

# **PRIAC**

## **Policy Reform Impact Assessment, Cambodia**

### **IMPACTS OF THE FISHERIES POLICY REFORMS IN KAMPONG CHAM, PURSAT AND TAKEO PROVINCES 1° ROUND ASSESSMENT REPORT**



prepared by the  
Community Fisheries Development Office  
Department of Fisheries



with assistance from IMM Ltd., U.K.

and

DFID

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The policy impact assessments undertaken by PRIAC have been implemented, and reported on, by a team of staff from the Community Fisheries Development Office of the Department of Fisheries of the Royal Government of Cambodia, supported by technical assistance provided by IMM Ltd. of the U.K.

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The teams involved in implementing the assessments in each of the three provinces covered so far are shown below:

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KAMPONG CHAM PROVINCE		PURSAT PROVINCE		TAKEO PROVINCE	
<i>Village</i>	<i>District</i>	<i>Village</i>	<i>District</i>	<i>Village</i>	<i>District</i>
Maort Khmong	Thoung Khmum	Anlong Reang	Kra Kor	Trapaing Roka	Prey Krabas
Prek Youn	Kampong Siem	Po Andet	Kandeang	Prey Lvea	Prey Krabas
Entanel	Kampong Siem	Koh Kaek	Kandeang	Anlong Meas	Prey Krabas
Boeung Bobos	Kampong Siem	Preak	Kandeang	Phsa Chrey	Prey Krabas
Kean Chrey Knong	Kampong Siem	Prek Trobek	Kandeang	Ba Noy	Prey Krabas
Kean Chrey Kray	Kampong Siem	Dey Ronead	Ba Kan	Kbal Po	Treang
Prek Preach Eng	Steung Trang			Kampong Yol	Borey Chulasa
Ko Her	Batheay			Kaek Yom	Borey Chulasa
Prek Kouv	Kang Meos			Migrant communities around released fishing lots 6 & 7	Borey Chulasa
Anlong Koki	Kang Meos				
Rokaleu	Kampong Siem				

Thanks also to the members of the Impact Assessment Review Group (IARG) who have provided their views, criticisms and encouragement. A complete list of people who have participated in the IARG is appended in Annex 7.

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## GLOSSARY

ADB	Asian Development Bank
CCG	Cambodia Consultative Group
CEPA	Cultural and Environmental Preservation Society
CF	Community Fisheries
CFDO	Community Fisheries Development Office – one section of the Department of Fisheries
CFDS	Cambodian Family Development Services - an NGO group working in fishing communities in Pursat Province
CFDU	Community Fisheries Development Unit – section of the Provincial Fisheries Office responsible for community fisheries development
DFID	Department for International Development (British aid)
FACT	Fisheries Action Coalition Team – an NGO group specifically focussed on fisheries issues in Cambodia
IARG	Impact Assessment Review Group – an informal group set up for periodic review the methodology, process and findings of the policy reform impact assessment
IO	International (Multi-lateral) Organisations – such as World Bank, UNESCO, UNICEF, UNTAC, etc.
LCG	Local Consultative Group – an informal, cross-sectoral group set up as part of PRIAC at the provincial level to discuss the impacts of the policy reforms and provide contextual information
LFCG	Local Fisheries Consultative Group – an informal group of provincial stakeholders in fisheries set up at the provincial level as part of PRIAC to discuss the impact of the policy reforms and provide information regarding fisheries in the province
MoP	Ministry of Planning
MRC	Mekong River Commission
NGO	Non-Governmental Organisation
PRASAC	Programme of Rehabilitation and Support to the Agricultural Sector in Cambodia
<i>Prahok</i>	Fermented fish paste commonly used as condiment in Cambodia
PRSP	Poverty Reduction Strategy Paper
SEILA	A programme of the Royal Government of Cambodia to support decentralization in government
WB	World Bank
WFP	World Food Programme



## KEY FINDINGS

### IMPACTS ON POVERTY

- Impacts on poverty have been **diverse and highly dependent on local conditions**, making generalisation difficult.
- Immediately after the policy reforms, communities located within or adjacent to released fishing lot areas perceived **positive impacts** on their livelihoods through:
  - **easier and more secure access to fisheries resources**;
  - **reduced costs** due to the lifting of licence fees on medium-scale fishing gear;
  - **improved income**;
  - **improved food security**.
- This benefited **poor small-scale Khmer fishers, small-scale farmers and agricultural labourers**.
- **Easier access to fishing grounds** also helped poor **Khmer seasonal fishers and agricultural labourers** to cope with adverse conditions in agriculture in some areas during 2001 and 2002.
- **These benefits are now perceived to be declining** as individual catches are reduced due to increased competition for the resource and the widespread use of illegal fishing gear. In some cases fishers see themselves as being worse off than before the reforms.
- The opening up of fishing lots also created some opportunities for **new agricultural activity** in low-lying areas of released fishing lots where water drainage was improved after the removal of lot owners' barrages and as residual areas of flooded forest in some areas were cleared.
- This benefited **small and medium-scale Khmer farmers** able to command the resources to cultivate these new lands, but also some **poor Khmer agricultural labourers** for whom new work opportunities were created.
- **Migrant Khmer agricultural labourers** were also able to **benefit from increased labouring opportunities**, and, while they are based in lowland areas inside released fishing lots, **better access to fisheries** and **increased liberty to carry out other livelihood activities** such as duck raising that were previously restricted by fishing lot owners.
- In some locations, the lifting of restrictions on access to fishing lots also enabled some **poor Khmer fishers and labourers to establish new settlements** inside released lot areas.
- **Khmer farmers and agricultural workers** in higher areas of the floodplain have, in some cases, been **negatively affected by the faster drainage of flooded areas** during the draw-down of flood waters from released fishing lot areas. Lot owners' barrages and barriers previously retained water that was used for irrigation by surrounding farmers. The length of time that water is available has now been reduced making dry-season farming more difficult.
- **Cham and Vietnamese fishers** have benefited from the removal of medium-scale fishing fees but seem to have been particularly **hard hit by increased competition** and the consequent reduction in individual catches. In some areas, Cham and Vietnamese fishers are reported to be leaving fisheries altogether and seeking alternatives in other sectors.
- For **fish traders**, the removal of large-scale producers of fish in released fishing lot areas has created opportunities for **small-scale traders** collecting fish from the higher number of small producers now active in fishing. **Large-scale traders** are reported to have declined in numbers as they cannot source the quantities of fish required to maintain their operations.

#### IMPACTS ON FISHERIES RESOURCES

- **Access to fishing areas** has improved, but there are concerns regarding the **sustainability of the benefits** that this improved access has allowed, particularly for poorer groups who are increasingly suffering from the high levels of competition seen on newly opened fishing areas.
- There is a **widespread perception that fisheries resources have declined** in the wake of the fisheries policy reforms. This is blamed on the far higher numbers of people engaged in fishing and the increased use of illegal and destructive fishing gears.
- It is not possible currently to establish whether this perception is due to **greater numbers of fishers each catching smaller amounts** of the total fish available, **annual variations in the fish stock** due to climactic, hydrological and other external factors, or whether it is actually indicative of a **longer-term decline in fisheries resources** due to overexploitation.
- The removal of fishing lots has also encouraged (but not caused) **changes in fisheries habitats**. It has facilitated cultivation in lowland areas of released lots, with the associated use of pesticides and fertilizers, and the clearance of some residual areas of flooded forest. This is likely to have affected the fisheries environment, although many of these processes are in any case ongoing irrespective of the policy reforms.

#### IMPACTS ON FOOD SECURITY

- After **initial improvements in food security** for poorer fisheries resource users following the policy reforms, the overall decline in individual catches is now felt by most stakeholders to be leading to **reduced fish consumption**. Many factors besides the fisheries reforms may be playing a role in this, including fluctuating flood levels and changes in the fisheries environment.
- There is widespread concern over the **decline (particularly 2003-04) in access to fish for household processing into *prahok* or *phaork***, although it is currently impossible to attribute this to the policy reforms. Professional fish processors have also noted declines in the fish availability and a steep rise in fish prices and many are reported to have abandoned this activity in order to seek out alternatives.
- The release of fishing lots has led to a **reduction in the numbers of large-scale fish producers** and a **larger number of smaller producers**. This has also meant that there are now **more small-scale fish traders** handling small amounts of fish and a **reduction in larger scale traders**. The implications of this for fish consumers, and on fish prices for consumers, are not clear and require further investigation.

#### GENDER AND AGE DIFFERENTIATED IMPACTS

For communities located inside released fishing lot areas, **women and children** are reported to be experiencing **easier, and more secure, access to fishing** without fear of harassment from fishing lot guards.

#### IMPACTS ON ECOLOGY

- The release of fishing lots has reportedly **accelerated processes already underway** of clearing flooded forest, expanding dry-season rice cultivation in lowland areas and increased use of pesticides and herbicides, all of which may be affecting fisheries ecology.
- The more **rapid drainage of lowland flooded areas** because of the removal of barrages and barriers previously deployed by lot owners has facilitated this process.

#### IMPACTS ON INSTITUTIONAL ARRANGEMENTS

- The speed with which the policy reforms were introduced initially led to **considerable confusion regarding the roles, rights and responsibilities** of the different institutions concerned with in fisheries. This situation is still in the process of being resolved.

##### *Provincial Fisheries Offices*

- The introduction of the policy reforms, and, in particular, the withdrawal of fisheries inspectors from the field was widely seen as “**punishing**” **fisheries inspectors** for perceived abuses of their position.
- The **role of Provincial Fisheries officers as enforcers of fisheries regulations** has, in the eyes of many resource users, been diminished.
- The **reorientation of Provincial Fisheries officers as facilitators of community fisheries** can be expected to take considerable time and require considerable capacity building.
- The task of **re-establishing the authority of Provincial Fisheries officers** in the eyes of resource users will also require concerted efforts, clear definition of their roles and responsibilities and clear support from the highest quarters.

##### *Civil Society and NGOs*

- The **role of NGOs** in representing the interests of a broader group of stakeholders in the process has been extremely important.
- This **role needs to be strengthened** in order to complement the activities of the DoF & make best use of scarce resources.

##### *Local authorities*

- The **role of commune councils** in community fisheries management and their relationship with Community Fisheries and Provincial Fisheries Offices needs definition.
- There is also widespread concern among many fishers that there may be **conflicts** between the needs of Community Fisheries and the role of commune councils in managing natural resources.

##### *Community Fisheries*

- Among resource-users, understanding of the **rights, roles and responsibilities** involved in managing community fisheries is still limited.
- Generally **Community Fisheries are recognised as a “good idea”** but there is still limited understanding of how they were to be implemented.

#### INTERACTIONS WITH WIDER SOCIAL, ECONOMIC, POLITICAL AND ENVIRONMENTAL CHANGES

- **Wider social, economic, political and environmental processes** have strongly influenced the way in which the fisheries policy reforms have impacted on the livelihoods of rural people.
- **Attitudes of people to authority, formal institutions and all forms of community organisation** have been affected by historical events in Cambodia and this influences people's attitudes to community fisheries.
- The **extremely dynamic institutional environment** has affected the extent to which community fisheries have been effectively implemented on the ground (elections of commune councils in 2002; the on-going definition of the roles and responsibilities of local authorities for natural resource management).
- The availability of **employment opportunities in new industries** in Phnom Penh was seen to be influencing livelihood strategies, including fishing, in rural areas significantly and is changing the levels of participation, of women in particular, in fishing and agriculture.
- **Changes in demand for agricultural products**, affected also by trade with neighbouring countries, the availability of agricultural inputs, and **the availability of labour** are all influencing the way in which households react to policy reforms and are affected by them.
- **Environmental changes**, such as changes in water quality, the increase in agricultural pollutants, and the clearance of flooded forest, have all been causing changes in fisheries since well before the policy reforms were introduced. The release of fishing lots has, in some cases, accelerated some of these processes.

#### CONSIDERATIONS REGARDING POLICY

##### *The policy reforms and poverty reduction*

- During the first year of the policy reforms, the **primary objective of the policy reforms** - increased numbers of people, including the poor, benefiting from fisheries – was **at least partially achieved**.

