particular purpose : for example, to support a fishery.

Another approach focuses on human uses of water that impair important water-based natural functions. It may choose to regulate these uses or to provide incentives that will avoid or reduce their adverse impacts. Thus, under the public trust doctrine the California Supreme Court has ruled that water allocations destroying the natural functions of a lake are not valid. An allocation agency may place conditions in the water use permit restricting that use to protect natural functions. Alternatively, water allocations may be purchased so that the water can instead remain in the stream.

8 Conclusion

The purpose of law is to establish clear rules governing human actions that affect others. Human uses of water are essential. The manner in which limited water resources are developed and used can significantly affect human welfare. Water law is intended to provide the rules and procedures under which water resources are allocated, used, and protected to optimise their benefits for society.

1.4 Legal Aspects in Irrigated Agriculture

by Jeffrey Brewer

1 Basic concerns in irrigated agriculture

Agriculture is the production of crop plants by farmers. Any farmer requires certain items to produce crops. Farmers' access to these items is essential. In modern agriculture, these items include:

- land (soil)
- water
- seeds
- sunlight
- labour and implements
- fertilisers
- pesticides

There can be legal issues related to every one of these items, even sunlight (building a structure that shades another farmer's field can be a conflict issue). However, the two issues that are of overwhelming importance are land and water. All other items are rarely controversial or can be obtained from a multitude of sources. Secure access to land and secure access to irrigation water are important areas of legal concern.

Farmers produce crops to use themselves or to sell to others. The ability to use or to sell the crops also strongly affects farmers' actions; farmers normally choose crops or investment levels based on the expected returns to their efforts. Governments often intervene in marketing for various reasons such as a desire to keep food prices low or to promote export crops. Legal issues related to marketing are thus a third major area of concern.

Thus, the three most important areas of legal concern for irrigated agriculture are:

- 1 Providing access to agricultural land
- 2 Providing access to irrigation water
- 3 Providing adequate returns to crops

The focus of this paper is on the legal issues concerning access to water for irrigation. Marketing is not discussed because the focus of the workshop is on management of land and water. The workshop includes a separate presentation on legal issues concerning land, including land rights and land tenure. Therefore, this paper restricts its discussion of land to the issues of how land tenure affects the ability to manage irrigation systems.

2 Water allocation and water rights

2.1 Definitions and key features

Every farmer wants security of access to irrigation water. Such security makes it possible for him to plan his other inputs in the most effective manner. However, the

natural water supply from irrigation sources such as rivers and lakes is cyclical because of its dependent on the earth's hydrologic cycle and more or less variable because of the stochastic nature of the earth's hydrologic cycle.

Security of access to irrigation water is provided by **water rights**. However, water rights are the flip side of **water allocation**. Water rights are water allocation seen from the point of view of the individual water user - the farmer. Water allocation is water rights seen from the point of view of the manager of the irrigation system or of the agency responsible for overseeing all water use.

Water rights are secured by definition, usually in law, of a system for the allocation of available water. A water allocation system identifies for each source of water some or all of the following items:

- **Allocation by whom?** The government or other agency responsible for making water allocation decisions.
- **Allocation to whom?** The persons or organisations that have rights to take water.
- **Allocation of how much water?** The quantity of water allocated to each identified user. These quantities are generally specified in terms of volumes of water, in terms of flow, or in terms of amounts needed to raise specific crops.
- **Allocation when?** The period of the year or other time when water is allocated to each user.
- **Period of the allocation?** The length of time – for example, the number of years - for which the allocation is valid.
- **Allocation where?** The place where the water may be used.
- **Allocation for what purpose?** The purposes for which the allocated water may be used: for example, for drinking water, for irrigation of paddy, etc.

Water allocation need not define all of these; minimally, each allocation must define to whom water is allocated, how much is allocated, and when it is allocated.

2.2 Allocation principles

There are numerous principles used for the allocation of water around the world. Some of the common types are described here to make clear what these principles are.

- **Government control of water resources**

In many countries, all surface water resources, and sometimes all ground water resources, are said to be under the final control or ownership of the government as steward for the people. In some countries, private persons can own surface water sources or the laws give some private persons direct claims on the water resources. This situation is much more common for groundwater resources than for surface water resources. Many countries assign, in law or by default, all rights to use groundwater below a piece of land to the landholder.

- **Types of individual water rights**

There are numerous principles on which water rights are based. A few of the more common or better known principles are:

- * **Riparian rights:** Riparian rights refer to the doctrine that those persons holding land bordering on a river or other body of water automatically have rights to use that water. In many places such rights are limited in amount and place. Riparian rights are most prominent in relatively well-watered areas in Europe and the eastern United States.
- * **Prior appropriation rights:** Prior appropriation rights are based on being the first to put some amount of water to "beneficial use," usually irrigation. Where water rights are based on prior use, most prominently in the western United States, rights are recognised for specific quantities of water and are ranked. When there is not enough water for all rights to be satisfied, then higher ranked rights-holders are given their water first, so that some junior rights holders get little or no water.
- * **Shares based on investment:** In many small-scale farmer constructed and managed systems in Asia and elsewhere, the water right is determined by how much each person contributed to the construction of the irrigation system. In many Asian systems, this right is formalised into "shares."
- * **Assignment to land:** In most government constructed schemes and many farmer constructed schemes, the water right is assigned directly to the land within the official command area of the system. In some places, such as Sri Lanka and South India, the assignment of water rights to land is adjusted to the water availability each season by negotiations among farmers.
- * **Allocation by government:** In many places where the government claims ownership or control of water sources, it reserves the right to allocate water to users directly. Government allocations are made through many means, including allocations for one season only upon application from a farmer, indefinite allocations upon application, leasing water for a period of years and others.

- **Allocation among irrigation systems**

Allocation among different irrigation systems within a basin is generally done in one of two ways:

- * **Negotiation among user groups:** In many places where farmers have created their own irrigation systems, they have developed rights for individual irrigation systems on the same stream through negotiation.
- * **Government allocation:** In other cases, governments have intervened to allocate water among irrigation systems often based on prior use or other considerations.

- **Ground-water allocation principles**

Groundwater allocation has not been as well developed and many countries and regions have not yet defined systems or principles for allocation of groundwater. One result in many countries is that the landholder can effectively

exploit all of the water he can take from a well on his land. This principle is formally recognised in many countries. In some others, the government claims rights of management of groundwater and thus can assign rights to users.

- **Transfer of water rights**

In most countries, water rights are transferable, but the transferability is often limited. Where water rights are associated with land, water rights are transferred whenever the land is transferred. In other cases, water markets develop that allow for immediate transfer of water but not of water rights. Water rights are often inheritable but less often saleable.

2.3 Adopting principles of water allocation

What are the principles of water allocation that should be adopted in any particular situation? We cannot give a direct answer to this, but we can point out some factors that should be taken into consideration. These include:

- **Water Availability**

Water allocation systems must be adapted to the physical characteristics of water resources. First, irrigation water is available in the local variant of the earth's hydrologic cycle. Second, because of the stochastic nature of rains and other aspects of the hydrologic cycle, the amounts of water available vary from year to year. Third, water flows from place to place; it cannot be stored for long periods in large quantities. Thus water must be used relatively soon after it becomes available.

There are great differences in the variation in water availability from place to place. In parts of Sri Lanka, for example, the 50% probable rainfall is only half of the average annual rainfall. This strongly affects runoff from small catchments; water supplies vary greatly from year to year. In contrast, in Egypt, the ability to store several years flow of the Nile behind the High Aswan Dam makes it possible to assure very similar water supplies each year. Therefore, in Sri Lanka, farmers and the government have devised means of estimating water availability each season and negotiating among themselves to adapt the area irrigated to the available water. In Egypt, on the other hand, no such negotiation is found and the water is allocated directly by the government in virtually the same pattern each year. Similarly, riparian rights systems are best suited to well-watered areas because they tend to provide relatively weak controls over water use. Government assignment systems, on the other hand, may be well adapted to dryer areas.

- **Cultural Principles**

Water allocation systems must be based upon culturally accepted principles. For example, in most of Asia, equity of water allocation is considered a very basic value. In the western United States, however, equity is not particularly important in allocating water for irrigation. Thus, in Sri Lanka, farmers and government agencies put a great deal of effort into sharing shortages in irrigation water supplies among all the farmers as part of the seasonal negotiations. In the western United States, however, allocation by prior use

rights means that shortages are not shared among users but fall directly on those with lower priority water rights.

- **Customary Law**

In many countries where farmers have built their own irrigation systems, they have developed their own allocation principles, which may or may not be the same as those adopted by the national government. Such farmer developed principles fall into the area of "customary law." Generally it is most efficient and effective to recognise such allocation systems.

- **Administration**

Allocation systems can differ in the ease of administration and in the information needed for administration. For example, a system that allocates water directly to land is often very easy to administer wherever it is possible to spread the available water evenly over the command through use of proportional dividers and other means requiring little administration. On the other hand, a prior appropriation rights system requires that users take only the allocated flows; such a system thus may require careful flow monitoring on private operated channels.

- **Change over Time**

Demands for water are likely to change over time. Thought needs to be given to the means for changing water allocations to match changing needs. A system of allocation through 10-year leases from the government ensures that the government can reconsider the allocation at ten year intervals. Providing a system of transfer of water rights can also serve this need. If, as in the western United States, prior appropriation rights can be sold, then irrigators may find it best to sell their rights to growing cities who need the water for domestic purposes.

These various considerations limit the possibilities of choice of allocation principles to achieve an effective allocation system for any particular area.

2.4 Legal needs for water allocation

There are three basic legal needs:

- **Incorporation of water rights into law**

Conflict over water allocation is common in many places, particularly where water is short. Moreover, conflicts are likely to grow over time. Thus, allocation principles should be incorporated into law so that water rights holders can defend their rights against challenges through peaceful means.

- **Legal recognition for customary and variant allocation systems**

To allow for adaptation of water allocation systems to differing cultural and natural environments, law may need to recognise different allocation systems. Where customary systems exist, the law should recognise their existence and allow for settling of disputes by reference to such systems whenever appropriate. There is a clear need, however, to ensure that the law is written

so that conflicts based on claims to different allocation systems can be avoided.

- **Legal recognition of rights to transfer water allocations**

If it is desired to limit the rights to transfer water allocations, these limits should be defined in law.

3 Irrigation system construction

Irrigation requires infrastructure to abstract water from the source and deliver it to each farmer. A key point is that **construction of an irrigation system creates water rights**. That is, most farmers without access to water have no recognised rights, but when an irrigation system is built to bring the water to the farmers, they are presumed to have rights. Construction of an irrigation system therefore has important legal implications.

In addition to the legal implications for water rights, construction of an irrigation system requires access to land for canals or other structures and agreements among various government and other entities about how and for whom the irrigation system will be managed and used. These also are legal aspects of construction.

3.1 Key questions

The key questions include:

- Since construction implies the creation of water rights, who has the right to construct a system serving more than one farmer?
- For those with rights to construct, how can they obtain land needed for the infrastructure - condemnation or negotiation?
- Who has the power to make the needed agreements among various governmental and other entities affected by the construction of an irrigation system?

Small irrigation systems have often been constructed by farmers without prior legal sanction by government. In such cases, few entities are affected and farmers arrange among themselves for the needed land. However, once water resources begin to become scarce and conflicts over water among irrigation systems begin, government agencies are needed to assign water rights to the different irrigation systems, in some cases before construction. In larger systems, water rights, access to land, and agreements among affected entities are all required.

3.2 Legal needs

Therefore the following are legal needs with regard to irrigation system construction:

- **Right to construct**

The law should specify who may construct an irrigation system under specific conditions. One condition should be that the right to abstract the water needed for the irrigation system is determined.

- **Condemnation powers**

There are two means of getting the land needed for system construction. One is to negotiate with present landholders and buy the rights or provide some other compensation. The other is to legally condemn the land and, presumably, pay appropriate compensation. If, for reasons of the potential benefits of irrigation system construction, legal condemnation is to be allowed, the law must specify this, indicate the conditions under which it is allowed, and identify the entities that may carry out condemnation.

- **Power to enter agreements**

When construction of an irrigation system affects others, it may be necessary for the constructing group to enter into various kinds of agreements. The power to do so should be identified in law.

4 Irrigation system management

Once an irrigation system is constructed, farmers will not get the water to which their water rights entitle them unless the system is properly managed. There are two key aspects of management:

- water distribution (operations)
- maintenance of the infrastructure.

There are legal issues associated with both.

4.1 Key issues

The key issues include:

- **Right to distribute water**
 - * Water distribution is the primary function of an irrigation system. Distribution requires making decisions about how to operationalise the water rights of the individual farmers. Whoever has the responsibility (right) to operate the system thus has great power to make it actually deliver the proper amounts of water. Assigning the right and responsibility for system operation is a key issue. Relevant points include:
 - * In large systems, operational responsibilities are normally divided between a government agency and farmers; farmers are generally responsible for water distribution within limited areas at the lower levels of the system while the agency is responsible for operation of the headworks and major canals.
 - * Farmers clearly have reason to be careful about water distribution because their rights and their benefits are directly affected; agency personnel often have lesser motivations since their rewards come from government salaries. An implication is that assigning operational responsibilities to organised farmers for as much of the irrigation system as possible may produce better water distribution.

- * Programs of irrigation management transfer generally increase farmer responsibility for system operation with a corresponding decrease in government agency responsibility.
 - * System operations do not require a large amount of resources so resources are not generally a constraint to farmers taking operational responsibilities.
- **Right to maintain the system**
 - * The physical condition of the irrigation system can strongly affect ability to distribute water effectively (i.e. according to water rights). Non-functioning control structure, leaking canals, etc, make good water distribution more difficult. Effective maintenance is needed, thus who has the responsibility (right) to maintain the system - i.e. to decide on and carry out various maintenance works - is an important issue. Relevant points include:
 - * In most large systems, maintenance responsibilities are divided between a government agency and farmers. Farmers are generally held responsible for routine maintenance of channels in the lower levels of the system while the government agency takes responsibility for most other maintenance.
 - * As with operations, farmers clearly have greater reason to be careful about maintenance because their benefits are directly affected; agency personnel have lesser motivations.
 - * Evidence from cases in many places indicates that farmers should take responsibility for all routine maintenance and for small repairs for the parts of the system for which they have operational responsibility. In this way, they have strong reason to ensure good maintenance.
 - * Programs of irrigation management transfer generally increase farmer responsibility for system maintenance with a corresponding decrease in government agency responsibility.
 - * Maintenance of many systems, particularly those with earthen channels and relatively low technology features, requires a large amount of resources; resources are a major constraint on maintenance activities for both government agencies and farmers. Because of this, some governments have resisted giving farmers full maintenance responsibilities.

Together these observations suggest that the best results are likely to be obtained when organised farmers take both operational and maintenance responsibilities for the whole of small systems and for as much of large systems as is possible within the technical capabilities of the farmers.

4.2 Legal need

These issues suggest the following legal need:

- **Definition of responsibilities**

The law should define the division of operations and maintenance responsibilities between farmers and government agencies or other management entities. It is suggested, however, that the definition be kept rather broad; that it be a definition that enables different possible divisions rather than prescribes specific divisions of responsibility. The details should then be worked out on a system by system basis. There are several ways in which such details can be created and codified, such as formal contracts between water user organisations and the government.

Also, the definition of responsibilities should allow for farmer management of the whole of small systems.

5 Water user organisations

Whenever either a) water is allocated to a group of farmers or other users, or b) a group of farmers is assigned irrigation system management responsibilities, there is a need to consider the organisation of those farmers and the legal basis for that organisation.

There are various ways in which eligibility for membership in a water user organisation (WUO) can be defined:

- by geography/hydrology - for example, "within a defined command,"
- by settlement – for example, a village,
- by self-defined group – for example, an association or company.

Each works well in some circumstances. Once defined, each WUO needs to have a legal right to receive water, to distribute water, to maintain its irrigation system or portion of an irrigation, to mobilise resources for its functioning, and to control its members.

5.1 Legal needs of WUOs

These issues suggest the following legal needs:

- **Government recognition**

In order to have rights to water or to exercise any of the powers discussed below, a WUO needs legal recognition by the government. Most countries or states already have laws - such as societies acts or co-operatives - that can be used to provide such legal recognition.

- **Powers to control water distribution**

Each WUO must be recognised as having responsibility and rights to manage a particular irrigation system or portion of an irrigation system. That is, a WUO needs legal recognition of its right to distribute water within its area so that the farmers it serves cannot ignore its efforts to distribute water.

- **Powers to control infrastructure (maintenance)**

Similarly, each WUO needs legal recognition of its right to control and maintain the irrigation infrastructure within its area to ensure that farmers or others do not interfere with proper maintenance.

- **Powers to mobilise resources**

Every WUO needs resources to carry out water distribution and maintenance and, if required, pay water fees to the government. Thus each WUO needs legal power to assess fees or require labour from each person to whom it provides water. The means by which this can be done are discussed in more detail below.

- **Powers to punish defaulters and resolve conflicts**

Finally, each WUO needs to be able to enforce its decisions on water distribution, maintenance, and resource mobilisation, and should be in a position to resolve conflicts over water among users within its area.

6 Mobilising resources for Irrigation

6.1 Basic factors

To provide sufficient resources to construct, operate, and maintain irrigation systems, any irrigation agency, WUO, or other entity needs to be able to raise resources. Generally such resources are raised from the farmers to whom irrigation water is supplied. If the irrigation entity is a government agency, some or all of those resources might come from general government revenues.

Experience suggests some basic principles for mobilising resources:

- Construction costs should be separated from operations and maintenance costs in accounting and in assessing farmers. A very good reason is that collection of fees for operation and maintenance (O&M) is often dependent upon whether a farmer takes water or how successful his crop is; both factors which influence or are influenced by O&M. On the other hand, once construction has finished, all deferred costs have to be paid so it makes sense to collect for those costs separately.
- To help ensure good irrigation system performance, farmers should pay some or all of the operation and maintenance costs. If farmers have to pay, they generally feel greater interest in getting good service and thus will pressure the management entity to provide good service.
- Experience indicates that construction and later management is more effective when farmer pay some or all of the construction costs. Again, paying the costs of construction makes farmers feel that it is their system and thus are likely to insist on good quality construction and good service. In many farmer-constructed systems, paying the costs of construction establishes farmers' water rights.