##### *The policy reforms and fisheries management*

- Due to **lack of regulation and confusions regarding institutional roles and responsibilities** in the wake of the reforms, **benefits to the poor are under threat** as more and more people enter the fishery, often using unsustainable and illegal fishing gear. Those wealthier people who are able to purchase larger quantities of more efficient fishing gear are increasingly cornering the benefits.
- The **benefit flows from fisheries** in released fishing lot areas are now being **spread over a large number of people**. This is happening so quickly that the legislative and institutional reforms have not been able to keep up.
- This situation may pose a **real threat to the long-term viability of fisheries and the sustainability of benefits** that are still accruing to the poor.
- Solutions are liable to require **trade-offs** between the numbers of people having access to fisheries and the longer-term sustainability of the fishery.

### CONSIDERATIONS REGARDING POLICY (*CONTINUED*)

#### ***The policy reforms and fisheries management (continued)***

- Future measures also need to be **linked closely into the wider development process** in rural areas, especially the development of secondary and tertiary rural industries that will provide viable alternatives to those currently dependent on fisheries and so reduce the overall pressure on the resource.
- As the Poverty Reduction Strategy suggests, the future development of the fishery this must be tackled on four fronts:
  1. **increasing alternative livelihoods** in order to decrease exploitation of the fishery
  2. **strengthening the capacity of communities** to manage the fishery
  3. **building institutional capacity** to assist these processes
  4. **incorporating cross-sectoral approaches** to enable fisheries to work in harmony with other sectors such as agriculture, forestry and water management

#### ***Institutional and legislative support for the policy reforms***

- **Institutional and legislative reforms need to be developed and introduced with greater urgency** in support of the policy reforms.
- The institutional reforms, especially community, commune and provincial-level capacities to implement management, require **substantial and rapid input from government and civil society**.
- **Resources** to support the implementation new legislation on a wide scale need to be found.
- **New legislation needs to be harmonised** with changes in local government legislation.
- The **international donor community** has a major role to play in assisting this process through financial support, capacity building and knowledge brokering, but responses need to be initiated quickly.

#### ***Coordination with other initiatives***

- Current efforts to implement the reforms effectively need to be **increased substantially** in order to maintain the food security, employment and income roles that the sector plays in the lives of the rural poor.

## EXECUTIVE SUMMARY

### BACKGROUND AND METHODOLOGY

#### BACKGROUND TO THE ASSESSMENT

Since the introduction of the fisheries policy reforms in October, 2000, there have been concerns within the Government of the Kingdom of Cambodia and the Department of Fisheries regarding the possible impacts of these reforms on poverty in Cambodia, on food security, on fisheries resources and on different fisheries stakeholders.

This was echoed by concerns among fisheries stakeholders themselves and within civil society and the donor community.

The 2002 Cambodia Consultative Group (CCG) meeting strongly recommended that there was a need to conduct a review of the impact of fisheries reforms.

The Department of Fisheries approached the Department of International Development (DFID) of the British Government with a request for support in doing this.

#### THE PRIAC PROJECT

The purpose of the PRIAC project is: *Future legislation and policy on fisheries enables equitable access to common property aquatic resources.*

This was to be achieved through the development of a replicable methodology for assessing and monitoring the impacts of the changes in fisheries policy on the livelihoods of people involved in the use of fisheries resources and on the institutions concerned.

The methodology is to be applied over three annual cycles.

The activities undertaken to implement the fisheries policy reforms since 2000 were to be reviewed in the light of this assessment with a view to making recommendations on policy, legislation and fisheries management strategies in order to enhance the role of fisheries in supporting poverty eradication.

#### THE ASSESSMENT METHODOLOGY

The methodology is designed to be participatory, transparent, working with stakeholders at different levels, livelihoods focussed, replicable and relatively simple.

During the 1° round of the assessment reported here, the following activities were carried out:

the testing of the methodology in Kampong Cham Province in January, 2003;

the review and refinement of the methodology based on field experience;

two further assessments implemented in Pursat and Takeo Provinces during early 2003;

the validation of the assessment findings in all three provinces in late 2003 and early 2004;

analysis and reporting of the findings for these three provinces.

The assessment was then with validation of the findings conducted in all three provinces in late 2003 and early 2004.

## **FINDINGS OF THE 1° ROUND ASSESSMENT**

### **IMPACTS ON POVERTY**

Impacts on poverty have been diverse and highly dependent on local conditions, making generalisation difficult.

Immediately after the policy reforms, communities located within or adjacent to released fishing lot areas perceived positive impacts on their livelihoods through:

- easier and more secure access to fisheries resources;
- reduced costs due to the lifting of licence fees on medium-scale fishing gear;
- improved income;
- improved food security.

This benefited poor small-scale Khmer fishers and small-scale farmers and agricultural labourers.

Easier access to fishing grounds also helped poor Khmer seasonal fishers and agricultural labourers to cope with adverse conditions in agriculture in some areas during 2001 and 2002.

These benefits are now perceived to be declining as individual catches are reduced due to increased competition for the resource and the widespread use of illegal fishing gear. In some cases fishers see themselves as being worse off than before the reforms.

The opening up of fishing lots also created some opportunities for new agricultural activity in low-lying areas of released fishing lots where water drainage was improved after the removal of lot owners' barrages and as residual areas of flooded forest in some areas were cleared.

This benefited small and medium-scale Khmer farmers able to command the resources to cultivate these new lands, but also some poor Khmer agricultural labourers for whom new work opportunities were created.

Migrant Khmer agricultural labourers were also able to benefit from increased labouring opportunities, and, while they are based in lowland areas inside released fishing lots, better access to fisheries and increased liberty to carry out other livelihood activities such as duck raising that were previously restricted by fishing lot owners.

In some locations, the lifting of restrictions on access to fishing lots also enabled some poor Khmer fishers and labourers to establish new settlements inside released lot areas.

Khmer farmers and agricultural workers in higher areas of the floodplain have, in some cases, been negatively affected by the faster drainage of flooded areas during the draw-down of flood waters from released fishing lot areas. Lot owners' barrages and barriers previously retained water that was used for irrigation by surrounding farmers. The length of time that water is available has now been reduced making dry-season farming more difficult.

Cham and Vietnamese fishers have benefited from the removal of medium-scale fishing fees but seem to have been particularly hard hit by increased competition and the consequent reduction in individual catches. In some areas, Cham and Vietnamese fishers are reported to be leaving fisheries altogether and seeking alternatives in other sectors.

For fish traders, the removal of large-scale producers of fish in released fishing lot areas has created opportunities for small-scale traders collecting fish from the higher number of small producers now active in fishing. Large-scale traders are reported to have declined in numbers as they cannot source the quantities of fish required to maintain their operations.

#### **IMPACTS ON FISHERIES RESOURCES**

Access to fishing areas has improved, but there are concerns regarding the sustainability of the benefits that this improved access has allowed, particularly for poorer groups who are increasingly suffering from the high levels of competition seen on newly opened fishing areas.

There is a widespread perception that fisheries resources have declined in the wake of the fisheries policy reforms. This is blamed on the far higher numbers of people engaged in fishing and the increased use of illegal and destructive fishing gears.

It is not possible currently to establish whether this perception is due to greater numbers of fishers each catching smaller amounts of the total fish available, annual variations in the fish stock due to climatic, hydrological and other external factors, or whether it is actually indicative of a longer-term decline in fisheries resources due to overexploitation.

The removal of fishing lots has also encouraged (but not caused) changes in fisheries habitats. It has facilitated cultivation in lowland areas of released lots, with the associated use of pesticides and fertilizers, and the clearance of some residual areas of flooded forest. This is likely to have affected the fisheries environment, although many of these processes are in any case ongoing irrespective of the policy reforms.

#### **IMPACTS ON FOOD SECURITY**

After initial improvements in food security for poorer fisheries resource users following the policy reforms, the overall decline in individual catches is now felt by most stakeholders to be leading to reduced fish consumption. Many factors besides the fisheries reforms may be playing a role in this, including fluctuating flood levels and changes in the fisheries environment.

There is widespread concern over the decline in access to fish for household processing into *prahok* or *phaork*, although it is currently impossible to attribute this to the policy reforms. Professional fish processors have also noted declines in the fish availability and a steep rise in fish prices and many are reported to have abandoned this activity in order to seek out alternatives.

The release of fishing lots has led to a reduction in the numbers of large-scale fish producers and a larger number of smaller producers. This has also meant that there are now more small-scale fish traders handling small amounts of fish and a reduction in larger scale traders. The implications of this for fish consumers, and on fish prices for consumers, are not clear and require further investigation.

#### **GENDER AND AGE DIFFERENTIATED IMPACTS**

For communities located inside released fishing lot areas, women and children are reported to be experiencing easier, and more secure, access to fishing without fear of harassment from fishing lot guards.

#### **IMPACTS ON ECOLOGY**

The release of fishing lots has reportedly accelerated processes already underway of clearing flooded forest, expanding dry-season rice cultivation in lowland areas and increased use of pesticides and herbicides, all of which may be affecting fisheries ecology. The more rapid drainage of lowland flooded areas because of the removal



of barrages and barriers previously deployed by lot owners has facilitated this process.

### **IMPACTS OF THE MODE OF IMPLEMENTATION OF THE POLICY REFORMS**

The speed with which the policy reforms were introduced, while important in creating an impetus for change, led to considerable confusion regarding the roles, rights and responsibilities of different actors involved in the process. These confusions are still in the process of being resolved.

### **IMPACTS ON INSTITUTIONAL ARRANGEMENTS**

#### ***Provincial Fisheries Offices***

The introduction of the policy reforms, with the withdrawal of fisheries inspectors from the field was widely seen as “punishing” fisheries inspectors for perceived abuses of their position. This has had the longer term impact of effectively delegitimising of the Provincial Fisheries Office in their role of enforcers of fisheries regulations. While efforts have been made to reorient fisheries staff towards a new role as facilitators of community fisheries, much work is still required in order to strengthen this role, clearly define the relationship between Provincial Fisheries Offices and Community Fisheries, redefine the role of Provincial Fisheries staff in enforcement of fisheries regulations and re-establish the legitimacy of fisheries officers in the eyes of resource users.

#### ***Civil Society and NGOs***

In working out the details of how to implement the fisheries policy reforms and in the development of the Sub-Decree on Community Fisheries the role of NGOs has been important in representing the interests of a broader group of stakeholders in the process. This role needs to be built up and strengthened in order to complement the activities of the DoF, particularly in view of the limited resources available within government to conduct the intensive capacity building that will be required in order to make Community Fisheries work.

#### ***Local authorities***

While it is generally recognised that commune councils are likely to have a critical role in supporting communities in the management of their resources, the mechanisms by which this is liable to take place and the relationship between Community Fisheries, local authorities and Provincial Fisheries Offices is still unclear. At present, while some cases of supportive local authorities were encountered, there is also widespread concern among many fishers that there may be conflicts between the needs of Community Fisheries and the role of commune councils in managing natural resources.

#### ***Community Fisheries***

Many of the respondents on the ground, although they were “users” of community fisheries, still had only the vaguest of notions regarding what Community Fisheries actually were. Where people were more informed regarding the notion of Community Fisheries, there was general recognition that they represented a “good idea” but there was little understanding of how they were to be implemented and what their precise roles and responsibilities, as well as their powers, would be.

### **COMPARISON WITH OTHER ASSESSMENTS**

The findings of the PRIAC assessment have parallels with those of the other two principal assessments of the policy reforms carried out to date, by the MRC and by Oxfam. The areas of emphasis of each of these assessments has been slightly

different – the MRC assessment, conducted immediately after the introduction of the reforms, focussed on the process by which the reforms had been introduced. The Oxfam assessment concentrated on the reactions to the policy reforms of fishers and community representatives involved in the establishment of community fisheries.