Resources are most commonly mobilised in two forms. Most irrigation management entities require payment of fees in cash or kind. Government agencies generally require only fee payment, usually in cash. WUOs often require farmers to provide both fees and labour for maintenance. In many farmer-managed systems, the required labour contribution outweighs the required fees.

Before dealing with legal needs for resource mobilisation, we discuss some of the key issues in resource mobilisation since these affect the type of legal powers given to irrigation management entities to mobilise needed resources.

6.2 Principles for setting fee levels

Fee levels can be set on three bases:

- **Percentage of added value**

Some economists and other theoreticians suggest that fee assessment should be based on the increase in returns that a farmer gets from having irrigation service. This is the view taken by those who see construction of irrigation systems as a

profit-making investment. However, although acknowledged, few or no irrigation management entities use this basis for assessing fees. It is likely to be resisted by farmers, who view irrigation as a service. Also, it is generally not easy to calculate exactly how much value is added by irrigation, in part because irrigation often induces farmers to make other investments, and in part because the value added is likely to change over time.

- **Cost recovery**

Another, and far more common approach is to assess sufficient fees to cover costs. This can be done to cover O&M costs only or O&M and capital costs. All farmer-managed systems assess users only to cover costs, indicating that farmers see irrigation as a service.

- **Subsidies**

Some irrigation entities assess fees so as to incorporate subsidies for farmers. Governments often subsidise irrigated farmers. Although it is questionable whether it should be called direct subsidy, some WUOs or similar organisations use profits from business activities to subsidise fees.

6.3 Methods of assessing fees

Methods of assessing fees also vary:

- **Flat user charges**

The simplest method for assessing fees is to charge every farmer the same amount. This method has the disadvantage that there is only the most general connection between fees and service received. In fact, such a simple system is only used by farmers in small irrigation systems with no water shortages and more or less equal landholdings. Resources mobilised are generally labour only and are mobilised through calling all farmers to work on a particular day.

- **Flat area charges**

Only slightly more complex is charging fees based on the area irrigated within the irrigation system. Both farmers and governments use this system. The major variation is to classify land on the basis of the service it gets or its potential productivity and then to charge different area rates for the different land classes. In addition to simplicity and clarity, this system has the advantage of differentiating among those who get different levels of benefit. It has the disadvantage of not motivating farmers to conserve water.

- **Crop-Area charges**

This refers to setting different rates for different crops and then assessing each farmer on the basis of the area he irrigates under each crop. This is major step up in complexity, since the irrigation management entity has to check on the area under each crop every season. It allows the entity to charge higher rates for crops that use more water hence it can be used to promote the planting of particular crops or to motivate farmers to choose crops that use less water. However, once his crop is chosen, this method does not motivate the farmer to use his water efficiently.

- **Volumetric charges**

This refers to charging each farmer for the actual amount of water taken for irrigation. This approach has the great advantage, if rates are set high enough, of motivating farmers to use water efficiently. However, it requires that the infrastructure and managers be able to measure water with reasonable accuracy. This requirement may impose costs that are felt to be more than the potential water savings are worth.

In farmer managed systems, WUOs do not necessarily use the same methods for assessing cash fees and labour contributions. Also, in large systems, governments may assess a WUO based on one method while the WUO uses another for assessing the farmers in its area.

6.4 Methods of collecting fees

There are four methods commonly used to assess and collect fees from individual irrigation water users:

- Assessment and collection by the government irrigation agency or WUO directly from individual farmers or WUOs.
- Assessment and collection of fees for government agencies from individuals as part of land tax.
- Assessment of fees by the government irrigation agency and collection as part of the land tax.
- Requiring that farmers pay for water to be received before the water is issued; that is, payment is part of a system of requesting delivery of irrigation water.

The method of fee collection must be adapted to the methods of water allocation and distribution and form of fee assessment. That is, some fee collection methods can be used only with some water allocation rules and water distribution methods. For example, requiring an up-front payment from a farmer is effective only where water is delivered only upon request. Similarly, crop-area assessment generally cannot be effectively used if assessment and collection is wholly done through the land tax system. Assessment by volume can be associated only with direct collection by the agency or WUO or by requiring up-front payments.

6.5 Using fees

Evidence suggests that assigning the fees directly to the irrigation agency makes the agency more concerned with service to farmers. Having the users in each system

finance agency operations *in that system* makes the connection between paying fees and service very clear to both farmers and agency personnel and helps improve service.

6.6 Enforcing fee collection

There are three basic ways to punish those who do not pay their fees:

- admonitions (social pressure),
- fining, including possibly seizing a defaulter's assets,
- cutting off water.

Evidence in Asia indicates that enforcement is spotty, difficult, and ineffective. Admonitions often help and are likely to be effective for WUOs because of interdependence of people. Fining can be effective if pursued to the limit of seizing assets; but costs of such enforcement are very high. Cutting off water is the most effective but is often difficult for agencies because farmers control actual distribution at lowest level. Also, many governments prohibit cutting off water on various grounds.

WUOs generally are far more effective in collecting than are government agencies; however, they are not perfect and more than one has failed because of inability to collect fees. One reason that WUOs are more effective is because WUOs generally are made up of smaller groups of closely associated farmers within which social pressure can be effective. Another reason is that government agencies are often affected by pressure from politicians and others who want to curry favour from farmers by relieving them of the burden of paying irrigation fees.

6.7 General observations on resource mobilisation

We can make the following observations on resource mobilisation for irrigation management:

- Farmers in WUOs set contributions higher than do government agencies and are more effective in mobilising resources than is the government.
- Farmers often link obligations to water rights - i.e., the greater the allocation of water to an individual the greater his obligation to contribute. This principle makes assessments seem fair to farmers.
- Irrigation management transfer programmes generally make WUOs responsible for collecting fees, but often not for assessing fees. That is, WUOs are not allowed to assess the fees as they wish. Also, WUOs often not given enforcement powers; gravely weakening the WUOs' ability to collect fees. Experience shows that the government should not limit WUO power to set fees or to punish those who do not pay. However, it may be reasonable if the government requires equity between members and non-members of WUOs where membership is voluntary. Also, the government should refrain from collecting fees on behalf of WUOs.

6.8 Legal needs for resource mobilisation

This description of resource mobilisation indicates the following legal needs:

- There is a need for a legal definition of responsibilities of water users toward government in a government constructed and operated system, both for the capital and the operation and maintenance costs.
- Because they are more effective, resource mobilisation should be devolved to WUOs.
- There is a need for the legal assignment of power to irrigation management entities (government agencies or WUOs) to fine and cut off water to defaulters.
- Fees collected by or on behalf of a government agency should be legally assigned directly to that agency. It is best to make the agency's revenue wholly or largely dependent on fee collection. This improves the accountability of the agency to the users.

7 Conflict resolution

The most common disputes and conflicts that arise over the management of irrigation water include:

- Conflicts over who has rights to water.
- Disputes and problems caused by irregularities in water distribution, including taking water during someone else's turn, diverting water meant for someone else, and similar problems.
- Failure to pay irrigation fees or contribute labour as required by the irrigation management entity.
- Destruction of or damage to the infrastructure by farmers or others, inadvertently or on purpose.

There are several bodies that potentially can deal with these and other disputes and problems, including:

- ◆ WUOs,
- ◆ a government irrigation agency,
- ◆ other local/regional government agencies or customary dispute resolution entities (e.g. the village elders),
- ◆ courts.

In disputes and problems associated with water distribution, a fast response is required so as to prevent unnecessary damage to crops. This need tends to make the court system the last choice for resolving most irrigation management disputes.

7.1 Legal need for dispute resolution

This discussion suggests that there is a need for a legal definition of the conflict resolution powers of WUOs and other irrigation management entities so that they can respond quickly and authoritatively to water distribution disputes and problems.

8 Access to land for irrigated agriculture (land tenure)

Land tenure is a large and well-researched subject. It is not possible to discuss it thoroughly here. Here we only look at some consequences of land tenure for irrigation system management.

There are many types of land tenure. A few examples are:

- ownership,
- long term government permit/allotment,
- rental/lease,

- short term government permit,
- mortgage,
- sharecropping.

A major difference among these various types is the security of tenure. Security of tenure often affects irrigation management. Two key points can be noted:

- ◆ Farmers without assurance of tenure, particularly those on short-term leases or other short-term arrangements, are often reluctant to follow rules or contribute to maintenance of the irrigation system. Such farmers have little to lose by failing to contribute to maintenance since they do not expect to continue to use the system over a long period. Also, they may be able to get away with stealing water or other failure to respect rules against because the consequences may follow after their time of dependence on the system has passed.
- ◆ In some cases, WUO membership is limited, by the WUO's own rules or by the government, to the owners of irrigated land or to some other category of long term control. In such cases, water users with shorter-term land arrangements are excluded from membership and may feel little obligation to follow the rules or contribute to the WUO.

8.1 Legal Need

These considerations suggest that law should not restrict membership in WUOs to owners or long term permit holders; legally WUOs should be permitted to include all irrigators as members of the WUO.

9 Summary

This discussion has pointed out a series of legal needs for the effective management of irrigation water. These have covered the following topics:

- legal definition of water rights,
- legal support for construction of irrigation systems,
- legal definition of rights to manage irrigation systems,
- legal support for the entities - particularly water user organisations - that manage irrigation systems,
- legal needs to permit effective resource mobilisation by irrigation system management entities,

- legal needs to permit effective and rapid resolution of conflicts over irrigation water,
- legal need to ensure that land tenure issues do not interfere with irrigation system management.

Consideration should be given to all of these topics.

1.5 Discussion by the Participants from Lao PDR and Vietnam

After the four keynote presentations, the participants from Lao PDR and from Vietnam formed into two country-based working groups, to consider how certain issues that had been raised by the keynote speakers were reflected in the two countries. The following is a summary of the issues they addressed and the opinions reported by the groups.

⇒ **What are the legal powers of water users' organisations (WUOs) in your country? What powers should they have?**

- **Lao PDR:** The group recognise three types of irrigation system:

- a) farmer-built systems,
- b) systems where both government and farmers have contributed, and
- c) government-constructed systems.

In the first case, the systems are the property of the farmers and the WUOs or villages have full powers to manage. In the second and third types, the WUOs have powers to distribute water, but must pay fees. At the moment they are paying fees only for the power to lift the water but there is provision for them to pay for the water and, in the government constructed schemes, for some of the capital cost. The new Water Law recognises three categories of irrigation:

- individual, for which no fee is required;
- medium-scale systems with WUOs who should pay a water fee; and
- large-scale systems, for which a water fee is required.

The Department of Irrigation (DOI) is presently formulating regulations to grant formal powers to the WUOs.

- **Vietnam:** Presently, WUOs are small, covering maybe 150 ha. They make an agreement each season for water to be supplied by the Irrigation Company operating their system. They also are empowered to collect fees from farmers, distribute water at field level, and organise maintenance at field level. They are not empowered to fine farmers who do not pay, or to cut off water. A problem is that the Irrigation Company also cannot take action if the WUO does not pay its fees. The WUOs are often dominated by villages who collect fees and they do not pay the fees to the Irrigation Company. At the moment, WUOs have no real legal existence, although they were recognised in a 1995 decree, but there is an ADB-funded project to develop them. In one system, the Irrigation Company collects fees effectively through village committees in return for a small commission (less than 5% of the amounts collected). It is suggested that WUOs should have all the

powers suggested by Dr. Brewer, but there may be difficulties with powers to resolve conflicts.

⇒ **What are the principles or rules that guide apportionment of international rivers?**

⇒ **What are the procedures for addressing conflicts?**

- **Vietnam:** The Mekong River is governed by a common agreement among the three nations of Thailand, Laos, and Vietnam. There is a commission that discusses international concerns related to the development and use of the river. Each country proceeds individually to develop and use water, but the commission provides a means of communication among the nations about concerns that are raised. In 1995 these nations reached a sustainable development agreement, setting out a number of rules or guidelines relating to both quantity and quality concerns in the basin. There remain many areas of uncertainty respecting how these three nations will share the basin's water. For example, there is uncertainty respecting whether developments on the tributaries fall within the scope of the commission and which projects must be submitted for approval by the commission.
- **Laos:** Would prefer to limit the focus of the workshop to national rivers. At present the water resources available in Laos are sufficient so that there are few problems respecting the sharing of their use.
- **Vietnam:** There is an active effort to co-ordinate the actions at the national level with the provinces. There are always problems between upstream and downstream users. Issues may be addressed at village level, provincial level, or national level.

⇒ **What is the importance of land titling in your country?**

- In **Vietnam** as well as in **Lao PDR** private ownership of land in the sense of "fee simple absolute" has not been re-introduced by the legal reforms in the 80s and early 90s. In both countries the state ownership of land remains enshrined in the Constitutions.
- **Lao PDR:** Based on this provision Lao PDR actually follows a clear policy to implement a land titling programme (for extensive land use rights) in the next years. Its objectives are to allow for greater security in different forms of land transfers and for increasing government revenues through land taxes. As long as

the draft Land Law is not yet approved by the legislature, this land titling process is based on the Land Decree. Two types of land registration are practised:

- 1) Simplified procedures for rural areas as a basis of land taxation but also as a provisional collateral for the banks when mortgaging land, and
 - 2) the more formal registration process which started in the capital Vientiane and helps to build up computerised cadastral mapping and land register.
- **Vietnam:** The 1994 Land Law allows the transfer of land-use rights, such as sale, lease and inheritance of land. To establish and to protect individual households' land-use rights, a nation-wide cadastral survey has been initiated. Based on its data the government has begun to issue Land Use Rights Certificates (LURC). The tenure period is limited to 20-30 years for annual crops and to 50 years for perennial crops. It can be renewed as long as the allocated land will be lawfully used. The local People's Committees are responsible for the implementation of the LURC programme and the extension of the tenure period.
 - Regarding group ownership of land, neither country offers land titles for groups, such as village communities or WUOs. In Lao PDR the new Forest Law, which still has to be implemented at the regional and local levels, allows land use rights for groups (communal use of pastures, or village forests). As a first step only preliminary rights (up to three years) are accorded. Later on the village committee, headed by the village elders, decides upon the extension of the tenure period if the land is lawfully used by the communities.

Session 2: Country Experiences: Actual Legal and Institutional Situations

In this session, speakers from Lao PDR and Vietnam presented papers describing the salient features of their present legal and institutional frameworks for irrigated agriculture. A paper describing the experience of another country of the region, Thailand, was also presented in this session.

2.1 Land and Water Management Issues: Lao PDR

Legal and Institutional Situation for Managing Land and Water Resources

by *Khamla Phanvilay*

1 Introduction

The Lao People's Democratic Republic has a surface area of 236,800 square kilometres, stretching more than 1,700 km in the north-south direction and between 100 and 400 km from east to west. The country is bordered by Vietnam in the east (1,957 km), Cambodia (492 km) in the south, Thailand (1,730 km) in the west, Myanmar (230 km) in the north-west, and China (416 km) in the north. Laos is dominated by two features: the mountains in the north and east, and the Mekong river and its east-bank tributaries. Extensive mountain ranges with an average height of 1,200 metres cover 70% of the territory, and fertile flood plains embrace 30%, stretching along the left bank of the Mekong river. More than 40% of the land is covered by forests. It is estimated the total cultivated area for agricultural purposes is 710,000 ha. Laos has no direct access to the sea but it has many inland waterways, including the Mekong river which is 1865 km long (within the country), most of which is navigable.

Laos has many assets which are potentially beneficial to its development, but there are also constraints which must be confronted such as:

- the geographic isolation of some of the regions;
- lack of infrastructure, and in particular means of communication;
- lack of physical, economic and social data;
- low national income, and consequent dependence on foreign assistance to finance its public investment programme;
- shortage of adequately skilled workers and the administrative capacity to facilitate economic growth;
- high transport costs, especially for the export of goods, due to a lack of direct access to the sea.

Present Conditions:

- Area 236,800 km²
- More than 40% covered by forests
- Total agriculture land 710,000 ha
- Population 4.5 million people
- Income ~ US \$ 385 per capita
- 85% of population engaged in agriculture
- Agriculture 48-50% of GDP
- Industries and Services 22-27% of GDP

2 National socio-economic development strategy

- Food production
- Stabilisation/reduction of shifting cultivation

- Commercial production
- Infrastructure development
- Improvement foreign economic relations
- Rural development
- Human resources development
- Services development

3 Legal development:

- New Economic Mechanism (NEM) started in 1989
- Government began a series of reform to revise legal and strategic framework for Natural Resource Management (NRM) and Land Management (LM) as a result of the NEM.

Key documents codifying the new national strategies:

- * Constitution (Aug. 91)
- * National Forest Action Plan (Aug. 1991)
- * Environmental Action Plan (Nov. 1993)
- * Socio-Economic Development Strategies (1996-2000)

4 Strategic approach to natural resources management and land management

National Strategies

The transformation of the National Economy from a central command to market based system.

- Since 1990 a number of comprehensive documents were prepared which laid out the policy framework for NRM and LM.

Legal Framework

- Constitution was adopted in 1991

Article 15. Land is the property of the national community. It does, however, grant organisation and individuals of Lao PDR the right of use, transfer and succession in conformity with the law.

- Decrees and Regulations have been issued:
 - 1 Decree 99 on land. The land is the property of the national community. All Lao citizens have the right to possess and use land. Land titles can be issued and land can be transferred by sale or inheritance. The Ministry of Finance is entrusted to issue regulations for legislation, assignment, transfer, inheritance, lease and so on.
 - 2 Ministerial direction on land parcel registration system. The land parcel registration system is an official system for recording and maintaining up to date information about land parcels, such as location, boundaries and possession and use rights. The land possessors and users officially

rights are recognised. The records of the system are comprised of the land register book, land parcel register index, land certificate, cadastral map, individual land parcel survey plan and land plan. The land register book contains information regarding each land parcel, such as: the location, land certificate identification number, the unique land parcel identification number and the identity of land possessor and user.

- 3 Ministerial direction 990/MoF. Full land title can be granted after 20 years occupation. After receiving provisional land title a full title can be granted after one year.
- 4 Forest Law.

Article 4. Forest land is the land that is either covered by forest or not, which is defined by the state to be forest land.

Article 5. Natural forest and forest land is the property of the national community. The state acts as the representative to manage and distribute user rights to individuals and communities. Individuals and organisations have the right to occupy tree, natural forest, and forest land only if the concerned organisation gives permission. Tree(s) and forest that are established or rehabilitated by individuals or organisations and with the approval from the state will belong to the individuals and organisation who have the right to occupy, use, and transfer, and succession in conformity with the law.

- 5 Draft Law on Land, 10 April 1996. The law has not yet been approved (expected to be approved in mid-1997).

5 Key actors dealing with land and forest management

Government agencies

1. Ministry of Agriculture and Forest (MAF): Having the responsibility for all agricultural and forest land use management. Apart from 6 Departments, the Department of Forestry plays major role to deal with Land use.
2. State Planning Committee (SPC): Responsible for macro-economic and sectoral planning activities and reviews sectoral policies.
3. National Geographic Department (NGD) of the Prime Minister's Office: Responsible for providing geodetic control, base mapping and reproduction of cadastral maps to DOLHM (Land titling project)
4. National Statistic Centre (NSC) of the Prime Minister's Office serves as the country's centre for statistical data collection and analysis.
5. Science, Technology and Environment Organisation (STENO) of the Prime Minister's Office: Responsible for the overall co-ordination of environmental activities in Lao PDR.
6. Department of Land and Housing Management (DOLHM) under the Ministry of Finance: Responsible for the design and implementation of land management and administration programme.

7. Land Re-Management Committees of the Ministry of Finance were established under the decree 42/PM: Responsible for providing policy direction and implementation assistance for land management programmes at the national and provincial levels in accordance with the decrees on land and document registration.

International and Non-Governmental Organisations active in Laos

- SIDA through Lao-Swedish Forestry Programme
- World Bank, GET, FINNIDA through Forestry Management and Conservation Project (Forest Management and institutional and regulatory framework for forestry sector)
- Lao-ADB Plantation Forestry Project.
- MRC/GTZ: Assessment and Monitoring of the Mekong Basin Forest Cover (Start 1992)
- GTZ : Nam Ngum Watershed Conservation Project
- Japan International Co-operation Agency (JICA): supporting a forestry conservation and afforestation project in the lower Nam Ngum catchment area.
- CUSO (Canada) and JVC (Japan) support community forestry and promote local participation in land-use planning and forest management.

6 Land registration and allocation

Organisations responsible for land registration:

Department of Land and Housing Management is responsible for the design and implementation of land management and administration programmes, such as:

- cadastral survey
- land and housing registration and taxation
- mandate to carry out land registration and titling through its provincial-level offices.
- under the national and provincial Land Re-Management Committees, DOLHM is undertaking a land titling program in urban areas (the land titling project, with support from the World Bank, started in 1996 to issue 300,000 land titles in five provinces; so far 1,500 titles have been issued).

Land Allocation:

Under the responsibility of MAF, to carry out land use planning and land allocation in rural areas by the provincial and district offices of the MAF. Upland agriculture fields are allocated (*Residential land, paddy fields, orchards and commercial trees are not included in the process*).

Basis of activities

- Instruction on the Continuation on Implementing Land Management and Land-Forest Allocation (No. 03/PM June 96)

- Instruction on Land-Forest Allocation for Management and Use (No. 0822/MAF Aug. 96)
- Supervision of Land Re-Management Committee

7 Relevant legislation for land and natural resource management

Table 1: Summary of natural resources legislation in Lao PDR

Number/Date of issue	Title of legislation
	1. Institutions and organisations
84/PM Nov. 91	Decree on the organisation and operation of the Ministry of Agriculture and Forests (MAF)
355/6 MAF May 92	Rules, tasks and responsibility of the Departments of Forestry and Agriculture and Extension
429/MAF June 92	Provisions on the rights and duties in forestry resources management at village level
102/PM July 93	Decree on the organisation and administration of villages
104/PM July 93	Decree on the organisation of the Ministry of Finance
42/PM March 94	Decree for Land Re-management Committees
703/MOF July 95	Regulations relating to the position, role, functions, rights and organisational structure of the Department of Land and Housing Management
	2. Land Use and Land Ownership
22/PCM March 89	Temporary Provision on management and use of agriculture land
01/PSA June 90	Property law
02/PSA June 90	Contract law
03/PSA June 90	Law on inheritance
07/PSA Nov. 90	Family law
PSA Aug. 91	Constitution of Lao PDR
99/PM Dec. 92	Decree on land
50/PM March 93	Decree on land tax
52/PM March 93	Decree on document registration
269/MAF April 93	Instructions for implementation of the Decree of the PM No. 50/PM concerning land tax
04/PM April 94	Prime Minister's guidelines for forestry activities
164/PM Oct. 94	Decree on establishment of national bio-diversity conservation areas
990/MF Sept. 95	Provisional Ministerial direction on adjudication of land possession and use rights
03/PM June 96	Instruction on the continuation on implementing land management and forest-land allocation
0822/MAF Aug.96	Instruction on forest-land allocation for management and use
125/PSA Nov. 96	Forest law
126/PSA Nov. 96	Water law
	3. Draft Decrees and Legislation
	Order of customary rights and the use of forest resources (MAF)
	Decree of the Prime Minister regarding environment (STENO)

8 Problems faced in implementing the policies and reinforcing the law

- Land registration and land allocation activities have not been co-ordinated.
- District staff need to be trained and to improve their skill in order to implement land use planning and land allocation.

- Decrees and laws have not yet been well disseminated and interpreted, resulting in misleading and lack of enforcement at grass-root level.

Not much attention has been paid to the dissemination of laws and decrees, due to a lack of a follow-up process to monitor and evaluate their implementation

9 Water resources development policy

by Phalasack Pheddara

Legal and institutional situation for managing water resources :

- Integrated river basin development
- Preserve sustainable water and water resources
- Irrigation and irrigated agriculture development
- Flood and drought control
- Watershed and wetlands management

"...Where there is water, there must be production, people, cropping, livestock raising, fish farming, no slash-and-burn cultivation, and a better life ..."

Sisavat Keoubounphan, National Conference on Farmer Investment for Irrigation Development" Savannakhet, May 1995.

10 Legislation concerning Water Resources Development:

- Water and Water Resources Law (November 1996)

This law determines necessary principles, rules, and measures relative to the administration, exploitation, use and development of water and water resources in the Lao PDR to preserve sustainable water and water resources and to ensure volume and quality, providing for people's living requirements, promoting agriculture, forestry, and industry, developing the national socio-economy and ensuring that no damage is caused to the environment.

- Regulation on Irrigation Water Users' Associations (February 1997)

To ensure effective use of water from the irrigation system in order to serve food and agricultural production, reflected in socio-economic development, conserve natural resources, and rural development for prosperity and equity. Therefore to strengthen the irrigation operation and maintenance serving the market orientation mechanism according to the party and government policy.

- Regulation on Irrigation Service Fee (June 1994)

11 Irrigation Development Policy

- Sustainability and Self-sufficiency of agricultural production by increasing by the year 2000 supplementary irrigated area to 300,000 ha, regular irrigated area to 100,000 ha and flood protected area to 30,000 ha.
- Community Managed Irrigation Systems

- Farmer Investment in Irrigation Development

Department of Irrigation Responsibility:	<ul style="list-style-type: none"> • Irrigation • Drainage • Flood Control • Drought Assistance
Existing Paddy Land	435,000 ha
Supplementary Irrigated Area	150,000 ha
Regular Irrigated Area	30,000 ha
Flood Protected Area	5,000 ha

12 Irrigation Development Strategy

- Irrigation management transfer
- Farmer irrigated agriculture training
- Model farmer families
- Strengthening and restructuring
- Bi-lateral and international co-operation
- Technical assistance to farmers
- Loans by the Agriculture Promotion Bank
- Co-ordination with other government agencies
- Concentrate in six major plains
- Participatory development

Discussion

The following issues arose during discussion of the Lao presentation:

Question : Why does the new law refer to both “water” and “water resources.”

The immediate answer was that it is explained in the new law. Mr. Abernethy noted that this distinction may correspond to a distinction between planning for the future on the basis of hydrological data about what water is available (‘water resources’), and what is used for operating the present water systems (‘water’).

Clarification: The text of the new Lao law on Water and Water Resources defines “water resources” to mean all types of resources that are found in water (for example, fish, or sand). It may be better to call these “aquatic resources” in order to avoid confusion with the usual meaning of “water resources.”

Question : A question was raised concerning the laws and policies to protect the water quality of the Mekong River.

In response it was noted that the Water and Water Resources Law makes reference to both water quality and international agreements.

Question : A question was raised about the institutional mechanisms to implement the law and policy.

In answer it was noted that the MAF has the main responsibility but that there is also an inter-ministerial co-ordination board. So far they have no experience under the new law but there may be conflicts with other government agencies who used to have specific responsibilities. Mr. Abernethy commented that the issue of making laws effective was a general one that is likely to arise again.

Question : *Who has the primary responsibilities for human resources development?*

The answer was that the Schools of Forestry and Agriculture in the newly established National University of Laos have the major responsibility. It was also noted that, to inform people about the new law, etc., they are holding seminars for top level people. They will then go step by step in informing others. Training centres and schools will be used.

2.2 Country Presentation: Thailand

Irrigated Agriculture Development , Legal Land Use and Laws Concerned.

By Vira Vongsangnak

1 General information

Thailand has a total land area of 51.4 million hectares

The area is divided into 4 geographical regions

- Northern region
- Northeast region
- Central region
- Southern region

Rice is a major crop and occupies about 54% of the cultivated area.

Upland crops account for 18% of the area

Tree crops occupy about 10% of the area

There are 25 rivers basins covering the whole country.

2 Organisation structure for water resources management

Three levels concerned:

1. Cabinet level

For setting up policies and national plans

2. Co-ordination level

For co-ordinating between level 1 and level 3, and follow up according to the policies. Agency is the Office of National Water Resources Committee

3. Implementation level

For planning and construction and management under water resources development programme.

Agencies : 8 Ministries and 31 Departments.

Royal Irrigation Department (RID) responsibilities: Water resources development for agricultural, industrial and domestic consumption, inland navigation, flood control, and drainage.

3 Present condition of water resources development

3.5 million hectares (22 million rai) to be implemented and irrigated under responsibility of the Royal Irrigation Department, consisting of large, medium and small scale irrigation projects.

Study of potential development of water resources in 25 river basins to be carried out.

Study of transferring water from one basin to another river basin being carried out.

Table 2 : Sharing of responsibilities for operation and maintenance (Thailand)

Size of project	Type of project	Responsibility for operation	Responsibility for maintenance
Large scale	Reservoir	RID	RID
	Dam	RID	RID
	Diversion weir	RID	RID
	Canal	RID	RID
	Tertiary system	Water users	Water users
Medium scale	Reservoir	RID	RID
	Dam	RID	RID
	Diversion weir	RID	RID
	Canal	RID	RID
	Tertiary system	Water users	Water users
Small scale	Small reservoir	Water users	Water users

4 Laws related to water for agriculture

People's Irrigation Act B.E. 2482 (1939)

Field Dikes and Ditches Act B.E. 2505 (1962)

Land Consolidation Act for Agriculture B.E. 2517 (1974)

State Irrigation Act B.E. 2497(1954)

Laws related to land use for agriculture

Land Reform Act for Agriculture B.E. 2518(1975)

5 Government policies on water resources

Concepts:

- Support people's participation in natural water conservation;
- Control and maintain the existing natural water resources in good condition;
- Reduce conflicts for using natural water resources in future;
- Support financial for water resources management;
- Develop information system for natural water resources for good management;
- Issue laws for supporting natural water conservation according to changing conditions;
- Support farmers' participation in operation and maintenance of irrigation projects.

6 Property rights

The Land department with 76 provincial land offices takes responsibility for issuing a title as needed.

Present condition : private property. 70% of land use for the agriculture sector has been done under National Economic and Social Development Plan No. 7 (1991-1996)

30% remaining will be done under National Economic and Social Development Plan No. 8 (1997-2002).

Discussion on the Thailand experience:

Question: We need to ask about the effectiveness of laws in helping to achieve desired objectives. For example, the land reform effort in Thailand has also been burdened by some people of influence taking control of land they did not previously own or use. What would you advise for Laos and Vietnam, to avoid this problem?

Reply: The primary purpose of the land reform effort in Thailand was to reshape land patterns into sizes and shapes more efficient for agricultural use. In particular, farm units had got so small and fragmented that modern agricultural practices were made difficult or impossible. The law places a limit on the total amount of land that can be held by any one individual. It also says that land cannot be sold.

Question: What is being done to address problems of water shortages?

Reply: We are studying inter-basin transfers, additional surface water development, and development of groundwater for domestic use.

Question: What has been the progress in land titling?

Reply: There are two general categories of land: state-owned and private. State-owned lands consist of forests and government lands. Private lands consist of those lands that are held by title deed, N.S.3 lands, S.K.1 lands, N.K.3 lands, and L.R. 4-01 lands. These four types of lands are the ones that are now in the process of being titled.

Question: Which lands belong to the Royal Irrigation Department? What are the conditions of use?

Reply: By a law dating back 40 to 50 years, RID is given the land through which canals carrying water run, in return for building the canals. For lands in which other structures are built such as weirs or head-gates, RID must purchase these lands.

There was a brief discussion about projects planned for construction in the northern part of Thailand, along the Mekong River.

2.3 Vietnam : Land and Water Resources

A LAND RESOURCES

by Tien Viet Pham

Total area : 33 million ha

Land use : 5 categories:

1. Agricultural and forestry land	16.9 million ha
* Agricultural land	7.8 "
* Forestry land	9.6 "
2. Rural residential land	0.7 "
3. Urban land	0.2 "
4. Special use land	1.1 "
5. Unused land	14.2 "

Land/Man ratio (average cultivated land per capita: 0.08 ha)

- ⇒ Land scarcity and limited potential for agriculture development
- ⇒ Land degradation
- ⇒ Need for development of land to feed the large and rapid growing population
- ⇒ Need for maintaining the remaining forests and restoring the ecological balance.

1 Land law and land policies

- Land regime of ancient Vietnam
- Land registration under French administration (similar to the Torrens title system of issuing certificates of title providing a mechanism for registering transactions of land including transfer of ownership)
- Land reform 1954 in the North Vietnam: all land were taken back by the state and reallocated to landless citizens to enable them to earn their living.
- Under the second Constitution 1959, three types of property were recognised: state, collective, and individual property.
- Renovation process and new land policy
- Land laws in 1993 and 1994:
 - * Legal rights and interests of households and individuals, receiving land allocated by the state, who shall be entitled to exchange, transfer, lease, inherit, or mortgage the "land use right"
 - * Land user shall be responsible for the protection, improvement, fertilisation, rational and effective use of land, for fulfilment of all cadastral procedures, and payment of tax on transference of land use right.

2 Institutions involved

- General Department of Land Administration
- Ministry of Agriculture and Rural Development
- People's Committees of all levels
- Ministry of Science, Technology and Environment

3 Problems faced in implementing the policies and reinforcing the laws

- Land law is not completely developed and is exposing many weaknesses.
- Lack of resources for dissemination, education, understanding and respect for the law.
- Administration tools are not strong enough to reinforce the laws.
- Lack of incentive, punitive mechanisms and measures for implementing the land law.

Results = Land encroachment – illegal immigration – shifting cultivation.

B WATER RESOURCES

by Dr. Bui Cong Quang

- Annually there are around 800 billion cubic metres, of which :
 - Agricultural use : 35 - 40 billion,
 - Domestic use : 7 billion,
 - Industrial use : 2.5 billion.
- It can be seen that water resources are abundant.
- Conflicts between users are not serious.
- Up to now there has been no water law in Vietnam.
- Management is carried out according to planning approved by MARD.

1 Principal ideas and basic principles

- Water belongs to the people and it is managed by the State.
- The State passes the rights of water exploitation and utilisation to individuals and organisations in accordance with legal rules. The rights are:
 - * Right of use for long-term period
 - * Right of transfer
 - * Right of ownership
 - * Right of mortgage
 - * Right of being compensated
- Water benefits of different places and sectors shall be harmonically integrated and uses must be optimum.
- Water resources planning must be implemented.

- It is essential to protect water resources from being exhausted or polluted, and to prevent adverse effects caused by water.
- Individuals and organisations shall have financial obligations to the State (water fee)
- The State promotes every individual and organisation to invest in exploiting, using and protecting water resources and preventing adverse effects caused by water, according to the open policy and market mechanism under management by the State.

Plenary discussion

Question : Does the new Water Law require changes of the existing procedures for water allocation between WUAs and water supply organisations (traditional versus new conditions)?

Reply : As the new law gives only general provisions and encourages WUAs to manage and to negotiate the water allocation at the relevant local level, depending on their specific requirements, no major changes will be expected.

Question : In the past the land re-distribution of land from co-operatives to individual households was based on the number of household members and/or labour equivalents per household. Will there be sufficient land for family farms in future with regard to population/family growth, land conversion and other pressures on land?

Reply : The Vietnamese government officially recognises only two children per family/farm household. For families with two children the size of land distributed in the past is regarded to suffice to make a living in future. Larger families will be forced to get access to additional plots by renting-in or purchasing them. Others are encouraged to migrate to those rural areas which are actually less densely populated. These movements are in line with government programmes to promote internal migration and re-settlement.

Question : The relevance of illegal migration by groups practising shifting cultivation?

Reply : These groups try to ignore the legislation in force and go on moving their fields and homesteads. The government tries to stop these movements through sedentarisation programmes.

Question : Can foreigners buy land in Vietnam and Lao PDR?

Reply : In both countries only land lease is an option for foreign individuals or enterprises.