The PRIAC assessment included most of the features of both the previous assessments, although future rounds will need to incorporate a more specific focus on Community Fisheries as these become more widespread. In addition, the PRIAC assessment made particular efforts to place the impacts of the policy reforms in the broader context of the economic, political and social processes on-going in Cambodia.

Wider social, economic, political and environmental changes and their interactions with fisheries

Wider social, economic, political and environmental processes have strongly influenced the way in which the fisheries policy reforms have impacted on the livelihoods of rural people.

The rebuilding of political, institutional and social structures in the country in the wake of the traumas of the Khmer Rouge regime and extended civil war strongly influences the attitudes of people to authority, formal institutions and all forms of community organisation. The strength of these influences varies from area to area and affects the degree of acceptance of the notion of Community Fisheries.

The process of building up mechanisms of political representation at the local level had only begun relatively recently with the first elections to commune councils taking place in 2002. The way in which local authorities will articulate with central government and line ministries is still therefore being formulated. Community Fisheries are therefore being introduced in an extremely dynamic institutional environment.

Cambodia is also undergoing rapid economic development, particularly in urban areas. The availability of employment opportunities in new industries in Phnom Penh was seen to be influencing livelihood strategies in rural areas significantly and is changing the levels of participation of women in particular in fishing and agriculture.

Changes in demand for agricultural products, affected also by trade with neighbouring countries, the availability of agricultural inputs, and the availability of labour are all influencing the way in which households react to policy reforms and are affected by them. In particular, the adverse agriculture conditions experienced in many parts of the country during the period immediately after the policy reforms meant that dependence on fishing as a coping strategy was particularly high and improved access to fishing grounds was extremely important for many rural households.

Environmental changes, such as changes in water quality, the increase in agricultural pollutants, and the clearance of flooded forest, have all been causing changes in fisheries since well before the policy reforms were introduced. The release of fishing lots has, in some cases, accelerated some of these processes.

## **CONSIDERATIONS REGARDING THE ASSESSMENT APPROACH**

The assessment approach used in PRIAC seems to satisfy the need for a relatively rapid, replicable and objective assessment of the impacts of the policy reforms. However, the approach will need to be applied for an extended period into the future in order to monitor the impacts of the policy reforms as they develop and “mature”,

and also needs to be applied more widely, given the distinct regional and local variations in impacts encountered.

This has resource implications as the DoF is unlikely to have the capacity in the foreseeable future to undertake wide-scale assessments on a regular basis. Partnership with civil society organisations and on-going projects provides a means for overcoming these constraints.

## **CONSIDERATIONS REGARDING POLICY**

### **THE POLICY REFORMS AND POVERTY REDUCTION**

In the context of poverty reduction and equity the policy reforms have done much to spread the benefits of the fisheries sector across a much larger group of people. The previous fisheries management regime focussed large benefit flows on few people. The reforms were designed to increase the number of people benefiting from the resource, very much in line with the country's Poverty Reduction Strategy. There can be little doubt that this was achieved in the first year of the reforms. It is also likely that many who found it impossible to make a living from agriculture in recent years survived because of the more open access nature of the fishery.

### **THE POLICY REFORMS AND FISHERIES MANAGEMENT**

However, as the open access nature of the released fishing lots has allowed more people to enter the fishery and to use unsustainable and illegal fishing gear, the early benefits have come under greater stress. The benefit flows are now being spread over a far greater number of people than was originally envisaged by the reforms. This is happening so quickly that the legislative and institutional reforms have not been able to keep up. As a result people are sometimes confused about what they can do and what they cannot do under the current management regime. This has led to an expansion of illegal fishing gear use and conflicts between fishers is on the increase.

We have moved from large benefit flows accruing to the few, to small benefits going to the many. A middle road now needs to be found which gives a larger but sustainable flow of benefits to a moderate number of poor people. This needs to be linked much more closely into the wider development process of the rural environment, especially the development of secondary and tertiary rural industries that will provide opportunities for those who are displaced from using the fishery. As the Poverty Reduction Strategy suggests, the future development of the fishery this must be tackled on four fronts:

- increasing alternative livelihoods in order to decrease exploitation of the fishery
- strengthening capacity of communities to manage the fishery
- institutional capacity building to assist these processes
- incorporating a cross-sectoral approaches to enable fisheries to work in harmony with other sectors such as agriculture, forestry and water management

### **INSTITUTIONAL AND LEGISLATIVE SUPPORT FOR THE POLICY REFORMS**

To do this needs a much greater and faster emphasis on the institutional and legislative reforms. The legislation for the formation of community-based fisheries management is nearing completion. The institutional changes, especially community, commune and provincial-level capacities to implement management at this level, require substantial and rapid input from government and civil society. This cannot be

done quickly enough from existing domestic resources. The international donor community has a major role to play in assisting this process through financial support, capacity building and knowledge brokering, but responses need to be initiated quickly.

**COORDINATION WITH OTHER INITIATIVES**

Current efforts need to be increased substantially to ensure that legislative and institutional reforms are implemented quickly enough to maintain the food security, employment and income roles that the sector plays in the lives of the rural poor. This will require considerable financial investment and capacity building which are clearly beyond the government's resources in the short-term.



## 1 BACKGROUND

Fisheries in Cambodia constitute both an integral part of rural livelihoods and a major contributor to the national economy and food security. Total freshwater capture fisheries production has been estimated at between 290,000 and 430,000 tonnes with a value at the landing sites of between US\$ 150-200 million (Van Zalinge *et al.*, 1998) and up to US\$300 million retail (Van Zalinge, 2002). Annual fish consumption in the country is estimated at around 40kg/person, although it may reach as much as 67kg/person in floodplain areas where fisheries resources are more readily accessible.

Fishing provides both a major source of employment and income for rural people and the major source of animal protein in their diets. Precise estimates of the numbers of people dependent on fisheries is difficult in a floodplain environment where there are strong seasonal fluctuations in access to fisheries resources and significant year-to-year variations in abundance according to flood extent. The extreme diffusion of the fisheries resource during the flood season means that much fishing is opportunistic. However data from a detailed socio-economic assessment of fisheries carried out 1995-6 (Ahmed *et al.*, 1998) indicated that, in fishing communes (defined as “communes...which have waterbodies from which fish are harvested and whose population is involved in fishing...”), 10.5% of the population were primarily dependent on fishing for their livelihoods while a further 34.1% were engaged on a part-time basis. In the 8 provinces covered by this study (which included all the provinces surrounding the Tonle Sap Great Lake as well as Kampong Cham, Phnom Penh and Kandal located in the Mekong River floodplain and delta) this would give a figure of approximately 1 million people fully or partially dependent on fishing for their income. As well as these, most people living in floodplain areas are also involved in opportunistic fishing and collection of aquatic plants and organisms from flooded areas at some time of the year, with women and children also heavily involved. Any surpluses that might be generated from these activities may be sold to provide supplementary income.

The overwhelming majority of those engaged in fishing carry out “family fishing activities”, using small-scale, often indigenously-developed fishing gears. Most of these are also involved in farming activities of one sort or another, with dry and wet-season rice cultivation being the dominant activity.

Apart from direct involvement in fishing activity, access to abundant supplies of cheap fish plays a critical role for a far wider proportion of the population. Rural people from upland areas migrate on a regular, annual basis to locations where they can buy the small migratory fish (particularly *trey riel*, a small cyprinid) and process them into the fish paste (*prahok*) and fermented fish (*phaork*) that constitutes an essential part of the diet of most Cambodians. These fish are caught in enormous quantities at certain times of the year, particularly in January. Fish, in one form or another, is estimated to provide around 75% of animal protein for rural people in the country (Degen *et al.* 2000).

Given the importance of fisheries for the livelihoods of the people of Cambodia, sustainable, and equitable, access to fish is of critical importance for the nation. While the inland fisheries of Cambodia are extremely diverse, productive and, in common with many floodplain fisheries, resilient in the face of high levels of fishing pressure (Nao Thuok *et al.* 2000), the period prior to the fisheries policy reforms in 2000 had already seen concerns expressed by many observers that the increasing fishing effort being applied in inland capture fisheries might be threatening overall resource sustainability (Van Zalinge *et al.*, 1998 and 2002) and there were increasing calls for improved management of fisheries, and efforts to halt the degradation of the floodplain habitats on which the productivity of the fisheries depended.

With the steady rise in the population living in floodplain areas of Cambodia, the principal mechanism in place for the management of fisheries - the fishing lot system - came under increasing pressure during the late 1990s. This system, in place in one form or another for the last century, sets aside areas of varying size - "fishing lots" - to be leased out through competitive auction to lot "owners" for a period of 2 years. Each fishing lot has a "burden book" which indicates specific management measures for that area and provided guidelines on how the area is to be exploited, including numbers, types and locations of different fishing gears. Generally these fishing lots were located in areas where fisheries were more productive and they often included areas of critical habitat important for the reproduction and feeding of fish. These fishing lots have served both as a means of ensuring some theoretical level of management over areas critical for the fisheries resources of the country, and as a means of generating revenue for the government - approximately US\$ 2 million in official revenues in 1998.

However, these fishing lots came to be increasingly seen as mechanisms that concentrated the benefits from fisheries into the hands of lot owners at the expense of the majority of rural people. Many fishing lot owners responded to growing pressure on surrounding, open-access fishing areas by enforcing vigorous, and at times violent, security measures. Others adopted the use of illegal and destructive fishing gears and, in some cases, took advantage of poorly defined demarcation of fishing lots to encroach on open-access areas. Fisheries officers and law enforcers, often called on, and in some cases remunerated, by lot owners to enforce their exclusive "rights" within their lots, inevitably came to be seen as supporters of lot owners against the rights of small-scale fishers to a livelihood from fishing. This perception was often exacerbated by the complexities and controversies surrounding the allocation of fishing lots, and an inherent distrust of the authorities among rural communities. In response to increasing fishing pressure outside fishing lot areas, lot owners also increasingly resorted to sub-leasing arrangements in order to ensure adequate returns, as this generally limited the amount of investment they themselves would have to make in their fishing lots and pass on the "costs" to others.

The late 1990s saw an increase in the levels of conflict surrounding access to fishing, with frequent episodes of violence and, in some cases, deaths. Representations and complaints to the authorities and to politicians and legislators increased significantly, particularly in provinces around the Great Lake. The issues surrounding fisheries access were taken up by various advocacy groups supporting the "traditional" rights of fishing communities to fisheries resources (Degen *et al.*, 2000).

The policy reforms, announced in October 2000, were introduced in this context of growing tension and conflict surrounding fisheries in Cambodia.

## **1.1 THE FISHERIES POLICY REFORMS**

In 24<sup>th</sup> October, 2000, the government of the Kingdom of Cambodia introduced a series of reforms in their policies regarding the use of, and access to, fishing lots in the country. Up until that time, 239 fishing lots, that covered a total area of 953,740 hectares, had been leased out to private lessees for a total value of 8 billion riels (DoF, 2001) (1US\$= c.4,000 riel ).

The policy reforms were initiated by the Prime Minister himself and consisted of several elements.

### **1. The announcement of the release of fishing lots**

The announcement by the Prime Minister that some fishing lots would be released for public use in itself constituted an important element that has affected the way in which the policy reforms have been implemented and

perceived by people on the ground. The fact that these reforms were announced by the political leader of the country had a tremendous impact. They are seen, especially by the rural people who were the intended beneficiaries, almost as a personal initiative sanctioned by the highest authority. The announcement also indicated that the management of areas that were to be released should be more “participatory” with communities themselves playing an important leading role.

## **2. Organizational and administrative changes**

In the immediate aftermath of the Prime Minister’s announcement, a new Director of the Department of Fisheries was appointed (25<sup>th</sup> October, 2000), and several high-ranking fisheries officials were replaced (27<sup>th</sup> October, 2000). Subsequently, on 20<sup>th</sup> February 2001, staff of the Inspection Units of the Provincial Fisheries Offices were ordered to be temporarily withdrawn from the field, initially for a period of 60 days, with a view to checking corruption and collusion with lot owners at the expense of fishers. On 21<sup>st</sup> February, the MAFF established a new unit within the Department of Fisheries, the Community Fisheries Development Office (CFDO) specifically tasked with supporting communities to manage the newly released fishing areas and encouraging more participatory management of fisheries country-wide.