Question : Does the new land legislation provide for customary rights in land?

Reply : Customary rights are not considered explicitly in the legislation; traditional forms of communal land use, such as shifting cultivation systems, are transformed into individualised land use rights through the sedentarisation programmes which started already twenty years ago.

Question : [For further discussion in working groups] What does the "protection" of water/land mean to Vietnam? Are those people who are directly affected by negative

environmental impacts involved in rehabilitation and consultation processes at the site, or are solutions more or less imposed from above? Is there any systematic information in mass media and education (school, radio, TV) to get a better understanding of the environmental impact of current water and land use practices?

Session 3 :Policy Framework Conditions for Managing Natural Resources

This session aimed to clarify the present policy framework which influences the type and way of managing land and water resources and to identify the issues and possible policy frame to enable decision makers at all levels to manage their resources in a sustainable way.

The groups from each country were invited to address this question:

What improvements are needed to reach a sound pattern of land or water resource use in your country during next 20 years ?

Groups reported separately on land policies and water policies.

3.1 Land Management Policies

A Lao PDR

1 Objectives:

1. To ensure food security through intensive farming system by applying friendly technology.
2. To promote income generation from sustainable agriculture and forest products (open for national or international investment in the field of livestock, fruit tree plantation, forest plantation, wood and agricultural processing..).
3. To increase forest cover by protecting and sustainable use of existing forest and rehabilitating degraded forest land in order to maintain environment equilibrium.
4. To define land use in accordance with the capacity of land and the requirements of the society.

2 Issues:

1. Improvement of education in rural areas.
2. Adopt and adjust user-friendly technology to apply in farming systems.
3. Strengthening management system in both agriculture and forestry sectors.
4. Improving and revising unsatisfactory laws and regulations that have not satisfied people in the nation. Effective dissemination, promotion and clarification of laws are needed

3 Policy:

1. Promote farmers to produce agricultural products from self-subsistence to market-based system.
2. Effective land use management system has been applied and land use planning at national level should be established, with guidance for implementation, evaluation and monitoring.
3. People's participation in forest protection and conservation needs clear sharing of benefits and incentive to be involved in these activities.

B Vietnam

1 Objectives:

- 1 Ensuring food security
 - Increasing food production : 34 million ton/year (for 90-100 million people)
 - Increasing land use ratio/year : 2.5-2.7 (2-3 crop season/land parcel/year)

- Reclaiming 2 million ha of bare land for agriculture
- 2 Reasonable use of land resources to develop a sustainable agriculture and protect the environment from degradation.
 - Improving irrigation network for irrigated agricultural areas to develop sustainable spring rice and winter crops production
 - Complementing evaluation of suitable land use types for 8 ecological zones in whole country.
 - Stopping 1.3 million ha of slash- and -burn farming area
 - Increasing 1 million ha of perennial trees and fruit trees
 - Developing 19 million ha of forestry, in which there are :
 - * Special use forest 2 million ha
 - * Protection forest 6 million ha
 - * Production forest 11 million ha
 - Developing Agro-Forestry Systems: 0.6 million ha
- 3 Improving living standard of rural population, especially in the remote areas as well as mountainous areas.
 - Increasing household income by 3-fold (compared to present 300,000 Dong).
 - Ensuring fresh water and electric power for all farming households of the whole country.
 - Improving education and training course from the national, provincial, and district, commune levels.
 - For health caring: 100 % of communes have health-care station (clinic).
 - For education and training: 100 % of communes have primary and secondary schools for children
 - Improving transportation network from country to local level in the whole country.

2 Issues at present:

1. After Land Law 1993: Correcting and improving land law and various Decrees as well as Regulations of land use rights.
2. Establishing Land Administration Systems in the whole country.
3. Improving registration procedure of land use rights.
4. Designing land use right certificate for the farmer.
5. Land evaluation, land suitability classification for land use.
6. Extension network for agriculture and forestry :
 - New technology transfer (communication network, information ..)
 - Training courses to improve knowledge of participants (lecture, discussion, seminar, workshop,..)

3 Policy changes

1. To complement land administration system at different levels and clarify power and responsibility for each authority level in order to ensure land use rights for farmers.
2. To encourage farmers in suitable and beneficial land use to increase agricultural production and forestry areas, based on sustainability and environment protection.
3. To clarify the role of extension network of agriculture and forestry, ensuring position, function and right of the extension workers in rural areas in order to transfer new technologies successfully to the farmers.
4. To have benefit mechanism, developing market-oriented economy to increase agricultural production and household incomes as well as living standards in rural areas.
5. To have suitable modalities on education and training system for children and farmers in remote areas to increase their culture level and eco-social knowledge.
6. To support actively people in the mountainous areas especially minority people from sedentarisation programme:
 - stop slash-and-burn farming;
 - develop agro-forestry systems on hill land;
 - increase knowledge and methods in forestry protection;
 - support production investment, health care conditions, education facilities, transportation, consumption services.

C Plenary Discussion on Land Policies

After the country presentations, the Chairman identified a number of objectives which were evidently common in both countries. There were :

- Improvement of food security
- Improvement of farm household incomes
- Increasing forest cover
- Transfer/extension of new agricultural technologies
- Classification of land use suitability
- Classification of rights to use land.

The Lao group were asked, how their objective of improving food security through intensive farming would be achieved. The answer was that single-crop land could be raised to double-crop level by technological up-grading, such as increased irrigation, use of fertilisers and use of appropriate pesticides.

The Vietnam group asked how Laos could achieve the objective of increasing forest cover. It was observed that the present reality was different. Even to protect the forests that exist now is difficult. Vietnam loses 100,000 - 200,000 ha of forest per year, which means around 2% of its forest area.

It was agreed that a similar situation of forest loss or degradation exists at present in Laos. Conservation areas have already been defined, but there are difficulties in solving the problems of people inhabiting these areas. Requirements include the stabilising of shifting cultivation.

The possible effects of increasing agricultural chemicals, in regard to the food security objective, were discussed. It was noted that at present, river waters in Laos were of acceptable standards and the same was true in Vietnam except in some small tributary rivers.

3.2 Water Resources Policies

A Lao P.D.R

1 Problems and issues

- Decrease of water resources quantity and quality
- Increase of population leads to water demand increase
- Loss caused by natural disasters (flood and drought)
- Urbanisation increase
- Industrialisation increase
- Development of infrastructure
- Waste water in urban areas
- Navigation
- Erosion
- Social/ culture/ tradition/ tourism

2 Goal

To preserve sustainable water and water resources, and to ensure quality and quantity of water for people's living requirements, promoting agriculture, forestry, developing the national socio-economic and ensuring that no damage is caused to the environment.

3 Vision 2020

- Industrial water 100% pollution free.
- Preserve quantity and quality of water supplied for the community and control the quality of drained water.
- Ensure water quality for agriculture is regulated, based on the ecological situation.
- River improvement for promotion of tourism, sanitation, navigation, environment protection, natural and traditional preservation.
- Effective use of reservoirs (hydro-power, irrigation, water supply, agriculture..).
- Good environment atmosphere, increase forest and preserve watershed.

4 Strategy/policy

- Afforestation and watershed management;
- Integration of water resources management;
- Participatory water resources development;
- Mobilising funds to improve water quality;

- Strengthening and restructuring the concerned organisations, and human resources development to serve the above-mentioned topics.

B Vietnam

1 Objectives:

- 1 To meet water demands of diversified agriculture;
- 2 To improve drinking water supply for urban and rural areas;
- 3 To mitigate water-related disasters;
- 4 To protect water resources from pollution and depletion.

2 Issues:

- 1 Pollution of water resources (surface and groundwater);
- 2 Unreasonable water distributions and uses, leading to waste of water and increasing conflicts between users;
- 3 Deforestation is becoming serious, causing watershed degradation and water resources depletion;
- 4 Growth of population, industrialisation and urbanisation;
- 5 Human activities cause changes of basin surface and river morphology characteristics.

3 Policy changes:

- 1 Improve participatory management;
- 2 Improve physical infrastructure to irrigation and drainage systems;
- 3 Strengthen human resources;
- 4 Issue domestic water pricing;
- 5 Protect watershed and to green bare lands;
- 6 Improve flood-protection, integrate plans for important areas;
- 7 Issue licences / permits to polluters.

C Plenary Discussion on Water Policies

In response to the Lao goal statement that they desire water resources development with no damage to the environment, it was pointed out that all actions have negative consequences so that "no damage" is probably unattainable. The goal is to get the most desirable consequences with the least undesirable consequences.

The following points were made in regard to the Vietnamese reference to issuing permits to polluters. The idea is that issuing permits allows government control over the amount of pollution from point sources, such as factories or hospitals. A permit limits the amount of pollution. Monitoring is required, not only of the river water, but also of water in the plant and coming out of the plant in order to determine what is happening. Once initial monitoring is done, they can analyse the consequences using appropriate models and determine what level of pollution can be allowed.

Questions were raised on the meaning of participatory management. The Vietnamese response was that there is a need for farmer involvement in irrigation planning and management so that they understand the situation and respond effectively. The Lao response was that the government promotes farmer investment in irrigation development and community management of irrigation, including involvement in the whole process. In reply, it was noted that, in Vietnam, the government also encourages farmer investment in irrigation development and normally requires farmers to pay the costs of lateral canals and on-farm development. However, there is some pressure from politicians to reduce the farmer contribution while agency personnel would like to expand it.

Some differences between the two countries were pointed out. One is that the Lao are planning to give first priority to water resources development for agriculture until 2020 while the Vietnamese see more movement of water from agriculture to industry and domestic sectors. Also, the Lao water problems are still small unlike those of Vietnam; overall Laos has enough water.

The question was raised about the priority for hydropower development in Laos, particularly given the emphasis of the general Mekong River plans on such development in Laos. In response, it was noted that under the new Water Law, the MAF will be in a position to make a decision about hydropower development in Laos.

One Vietnamese participant commented that we have much to learn about how to control water and people. It was pointed out that there exist major problems in water service – for example, water distribution often does not match farmer needs - and in financing irrigation. It was also noted that the Red River irrigation network is modern but there are still large losses of water.

A Lao participant noted that there is a need for a separate workshop on all aspects of irrigation management, including fee assessment and collection.

There was a discussion on groundwater in Vietnam. It was pointed out that there is increasing use of groundwater for domestic use. Management of groundwater is a major issue but there has been little done. There are observation wells for monitoring in some specific areas, including the big cities but not elsewhere. Until recently, several agencies have been involved in groundwater management; the Department of Geology was responsible for monitoring while others had some management responsibilities. Now, MARD is responsible but has not yet taken action.

A question was raised on whether the governments would actually provide the funds for the investments implied by the policies. For Vietnam, it was noted that agriculture has been the second priority area for investment and that water has received 20% of investment funds and will do so until 2010. They are borrowing outside donor funds for new construction and the government is funding major works.

Charles Abernethy pointed out that the presentations did not include much on means to get the co-operation of people, particularly those in the remote mountain areas whose co-operation is vital for watershed protection. He also pointed out that intensification of agriculture will not work simply by providing irrigation and other facilities; there is a need to also pay attention to the marketing end of agriculture to ensure that farmers find it rewarding to intensify their agricultural efforts.

Jeff Brewer indicated that he was surprised that the Vietnamese policy did not seem to include capturing additional water, since Vietnam uses such a small portion of its available water resources. He also noted that, unlike the presentation on land, neither country mentioned a need for improving the database on water resources in the country as a basis for further planning and development.

Michael Kirk pointed out that water resources development may require changes in land use that could lead to land conflicts.

Session 4 : Legal Framework Conditions for Managing Natural Resources

This session aimed to elaborate the legal frame conditions which would be needed to fulfil the policy objectives regarding sustainable land and water management as outlined in session 3.

This may involve the amendment of existing laws and regulations, the clarification of general laws in regulations (or ordinances), but also the revision of existing laws.

The groups from each country were invited to address this question:

What change or elaboration is needed in the existing or proposed legal and regulatory framework, in order to assist the achievement of your identified policies?

At the beginning of the session, Lawrence MacDonnell further elaborated on *legal aspects in water resources development* which clarified some aspects from his background paper.

Law: The rules by which our actions are governed

- To restrict undesirable behaviour
- To facilitate/encourage desired actions

Sources of law:

- Custom --- informal
- Religious teachings --- formal and informal
- Statutes --- formal
- Agreements --- formal and informal

Law is objective and knowable

Assuming the process is open and inclusive, it involves a balancing of interests

Law is stable but can be changed

The rule of law vs. the rule of man

What makes law effective ?

- It reflects the interests of those most affected;
- It is clear and understandable;
- It facilitates accomplishment of individual and social objectives.

National law

- Sets objectives;
- Defines rules and procedures;
- Is most effective at directing agency actions; less for individuals.

4.1 Legal Issues in Managing Land Resources

A Lao PDR

1 Outline of legal frame

Objectives of land law and decree:

- Land becomes the property of the national community;
- Reduce conflict over land use;
- Promote investment;
- Optimum use of all land parcels.

Existing legal system to support land use (see table on page 55: Relevant legislation...). Changes are needed in:

- Legal support to prepare national land use planning, which is very important to guide proper use of land.
e.g. regulation to encourage farmers to do intensive farming in irrigated areas.
- Classification/clarification of types of land use
e.g. forest and agricultural land.
- Promoting income generation needs effective extension, education, appropriate technology. Co-ordination of these among sectors should be clarified.
- Ensure investment through the effective enforcement and implementation of laws.
credit, fund, etc.
- Evaluation and monitoring system for land use and land development.

Clarification: As the new Land Law is still under discussion and not yet finalised it is not yet clear it will provide a framework for Land Use Planning and the classification of different land categories.

B Vietnam

1 Needed changes in existing legal and regulatory framework of land law:

1 Land use categories should be further clarified:

- Separation of forestry and agricultural land
- Set up the criteria referring to particularities of forestry land and agricultural land in order to properly utilise each category of land;

- Add water body as one category of land use;
 - Clarify the criteria and procedure of conservation from one category to another.
- 2 Land use right should be confirmed on:
 - Right to having technical training and transferring;
 - Right to receiving subsidy and insurance by government in marketing agricultural product;
 - Right to being properly compensated when land is taken back or converted by the government to other uses.
 - 3 Land use planning should be improved and well documented and made clear to people.
 - 4 Work out the detailed regulations and instructions on land leasing for foreigners.
 - 5 Priority policies to support the production condition for the minority people such as free tax, free education and training system, free health care, infrastructure construction, consumption security.

2 Land laws of Vietnam

Preamble

Chapter I General provisions

Chapter II State administration on land

Chapter III Rules on the use of land of different categories

Division 1 Agricultural land and forestry land

Division 2 Rural residential land

Division 3 Urban land

Division 4 Land for specialised use

Division 5 Unused land

Chapter IV Rights and obligations of land user

Chapter V Regulations on foreign organisations, foreign individuals, and international organisations leasing land in Vietnam

Chapter VI Settlement of violations

Chapter VII Implementation provisions

Appendix Notes on English-Vietnamese terms

4.2 Legal Issues in Managing Water Resources

A Lao PDR

→ Additional policy

Water service fee

National Water Board

→ Need more clarification and guidance of using water and water resources

• Ministerial decrees

• Ministerial guidelines

• Rules and regulations on:

- 1 Irrigation service fee;
- 2 Water user association;
- 3 Water quality control;
- 4 Watershed management;
- 5 Wetland management;
- 6 River basin management;
- 7 Investment on water resources development;
- 8 Farmer participatory development;
- 9 Industrial waste water management;
- 10 Urban drainage control;
- 11 Water resources development planning;
- 12 Sanitary water control;
- 13 Sewerage water control;
- 14 Ground water management/control;
- 15 Reservoir management/control;
- 16 River basin administration/authority;
- 17 Navigation management;
- 18 Water eco-tourism promotion;
- 19 International/regional water use and management;
- 20 Integration on water resources management;
- 21 People's rights and obligations on water resources, preservation and conservation;
- 22 Right to use water and water resources;
- 23 Obligation of jurist entity on water use;
- 24 Hydro power management;
- 25 Fishery management;
- 26 Environment impact assessment;
- 27 Irrigation management;
- 28 Domestic water management;
- 29 Flood protection and management;
- 30 Drought assistance;
- 31 Native species control;
- 32 Licenses and permits for water use;

- 33 Authorisation on water way construction and water works;
- 34 Head water preservation;
- 35 Bank protection management;
- 36 Island conservation.

Clarifications for legal framework on water issues in Lao PDR:

- Obligations of legal entities on water use (item 23)? It relates to the investment of foreign enterprises in hydro-power in Lao PDR. How to give incentives to protect the water resources they make use of?
- The 36 policy items are not listed according to priority. A ranking still has to be done in future.
- Island conservation (item 36)? How to prevent the Mekong islands from damage through construction, waste disposal etc. to preserve their value for tourism, scenic view etc.. in future.
- Water service fee: It is the policy of Lao PDR to establish water fees for all kinds of water use (domestic, industry, agriculture, etc.) and at all levels in order to broaden the financial basis for government. To achieve this, further co-ordination between different ministries is still necessary (e.g. Ministries of Transport, Finance, and Agriculture & Forestry).
- Some of the listed 36 policy issues have already been tackled by Lao PDR government policy. In these cases further improvements, better implementation and additional clarification and adjustments are needed. Others need a completely new regulation, for the first time.

B Vietnam

1 Existing legal and regulatory framework in Vietnam:

- 1 Decree on exploitation and protection of water works;
- 2 Decree on flood of typhoon prevention and dike management;
- 3 Decision on water service fees;
- 4 Water laws (16th draft);
- 5 Land laws;
- 6 Laws on conservation and development of forests.

2 Changes and elaboration needed:

- 1 Existing laws and by-laws need to be improved;
- 2 Laws should be more elaborated (more practical details applicable);
- 3 Overlapping between laws should be avoided;
- 4 Linking between laws should be stipulated;
- 5 Water service fee decision should be revised;

- 6 A legal framework for human resources development should be established;
- 7 Laws of domestic investment are needed;
- 8 International river basins' water resources management.

Clarifications for legal framework on water resources issues in Vietnam:

1. In general two schools of thinking are actually discussed by Vietnamese lawmakers :
 - To create detailed laws which cover all aspects to be tackled or
 - More general provisions, which are easier to adjust to new demands in future. The detailed approach is more prominent.
2. Domestic investment law serves as a means to further encourage domestic investors and the private sector to invest in irrigated agriculture.

4.3 Plenary Discussion on Legal Issues of Land and Water Resources

1. Imposition versus motivation/incentive approach:

As both countries recommended that the land and water legislation should encourage the utilisation of more land for irrigated agriculture to serve food and export demands they should be very careful not to compel peasants/farmers too strongly how to make use of land and to impose blueprint farming management directives on them (with regards to crops planted, the amounts of applied fertilisers and pesticides, etc.).

This may end up with production systems under close supervision where escape strategies of the farmers might be a consequence. The experiences in many other countries have proved this in the past. The rural population will follow the letter of the law which is imposed on them, but not at all the spirit of the law.

2. Inclusion or exclusion of concerned target groups: ethnic minorities.

Lao PDR can refer to its Constitution of 1991 where the equal access of all citizens of the country, whether they are lowland farmers or upland shifting cultivators, is enshrined. In daily practice the administration has to realise that some ethnic minorities do not respect the government legislation on land use and forest protection. The Lao delegation asks for proposals from the audience, including the resource persons, how to convince them to follow the law?

A dialogue with the target group concerned about their actual problems, their needs and their requirements is regarded to be essential as the first step to de-escalate problems and conflicts.

The Vietnamese delegation underlines the crucial importance of better information, better physical and social infrastructure in future to prevent minorities to continue their slash-and-burn practices which have become a threat to resource protection in an environment of population pressure. These strategies have to be developed in line with a far more better transfer of appropriate agricultural and processing technologies, including new and improved varieties, better extension facilities, etc..

Session 5 : Institutional Issues for Effective Management of Natural Resources

This session aimed to analyse which institutions/organisations are involved in developing laws and regulations (by-laws, decrees, etc.), which new capacities should be built up or modified, and which co-ordination or collaboration is needed between institutions/organisations at different levels to secure efficient management of land and water resources.

The session started with two introductions to organisational and institutional issues.

The participants then divided into national groups to address and report on the following set of questions :

1. Which organisations are in charge to
 - introduce
 - amend
 - implement
 - enforce*the legal and regulatory framework at different levels?*
2. Which institutions should be engaged to secure the implementation of the legal and regulatory framework?
3. In which ways should the organisations act and co-ordinate?

5.1 Organisations for Land and Water Management

by Jeffrey D. Brewer

The goal of this presentation is to describe key characteristics of present types of organisations that undertake the management of land and water resources, and to derive some principles for effective organisations. Much of the discussion is focussed on water management, largely because water resources require much more intensive management.

1 Basic concepts

There are some basic concepts I want to use to make it easier to discuss organisational principles for land and water management.

Organisations are Institutions

Organisations can be described as sets of rules that define how people should relate to each other, generally with regard to certain limited tasks or in limited situations. That is, there are rules that define statuses for people – for example, member of the water users' association – and there are rules that define how persons in that status should act – for example, the member of a water users' association must pay fees for his water and must take no more than his allowance of water.

Functions of Natural Resource Management Organisations

We can identify two basic functions for organisations that manage land and water:

- Regulation of the use of land and water: Regulatory organisations set rules for various purposes, generally including:
 - * ensuring that land and water are used in ways that do not harm the environment or deplete the resource,
 - * allocating use to various users; i.e. preventing some from taking more than their share.
- Providing water to users: Water is a "fugitive" resource that is re-supplied by the earth's hydrologic cycle; water service organisations collect it and supply it where it is needed. Land is not a "fugitive" resource so provision organisations are generally not needed.

Requirements for effective regulation

To succeed in regulating the use of land and water, a regulatory organisation must have the following:

- An adequate database on the characteristics of the resources and their use; this generally requires monitoring of usage.
- Laws or regulations defining permissible use.

- Means to adjudicate of disputes and enforcement of the laws and regulations to prevent persons from acting against the laws and regulations.

Requirements for providing water services

To provide water to users, a service organisation must have the following:

- A definition of the service to be provided to users; i.e. how much water is to be provided to each user and when is it to be provided.
- Infrastructure and personnel to provide the defined service and means to maintain the infrastructure; i.e. canals, pipes, and control structures, tools, etc., and the personnel to operate and maintain this infrastructure.
- Management systems to monitor the provision of water service to ensure that water is being provided according to the definition of service and to evaluate the service to know whether changes in service are needed.

2 Organisations and individual behaviour

An organisation is effective only when most of the individual people associated with the organisation actually do what they are supposed to do. Getting the people to do what they are supposed to do is a key element in effective organisational design.

Principles of Motivating People

The following are some basic principles about human behaviour that can help with motivating people to do what they should do to make an organisation effective:

- First, every individual works for his/her own benefit. That is, one cannot assume that a person will work for the goals of the organisation just because the goals are important or because they provide advantages to the community as a whole. Only if working for the goals of the organisation also benefits the individual directly is it likely that the individuals will do what they should do.
- Effective organisations arrange activities so that it is to the benefit of each member of the organisation to serve the aims of the organisation. That is, an effective organisation rewards a person for doing those activities that serve the ends of the organisation and punishes a person for acting in ways that work against the purposes of the organisation.
- Effective organisations make individuals accountable to the persons they serve. Even if, in principle, an individual is to be rewarded for serving the purposes of the organisation, it is best if his reward or punishment comes from the people he is supposed to serve; those people are the best judges of whether he is acting in their interests. Thus the performance of the personnel of a water service organisation should be judged by the users of the water. Similarly the performance of personnel of a regulatory organisation should be judged by those affected by the regulation.

Motivational features of effective organisations

These principles imply some simple rules for making the personnel of natural resource management organisations function effectively:

- Promotion, recognition, and transfers are based on achievements related directly to the aims of the organisation. In some types of organisation, promotion and other changes are related only to seniority, to bribery, and to other factors that do not serve the aims of the organisation. Generally, employees in such an organisation neglect the purposes of the organisation in order to do what is necessary to get the promotions, recognition, or transfers that they want.
- Compensation is adequate. A finding is that employees do not work for the benefit of the organisation, if it does not provide them enough to live at a standard considered fair and adequate. Underpayment leads not only to resentment but also to neglect of the job, while the employee does other things to reach an adequate compensation level.
- The organisation develops a set of values (an organisational culture) that promotes the aims of the organisation. Rewards come not only in the form of pay but also in the form of peer appreciation and recognition. A proper set of values makes this possible.

3 Centralisation, decentralisation, and devolution

Where decisions are made can strongly affect how an organisation functions, including particularly how individual persons within the organisation function. The following describes some principles.

Definitions

- A centralised organisation is one in which all key decisions and made and functions carried out in one location or by a very limited number of decision-makers.
- A decentralised organisation is one in which some key decisions and functions are delegated to several locations or decision-makers.
- Decisions and functions are devolved when they are passed from a centralised organisation to autonomous lower level organisations.

Centralisation, decentralisation, and devolution in organisation design

The following describes some basic principles about the degree of centralisation a land or water management organisation should have:

- Centralisation makes overall planning and administration of the organisation and resource easier for the managers. Fewer managers and fewer decisions are needed and co-ordination is greater.
- Every user has unique demands and needs; providing good service and optimal use of the resources means providing the resources to the individuals as they are needed. However, the larger the number of land and water users served,

i.e. the more centralised the organisation is, the more difficult it is to get information on users' needs and demands.

- The degree of variation among users' needs depends upon many factors, including the environmental variation and other factors. The greater the degree of differentiation among users, the greater the need for responses to specific local circumstances and the greater the need for decentralisation or devolution. Conversely, the greater the need for response to broad and long term interests not represented clearly at local level, the greater the need for centralisation.
- Decentralisation is a form of balance between local needs and ease of management. However, balance can also be achieved by devolution of control to local organisations and then effective regulation of those local organisations.

4 Accountability

Accountability refers to the idea that managers have to answer to someone for their actions. It is a key element in motivating personnel at all levels to do what should be done. A basic principle for water service organisations is that the managers should be accountable to the persons served : that means, the users.

Means to make managers of water service organisations accountable to the users include, in decreasing order of effectiveness:

- Having an organisational structure that provides that managers and their subordinates answer directly to users' representatives. That is, elected representatives of users should have the power to hire and fire the managers.
- Direct financing of a water service organisation from user fees also gives the users the chance to hold managers accountable by refusing to pay for poor service.
- Regulation and supervision of the water service organisation by a government agency provides a degree of accountability because the government agency is charged to ensure accountability and because it is itself accountable to elected representatives of the people, i.e. legislative body members or elected executives.
- "Voice" refers to the idea that public customer or user complaints can affect what organisations do, even if those customers or users have no direct control over the managers of the organisations. Voice channels such as letters to organisation managers, letters published in newspapers, complaints aired on television by news media, etc., can provide some degree of accountability for the managers.

Regulation of water use and land use is necessary to ensure that the water and land users do not harm the environment or harm others' enjoyment of the natural resources. Regulatory organisations should be accountable in different ways to different groups:

- They should be accountable to land or water users for their success in ensuring the efficiency of operations of the service organisation.
- They should be accountable to higher level political authorities for the success of their regulation in preventing harmful consequences from the exploitation of land and water resources by the service organisations.

One implication is that organisations that provide services to users, particularly water service organisations, SHOULD NOT also be responsible for regulation of the use of those resources.

5 Suitability of organisations for providing services to users

The main types of land and water service organisations include:

- Central and regional government agencies (centralised or decentralised); these include irrigation departments and other departments that provide direct services.
- Local governments sometimes provide direct services; this is most common when village governments take on irrigation or domestic water supply responsibilities.
- Utility organisations owned by local governments are found in some places; these are most likely for domestic water supply to medium sized or larger towns and cities.
- Quasi-governmental organisations are organisations that are managed by users but have government status and (some) powers. Irrigation districts in California fall into this type since they are officially municipal level government agencies but they are controlled by the users rather than by all citizens.
- User organisations are private organisations controlled directly by the users. These include farmer organisations, co-operatives, and many other types of organisations that provide irrigation and sometimes other services to their members.
- Private companies may provide water and other services. They differ from user organisations in that they are owned by their stockholders or by others rather than solely by users. In some cases, they are for-profit companies rather than non-profit organisations.

Considering these types of organisations, we can make the following generalisations about their suitability for providing water services:

- Because local situations vary and because information on needs is difficult to get, it is generally best if water service functions are devolved to local levels. Central and regional government agencies are generally not the best choice.
- Local governments are generally not effective managers, except in very small municipalities, because they have many other concerns. However,

local government utilities are often effective in supplying domestic and industrial water.

- Regulated private companies are effective in supplying domestic and industrial water.
- User associations and quasi-governmental associations are effective in supplying irrigation water. For larger irrigation systems, headworks and reservoirs may be managed by a government agency that wholesales water to local organisations.

6 Regulation of land and water use

For both land and water use, government must ensure through laws, regulations, and monitoring that users' actions do not harm the environment or each other. In addition, local level organisations engaged in providing water services must be regulated by government to ensure:

- That there is a clear definition of the amounts of water to be used by the water service organisation and the purposes of this use.
- That the local level organisation is recognised by the government and is legally provided with all the powers it needs.
- That the local level organisation has the technical capability to monitor and control the amount of water it abstracts.
- That the local level organisation is organised so that the water system managers are accountable to the users.
- That, if the local level organisation is a private company, the prices it charges are not unreasonable.

Additional regulation is generally unwarranted and counterproductive.

Where possible, for integrated land and water use regulation it is best that the regulating agency be based on a river basin; this provides sufficient decentralisation.

7 Summary

In this discussion, I have covered several aspects of organisations for land and water management in order to provide guidelines about how they should be defined. These included discussions of two types of organisations: organisations that provide water service, particularly irrigation water, and organisations that regulate the use of water and land. Basic functions and needs for both types were described.

Some key topics relevant to the design of both types of organisations were covered, including:

- How to ensure that individual members of the organisations carry out their jobs properly,
- Principles to decide the degree of centralisation of an organisation or the degree of devolution of powers to local organisations,

- How to provide accountability to the users.

I have also described the common types of organisations for providing water services and gave some principles about what the advantages and disadvantages of these types of organisations are. Finally, I discussed some principles for regulatory organisations.

5.2 Institutions for Managing Land and Water Resources

by Charles L Abernethy

1 Definitions

Dr. Brewer has described the organisations, public and private, which are needed to manage the land and water resources of a country. I will concentrate on other kinds of institutions.

The word "institution" does not mean the same as "organisation." Organisations are a very important kind of institutions, but there are other kinds. The definition of an institution which I will use is this:

An institution is a pattern or system of human relationships and activities which continues to exist over a long period of time.

So the Olympic Games is an institution; the Lunar New Year festival is an institution; marriage, income taxes, presidential elections, and many other such social arrangements are institutions in most countries. The irrigation service fee has probably become an institution now in the Philippines, because it has existed for many years there; but in many other countries similar arrangements have not yet been in place for long enough to be called institutions.

The fact that any pattern of behaviour can persist for a long period of time is a kind of proof that it must be bringing benefits to some significantly large group of stakeholders. So some perception of "social value" is usually the fundamental reason for the existence of an institution.

The set of institutions which facilitate a certain type of human activity is often called the "enabling environment." To make complex, interactive human activities succeed, there must be a surrounding set of institutions which deliver support, solve problems and disputes, help to acquire and develop resources, and so on.

I will discuss seven categories of institutions which seem to me to be particularly necessary for ensuring good management of land and water. These seven categories are consultative and co-ordinating mechanisms; public information; professional information; finance; infrastructural services; laws; and compliance procedures.

2 Consultation and co-ordination

There are many different participants or actors, public and private, and institutions are needed which ensure that different groups do not act in contradictory ways and do not harm each other's interests. When we say that we need "integrated" management, I think we are meaning that we need these consultative and co-ordinating institutions.

Users' organisations or users' councils have become familiar, in the water sector particularly, over the past two decades or so. They are a way of co-ordinating the

interests of a set of water (and land) users such as the irrigators in an irrigation system.

Stake-holders' councils are a broader idea, more suitable where there are multiple uses of the water and land. A "stake-holder" in a particular activity means anybody whose interests are likely to be affected by the activity. So the stake-holders of an irrigation system, for example, are not only the farmers and the officials who manage it, but many other groups: traders; crop processors; labourers who come in at times of peak work such as harvest; fishermen whose catches of prawns may be reduced by the drainage effluent; environmentalists who care about the nesting locations of rare bird species; and many others. The development of stake-holders' councils as a means of managing basin water resources is old and strong in some west European countries, including Germany.

Government agencies also need co-ordinating mechanisms. We heard that in Thailand there are 39 agencies concerned with water, so the co-ordination problem is difficult. Inter-departmental committees are a favourite co-ordination mechanism in the government bureaucracies. However, we should notice that these often do not address one of the most important aspects of co-ordination, which is the confusion in the mind of the ordinary water user, who may have great difficulty knowing where and how to interact with the government machine in order to solve his or her specific problem. Inter-departmental committees should not become a way of reducing transparency in public-sector processes.

3 Public information

The role of the media, or public information institutions, in developing national awareness about land and water issues can be very important. Newspapers, radio, and television are all institutions which can contribute significantly to this effort. Radio has probably the greatest capacity to reach and influence people in remote areas.

Information about good land and water use practices, and about the harmful consequences of bad practices, can be given also through schools, especially the primary schools.

In most countries, special groups or non-governmental organisations, interested in particular aspects of land and water use, have become increasingly numerous in the past 20 years. These can also serve valuable purposes in identifying problems and drawing attention to them, and in mobilising local capacities to do something about them.

Information channels are more valuable if they have sources of good information or "messages" to transmit. The professional people in land and water management are often not encouraged to interact sufficiently with the information media, which are sometimes regarded as more troublesome than helpful. This attitude is unfortunate, and benefits nobody.

The value of transparency is particularly important in land and water management. The word "transparency" means the concept that the activities and internal processes of public organisations should be open so that the ordinary stake-holder outside those organisations can, if he or she wishes, easily know what is going on. The

strength and sustainability of laws, regulations and many other institutions depend greatly on transparency of the major public organisations.

4 Professional information

Good land and water management depends also on the availability of adequate numbers of professional people with adequate skills in various disciplines. These people must also have access to adequate sources of data about the problems they are expected to address.

The institutions necessary to provide these resources include universities, and many levels of skill-training organisations.

Data-gathering capacities have been neglected in many developing countries, and these countries are now paying for this neglect by badly-oriented development decisions based on insufficient or defective data-bases.

Cartographic institutes, meteorological and hydrological organisations, agricultural statistics departments, population census bureaus, and many others are necessary parts of the enabling environment for land and water management.

5 Finance

All the activities of land and water management must be financed in some way. Fees and taxes paid by users have attracted much attention in recent years, as a way of moving some of the development cost burden away from the government budget and towards the users of development facilities.

That change brings also the need to improve the institutions which can help these users to obtain the financial resources they need. Markets and institutions to provide credit are the foremost of these, helping with current cash flow and with occasional capital needs respectively.

6 Infrastructural services

The role of infrastructure in land and water management is complex. The general principle is that infrastructural development usually increases the economic options available to rural people, and therefore makes it easier to persuade them to adopt non-destructive, sustainable practices. For example, studies in Indonesia showed that the rate of cutting of trees for firewood in a village depended directly on the difficulty of obtaining other cooking fuels at that village.

If we want to protect a substantial proportion of our forested land, and the wild life that depends on it, then we have to facilitate ways of maximising productivity on existing irrigated lands, so that increasing populations can be fed without further attack on the forests. That means we must give attention to the general enabling environment of agricultural production: suppliers of inputs such as fertilisers, crop processors, transporters, maintenance contractors. In countries which have recently adopted the transition from central government management to market economy,

these factors are particularly difficult to arrange, since they have to appear from a relatively inexperienced private sector.