## **3. Legislative and policy changes**

Following the announcement made by the Prime Minister, the Department of Fisheries organised 4 Task Forces to visit the provinces in order to determine, in each one, which fishing lots or parts of fishing lots should be released from the fishing lots system. This was done through a series of consultations with fisheries stakeholders in each province. These task forces went to the field in November and December, 2000 and, based on the outcomes of their consultations, developed recommendations regarding the release of fishing lots. These were incorporated into a series of sub-decrees for each province that were issued between December, 2000 and March, 2001. These formalised the release of fishing lots and established which areas would be opened up to community fisheries.

In addition, through sub-decree no. 24, dated 19<sup>th</sup> February, 2001, license **fees** for middle-scale fishing gears were removed, although this category of gears were still licensed through the Provincial Fisheries Offices.

Once these initial legislative measures had established what were seen as the key conditions of the policy reforms – the release of fishing lots – a longer term process was also initiated, largely through the newly established CFDO, to put in place the other key elements necessary to support the reform process and, in particular, to develop a practical “interpretation” of more participatory and community-based management indicated for released fishing lot areas. An additional sub-decree on “community fisheries” was to be prepared laying down the basic legislative and administrative norms governing community management of those areas of fishing lots that had been released. The establishment of what those norms should be has been part of an on-going consultation process undertaken by the Department of Fisheries. This has consisted of a systematic series of consultations in each province where fishing lot areas have been released, involving as broad a base of fisheries stakeholders as possible. In these consultations, the key elements of the eventual sub-decree have been discussed and an attempt made to incorporate the range of opinion represented into the text of the sub-decree. The sub-decree has now been drafted and passed on to the Ministry



of Agriculture, Forestry and Fisheries for submission and approval by the Council of Ministers.

The series of changes that have made up the policy reforms are also in the process of being formalised through a redrafting of the Fisheries Law to replace the Fiat Law in force since 1987. This redrafting has drawn on the results of consultations carried out with stakeholders in the wake of the policy reforms and the resources and expertise made available through the ADB-funded Tonle Sap initiative. A draft law has been submitted to the parliament in early 2004.

#### **4. Capacity-building activities**

The policy reforms have been supported by a number of capacity-building activities.

In the first place, Provincial fisheries inspection staff, who had been withdrawn from the field in the wake of the announcement of the reforms, were to be re-trained in a new role as facilitators of community fisheries development.

The responsibility for providing this re-training fell to the newly formed CFDO which was itself going through an intensive period of capacity-building in order to equip itself to carry out the tasks assigned to it.

### **1.2 POST-REFORM CHANGES**

As is clear from the description above, the fisheries policy reforms were not developed or implemented based on a systematic review of the sector and are not described in any single document. After the initial announcement, which aimed to resolve a particularly urgent social conflict, the other elements of the policy reforms have been developed as responses to put into effect and support the key elements of that initial announcement – the release of a proportion of fishing lots and the setting up of a more participatory, community-based form of fisheries resource management. Since the initial key elements of the reforms that were introduced in the period between October, 2000 and March, 2001, the process of developing the policy reforms has continued and is still underway. The key developments are reviewed below.

#### **1.2.1 Development of the Sub-Decree on Community Fisheries**

The development of sub-decree on community fisheries is a key component of the policy reforms. This sub-decree is intended to provide a framework within community fisheries can begin to be established. The sub-decree, by itself, will not provide a “legislative” framework – the Fisheries Law, currently still based on the Fiat Law of 1987, is also under review and a new Fisheries Law is expected to be passed in 2004. However, the process of developing a sub-decree has been pushed forward with considerable urgency, both by the DoF and civil society organisations concerned with fisheries, in an attempt to fill the administrative and legal vacuum surrounding fisheries management in released fishing lot areas.

The DoF have made significant efforts to ensure that the process for developing this sub-decree was transparent and participatory. After the development of a first draft, as early as December 2000, a series of public consultations were held in the field in early 2001, facilitated jointly by the DoF and NGOs, where local stakeholders were given a chance to view and comment on the various components of the sub-decree and make their suggestions.

This was followed by a consultation in Phnom Penh involving Provincial Fisheries officials and an NGO consultation with representatives of provincial organisations. A further series of meetings were then organised where representatives from the DoF

and NGOs worked to develop a final draft and resolve the difficult, and at times contentious, issues that arose. Agreement on a draft sub-decree was finally reached in August, 2001.

It needs to be emphasised that this process of eliciting public participation in the shaping of the sub-decree was widely hailed as innovative and very positively received by concerned stakeholders.

At this point, the sub-decree began to pass through a review process within MAFF where technical and legal issues were addressed, such as ensuring that all elements in the sub-decree were in line with the Constitution and did not conflict with other laws currently in force. This process continued until March, 2002, when the MAFF felt that the sub-decree was ready for submission to the Council of Ministers.

The Council of Ministers first met to discuss the draft sub-decree in May 2002. After this, and subsequent meetings on the matter, the sub-decree has been returned to the DoF and MAFF for refinement. The problems involved in developing the sub-decree before reviewing the Fisheries Law have become evident here as some of the objections raised regarding the sub-decree include that it is not compatible with previous laws (Levinson, 2003).

The sub-decree is currently with the DoF and MAFF for final review.

Significantly, several of the reviews of the sub-decree which have been introduced during its passage from the public consultations through MAFF and the Council of Ministers have regarded the powers accorded to Community Fisheries to enforce their by-laws regarding use of the fisheries resource for which they are responsible. This is particularly significant as it concerns the crucial node of enforcement of fisheries regulations in community fisheries areas and the relative responsibilities of communities themselves versus the DoF and its provincial representatives and the law enforcement agencies.

### **1.2.2 Review of the Fisheries Law**

Another essential element in the fisheries policy reforms is the drafting of a new Fisheries Law that will provide a legislative framework for the new management structure envisaged under the policy reforms. During 2003, a team of FAO experts undertook the drafting of the new law and this is currently being considered by the MAFF.

### **1.3 THE NEED FOR AN IMPACT ASSESSMENT**

Since the introduction of the reforms, the Government of the Kingdom of Cambodia, and, in particular, the Department of Fisheries, has been concerned to determine exactly what impacts these policy reforms might be having, both on the people they were intended to benefit, on other stakeholders in fisheries, and on fisheries resources.

This concern has been echoed by civil society groups, by fisheries experts and by the donor community in Cambodia. During the 2002 Cambodia Consultative Group (CCC) meeting it was strongly recommended by donors that there was a need to conduct a review of the impact of fisheries reforms.

Several initiatives have already been carried out by various groups and agencies to understand how the impacts of the policy reforms have been developing. In April-May, 2001, the Management of Reservoir Fisheries Component of MRC's Fisheries Programme carried out a preliminary monitoring activity in 4 provinces – Kampong Chhnang, Kampong Thom, Siem Reap and Kandal. Subsequently the Mekong River Commission (MRC), in conjunction with the Community Fisheries Development Office (CFDO) of the Department of Fisheries, conducted a further assessment of

impacts in late 2001 in 16 communities in Kampong Chhnang and Kampong Thom Provinces.

More recently, Oxfam GB together with OXFAM America, the CFDO, CEPA, FACT and CFDS have also carried out an assessment activity complementary to the PRIAC process, aiming to understand the impacts of the policy reforms on poor fishers, assess the efforts by communities to set up community fisheries in the wake of the reforms, and make recommendations to the process of development of policies relating to community fisheries. This assessment was carried out in 5 provinces: Battambang, Pursat, Kampong Thom, Stung Treng and Takeo.

In addition, there has been a constant and vigorous debate on the policy reforms involving concerned academics, development agencies, and civil society groups. However, the Department of Fisheries was concerned that there was no wider, systematic assessment of the impacts of these reforms that could inform this debate and help those involved in drafting new legislation and regulations.

In response to the widespread concern over the future of fisheries in Cambodia, the Department of Fisheries approached the Department of International Development (DFID) of the British Government with a request for support in developing an methodology for both conducting a thorough assessment of the impacts of the policy reforms and monitoring these impacts as the new institutions and mechanisms for fisheries management generated by the reforms came into being. The PRIAC project is the result of that request.

#### **1.4 PURPOSE OF THE PROJECT**

The purpose of the project is: *Future legislation and policy on fisheries enables equitable access to common property aquatic resources*

PRIAC is a Department of Fisheries-driven initiative, seeking objective, balanced and reliable feedback on the status of the implementation of the fisheries management reform. While it is led by the Department of Fisheries, through the Community Fisheries Development Office, it has sought to consult with other concerned government departments and agencies, as well as with civil society groups in order to ensure transparency in the process and to tap into the wealth of experience and knowledge already available in the country. The project is implemented in partnership with IMM Ltd, a research and development group based in the UK. IMM provided guidance on the study design and implementation and staff training, and assisted with data analysis.

#### **1.5 PLANNED OUTPUTS OF THE PROJECT**

The planned outputs of the project are as follows:

1. Recommendations on policy, legislation and management as a strategy of poverty eradication.
2. Review of activities undertaken to implement fisheries management reform from 2000;
3. Methodology established for annual monitoring of the impact on livelihoods of future changes in fisheries legislation;
4. Methodology applied for three annual cycles;
5. Analysis of the perception and experiences of stakeholders of the effectiveness and efficiency of reform to date;
6. Analysis of impact of the changes in policy on the livelihoods of riverine and lacustrine communities;

7. Analysis of the livelihood studies to inform the next DFID Cap and offer opportunities that DFID might consider for engagement in promoting access to natural resources.

## **2 METHODOLOGY**

### **2.1 EVOLUTION OF THE METHODOLOGY**

The methodology used for the assessment builds upon previous work carried out by IMM into the benefit flows from natural resource systems to the livelihoods of poor people. This approach has provided DFID with valuable policy guidance in the past and it was felt that such a livelihoods-based approach could be beneficial for the current assessment. DFID commissioned IMM to work with the CFDO to adapt this approach to the circumstances surrounding the specific institutional needs of Cambodia and the issues that needed to be looked at.

The methodology was developed through consultations followed by testing in the field and, during the first round of assessments in three provinces, a constant review of the methods being used with a view to refining them and, eventually, standardising them as far as possible.

#### **2.1.1 Identification of guiding principles**

Initial development of the methodology was carried out through a process of discussion within the Community Fisheries Development Office and the Department of Fisheries as a whole. During the discussion and the development of a “draft” methodology, several key principles emerged that guided all the subsequent process of methodology development.

##### ***Participatory***

It was generally felt to be essential that the approach to carrying out the policy impact assessment be as “participatory” as possible, engaging directly with the various levels of stakeholder involved, especially those whose livelihoods had been affected by the policy reforms, those who had a role in implementing the reform and as wide a range of “concerned parties” as possible. Being as participatory and inclusive as possible was felt to be particularly important given the widespread desire, both in government circles and in civil society, to understand the effects of the policy reforms without bias and with a view to developing a constructive critique of the reforms based on the broadest possible understanding of their impacts on different groups of people in the country.

##### ***Transparent***

The adoption of a participatory approach to the policy impact assessment was also viewed as essential in view of the desire of the Department of Fisheries to make the assessment procedure as transparent as possible. The methodology developed needed to be understood by all parties concerned with the fisheries policy reforms, and these parties needed to be given the chance to comment on, and modify, the methodology in order to ensure that all parties were satisfied that it represented a best attempt at achieving an unbiased and objective assessment of the policy reforms, given the inevitable limitations of time and resources.

##### ***Working with different levels of stakeholders***

Involvement of a range of stakeholders at different levels, ranging from the national down to the provincial, district and local, was regarded as an important part of achieving both a broad base of participation in the process and the maximum transparency.