7 Laws

This workshop is discussing land and water laws intensively, so it is not necessary to add special remarks now, except to say that laws, and lower-level decrees, regulations, and rules, are among the most essential components of an enabling environment.

8 Compliance procedures

Laws define the activities that people should not do, and standardise the procedures of the activities that they may do. But we do not make laws to instruct people to do things which they want to do already. We make laws to prevent them from doing actions which (without the law) some people would do. If there is a law preventing something, we can usually be sure that the law is there because there are some people who want to do that thing.

What is going to happen if those people do what they want, and do not obey the law? This is the question of compliance, which means obeying the law. How can we be sure to obtain compliance with a law?

Of course, if very many people refuse to comply with the law, it will fail. No State can deal with large-scale refusal of compliance. So we have to make sure, before a law is made, that it has general support, and its opponents are not too many. That is the job of parliaments and national assemblies.

But we still have to secure compliance after the law has been made. We can aim to do this in three main ways: by incentives (such as subsidies), by persuasion, or by punishment. Punishment is usually the worst and least successful option; incentives are expensive; persuasion is best, and this takes us back to the need for good public information systems, so that people understand why they should comply.

Some laws and regulations exist to standardise behaviour, such as rules about water rights along a river, which aim to spread resources and benefits fairly among many people. Courts are needed in order to resolve disputes between people under these laws. These institutions for resolving conflicts about resource use and access are fundamental to land and water policy. They must be swift, cheap and transparent; also accessible to the affected people, and understandable by them. If they do not have these characteristics, for example if they are not swift, the usual result will be that disputes continue over long periods and may turn to violence or other undesired behaviour.

About one thing we can be quite sure: if laws are made, but compliance procedures have not been prepared, those laws will soon not be respected and will be without any practical effect or benefit.

5.3 Institutional Frame : Land Resources

The following are the reports of the national groups, on the issues presented at the start of section 5 :

A Lao PDR

Question 1. Organisations in charge

Table 3 : Organisations responsible for land-related issues in Lao PDR

Legal categories	Introduce	Amend	Implement	Enforce
1. Laws	Concerned ministries	National Assembly	Concerned ministries	Concerned ministries mentioned in the law
2. By-laws -decrees of president, prime minister		Presidential office; council of Prime Minister	e.g. land decree MOF- registration MAF – agriculture, forestry MIH – mining, industry MCI – culture, history MCTP – commun. lines, construction	MOI: support in case rules are broken
3. Instructions Recommendations Notices Minutes	Technical departments in-line with the Ministry	Ministerial cabinet office (signed by minister)	In-line technical sectors in - provinces - districts	Conflict resolution through -mediation committees: village, district, province; - agency of economic arbitration; - judgement/courts, district courts, provincial courts, supreme court

Note: MOF – Ministry of Finance
MAF – Ministry of Agriculture and Forestry
MIH - Ministry of Industry and Handicrafts

MCI – Ministry of Culture +Information
MOI – Ministry of Interior
MCTP – Ministry of Communication and Transportation

Question 2: Institutions to be engaged

- Under Ministry of Justice
 - Notary office for registration (now the office is under MOF)
e.g. Act, Agreement, etc.
 - Improvement of the judgement system through the establishment of

- first instance court
- appeal court (in province)
- supreme court (in regional level)
- to solve resource management conflict
- National level
 - Land Re-management Committee
 - two technical ministries
 - MOF through DOLHM (Department of Land and Housing)
 - MAF through DOF (Department of Forestry)
 - strengthening/establishing inspection agency in the ministry concerned.

Question 3: Ways for the organisations to act and co-ordinate

- Roles, responsibilities, authorities of ministry concerned need to be defined/clarified in details in accordance with the laws, regulations, and decrees approved.
- Authorities, responsibilities, roles of technical agencies/sectors at central, provincial, and district levels are needed to be clarified as well as horizontal and vertical lines.
- Land re-management committee should play active role to act as an organisation for :
 - co-ordination;
 - supervision;
 - monitoring (with accurate data, effective tools).

(two-ways information flow, between implementers and resource users, need to be paid attention to decision makers).

B Vietnam

Question 1:

Table 4 : Organisations in charge of introducing, amending and enforcing the legal and regulatory framework for land-related issues in Vietnam

Institutions	Introduce	Amend	Implement	Enforce
1. National Assembly and people's councils of all levels		X		
2. Government and people's committees of all levels	X		X	X
3. Sectoral ministries and their branches (provincial dept./ service; district section, commune: unit	X		X	
4. Ministry of Justice and courts of all levels				X
5. Social organisations: unions, associations	X			

Note : sectoral ministries concerning the land resource management include :

GDLA : General Dept. of Land Administration

MARD: Ministry of Agriculture and Rural Development

MOC: Ministry of Construction

MOI : Ministry of Industry

MOSTE: Ministry of Science, Technology and Environment

MPI : Ministry of Planning and Investment

MOF: Ministry of Finance

MCI: Ministry of Culture and Information

MET: Ministry of Education and Training

MAP: Ministry of Aquatic Production

Question 2: Which organisations should be engaged to secure of the legal and regulatory framework ?

- Ministry of Justice, provincial Department of Justice; district branch of Ministry of Justice
- People's courts of all levels (supreme court, provincial court, district court)
- People's committees of all levels (province, district, commune)
- General Department of Land Administration and its branches (province, district, and commune levels)
- Social organisations : unions, associations

Question 3: In which ways should the organisations act and co-ordinate ?

- Organisations assisting government and people's committees will improve their capacity to meet the requirements of implementing the land laws.
- People's committees should build their capacity to co-ordinate the assisting agencies to avoid the gap and overlapping among them in function and spatial covering.

The unions and user associations should be involved more actively in the process of implementing and amending the legal-regulatory system.

5.4 Institutional Frame : Water Resources
--

A Lao PDR

Question 1: Organisations in charge of water management in Lao PDR.

Ministry of Agriculture & Forestry

- Dept. of Forestry
- Dept. of Irrigation
- Dept. of Hydro-Meteorology
- Dept. of Agriculture & Extension
- Dept. of Livestock & Fishery

Ministry of Public Health

- Dept. of Hygiene & Epidemiology
- Institute for clean water
- Institute of water and sanitation
- Dept. of Food & Pharmacology

Ministry of Communication, Transportation, Post & Construction

- Dept. of Housing & Town Planning
- Lao Water Supply Co.
- Dept. of Communication water way division

Sciences, Technology & Environment Organisation (STENO)

- Dept. of Environment

State Planning Committee

- Lao National Mekong Committee
- Dept. of Planning

Ministry of Industry & Handicraft

- Dept. of Industrial Management
- Dept. of Electricity (du Lao Co.)
- Dept. of Geology & Mines

Committee for Investment & Co-operation

- Dept. of Co-operation

- Dept. of Investment

Ministry of Justice

- Lao Tourism Authority

National Assembly

Amend (Modify or adjust institutional arrangements)

- Ministry of Agriculture & Forestry **as co-ordinating function**
- Ministry of Justice **as proceeding agency**
- Prime Minister Office **as official agency**

Implement

- Provincial Administration Authority (technical service concerned)
- District Administration Authority (technical service concerned)
- Village Administration Authority
- Water User Organisation
- Private Companies/State Owned Companies
- Water Management Projects
- Irrigation project
- The introducing organisation

Enforce

- Line Ministries & Organisations concerned
- Local Authorities at all levels
- STENO

Question 2: Which institution should be engaged to secure implementation of the legal and regulatory framework

- National Water Board
- Technical Co-ordination Committee
- Secretariat of the National Water Board
- Research Institute on Water Resources Development and Management
- Improvement of the role & function of the responsibility within the Ministry of Agriculture and Forestry

Question 3: In which ways should the organisations act and co-ordinate ?

- Orientation Workshop
- National/Regional Co-ordination Meeting
- Inter-ministerial Working Group
- Experience exchange and lessons learned from successful countries
- Clear determination on roles, function and powers of concerned agencies.

B Vietnam

Question 1: Organisations in charge of water management in Vietnam

Table 5 : Organisations responsible for the legal framework of water-related issues in Vietnam

Level	Introduce	Amend	Implement	Enforce
1. Central	Dept. of Irrigation (MARD)	DOI	DOI	DOI
2. Provincial	DARD	PPC	DARD; IMC	DPC
3. District & lower levels			IMC DPC, CPC	DPC CPC

Note: DARD = Department of Agriculture and Rural Development

PPC = Province People's Committee

DPC = District People's Committee

CPC = Commune People's Committee

IMC = Irrigation Management Company

Question 2: Which institutions should be engaged to secure implementation of the legal and regulatory framework?

1. Organisations of watershed management should be considered and established (if..)
2. Private sector and inter-provincial companies should be engaged.
3. Taxation system in taking/discharging water should be set up.
4. Water user organisations at communal level must be recognised.

Question 3: Mandate, responsibility of organisations at different levels should be clearly defined in legal documents

- Promote dialogues;
- Strengthen human resources;
- Seek various financial sources;
- Proceed with decentralisation to ease management burden;
- Enhance monitoring system;
- Exchange information and experiences.

Clarifications by Vietnam Water Group:

Question : What is the meaning of "encouragement of the private sector and inter-provincial companies"?

Response : Up to now the involvement of private sector investment in water and irrigation activities is quite limited. Therefore, incentives should be given for these enterprises, e.g. to invest in water supplies in urban areas. The government already

allocated funds to open certain areas of Ho Chi Minh City for any kind of investment of national firms. Concessions can be given for 10 to 15 years, the collection of water fees is sanctioned by government, so that their investment costs can be recovered.

Question : Which functions in water management should be decentralised?

Response : Actually, most of the power is concentrated within the central organisations at the national level (departments). In general, a further breaking down of responsibilities and division of labour and tasks to lower levels should be achieved in the implementation of the new/reformed water policy and legislation

Question : Meaning of "enhancing the monitoring system?"

Response : A more comprehensive monitoring in future has a double function:

- better monitoring of the operational performance of the irrigation system; and
- better monitoring of the activities of local water management organisations.

5.5 Plenary Discussion on Institutional Frame

General observations on the four presentations:

- clear structuring by making use of the organisational charts,
- involvement of a wide range of (state and para-state) organisations in land and water management in both countries,
- articulation of different ways how existing organisations might be changed or modified to fulfil their tasks better in future;
- an urgent need felt to co-ordinate better the tasks and responsibilities of the organisations involved,
- all groups have been quite close in their proposals to meet this challenge of a better co-ordination.

Question : Why are the responsibilities for management in Lao PDR split up in so many different ministries?

Response : Due to historical reasons, different responsibilities for water management are given to different line-ministries. Actually, the state looks for a better co-ordination of these activities, as it could be seen in the presentation of the Lao group.

The Ministry of Agriculture and Forestry acts as the co-ordinator, not as a decision unit. Due to limited budgets and shortages in staff and planning capacities an independent decision unit, such as a 'Ministry of Irrigation', is not foreseen. Many of the technical and administrative co-ordination functions will be taken over by the planned "National Water Board" and its Secretariat.

Question : Within all planned activities to better co-ordinate government policy, public information and awareness creation seems to be neglected. What is

foreseen to achieve a better compliance with the new legal and institutional structure?

Response : *Lao PDR:* The village level is regarded as the focal point at the local level to implement the new policy. All new regulations and procedures will be channelled through the village committees and their headmen. They will be the mediators between the state and the village population. Specific village mediation committees exist or will be established to deal with complaints of the population before cases come to court.

Vietnam: The country has strong administrative structures at all levels. The information on land issues, recorded in the cadastral maps of the Department of Land Administration, are sent to the lowest level and are available there. The local Land Administration office is also responsible for all complaints concerned with land.

Question : How can Lao PDR avoid the establishment of parallel, dual structures in land committees, arbitration boards, etc., if important international donors try to create administrative structures on their own which seem to fit better to their project interests?

Response : All departments could gradually establish networks from the national to the local level which co-ordinate and harmonise the different organisations and committees for land/water allocation and dispute resolution. In principle, the government is open to adopt all good ideas and proposals forwarded by international donors, as long as they stay in line with the existing administrative mechanisms of Lao PDR.

Comment : on the role of public awareness creation: Apart from the creation of a good law, its dissemination to the people and its enforcement, it is of crucial importance for the success of any new legislation that the population gets an understanding of the advantages which accrue to them if they comply with the regulation instead of defecting.

Cultural and historical differences have to be considered as well. Democratic procedures and participation from below may be guiding principles for one country, discipline and the strict following of directives may be guiding principles of a neighbouring country in which illiteracy is still high and rural infrastructure low.

Comment on the problem how to get the presentation of the working groups in line with the objectives and policy guidelines expressed in the beginning of the workshop. Will the proposals meet the policy demands in future?

In general, technicians and administrators inside the bureaucracy become very much concerned with procedures to get the administrative machinery working; thereby they are in danger of forgetting about the results which have to be achieved. For example: is food security really achieved through the institutional changes which are proposed in the presentation?

Can the challenges of deforestation and the need to stabilise the farming systems of mountainous ethnic groups be met by the instruments and processes proposed?

Comment on clear definition of responsibilities of implementing agencies: All groups demand for a clearer definition of tasks and responsibilities in and between the Departments and Ministries. A clear role definition is of importance but it can lead as well to less integration and more isolation between implementing agencies. Every department does its own job, the discussion between them soon come to an end.

Comment on the role of the "ordinary people" in the planning process. How do the people get involved? Many organisational charts show arrows to indicate interaction between ministries and agencies in both directions. Only for the final land users, who are at the very bottom of the hierarchy, just a one-way arrow is indicated, going top-down.

Why should a farmer feel enthusiastic to join a water user association, if the only objective of this WUA is to press money out of him/her and to tax him/her in different ways?

Session 6 : Synthesis

This session aimed to identify what legal and institutional improvement would be required in order to achieve the identified policies and policy objectives regarding integrated land use and water resources development.

Final comments and suggestions were given by the resources persons at the start of the session

6.1 Land related issues were addressed by Michael Kirk

1 Comprehensiveness

Develop legal and institutional framework for all kinds of land (agricultural, irrigated, rainfed; pastures; forests, industry; construction etc.), as you are confronted with

- rapid socio-economic change;
- land conversion;
- new, unforeseen land use pattern.

2 Flexibility

- rely on approach by “general laws“ with specific, detailed (technical) regulations, as there are
 - * land conservation
 - * new functions of land.
- support actively by the development of :
 - * land markets,
 - * rental markets

as increased food security and income generation are the overall objectives in both countries.

3 Clarity

- try to achieve unified legal and regulatory structures, avoid parallel regulations (for example through different land and tax categories, urban and/or rural land registration)
- make use of and integrate existing “customary“ land/water allocation and management practices as much as possible. It supports :
 - * understanding of the legal framework at the local level
 - * confidence in the state, and
 - * lower investment costs for government.

Take care of loopholes in the legal framework to minimise land appropriation of interest groups, such as urban speculators.

4 Subsidiarity

- What can be managed at the local level should be managed at this level, so there should be decentralisation and devolution where appropriate;
- secure financial autonomy!

Find appropriate solutions for management tasks at a regional level (e.g. for watersheds).

5 Predictability

- improve security in land/water ownership/possession at all levels, in all sectors, for all citizens
 - constitution!
 - capital is shy !
 - people work on their own effort!
- if food and income increases are the objectives
- promote solutions for restitution problems for expropriated land,
 - assure fair compensation in case of expropriation of land for public interest.

6 Self-consciousness

- Individual private ownership (or "fee simple absolute") is by no means the silver bullet for efficiency, equity and sustainability (as the case of Latin America shows);
- Long-term secured, inheritable user-rights come very close to it ;
- if and only if points (1) to (5) above, and other requirements, are fulfilled.

6.2 Comments on Legal issues by Lawrence J. MacDonnell

You are leaders in your respective countries. DSE invited you to participate in your individual capacities because people in your country look to you to set goals for your country and to help to achieve these goals.

As you work today, think of two things: the legal and institutional framework for land and water resources that you believe is most likely to produce the greatest benefits for your country; and specific changes in the authority, organisation, staffing, or programmes of your agency that, you believe, would be most helpful to you in carrying out your responsibilities.

This is my second time in Vietnam. The first was in 1968.. nearly 30 years ago. I am very happy to be back under such better circumstances and very pleased to see the substantial gains that have been made in this period.

6.3 Points to consider by Jeffrey D. Brewer

Importance of Agriculture in Land and Water Management

- Improving agriculture is important as a goal in itself - improving food security.
- Improving agriculture is also important because ***making sustainable agriculture rewarding is the only way to motivate rural peoples to protect land and water resources.***

Making Water User Organisations attractive to farmers

- Farmers are not particularly interested in WUOs to pay more to the government; they are interested in ways in which WUOs can help farmers.
- Giving low-level small-scale WUOs power to distribute water is not rewarding.
- Most important reward is when a WUO can increase the quantity or reliability of water available to the farmers as a whole.
- A WUO in a large irrigation system should be a vehicle by which the farmers can influence the operation of the system at higher levels.
- Giving WUOs influence over main system management requires changes in the way the irrigation agency operates.

Good and Bad Institutional Features

Peter Drucker noted that good organisational structure does not guarantee good performance but that bad organisational structure guarantees poor performance: this principle also applies to institutional frameworks - including law - as a whole.

Institutional Features

<u>Bad</u>	<u>Good</u>
- Bad institutions reward "wrong" behaviour.	- Good institutions reward "right" behaviour.
- Bad institutions separate information and skills from the organisations that need them.	- Good institutions put information and skills with the organisations that need them.
- Bad institutions are difficult for people to understand, overly complicated and unclear.	- Good institutions are clear and simple to understand; but not necessarily uniform.

6.4 General Considerations *by Charles L. Abernethy*

These are a few points that the groups could consider as they develop their overall recommendations about legal and institutional frameworks for land and water management.

First, think about the ordinary people. What do they want? What are their constraints? They do not always want the things that governments think they should want. If the legal and institutional framework does not confirm to their needs and constraints, they will probably oppose it and it will fail.