##### ***Livelihoods focussed***

The central focus of the assessment would be the impacts of the policy reforms on the livelihoods of people affected by them. “Livelihoods” are defined in broad, multi-

dimensional terms. They include the access of stakeholders to the assets required to realise their aspirations and needs, and to ensure their basic rights in terms of food security, education, employment and legal redress. They also take into account the ability of stakeholders to deal with vulnerability – risks, changes, trends and shocks – and the direct and indirect influences around them – policies, institutions, markets and socio-cultural factors. Attention would also be paid to the identification of distinct stakeholder groups whose experience of the impacts of the policy reforms might be differentiated by gender, age or ethnic group.

### ***Replicability***

With the resources available, it was clear that it would not be possible to carry out policy impact assessments in all the areas, and covering all the stakeholder groups, that would be required to achieve a full picture. It was therefore hoped that the methodology developed would eventually be replicated by other concerned parties on a wider scale in order to complete the coverage as fully as possible. Coming up with a replicable set of assessment tools was therefore given priority during the development of the assessment methodology.

### ***Simplicity***

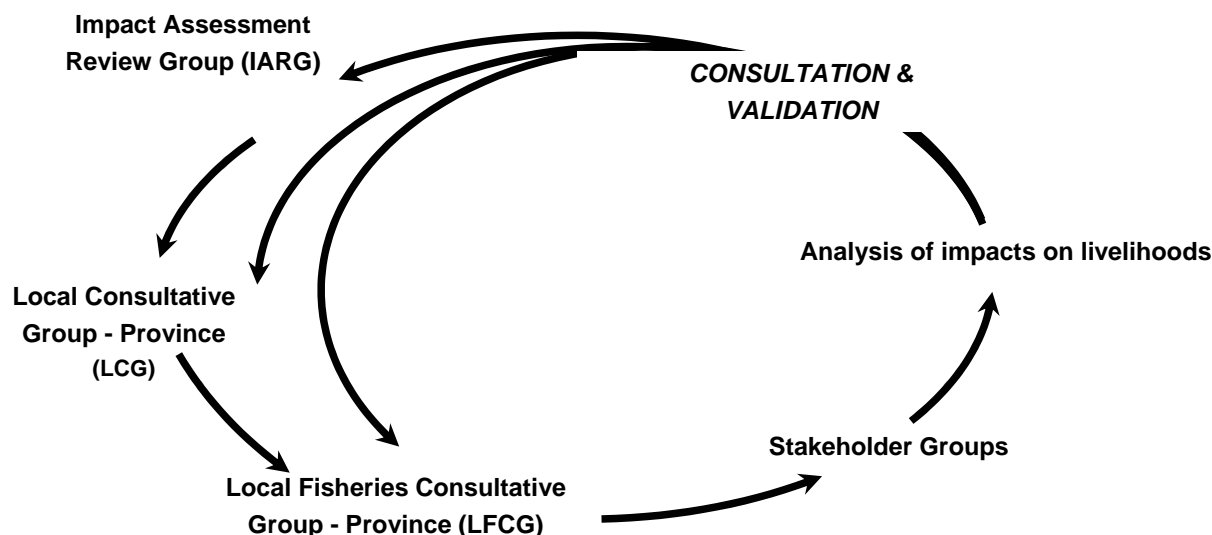
It was agreed early on that relative simplicity would be a key to achieving replicability. Complex methodologies, involving extended field work, large data sets and complicated analysis, would be unlikely to be adopted by potential partners in the future. The assessment methodology would therefore need to be relatively quick, cost-effective, adaptable to the institutional capacities of potential partners and able to generate information that could be developed into meaningful and useful outputs with relative ease.

## **2.1.2 Development of the assessment process and methodology components**

Based on these “guiding principles”, the assessment team within the CFDO first of all developed a set of basic assessment components consisting of the following:

- The development of an overall “assessment process” following the principles laid out above (see Figure 1);
- Identification of the key partners that might be engaged in this process and the sorts of information that might be generated at each level and stage of the process;
- A series of checklists of key topics that could be used to guide consultations at each level, and stage of the assessment process and for use with the different stakeholder groups involved at these different levels and stages;
- Detailed guidelines for those involved in facilitating these consultations and carrying out the assessments in specific locations;
- A series of information forms that would allow key information generated from consultations and data collection activities at different levels to be recorded in a concise format;
- A stakeholder identification matrix to help identify key stakeholder groups involved in fisheries at the field level;
- Guidelines for an eventual validation process to be conducted once the information generated by the assessment in each province had been fully analysed and findings developed.

**Figure 1**  
**PRIAC Assessment Process**



### 2.1.3 Piloting and refinement of the methodology

The draft methodology was first tested in Kampong Cham Province in January, 2003. The field experience provided a basis for further refining the methodology and introducing various changes aimed at streamlining the process of implementation in the field and simplifying the recording and analysis of information.

A key part of this pilot activity was the more precise identification of the components of the provincial-level consultative groups that were foreseen as constituting a key part of the assessment methodology. While the CFDO was to take the lead in developing and conducting the policy impact assessment process, the partnership with these groups was an essential part of ensuring the participatory and inclusive nature of the assessments, their transparency, and their systematic coverage of different levels of stakeholder. The function and membership of these consultative groups is outlined below.

#### **Local Consultative Groups (LCG)**

These groups were to be made up of a range of individuals and institutions from the province level. The purpose of forming this group was two-fold:

- To create a forum for discussion among institutional stakeholders from related sectors and agencies that might have a concern with the fisheries reforms.
- To provide the assessment team with an overview of the context in which the fisheries reforms had been introduced in the province and identify any specific shocks, changes or trends, as well as any political, institutional, cultural or social factors specific to the province that may have had a significant influence on the livelihoods of rural households quite independent of any changes caused by the policy reforms.

The composition of these LCGs would inevitably vary in each of the provinces involved in assessments but, in general, the institutions and agencies involved would include:

- The Office of the Provincial Governor;
- Provincial Agriculture Office;
- Provincial Fisheries Office;
- Department of Agriculture, Forestry and Fisheries;
- Department of Environment;
- Department of Rural Development;
- Department of Water Resources and Meteorology;
- PRASAC;
- Provincial officers involved in the SEILA programme;
- Representatives of NGOs operating in the Province;
- Representatives of the private sector.

The involvement of this broad group of institutions proved essential in achieving an overall understanding of the context within which the fisheries policy reforms had taken place and thus the relative significance of the changes caused by the policy reforms compared to other processes going on in the area. This proved especially important as the provincial-level LCG meetings often identified important local factors that have played roles in influencing the livelihoods of rural people quite independent of the fisheries policy reforms.

#### ***Local Fisheries Consultative Groups (LFCG)***

The Local Fisheries Consultative Group (LFCG) drew together a more specialised group specifically concerned with fisheries and fisheries issues to discuss in more detail the fisheries context of the province, the process of implementation of the fisheries reforms in the province and to carry out a preliminary analysis of the various stakeholders involved in fisheries who have been affected by the reforms.

The core of this group was generally made up of the staff of the Provincial Fisheries Offices in each province and staff from District Fisheries Offices, but other institutional stakeholders and key informants for the fisheries sector, including private sector representatives and NGO officers directly involved in the fisheries sector in the area were also involved in these groups where they were identified.

#### **2.1.4 Methodology review by the Impact Assessment Review Group**

Following this pilot activity, and as a first step in implementing the overall process envisaged for the assessments, the first meeting of the first level of consultation envisaged by the process – the Impact Assessment Review Group (IARG)– was called in January, 2003. This group was intended to constitute a form of “peer review” group that could be called upon at regular intervals throughout the assessment process to comment on the approaches and methodologies being used, the issues being identified during the course of implementation and offer comments and criticism with a view to improving the process and drawing on experience and best practice that was of relevance.

This first meeting of the IARG made various suggestions concerning the methodology and these were subsequently incorporated into the final version of the methodology to be applied in the first round of provinces for the implementation of the policy impact assessments. A further meeting of the IARG was held in July, 2003 to review progress and discuss the experience of the assessment process to date.



## 2.2 METHODOLOGY OF THE POLICY IMPACT ASSESSMENTS

The principle steps in the methodology that was generated as a result of the development process outlined above are reviewed below. Full details of the checklists, guidelines and information sheets referred to below can be found in the separate report on the methodology of the policy impact assessments.

### ***Meeting with Local Consultative Groups (LCG)***

- The invitation of potential members of the LCG, drawing on representatives from a range of concerned departments, organisations and agencies, both government and non-government.
- With this LCG, a facilitated discussion, based on a checklist of key topics and guidelines, aimed at understanding key features of the local economic, political and institutional context in each province, and key changes and processes that might have influenced the way in which the policy reforms have impacted on livelihoods – copies of the guidelines and checklists for these meetings are attached in Annex 1.
- The creation, in consultation with the LCG members, of a timeline for key events and changes in the province.

### ***Meeting with Local Fisheries Consultative Groups (LFCG)***

- The invitation of potential members of a LFCG drawing on representatives of the Provincial Fisheries Office, the Ministry of Agriculture, Fisheries and Forests at the provincial level, and other agencies with direct interests in fisheries, as well as NGOs involved in work in the fisheries sector.
- A facilitated discussion with this group, based on a checklist of key topics and guidelines, aimed at understanding key features of local fisheries, the different stakeholder groups involved in different aspects of fisheries in different parts of the province and key changes and processes that might have influenced the way in which these stakeholder groups experienced the policy reforms – copies of the guidelines and checklist for these LFCG meetings are attached in Annex 2.
- The development of a stakeholder identification matrix aimed at identifying distinct groups of stakeholders within the fisheries sector and clarifying the key factors distinguishing these different stakeholder groups – the matrix that was used as a guide for this process is attached in Annex 3; particular attention was paid in this process to identifying groups that might be distinguished by gender, their ethnicity, the type and scale of fishing gear used, the types of fishing ground they exploited, their combination of fishing with other livelihood strategies, and the types of institutional support they were receiving in developing community fisheries.
- The identification, in consultation with LFCG members, of specific locations in the province where different stakeholder groups that might have been affected in different ways by the policy reforms could be contacted.
- The creation, in consultation with LFCG members, of a timeline for fisheries-related changes in the province.
- With assistance from the LFCG members, the setting up of a programme of meetings with the various stakeholder groups identified. This programme would consist of a core series of meetings that were organised ahead of time through the offices of LFCG members but left time for informal meetings that

could be organised on an *ad hoc* basis in the field as the assessment team thought necessary.

### ***Stakeholder focus group discussions***

- Meetings with stakeholder groups were held as focus group discussions in the field.
- Discussions were semi-structured, guided by a checklist of key issues and guidelines but allowing for stakeholders themselves to raise issues that they regarded as important – the guidelines and checklist used for the stakeholder focus group discussions are attached in Annex 4.
- Seasonal calendars were created with stakeholders as visual aids to assist in the analysis of livelihood elements.
- A “voting” procedure at the end of the discussion to allow stakeholders to express an overall assessment of the impacts of the policy reforms from different points of view.

### ***Data analysis and review***

- An initial review of the assessment process and the teams impressions regarding stakeholder responses was held immediately following the field work with the GFCG members.
- After this, information generated by the various consultative group meetings and the stakeholder focus group discussions was reviewed and analysed.
- A draft report on the findings was prepared.
- Essential elements from this report were used as a basis for creating materials for use during the validation process below.

### ***Validation***

- Findings were validated at meetings with the LCG and LFCG in each province.
- Meetings were organised with a range of stakeholders from the various stakeholder groups covered in the assessment, although not necessarily with the same respondents as those involved in the original field work.
- At these validation meetings, organised at the provincial and/or district level, the key findings generated by the field work are presented, discussed and possible variations or anomalies identified, guided by a prepared set of guidelines. An example of these guidelines for the validation meetings is attached in Annex 5.
- As required based on these validation meetings, overall findings for each province were reviewed and refined.

### ***Preparation of a consolidated report and review by IARG***

- Once the provincial-level assessment findings had been finalised, they are consolidated into an overall report and recommendations based on those findings developed;
- This report will be presented to the IARG, to which representatives of the LFCGs from participating provinces will be invited, for review and comment.

## **2.3 DISCUSSION OF THE METHODS**

### **2.3.1 Replicability**

The methodology developed is relatively straightforward to implement and does not consume a lot of time. The key elements that are required in order to ensure its replicability are a systematic approach to recording the outcomes of discussions and a good understanding of the topics that need to be covered and the guidelines provided for focus group discussions.

Conducting the focus group discussions in the field with different stakeholder that constitute the central element of the assessment requires skills and sensitivity but, through the use of relatively detailed guidelines and checklists of key issues to be covered, a consistent approach to these discussion can be ensured. Prior training of the teams involved in the field work can ensure that this consistency is maximised.

### **2.3.2 Objectivity**

As a Department of Fisheries-led activity, involving close cooperation with the Provincial Fisheries Service, there was inevitably some concern during the course of the methodology development regarding the potential for bias creeping into the assessment process. The Provincial Fisheries Offices, as well as performing their institutional roles, are also stakeholders in the policy reform process who have experienced direct, and generally negative, impacts on their livelihoods as a result of those reforms. In many cases, they could be perceived as having a vested interest in directing the assessment teams towards areas and stakeholder groups that have experienced more negative impacts.

In practice this was not an issue. Provincial Fisheries staff facilitated the PRIAC process without in any way directing it. Ample room was given for fisheries officials to air their views and express their opinions. Through their participation in the Local Fisheries Consultative Groups, it was possible to establish a constructive relationship with fisheries officers and avoid any potential feeling among them that the policy reform impact assessment represented a threat to them.

### **2.3.3 Variability**

Some variability in the quality and depth of the findings generated in different provinces was encountered. This can largely be attributed to the fact that the methodology itself was being refined and developed constantly throughout the period of these initial assessments. The fact that some distinct variations in the ways in which the policy reforms have affected people in different areas suggests that the methodology employed is sufficiently detailed to identify local particularities. At the same time, some general underlying themes have been clearly identified

## **2.4 POTENTIAL FOR WIDER APPLICATION OF THE APPROACH IN CAMBODIA**

The methodology is simple enough to be applicable on a wide scale throughout Cambodia. In particular it should be an approach that is transferable to other organisations and agencies so that the implementation of the policy impact assessments does not necessarily have to involve the CFDO, who already have extremely heavy demands on their time and skills. With some basic preparatory training, other groups, such as the staff of national or international NGOs, or staff from other projects and programmes on-going in the country should be able to adopt the approach, apply it in the field and generate findings that should be comparable.

In particular the validation procedures already incorporated into the methodology can become the basis for routine monitoring of policy impacts and changes underway in the wake of the reforms.

Ideally, the coverage of the approach should be expanded to cover at least the 10 provinces directly affected by the release of fishing lots and ideally all the 14 provinces where inland fisheries take place.

The Table 1 below shows the coverage that has already been achieved by PRIAC and other activities that have undertaken assessment of the policy reforms, so as to understand the potential and requirements for future coverage.

TABLE 1 : NATIONAL COVERAGE OF ASSESSMENT OF POLICY REFORM IMPACTS TO DATE											
NAME OF PROJECT/ AGENCY		PROVINCES									
		K. Cham	Kandal	P. Penh	Takeo	Prey Veng	K. Chhnang	K. Thom	Siem Reap	Battam- bang	Pursat
PRIAC	No. communities	11			8						8
	Fish. Lots covered	6			4						4
	Total Fish Lots	24			20						7
OXFAM	No. sites				2			2		2	1
	Fish. Lots covered				2			1		4	1
	Total Fish Lots				20			7		12	7
MRC	No. sites		2				4	12	3		
	Fish. Lots covered		2				8	4	4		
	Total Fish Lots		19				19	7	7		

In addition to the provinces mentioned above, the OXFAM assessment also looked at one community in Stung Treng province where community fisheries activities have been on-going since before the policy reforms.

Coverage of provinces by the various assessments has been quite thorough with Phnom Penh (which had only one, relatively small fishing lot released) and Prey Veng being the only provinces not touched on so far. Clearly the extent of coverage has varied quite considerably. Between the three assessment activities carried out, coverage of Pursat, Kampong Thom, Siem Reap and Takeo has been reasonable.

### 3 THE RESULTS FROM THE FIRST ROUND OF ASSESSMENTS

The three provinces selected for this first round of the PRIAC were selected with a view to looking at the impacts of the policy reforms in areas where fisheries, the stakeholders in fisheries, and the role played by fisheries in the livelihoods of those stakeholders, were likely to have quite different characteristics. This selection was made by the Department of Fisheries based on experience of these differences and existing knowledge of the fisheries of Cambodia.

The three provinces selected represent areas with distinct hydrological, geographical, social, and economic characteristics. From the fisheries point of view they represent the three main inland fisheries areas into which the country can be divided – the Upper Mekong, the Lower Mekong and Mekong Delta, and the Great Lake and Tonle Sap. The location of the three provinces selected is shown in Figure 2.

**FIGURE 2 : CAMBODIA, SHOWING PROVINCES COVERED BY PRIAC**



Source : ADB

The findings of the assessments in each of these provinces are discussed below. They are treated separately because some of the differences between provinces constitute important findings of this assessment. In Section 4, the implications of the findings across all three provinces are discussed in more detail.

### **3.1 FINDINGS FROM KAMPONG CHAM PROVINCE**

#### **3.1.1 Description of Kampong Cham Province**

Kampong Cham Province is located on the North-East of Phnom Penh, lying astride the Mekong River. According to the census 1998, the total population in the province is 1,608,914. Of this about 37 percent, or 595,000 people, live in “fishing communes”. On average, the province accounts for approximately 9% of the total inland fish catch in the country.

Kampong Cham Province is largely located in the flood plain of the Mekong River and this river constitutes the dominant feature of local hydrology. Seasonal variations in water flow down the Mekong River influence the conditions throughout the province and are particularly important for fisheries.

The map in Figure 3 shows the released and retained fishing lots in the province and the principle land use patterns around the fishing lots.

#### **3.1.2 The implementation of the policy reforms in Kampong Cham Province**

Following the announcement of the fisheries policy reforms, Task Force No.4 was appointed to visit Kampong Cham in order identify which fishing lots or parts of fishing lots in the province were to be released. The sub-decree establishing the release of fishing lots for Kampong Cham, Sub-decree No.21, was released on 21<sup>st</sup> February, 2001.

In Kampong Cham, prior to the policy reforms, fishing lots included not only the 12 lots covering the areas of river, floodplain and lake shown on the map in Figure , but also 12 “sand-lot” sites located on sandbars and islands in the main Mekong River. All 12 sand lots and 5 of the riverine and lacustrine lots were completely released while part of all the remaining 7 riverine and lacustrine lots were also released. In all, discounting the relatively small sand lots (total area 863 hectares), 40,011 hectares of the main fishing lots, or 62.4% of the total, were released. This was considerably higher than the overall national figure of 56%. The details of the released and retained fishing lots in Kampong Cham are shown in Table 2.

#### **3.1.3 Impacts on different stakeholder groups**

The different communities where the assessment was carried out all had quite different characteristics in terms of the stakeholder groups living there. These are concisely reviewed in Table 3 below.

Table 4 consolidates the results of the ranking exercise undertaken in communities in Kampong Cham with different stakeholder groups. These were conducted at the end of focus group discussions in each community and provided a means of obtaining an overall assessment of stakeholders’ perceptions of impacts. The details of the variations between different communities are discussed below.



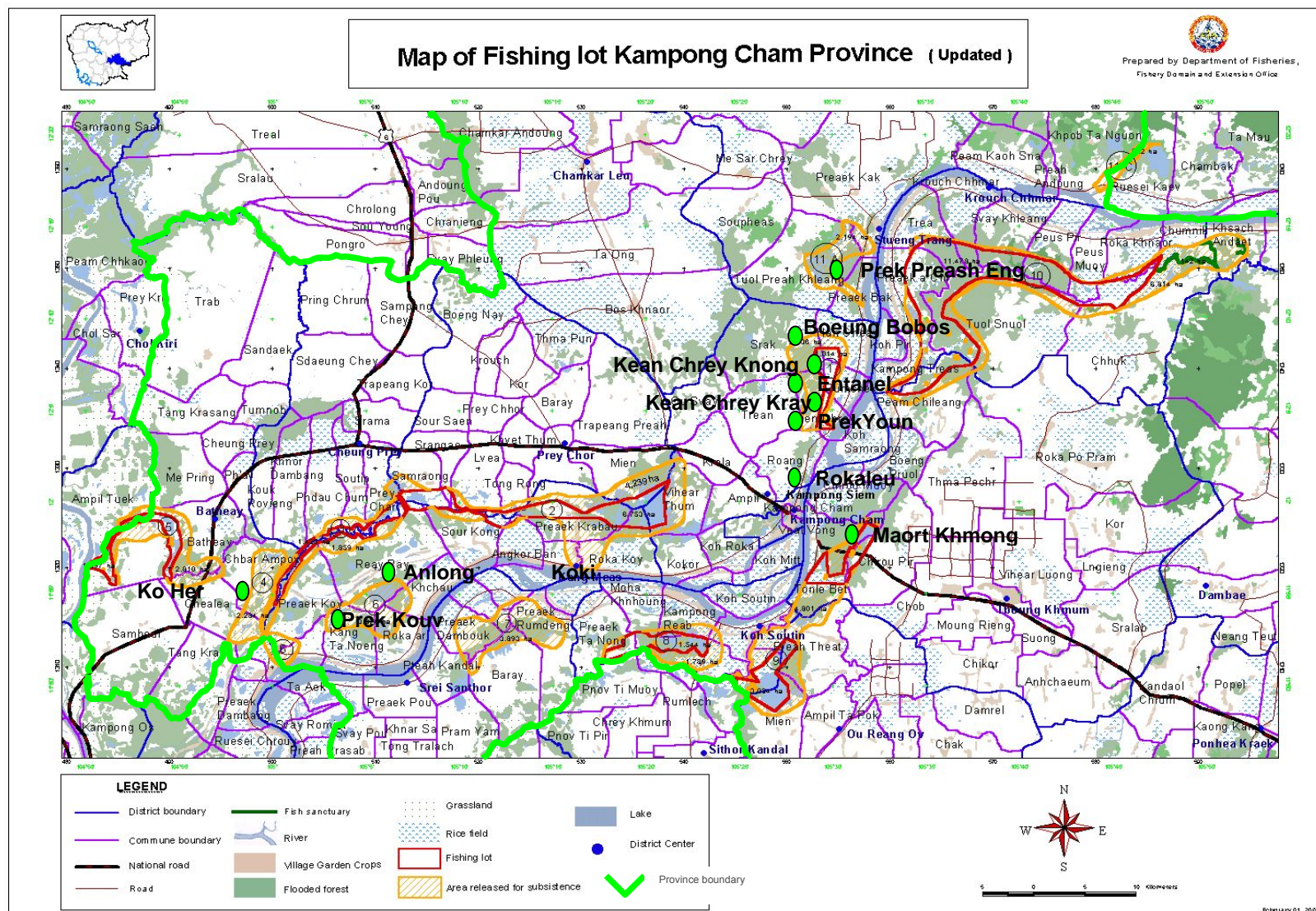
**FIGURE 3 : FISHING LOTS AND LAND USE IN KAMPONG CHAM PROVINCE**

TABLE 2 : FISHING LOTS IN KAMPONG CHAM PROVINCE						
Fishing Lot	Current Status	Total Area (ha)	Area released (ha.)	Current Area (ha.)	Value (Riel)	
					Prior to Release	After release
RIVER & LACUSTRINE LOTS						
1	partially released	3,450	2,436	1,014	23.220.000	?
2	partially released	10,992	6,753	4,239	68.000.000	42.000.000
3	partially released	3,284	1,859	1,425	30.000.000	24.000.000
4	completely released	2,284	2,284	0	12.000.000	0
5	partially released	4,207	2,810	1,397	16.000.000	13.000.000
6	completely released	3,674	3,674	0	17.000.000	0
7	completely released	3,893	3,893	0	10.500.000	0
8	partially released	3,333	1,789	1,544	13.860.000	?
9	partially released	7,835	4,801	3,034	70.000.000	50.000.000
10	partially released	18,434	6,956	11,478	46.000.000	38.000.000
11A	completely released	2,194	2,194	0	19.000.000	0
11B	completely released	562	562	0	16.500.000	0
TOTALS		64,142	40,011	24,131	342,080,000	177,000,000
SAND LOTS						
1	completely released	28	28	0	600.000	0
3	completely released	56	56	0	500.000	0
6	completely released	42	42	0	900.000	0
8	completely released	131	131	0	500.000	0
9	completely released	20	20	0	500.000	0
10	completely released	37	37	0	800.000	0
13	completely released	59	59	0	1.200.000	0
17	completely released	83	83	0	600.000	0
18	completely released	112	112	0	700.000	0
19	completely released	83	83	0	600.000	0
20	completely released	102	102	0	410.000	0
21	completely Released	110	110	0	350.000	0
TOTALS		863	863	0	7,660,000	0