We should not imagine that, when we create (for example) irrigation facilities, farmers will automatically come and use these facilities to their *optimum* potential. Many countries have made that assumption and later have been very disappointed when it proved to be wrong.

Farming is very hard work. Today, we are asking farmers to work more, for example by growing three crops per year. But the production required to feed the farm family can probably be obtained in a single crop, because crop breeding has improved

yields so much. So the other two crops are surplus, which will give food to the urban people or for export. A farmer will produce that surplus only if financial conditions, especially prices, make it seem economically sensible to do so.

Similar thoughts apply to the problem of forest conservation and protection of the upper catchments of river systems. The people who are damaging these forests are doing so for reasons that seem economically sensible and necessary to them. We are not likely to stop that behaviour just by making a law, far away in a capital city.

We have to develop dialogue with those people, find out what their needs and constraints are, and see what laws and institutions might alleviate those constraints and satisfy those needs, in the least harmful ways.

6.5 Comments by Franz Heim

Both the countries of Lao PDR and Vietnam are in a transitional period. The old situation exists no longer and the new one has not yet fully emerged. You are in a period in where developments, changes, reforms and improvements are taking place.

Development is a political, an institutional and a human problem. Policy changes took place and are taking place. This led and will lead to legal and regulatory changes and to institutional reforms and transformations. Human resource development and training are key components to prepare the people to take up their new roles and positions.

People are the ends and the means of development. Development is done by people and is for people. Land and water resources are developed because people will benefit and not for the sake of land or water alone.

Development should be done in an even-handed and not in an equal manner. Development is about people. People are not equal or in equal need of development. Some are better off than the others. People living in watershed areas have to be treated differently from people living in irrigated areas.

6.6 Final Group Work

The following presents the perceptions of the participants of the international workshop on legal and institutional improvements regarding integrated land and water resources management in their respective countries:

Synthesis: Vietnam

- 1 Water laws should be issued and introduced.
- 2 Land laws are proposed to be improved in :
 - Land and forest use right;
 - Infrastructure improvement to assess to all land forest.
- 3 Master plans of water and land resources development should be legalised.
- 4 Policy of human resources in agriculture and rural development sector should be improved in :
 - Re-organisation of training systems;
 - Diversification in training forms;
 - Re-training policy;
 - Agro-forestry extension policy should be strengthened at different levels.
- 5 Land consolidation policy should be developed .
- 6 W.U.Os policy should be set up.
- 7 Financial policy for irrigation management activities should be strengthened.
- 8 Environmental management responsibility should be delegated to sectors and to central and local levels.
- 9 Sedentarisation policy should be refined.
- 10 Water fee policy should be amended.

Synthesis: Lao PDR

Identified policies and policy objectives

- 1 Ensuring food security .
- 2 National land-use classification/planning and watershed management classification.
- 3 Afforestation and forest and water source conservation.
- 4 Clarify land and water use rights.
- 5 Integrated land, forest and water resources development and management.
- 6 Water service fee and water quality policies.

7 Strengthening or restructuring concerned organisations, transfer of technology and human resources development

Legal and institutional issues for improvement (ordered by priority ranking):

1 Ensuring food security

⇒ Legal:

- Land law needs to be approved.
- In land law it is needed to clarify the responsibility of Ministry of Communication, Transport and Post in terms of the permission of the construction land, which is now under the Department of Land and Housing (MLH).

⇒ Institutional:

- extension network within the MAF need to be strengthened and developed to support land allocation and ensuring food security.

2 National land-use classification and planning and watershed management classification

⇒ Legal:

- Land law need to be approved .

⇒ Institutional:

- Existing land re-management committees need to be strengthened in their capability to do the co-ordination and monitoring.

3 Afforestation and forest and water source conservation

⇒ Legal

- According to the approved forest law the following instructions need to be prepared and approved:
 - * Forest land allocation with use rights
 - * Afforestation/forest rehabilitation
 - * Wood and non-wood management and utilisation
 - * Wood processing and management
 - * Forest conservation and management fund
 - * Forest protection and conservation.

⇒ Institutional :

- Existing institutions need to be strengthened and their task, mandate needs to be clarified.

4 Clarify land and water use rights

⇒ Legal:

- Preparing instruction on :
 - * Farmers' (people's) participation in water, forest and land management

- * Licence and permit of water use.

⇒ Institutional :

- Their mandates, responsibility and authorities need to be designed and clarified.

5 Integrated land, forest and water resources development and management

⇒ Legal:

- preparing instruction
 - * Reservoir management
 - * Watershed management
 - * Flood protection and management
 - * Navigation management
 - * Water – eco-tourism management.

⇒ Institutional:

- water basin administration committee or agency is proposed to be established.

6 Water service fee and water quality policies

⇒ Legal:

- according to an existing water law the following by-laws need to be prepared:
 - * underground water management
 - * water quality control

⇒ Institutional:

- new organisation based on existing institution is proposed to be established as follows :
 - * National water board with technical co-ordination committee,
 - * Secretariat of national water board
 - * Research institute on water resources development and management
 - * Improvement of role, functions and responsibilities within MAF.

**Presentation of the Workshop Results to Senior Vietnam
Government Officials**

After the conclusion of the workshop in Hue, its main results were discussed with senior officials of water-related Ministries and other relevant agencies of the Vietnamese Government, at a meeting in Hanoi on 11 March 1997.

A small group of the Vietnamese participants in the Hue workshop attended this, and the meeting began with presentations by this group, about the workshop and its findings and recommendations.

Present were:

Mr. Vu Huu Tuynh, Deputy Director, Department of Agriculture and Rural Policy, Ministry of Agriculture and Rural Development (MARD)

Mr. Ha Van Dang, Deputy Director, Planning and Projection, MARD

Mr. Tran Van Thac, Deputy Director, Irrigation Department, MARD

Mr. Huynh Thach, Forestry Expert, Department of Agriculture and Rural Development, Ministry of Planning and Investment

Mr. Nguyen Cong Khanh, Legal Expert, Department of International Law and International Co-operation, Ministry of Justice

Mr. Hoang Van Tu, National Assembly Secretariat.

Workshop participants:

Dr. Hoang Kenh

Mr. Dao Trong Tu

Dr. Dao Chau Thu

Mr. Tran Si Vinh

Dr. Bui Cong Quang

Mr. Franz Heim

Mr. Charles Abernethy

Mr. Kenh opened the meeting and invited Mr. Heim to state its objectives.

Mr. Heim identified two purposes of the meeting:

1. To inform the senior officials of the processes and results of the workshop at Hue, and to learn their reactions.
2. To inform the senior officials about the DSE programme in Vietnam and Laos, in general.

Mr. Heim noted that the Hue workshop addressed questions of laws and institutions in Vietnam, and stressed that the aim was to seek ways of adding to or improving the laws and institutions already existing.

Mr. Tu outlined the characteristics of the DSE programme. On the Vietnam side it is led by MARD. It integrates questions of land use and water use. It is different from most other training programmes. It involves many departments of the Vietnam Government. Its aims and content were defined initially by a national workshop in 1995. It incorporates varied components such as workshops, courses and study tours.

Mr. Tu then described the Hue workshop processes. He noted that it involved about 30 people, and that external resource persons had provided an international dimension of experiences of problems and policies in the legal and institutional systems for land and water resources management. The workshop proceeded by group discussions, enabling free interchanges of ideas among the participants. People attending the workshop did not all have prior experiences and understanding of the legal and institutional issues, so there had been a considerable amount of learning about those issues as well as about how to conduct interactive workshops of this kind.

Mr. Kenh commented that, in the past, officials received and implemented instructions but did not have to question why those actions should be successful, or were the best in the circumstances. Workshops such as this one helped people to think more about cause and effect relationships in their field of work. The workshop process also brings in varied resource persons with different sorts of external knowledge. All this should be beneficial for getting national policy right.

Mr. Vinh presented the water component of the workshop. He noted that there were two distinct categories of water questions in this workshop: watershed management and irrigation water management.

Mr. Vinh gave a short account of the evolution of water laws, including the question of water fees. He discussed the modern trend towards decentralisation of irrigation management. Smaller local agencies can control better than national ones. Users take responsibility for the state of their facilities, and local labour inputs can be obtained. The possible income from irrigation service fees would be about 600 billion Dong, if implemented.

However there was a lack of legal recognition for water users' organisations.

The interaction of the irrigation water companies with the water users was a one-way traffic, without feedback from those users. Infrastructure maintenance was not satisfactory, and there was a lack of integrated planning.

The river basin must be managed as an entity. Demands for water are growing, and in recent years droughts have meant that there was not enough water to satisfy the demands of irrigation.

There is a need for clearer law. At present there are various laws, with overlaps and a lack of clarity. The public institutions also have overlaps of responsibility for water.

Mr. Vinh then outlined the workshop recommendations concerning water laws and institutions, against the general objectives of

- a) meeting domestic water requirements;
- b) meeting agricultural water requirements;
- c) reducing flood and drought impacts;
- d) reducing pollution.

He noted that the priority needs in the water sector were

- 1) to introduce a comprehensive water law;
- 2) to promote land consolidation and land betterment, including land levelling;
- 3) to provide credit to irrigators;
- 4) to collect irrigation fees from users.

Budgets of provincial and local water companies are at present insufficient. The farmers' capacity to pay fees is also constrained by low crop prices.

At the river basin level, management institutions need to be developed so that upper catchment conditions may improve.

Mr. Keng observed that the current cost of operation and maintenance of irrigation systems was in the region of 1 thousand billion Dong. At the current rice price levels, the fee level of 2 to 8 % of crop value was insufficient, even if it was fully collected.

Dr. Thu introduced the land management component. She remarked that in the case of land, law exists but violations are common.

There was a need to ensure future food security for a growing population; also a need to improve the situation of people living in marginal areas.

For these objectives, land classification and master planning were required. Deforestation must be arrested, and afforestation promoted in remote areas. The standards of living of minority people especially in the mountain regions must be improved.

The issuing of land use licences was now proceeding. An organisation was needed to supervise the issued land. The rights of land users should be made more clear. Agricultural extension services should be able to the rural people to implement good land development.

Immediate legal and institutional needs were:

- 1) To improve land classification, and to introduce by-laws to make its application more effective.
- 2) To develop a system of crop insurance.
- 3) To provide reasonable compensation if government wishes to take over privately-used land.
- 4) To develop satisfactory land use planning, including classification of land rights for foreign investors.
- 5) To establish better consultative procedures.

Mr. Hoang Van Tu of the National Assembly Secretariat gave his comments on the issues presented by Mr. Vinh and Ms. Thu. The Assembly was very interested in the matter of legal and institutional frameworks for land and water management. The land law was approved by the Assembly in 1993 after the constitutional changes of the previous year. But it proved very difficult to apply this law. It had many defects and gaps. Also, deforestation continues, and the law has not succeeded in arresting it.

The courts have made recommendations about improving the land law. It is recognised that government agencies control a large amount of law but do not use it well. So MARD has been asked by the government to review the existing law. It is hoped that it can be submitted to the Assembly next year.

The Assembly is currently considering how to develop a land use plan up to the year 2010. The first step in such planning is good framework of land suitability classification. There is also the problem of how to treat the large extents of military and other public land.

Turning to water law, Mr. Hoang Van Tu mentioned various issues which must be addressed in developing a satisfactory new water law. There were new and serious problems of pollution. People's understanding of water resources would need to be improved, on questions like the present free extraction of groundwater. River basin management was desirable, but river basin boundaries differ from province boundaries so there are administrative obstacles. The mobility of rivers was another source of conflicts, in relation to land use rights on islands which change shape or size.

In regard to laws for collection of irrigation fees, he recognised that payment could make people respect the water resources better, and perhaps improve their uses of it. Water fees should however be introduced for all user categories, including industrial and domestic users, as well as for irrigation. Fees, if they are imposed, must be collected from all, and the problem was how to modify the laws so as to make this more likely.

In conclusion he noted the problem of departmental overlaps. Many departments are concerned with water. One result is that the Assembly does not receive the same advice from all sources. Inter-departmental dialogue and integration should therefore produce a better result.

Mr. Nguyen Cong Khanh spoke about the need for external assistance and training. At present the only assistance on water law came from the World Bank. There is UNDP project helping with legal drafting in general but not specifically on water law.

Concerning land and watershed management, a law exists but it is not easy to apply it. Inappropriate law has led to violations and hence loss of respect for the law.

There were two aspects to environmental law: one is the aims and objectives of the government and its agencies, and the other is the needs and behaviour of the people. An environmental law must be accepted and respected by the people because sanctions are difficult to apply.

All aspects of the existing laws over land, water, and environment are insufficiently covered, and their drafting also needs improvement. External help in this is necessary and welcome.

Mr. Vu Huu Tuynh, Deputy Director, Agriculture and Rural Policy, said there was a need for clarification of technical terminology in the existing land law: for example, what is a forest? what is a protected area?

Mr. Ha Van Dang, Deputy Director, Planning and Projection, observed that the need to adapt a new legal system arose from the adaptation of new economic policies in 1993. The old legal system was inappropriate to market mechanisms. The government has since issued about 33 decrees on land. These are sectoral decrees, and there is a problem about reducing the number of these sector-specific laws.

Land laws are the source of inter-personal conflicts and conflicts between individuals and the State. Land has been allocated by government for new uses, sometimes dispossessing people who thought that they had had user rights. However, the principle that all land belongs to the State should be preserved.

There are 6 land categories (agriculture, forestry, rural residential, urban, special use, and unused). The actual use is often different from the theoretical classification. This makes a very complicated system. Allocation of agricultural land is based on many considerations, for example family size. This question of land allocation is to be taken up in the next session of the National Assembly.

There is supposed to be no land market, but the reality is different. People to whom land is allocated sometimes rent it to others for money payments, or mortgage it as security for personal loans.

Previously, agricultural land belonged to the co-operatives in the north, and to individuals in the south. So issues of 20-year leases to individual farmers now might be acceptable in the north but would be strongly resisted in the south.

Allocation of land for industrial purposes also put some pressure on agriculture, because both wanted flat land so there was a necessity to convert some agricultural land to industrial use.

Thus there were many points which would have to be addressed in a new land law, which would probably require some 500 articles. It may be possible for it to be prepared by 1998.

Regarding water law there are also large problems. Under the new management system some villages now have water users' associations but these are very small organisations and not at present legally recognised. The irrigation management companies are really public organisations, but they are supposed to get funds from irrigation fees, and at present they do not get enough to do the necessary operation and maintenance work.

Conflicts of interest occur along river valleys, between upstream and downstream water users. A basin management structure is desirable but not easy to arrange.

Presentation of the Workshop Results to Senior Lao Government Officials

A meeting with senior officials of Ministries and other government agencies of the Lao Government, similar to the meeting in Vietnam described above, was held in Vientiane on 14 March 1997.

Present were:

Phouvieng Latdavong, Director General, Cabinet Office, Ministry of Agriculture and Forestry (MAF)
Kouang Douangsila, Department of Agriculture and Extension, MAF
Viengthong Boualaphane, Department of Legislation, Ministry of Justice
Chansamout Keosoutha, Director, Department of Irrigation, National University
Bouavanh Keodara, Deputy Director of Cabinet, Ministry of Education
Sisavang Vonghachack, Soil Survey and Land Classification Centre, Department of Agriculture and Extension, MAF
Khamphene Phangviladon, Department of Meteorology, MAF
Khong Xay Xayavath, Lao Women's Union
Souphasay Komany, Science, Technology and Environment Organisation (STENO)
Phokhim Muang Chanh, Lao National Mekong Committee

Workshop participants:

Khamla Phanvilay
Southalath Boutah
Chantaneth Simahano
Ms. Sirivanh Kounthikoumane
Phalasack Pheddara
Nitharath Somsanith
Soutta Chommanichanh
Daopheng Pannhasith
Dr. Somphone Dethoudom
Bounphom Mounda
Charles Abermethy
Jitti Mongkolnchaiarunya
Franz Heim

The meeting started at 9:00 am and was chaired by Mr. Phouvieng, Director General of the cabinet office, MAF.

Mr. Nitharath, acting as M.C., introduced the objectives of this meeting which was a follow up of the Hue workshop and the participants were asked to comment and discuss the recommendations made before the delegates of the Hue workshop could make the final draft for MAF submission.

Mr. Phouvieng, the chairman announced that the Vice Minister of MAF had gone for a hand-over ceremony of an irrigation scheme out of Vientiane, so he has been asked to preside over this meeting.

From his observation, he learnt from the team leader and co-ordinator that the workshop in Hue was very fruitful and resulted in valuable recommendations for future improvement of legal and institutional issues for land and water resources management. He thanked DSE for sponsoring the workshop and this national meeting.

He added that after the new economic order has been declared, the Government has tried to issue many laws and regulatory frameworks suited for the implementation of the order. The main result was that the forestry laws have been passed in 1996. The water law was also adopted by the assembly and right now is being reinforced but not many changes have taken place since the agencies concerned did not have a chance to sit together and plan for action to be taken so that the law could be implemented. Very soon the assembly will pass the new land law.

Mr. Southalath was invited to present the overall results of the Hue workshop. He informed about the names and agencies of the participants who joined the Hue workshop and explained the methods and processes employed in the workshop.

He then elaborated that international resource persons shared their experiences and know how with regard to Land and Water Resources legal issues, intersectoral water management and the institutional framework. Throughout the workshop, the participants spent most of the time discussing policy objectives for the next 20 years and the legal and institutional considerations for supporting the realisation of such policies. Finally, the recommendations were developed.

Given the short time frame and limited materials they had at Hue, these recommendations may not be completed. However, the delegates worked very hard and tried the best they could as professionals involved in this field. They hoped that the new participants in this meeting could provide more information, comment on the recommendations which would finally be submitted to MAF and other concerned agencies later.

Mr. Khamla then presented the result of the land component. His presentation covered the existing land situation in Lao PDR, the strategic approach to land management, existing laws and regulations, agencies in charge, problems faced, lessons learnt from Vietnam, and finally the trends of land resources development and recommendations.