TABLE 3 : REVIEW OF STAKEHOLDER GROUPS AND PERCEIVED IMPACTS OF POLICY REFORMS, KAMPONG CHAM PROVINCE							
Village name	Ethnic group	Poverty status	Land ownership	Fishing lot status	Livelihood patterns	Relationship with authorities	Overall view of policy reforms
Maort Khmong	Khmer	Generally very poor	50% landless	Partially released Lot 9	Wet & dry season rice Fishing all-year round for poorest groups All year round fishing	Reasonable support from local authorities & military on CF & enforcement	Positive – appreciate better fishing access, safer fishing & access to land for dry season rice
Prek Youn, Entanel, Boeung Bobos, Kean Chrey Knong, Kean Chrey Kray	Khmer	Most have land & varied activities – about 30% of community poor	10% landless	Partially released Lot 1	High reported involvement in illegal fishing & illegal gear manufacture Dry season agriculture: Nov-April Fishing March:-July: Sept-Oct Fish culture: July-Aug Women/girls in garment factories	More conflicts with both authorities & with lot owner over use of illegal gears	Mixed - overall well-being & incomes reduced
Prek Preach En	Khmer	Better off	Very few landless	Fully released Lot 11	Dry season rice: Nov-March Secondary crops: Nov-Jan; April; June-Aug Fishing: June-Dec	Police & military paid by illegal fishers	Mixed – better access, less conflict but marginal impacts on income & well-being Access to fish for <i>prahok</i> declined
Ko Her	Khmer	Better off	10% landless	Fully released Lot 4	Dry season rice; Nov-March Secondary crops: Nov-Jan: Fishing June-Dec	Poor opinion of CF – conflicts within community Police support to illegal fishers	Generally negative
Prek Kouy, Anlong Koki	Khmer	Medium poor	15-20% landless	Fully released Lot 6	Dry season rice: Oct-April: Secondary crops: Dec-Aug Fishing: year round Women/girls working in garment factories	Released lot rented back to ex-lot owner by CF	Mixed – increased conflict Impacts on income & well-being ambiguous
Rokaleu	Cham	Medium poor	Landless	Fully released sand lots	Year round fishing Now shifted to motor taxi & waste recycling (men) Fish trading (women)	Fines by authorities on illegal gears used by them	Negative

TABLE 4 : CONSOLIDATED RANKING MATRIX – KAMPONG CHAM PROVINCE					
ALL STAKEHOLDER GROUPS TOTAL NOS. “VOTING” – 49					
Positive/negative impact	Impacts on fisheries resources	Impacts on access to fisheries	Impacts on conflict	Impacts on income	Impacts on overall well-being
++	1	12	6	1	1
+	5	26	16	11	11
0	7	9	9	14	14
-	24	2	6	19	17
--	12		12	4	6
<b>TOTAL</b>	<b>49</b>	<b>49</b>	<b>49</b>	<b>49</b>	<b>49</b>

### ***Impacts on fisheries resources***

The consensus among almost all stakeholder groups contacted is that fisheries resources have declined since the introduction of the policy reforms. This is almost always expressed in terms of stakeholders noting that they are catching less fish. In at least one case, Maort Khmong in Thoung Khmoum District, Khmer small-scale fishers specifically mentioned that they could not tell whether resources were actually declining or there were simply more people catching fish and so individual catches were reduced.

This is blamed on:

- Increased use of illegal fishing gears, including electrocution, but the impression in Kampong Cham is that it is the widespread diffusion of small-meshed gillnets that may be having a more serious impact.
- The increased number of people fishing. In Maort Khmong, fishers estimated that there were between 50% and 90% more fishers now active in their fishing areas compared with before the policy reforms.
- Increased numbers and size of fishing gear. Even more than the increased numbers of fishers, many stakeholders noted the increase in the size and number of gears used by individual fishers. For fishers in Prek Youn and Entanel villages in Kampong Siem District, the quantity of fishing gear being used in the fishing grounds near their village, around Fishing Lot No.1, has increased by 300- 400% since the policy reforms.

Given that several of the respondent groups contacted in Kampong Cham mentioned that they had suffered a significant decline in their non-fisheries livelihoods during the period immediately following the policy reforms due to repeated drought conditions in the area, it is also possible that at least part of the reported increase in fishing effort has not been a result of the policy reforms *per se* but may have been as much a response to the diminution of other opportunities in agriculture. Clearly, the adoption of increased fishing effort as a coping strategy was facilitated by the opening up of fishing lots to public fishing, but it may be that, given different conditions and increased agricultural opportunities, fishing effort might not be so intense.

### ***Impacts on access to fisheries resources***

People in Kampong Cham have almost universally experienced improved access to fisheries resources as a result of the policy reforms. This is in spite of the fact that in

several locations “community fisheries” areas have been leased out to private parties.

For many of the poorest groups, this improved access has been extremely significant, especially as the policy reforms came at a time when the area was suffering recurring drought, severely restricting agricultural activity in the dry season and the demand for agricultural labour. This was especially noted in Maort Khmong and in the group of villages visited in Kampong Siem District.

### ***Impacts on conflict***

Given that the policy reform was introduced initially largely in response to perceptions of growing conflict surrounding fisheries, it is worth noting that the impacts on conflict have been marginal. Almost all stakeholders agree that the dominant conflicts prior to the reforms – conflicts between small-scale fishers from local communities and fishing lot owners – have diminished. Improved security for fishers, who no longer have to face armed intimidation by fishing lot guards, was noted as an important improvement, especially for small-scale Khmer fishers. The full-time Cham fishers from Rokaleu village, near Kampong Cham town, were unambiguous in feeling that levels of conflicts had diminished.

However, in several of the locations covered by the assessment, new conflicts have emerged. These have included:

- Conflicts between small-scale fishers and those with larger fishing gears (Prek Preach En village).
- Conflicts between lot owners in residual fishing lot areas and small-scale fishers over use of illegal fishing gear, particularly barrage traps using small-mesh nets and placed at strategic bottlenecks in fishing grounds that do not allow fish to pass into wider fishing grounds - by lot owners - and over the use of small-mesh gears - by small-scale fishers (Prek Youn and Entanel villages (Kampong Siem District).
- Conflicts between fishers and Community Fisheries committees, where CF committees are perceived as being corrupt, unrepresentative, and acting in the interests of local elites or ex-lot owners (Ko Her village, Batheay District, and Prek Louv and Anlong Koki villages, Kang Meas District)
- Conflicts between agriculture and fisheries, as more settlement has taken place inside released fishing lot areas, new land has been brought under dry season agriculture, flooded forest has been cleared and pesticide and fertilizer use has increased (all sites).

The removal of the barrage traps used by lot owners in their fishing lots in the past has also had negative impacts on some farmers in lots that have been released in the wake of the policy reforms as these barriers, besides catching fish for lot owners, also served surrounding farming communities by slowing the drainage of water from low land areas, thus ensuring that water was available for irrigation well into the dry season. As these barrages have been dismantled, water availability for farmers has deteriorated. The same process may have had positive impacts for some farmers, particularly those that were landless as it may have made land available for them for farming in lower parts of the floodplain. This certainly seems to have been the case in Maort Khmong village where many landless people from the community have moved their residence to areas inside the released fishing lot area where they have occupied land for farming.

### ***Impacts on income***

A slight preponderance of people contacted during the assessment feel that their incomes have diminished in the wake of the policy reforms. Attributing this decline (or the rise in incomes of those who felt that incomes had improved) is far more difficult. Several important developments have affected incomes during the same period.

Drought, pests and infestation by rats have negatively affected agricultural incomes for 4 years running in the Kampong Cham area and these factors, as well as the declining catches of fish noted by many stakeholders, may have driven earnings down during this period.

On the positive side, improved access to employment, particularly for women, because of the opportunities created by the growth of the garment industry in Phnom Penh has positively influenced incomes in the most of the communities visited. Emigration to Thailand and Malaysia (Prek Preach En village) also seems to be becoming an increasingly important factor. These changes in employment patterns are also reported to have driven agricultural wages upwards, to the extent that farmers are increasingly employing strategies to minimise their labour costs, notably by shifting from transplanting rice to broadcasting seed directly in the fields.

Again, the Cham fishers from Rokaleu stand out from the other groups contacted in seeing more clearly negative effects on their incomes in the wake of the reforms.

### ***Impacts on overall well-being***

Perceived impacts on the overall well-being of households follows similar patterns. Somewhat more people perceive an overall decline in their well-being compared with those that have perceived an improvement, with a large number regarding their overall condition being practically unchanged.

Cham fishers in Rokaleu clearly feel that their overall well-being has declined. This is particularly significant as this is the one group that, until recently, was entirely dependent on fishing and fish-related activities, such as cage culture of snakeheads, for their livelihoods. The changes that have taken place since the policy reforms have placed them at a considerable disadvantage. After initially being relieved of the need to pay licensing fees, they have now found themselves being asked to pay new fees to the district authority. At the same time, they seem to be particularly heavily affected by the increased competition in fishing and the large number of new entrants engaged in fishing activities. This seems to have forced more and more of the Cham fishers to decide that their fishing activities are no longer viable and encouraged them to effectively change occupation. Many of the men have started working in motor taxi businesses in Kampong Cham or recycling waste while the women carry on fish trading activities. It was reported that as much as 90% of the fishing gear in the community, much of which was medium-scale drag nets and pelagic trawl nets for use in the Mekong River, have been sold to fishers operating in the Great Lake.

### ***Impacts on food security***

While respondents were not specifically asked to “vote” on the impacts of the policy reforms on food security, changes in access to fish came out as being of great importance to people in the Kampong Cham area. Respondents in all the communities visited mentioned that the decline in fish catches that they have experienced since the fisheries policy reforms, whether or not they are directly linked to these reforms, have resulted in a significant change in access to fish for food.

Patterns of fish consumption are reported to have changed for larger fish, that are reportedly rarely caught any more, to smaller fish. In Prek Kouv and Anlong Koki villages, Keang Mas District, consumption of fish was reported to have reduced very significantly, with people now eating different aquatic organisms that previously

were not consumed commonly, such as freshwater clams and shells, and in some cases substituting other forms of animal protein such as cat and dog meat.

Of particular concern, in all the communities visited, has been the difficulty in either catching or being able to purchase small fish for making *prahok* or *praork* this year. This is reported to be the first time that respondents can remember having to purchase *prahok* for home consumption, usually through the sale of rice. Clearly, it is not possible to attribute this situation directly to any effect of the policy reforms - it may be that the low floods experienced this year have had a significant impact on the availability of *trey riel* and other small species. However, in the eyes of many respondents, there is a common thread connecting the difficulty in accessing small fish for *prahok* manufacture, the declining catches experienced over the last 2 years and the noticeable increase in numbers of fishers, fishing gears and illegal fishing methods that has taken place in the wake of the policy reforms.

### **3.1.4 Impacts on institutions**

#### ***Fisheries Office***

Following their withdrawal from the field in early 2001 in the wake of the policy reforms, the role of the fisheries officers has not been re-established. The most notable feature of the impacts on the institutional role of the Provincial Fisheries Service is the fact that fisheries officers were rarely mentioned at all during focus group discussions at the village level. In Prek Prek En village, fisheries officers had assisted with enforcement activities, but it is very clear that police and military are generally seen as playing a more central role.