Mr. Phalasack was the second presenter. His presentation could be categorised as follows:

a) Situation of water resources in Lao PDR

- natural circumstances
- existing policies towards water resources
- visions in 2020
- institutions involved with water resources management

b) Some concepts learnt from resource persons

- intersectoral water management
- characteristics of institutions involved with irrigation management (both government organisations and water users' organisations)

c) Results from Hue workshop

- policy statement/objectives/strategy
- institutions needed for water resources management
- problems foreseen

d) Problems faced in implementing water and water resources laws

- lack of understanding of the content; no clarity
- remarks (though the law is supposed to be enacted but agencies concerned take no serious move to implement the law)
- steps needed to reinforce the law (establishment of Water Resources Board, technical co-ordination committee and secretariat, issuing WUA laws, by laws, irrigation fees laws)

Mr. Soutta presented the lessons learnt from Hue workshop, with regards to the legal and institutional aspects. He also added how those concepts could be applied in the country. His topics were:

- principles of making laws : clarity, flexibility, equality to all walks of life;
- Lao laws should also consider the fairness, humanitarian and international aspects;
- law is amendable, when it does not fit the dynamic economic, social and political environment and the conditions;
- processes on how one department pushes a bill to be adopted by the assembly and reinforces such laws;

if the law is too difficult or too complicated one should start introducing by-laws and/or regulations first and test them.

The second part of his presentation covered:

- how to establish a new institution, criteria to judge about the status and size of such an organisation
- how a good institution is managed, proper policy and working system towards its own staff and mandate.

He also commented that each department should assign a few staff to observe the legal issues related to their own professions and mandate. New laws are needed for the near future.

In the afternoon session, the floor was opened for clarification and comments. Some of them are as follows:

- * more elaboration of information on land use patterns in Lao PDR was made by one participant;
- * there is an ongoing process of drafting the regulations on control of pesticide and seed used;
- * there is a clear need for tapping expertise in issuing laws and regulations which is still lacking;
- * some detailed information on land qualification and classification in the south and central parts;
- * there is a proposal to separate the land and irrigation water laws from the existing land draft and existing water and water resources laws;

- * there is a need to co-ordinate the various extension units of various departments,
- * MAF should involve educational institutes in implementing the programmes and activities;
- * Tad Thong Irrigation College is willing to co-ordinate with the policy implementation by adjusting its curriculum as well as informing its students on new laws concerned with water resources;
- * clarification on small, medium and large scale of the water resources terminology used in the water law is needed;
- * there is the question on strategy and measures prepared for implementation of the water law but there is no answer from the plenary;
- * a comment was made on the possibility of setting up a new ministry in charge of water resources (for intersectoral uses) and asked if there are any other alternatives; the answer was: not building up a new ministry but a co-ordination board which serves policy makers with sufficient data and ideas for optimum use of water resources by various sectors;
- * a comment was made that in the short and immediate phase, each department should adjust its own working system to suit the implementation of water laws;
- * a question was raised on the Vietnamese experiences about the weak and strong points of their land reform.

During the second afternoon session **Dr. Somphone** reported to the plenary on the recommendations of the Lao team who were present at the Hue workshop. He also convinced the plenary that one must have a Vision, "a professional should be able to serve politicians but not let the politician do the professional's work", and it is high time for thinking of how to implement what has been stated in the laws.

The chairman made the final conclusion that:

- 1) There is a need for more co-ordination meetings among concerned agencies to discuss the laws and other regulatory issues;
- 2) There should be a composition of a survey team (from DOI, DOF and Department of Meteorology and Hydrology) to assess the situation in the fields;
- 3) At this stage, the water law assumes that MAF oversees the issues concerning with water resources development and protection but is not involved in the water distribution aspect yet.

Finally, **Mr Heim** presented DSE in brief as well as the tentative DSE programme package for Lao PDR and Vietnam for the near future.

The meeting closed at 4:30 p.m.

Annex 1

Addresses

Lao PDR

Khamla Phanvilay
 Lecturer. Department of Forest Dong Dok
 Faculty of Agriculture and Forest
 National University of Laos
 Vientiane / Lao PDR
 ☎ +856 (21) 41 4813 📠 +856 (21) 732097

Southalath Boutah
 Chairman Legislation Committee
 Ministry of Agriculture and Forestry (MAF)
 Lane Xang Avenue. P.O. Box 811
 Vientiane / Lao PDR
 ☎ +856 (21) 41 5365, 412 342 ext.22

Chanthaneth Simahano
 Head of Bilateral Unit
 Co-operation and Investment Division
 Cabinet Office. Ministry of Agriculture and Forestry
 P.O. Box 811. Lane Xang Avenue
 Vientiane / Lao PDR
 ☎ +856 (21) 41 2342 📠 +856 (21) 41 2344 or 412347

Ms. Sirivanh Kounthikoumane
 Head of Wetland Unit
 Centre for Protected Areas and Watershed Management
 Department of Forestry, MAF
 P.O. Box 2932
 Vientiane / Lao PDR
 ☎ +856 (21) 21 6921 📠 +856 (21) 217161

Phalasack Pheddara
 Director. Operation and Maintenance Division
 National Director, Farmer Irrigated Agricultural Training (FIAT) Project
 Department of Irrigation. Chao Anou Road
 P.O. Box 5192
 Vientiane / Lao PDR
 ☎ +856 (21) 21 4078 📠 +856 (21) 215049

Nitharath Somsanith
 Co-operation Programme Co-ordinator
 Department of Meteorology and Hydrology, MAF
 P.O. Box 811. Lane Xang Avenue
 Vientiane / Lao PDR
 ☎ +856 (21) 21 5010 📠 +856 (21) 218220 or 215011

Soutta Chommanichanh
 Director General
 Law Dissemination Department
 Ministry of Justice

Vientiane / Lao PDR

☎ +856 (21) 413567

Khanthavong Sitavong
Chief of Administration
Lao National Mekong Committee
c/o State Planning Committee
Luang Prabang Road

Vientiane / Lao PDR

☎ +856 (21) 21 7013 ☎ +856 (21) 217013

Daopheng Pannhasith
Deputy Director General
Department of Planning State Planning Committee
Luang Prabang Road

Vientiane / Lao PDR

☎ +856 (21) 21 6752 ☎ +856 (21) 216564

Dr. Somphone Dethoudom
General Manager
Lao Water Supply Company (Nam Papa Lao)
Phone Kheng Road, P.O. Box 2571

Vientiane / Lao PDR

☎ +856 (21) 41 2880 or 41 2881 ☎ +856 (21) 41 4378

Bounphom Mounda
Deputy Director
Plantation Promotion and Forest Conservation Division
Department of Forestry
P.O. Box 2932

Vientiane / Lao PDR

☎ +856 (21) 21 5000 or 21 5024 ☎ +856 (21) 5004

Vietnam

Tien Viet Pham
Vice-Director of Centre of Natural Resources and Environment
National Institute of Agricultural Planning and Projection (NIAPP), MARD
61 Hang Chuoi Street

Hanoi / Vietnam

☎ +84 (4) 8 214 714

Dao Trong Tu
Deputy Director
Department of International Co-operation, MARD
2 Ngoc Ha Street

Hanoi / Vietnam

☎ +84 (4) 8 434 682 ☎ +84 (4) 8 454 319

Tran Si Vinh
Deputy Director
Department of Management of Water Resources and Irrigation, MARD

164 Tran Quang Khai Street

Hanoi / Vietnam

☎ +84 (4) 8 254 742 📠 +84 (4) 8 257 654

To Dinh **Mai**

Senior Expert, Department of Policy and Rural Development

Ministry of Agriculture and Rural Development (MARD)

2 Ngoc Ha Street

Hanoi / Vietnam

☎ +84 (4) 8 434 678 📠 +84 (4) 8 438 233

Dr. Nguyen Van **San**

Head of Rural Development and Ecosystem Management Department

Centre for Natural Resources and Environmental Studies (CRES)

Hanoi National University (Ministry of Education and Training)

19 Le Thanh Tong Street

Hanoi / Vietnam

☎ +84 (4) 8 262 932 📠 +84 (4) 8 262 932 E-mail: cres@cres.ac.vn

Dr. Dao Chau **Thu** (Ms.)

Lecturer of Soil Science and Land Evaluation

Agricultural University of Hanoi

Chau Quy - Gia Lam District

Hanoi / Vietnam

☎ +84 (4) 8 276 906 📠 +84 (4) 8 276 554

Nguyen Hoai **Phuong**

Head of International Co-operation Section

Forest Inventory and Planning Institute (FIPI), MARD

Van Dien - Thanh Tri

Hanoi / Vietnam

☎ +84 (4) 8 612 001 📠 +84 (4) 8 612 881

Dr. Nguyen **Dinh**

Vice-Director

Sub-Institute of Agricultural Planning and Projection (Sub-NIAPP), MARD

16 Hoang Hoa Tham

Nha Trang / Vietnam

☎ +84 (58) 823 655 📠 +84 (58) 824201

Nguyen Huu **Le**

Deputy Director, Department of Agriculture and Rural Development

Thua Thien Hue Province

7 Dong Da Hue

Hue / Vietnam

☎ +84 (54) 822 563 📠 +84 (54) 828 804

Ms. Nguyen Thi **Cach**

Lecturer

Agricultural and Forest University Hue

24 Phung Hung Street

Hue / Vietnam

☎ +84 (54) 825 544

Dr. Hoang Kenh

Vice-Director, Organisation and Personnel Department
Ministry of Agriculture and Rural Development (MARD)

2 Ngoc Ha Street

Hanoi / Vietnam

☎ +84 (4) 8 468 164 📠 +84 (4) 8 454 319

Dr. Bui Cong Quang

Lecturer

Water Resources University, MARD

Dangda District

299 Tayson Street

Hanoi / Vietnam

☎ +84 (4) 8 522 027

Le Duc Trung

Programme Officer

Vietnam National Mekong Committee

23 Hang Tre

Hanoi / Vietnam

☎ +84 (4) 8 254 785 📠 +84 (4) 8 256 929

To Van Truong

Director, Sub-Institute of Water Resources Planning and Management - MARD

253 A An Duong Vuong

Ho Chi Minh City / Vietnam

☎ +84 (8) 8 323 910 📠 +84 (8) 8 351 721 E-mail:

kstloi.vien@bdvn.vnd.net

Thailand

Vira Vongsangnak

Director of Irrigation Engineering Centre

Royal Irrigation Department (RID)

811 Samsen Road, Dusit

Bangkok 10300 / Thailand

☎ +66 (2) 243 - 1095 📠 +66 (2) 243- 1095

Kitcha Polparsri

Deputy Director General

Royal Irrigation Department (RID)

811 Samsen Road, Dusit

Bangkok 10300 / Thailand

☎ +66 (2) 243 - 1099 📠 +66 (2) 241 -3357

DSE Organisers

Franz Heim

DSE Programme Officer, Head of Section Agricultural Production

German Foundation for International Development (DSE-ZEL)

Wielinger Str. 52

D- 82336 Feldafing / GERMANY

☎ +49 (8157) 938 - 300 ☎ +49 (8157) 938 - 315 or 938-777

Dr. Thomas Petermann

DSE Programme Officer. Land Use and Watershed Planning
German Foundation for International Development (DSE-ZEL)

Leipziger Str. 15

D- 04509 ZSCHORTAU / GERMANY

☎ +49 (34202) 845-202 ☎ (34202) 845-777

Resource Persons and Workshop Moderation

Charles L. Abernethy

Consultant on Irrigation and Water Management

5 Havelock Road

Colombo 5 / SRI LANKA

☎ +94 (1) 584810 ☎ +94 (1) 503175

Dr. Jeffrey D. Brewer

Social Scientist. International Irrigation Management Institute (IIMI)

P.O. Box 2075

Colombo / SRI LANKA

☎ +94 (1) 867404 ☎ +94 (1) 866854 E-mail: j.brewer @cgnet.com

Jitti Mongkolnchaiarunya

Head, Department of Community Development,

Faculty of Social Administration, Thammasat University

Bangkok 10200 / THAILAND

☎ +66 (2) 2249 418 ☎ +66 (2) 2249 417

Dr. Michael Kirk

Associate Professor of Agricultural Economics and Consultant on land tenure
University of Göttingen. Institute for Rural Development

Waldweg 26

D- 37073 Göttingen / GERMANY

☎ +49 (551) 399 912 ☎ +49 (551) 393 076 E-mail: MKIRK@GWDG.DE

Dr. Lawrence J. MacDonnell

Attorney and Consultant

2260 Baseline Rd., Suite 101

Boulder, Colorado 80302 - USA

☎ +1 (303) 545-6467 ☎ +1 (303) 545-6215 E-mail: lmacdonnel@gol.com

Workshop schedule

Monday	Session 1: Introduction and Keynotes
9:00 h	Welcome addresses Introduction to the workshop
11:00 h	Keynote 1: Legal aspects of integrated land use and watershed planning Keynote 2: Inter-sectoral water management
14:00 h	Keynote 3: Legal aspects of water development Keynote 4: Legal aspects in irrigated agriculture
16:00 h	Plenary discussion. Questions to the participants from Lao P.D.R. & Vietnam
19:00 h	Welcome reception
Tuesday	Session 2: Country experiences; Session 3: Policy framework
8:30 h	Country presentation Lao PDR Country presentation Thailand Country presentation Vietnam Plenary discussions
13:45 h - 17:30 h	Frame for land policy: group work: Vietnam and Lao PDR Frame for water policy: group work Vietnam and Lao PDR
Wednesday	Session 3 cont'd.; Session 4: Legal framework
8:30 h	Plenary presentation of Session 3 group work Land policy Lao PDR and Vietnam
11:00 h	Water policy Lao PDR and Vietnam
13:30 h	Legal frame for land resources management: group work Vietnam and Lao Legal frame for water resources management: group work Vietnam and Lao
17:00 h	Plenary presentation of group work
Thursday	Technical tour: River Song Hu'ong
Friday	Session 5: Institutional issues
8:30 h	Background papers on institutional issues
11:00 h	Group work on institutional issues: Lao P.D.R: and Vietnam
15:30 h	Plenary presentation of group work: Land management Lao PDR and Vietnam Water resources management: Lao P.D.R: and Vietnam

Saturday	Session 6: <i>Synthesis</i>
-----------------	------------------------------------

- | | |
|---------|---|
| 8:30 h | Tips for thought, Introduction to group work |
| 9:30 h | Group work on proposals of legal and institutional improvements |
| 14:00 h | Plenary presentation of proposals |
| 18:00 h | Farewell reception |

Addresses

Executive Office

Director General: Dr. Heinz Bühler
Rauchstr. 25, 10787 Berlin
Tel: 030-254 33-0, Fax: 030-254 33-375
E-Mail: gf@dse.de

Development Policy Forum

Director: Dr. Gudrun Kochendörfer-Lucius
Reiherwerder, 13505 Berlin
Tel: 030-4307-1, Fax: 030-4307-250
E-mail: ef@dse.de

International Institute of Journalism (of DSE)

Director: Peter Prüfer
Rauchstr. 22, 10787 Berlin
Tel: 030-25433-372, Fax: 030-25433-376
E-mail: p_pruefer@zabt.dse.de

Central Administration

Director: Otfried Hintzpeter
Rauchstr. 25, 10787 Berlin
Tel: 030-25433-0, Fax: 030-25433-383
E-mail: zabt@dse.de

Education, Science and Documentation Centre (ZED)

Director: Dr. Eckhard Deutscher
Hans-Böckler-Str. 5, 53225 Bonn
Tel: 0228-4001-0, Fax: 0228-4001-111
E-mail: zed@dse.de

Documentation Centre (ZD)

Hans-Böckler-Str. 5, 53225 Bonn
Tel: 0228-4001-320, Fax: 0228-4001-111
E-mail: zd@dse.de

Economic and Social Development Centre (ZWS)

Director: Toni Ihlau
Reiherwerder, 13505 Berlin
Tel: 030-4307-1, Fax: 030-4307-230
E-mail: zws@dse.de

Area Orientation Centre (ZA)

Acting Director: Dr. A. Schirmer-Seiffert
Lohfelder Str. 128, 63604 Bad Honeff
Tel: 02224-926-0, Fax: 02224-926-151
E-mail: za@dse.de

Public Administration Promotion Centre (ZÖV)

Acting Director: Hinrich Merker
Rauchstr. 22, 10787 Berlin
Tel: 030-25433-0, Fax: 030-25433-380
E-mail: zov@dse.de

Industrial Occupations Promotion Centre (ZGB)

Director: Herbert Burk
Käthe-Kollwitz-Str. 15, 68169 Mannheim
Tel: 0621-3002-0, Fax: 0621-3002-132
E-mail: zgb@dse.de

Location Magdeburg:

Schellingstr. 3-4, 39104 Magdeburg
Tel: 0391-5371300, Fax: 0391-5371329
E-mail: zgbmd@dse.de

Food and Agriculture Development Centre (ZEL)

Director: Dr. Hans Pfeifer
Wielinger Str. 52, 82336 Feldafing
Tel: 08157-938-0, Fax 08157-938777/315
E-mail: zel@dse.de

Location Zschortau:

Leipziger Str. 15, 04509 Zschortau
Tel.: 034202-845-0, Fax: 034202-845-777
E-mail: zelzt@dse.de

Public Health Promotion Centre(ZG)

Director: Dr. Walter Seidel
Breite Str. 11, 10178 Berlin
Tel: 030-20319-0, Fax: 030-20319-111/222
E-mail: zg@dse.de

Internet: [http:// www.dse.de](http://www.dse.de)



Zentralstelle für Ernährung
und Landwirtschaft

Food and Agriculture Development Centre

DSE/ZEL

Wielinger Straße 52

D-82336 Feldafing

Telefax: 08157 / 938-777

Telefon: 08157 / 938-0

eMail: zel@dse.de

Homepage: <http://www.dse.de>

DSE/ZEL

Leipziger Straße 15

D-04509 Zschortau

Telefax: 034202 / 845-777

Telefon: 034202 / 845-0

eMail: zel@zelt.dse.de

Homepage: <http://www.dse.de>