#### ***Police and military***

There were widespread complaints throughout the province, with the exception of Maort Khmong village in Thoung Khmum District, that the police and military, who previously acted largely on behalf of lot owners in helping them enforce their exclusive fisheries rights, have now shifted to supporting fishers using illegal gears and effectively protecting their activities. It was possible to determine the validity of these perceptions.

#### ***Local authorities***

Members of local authorities talked to in Prek Kouv commune, Kang Meas District, listed the following key changes that had been noted following the policy reforms:

- Lack of water to irrigate dry season rice due to removal of barrages that retained water;
- Lost of fish production (as fish are no longer retained within fishing lot areas);
- Increased anarchy in fishing
- Very significant Increase in the use of illegal fishing gears (electrocution and small-mesh fishing gear);
- Clearance of flooded forest for brush park fisheries and dry season rice cultivation;
- Conflict between fishers over the use of illegal fishing gear;
- Reduction of the period in which people can fish. As water area dries up sooner, people can only fish during the wet season and for a limited period during the dry season, whereas before fishing went on all year round;
- Disappearance or reduction in some fish species in catches.

Members of local authorities also reiterated the perception expressed by others that the release of fishing lots had not taken sufficient account of the real needs of local people, who would have preferred the partial release of the lots in the area while some was left under the fishing lot system. The speed with which the reform was introduced, with limited prior analysis of the specific issues affecting fisheries in the area, was felt to have had negative impacts.

According to the local authorities, it is now particularly difficult for the authorities to arrest offenders and file the case in the court as the court generally releases the offenders almost immediately.

Regarding Community Fisheries, there is a widespread feeling that they have been established without adequate preparation or forethought and this had created opportunities for individuals and local elites to take control of them and use them for their own benefit. However, this situation is not universal. Around Fishing Lot No.9 in Thoung Khmum District, local authorities, supported by law enforcement agencies, have played a far more supportive role in helping local people make Community Fisheries work.

### **3.2 FINDINGS FROM PURSAT PROVINCE**

#### **3.2.1 Description of Pursat Province**

Pursat Province is located on the western part of the country. It covers an area of 1,269.2 sq.kms and is bordered by the provinces of Kampong Chhnang and Kampong Speu to the east, the Great Lake to the north, Battambang province to the west and north, and the international border with Thailand to the far west.

While the province includes extensive upland areas of the Cardomon Hills in its southern and western portions, much of the population, as well as the economic and social activity of the province, is centred in a relatively narrow belt along the route of the RN 5 highway running through Pursat town. The relatively limited settlement along the shores of the Great Lake itself is explained by the flooding which occurs annually when the water levels of the lake extend far inland almost to the line of the main road shown here.

Of the six districts in the province, much of Phnum Kravan and all of Veal Veang Districts are mountainous and forested areas that occupy the central and western portions of the province and are very sparsely settled. Sampoy Meas is an “urban” district located around the main town of Pursat. Besides Pursat, other important centres of population include the district towns of Krakor. Along the shores of the Great Lake there are principal landings at Kampong Laung.

The hydrology of Pursat District is dominated by two main features – the Great Lake to the north and the Steung Pursat River running from the south-west to the north-east. The Great Lake varies in size according to the season. From the low-water point, generally reached in April-May, the lake begins to rise, fed both by the backing up of water from the Mekong River as it rises and by local rainfall, reaching its highest point in September-October. In Pursat province, the high water mark is as much as 35 kilometres inland from the normal low water mark.

The intermediate belt was, in the past, largely covered with flooded forest but this has been progressively cleared and converted to seasonal agriculture. Besides the clearance of flooded forest for agriculture, much has also been cut for firewood, fish smoking and sugar manufacture.

The Steung Pursat River is the principle river flowing through the province, draining the Cardomon Hills located along the Thai border to the west. However, the flood plain of the Great Lake is covered with a network of smaller channels and streams.

The maps in Figure 4 shows the released and retained fishing lots and principal land use patterns for the province.

**TABLE 5 : FISHING LOTS RELEASED FOLLOWING THE POLICY REFORMS IN PURSAT PROVINCE**

Fishing lot	Hectares released	% of total area prior to reforms
Lot 1	2,837	41%
Lot 2	5,529	43%
Lot 3	3,359	44%
Lot 4	7,017	100%
Lot 5	8,212	100%
Lot 6	909	14%
Lot 7	2,409	41%
TOTAL	30,272	55%

### 3.2.2 The implementation of the policy reforms in Pursat Province

Task Force 1 from the Department of Fisheries was sent to Pursat Province to determine which fishing lot areas should be released. Fisheries Sub-Decree No 9 dated 22<sup>nd</sup> January, 2001 fixed these areas. The fisheries reforms in Pursat resulted in the release of 30,272 hectares of fishing lot area to come under “community fisheries”. This constituted 55% of the total area of fishing lots in the province, more or less in line with the overall national average. Table 5 below shows the proportion of different fishing lots released.

Figure 4 below shows the fishing lot areas in Pursat Province, including those released as a result of the policy reforms and those retained and the location of the communities covered

by the policy impacts assessment.

Among local Khmer full-time and seasonal fishers, the introduction of the policy reforms was seen, at least initially, as an important victory as they were now able to access fishing areas without paying fees to lot owners or other agencies.

With the announcement by Prime Minister Hun Sen to withdraw fisheries officers from the field for “retraining” and the subsequent relaxing of practically all controls on fishing activity, fishers perceived that they have exclusive rights to do fishing.

There is anecdotal evidence that those with resources to invest in fishing activity have taken advantage of the relaxing of controls to invest in larger, more effective and, in some cases, illegal and destructive fishing gear allowing them to maximise their returns from fishing given that the risks of apprehension are minimal. Various fishing methods, such as electrocution, motorised push-netting, pair trawling and the use of ever longer bamboo barrier traps are reportedly more and more common. The pumped drainage of lakes and waterbodies around the Great Lake is also reported to be increasingly commonplace. Furthermore, the clearance of inundated forest has reportedly increased in some areas.

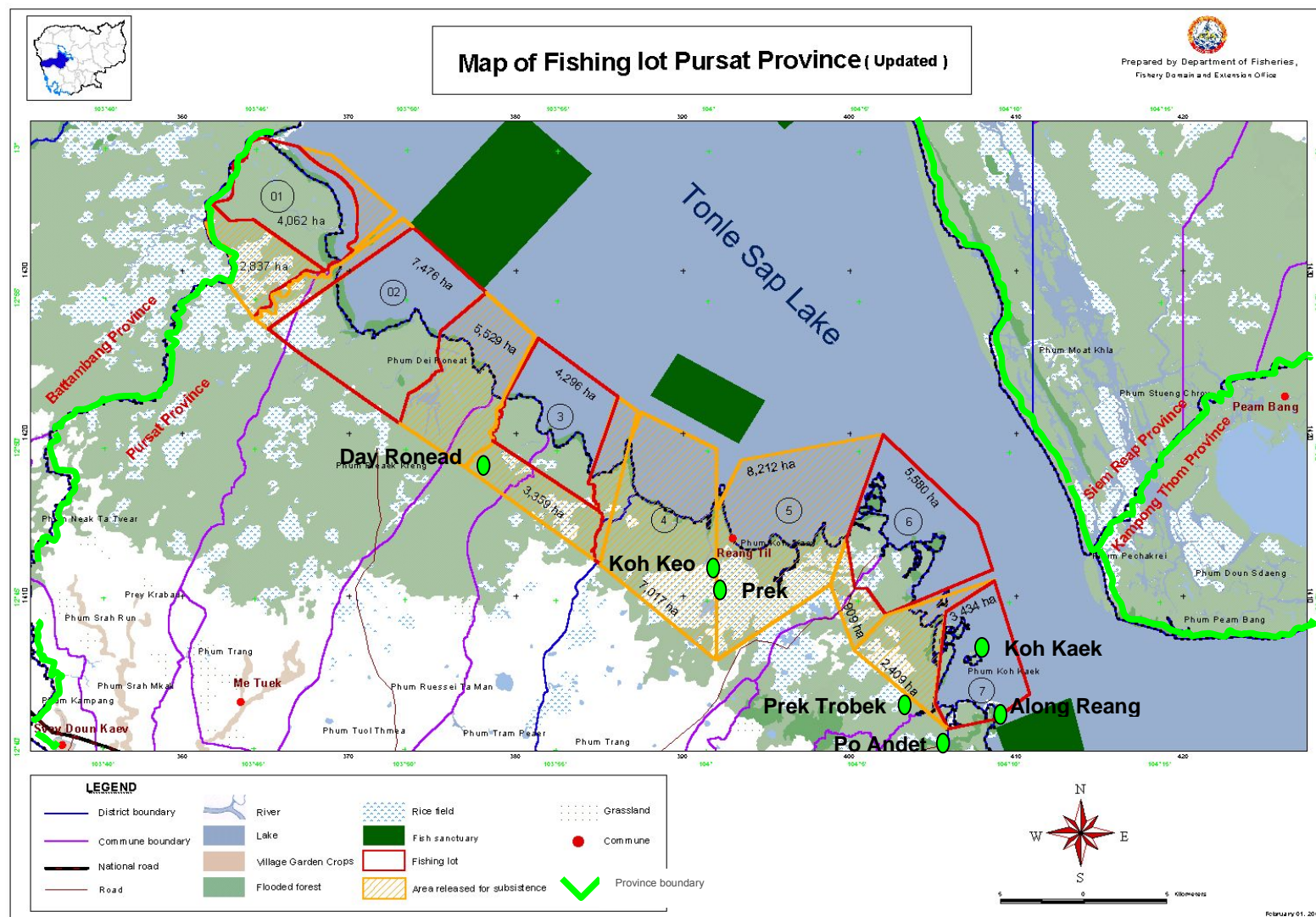
**FIGURE 4 : FISHING LOTS AND LAND USE IN PURSAT PROVINCE**



TABLE 6 : REVIEW OF STAKEHOLDER GROUPS AND PERCEIVED IMPACTS IN PURSAT PROVINCE							
Village name	Ethnic group	Poverty status	Land ownership	Fishing lot status	Livelihood patterns	Relationship with authorities	Overall view of policy reforms
Koh Keo	Vietnamese	Not poor	No land – floating village	Completely released Lots 4 & 5	100% dependent on fishing		Negative – some improved access but increased competition, conflict & declining incomes from fishing
Prek	Khmer	Poor	No land – floating village	Completely released Lots 4 & 5	100% dependent on fishing		Positive – some negative impacts on fish catches but generally livelihoods improved
Ko Kaek	Vietnamese	Not poor	No land – floating village	Partially released Lot 7	100% dependent on fishing		Marginal impact – declining fish catches but little change in overall livelihoods
Anlong Reang	Khmer	Poor	Landless	Partially released Lot 7	100% dependent on fishing	Support from an NGO, CFDS, in setting up community fisheries since 1999(before policy reforms). Potential for developing capacity to manage natural resources recognised	Mostly negative after initial positive impact. Better access and reduced conflict but now resources in decline and too much competition
Po Andet & Prek Trobek	Khmer	Relatively poor	Some land in upland areas	Partially released Lot 7	Migratory upland farmers – seasonal fishing Nov-March		Mostly negative after initial positive impact in helping to deal with drought. Better access and reduced conflict but now resources in decline and too much competition.

### 3.2.3 Impacts on different stakeholder groups

Table 6 reviews the various communities visited in Pursat Province during the course of the policy impact assessment and the characteristics of the stakeholder groups encountered there. Table 7 summarises the ranking of different types of impacts identified by the stakeholders contacted in Pursat.

TABLE 7 : CONSOLIDATED RANKING MATRIX – PURSAT PROVINCE					
ALL STAKEHOLDER GROUPS : TOTAL NO. OF RESPONDENTS : 40					
Positive/negative impact	Impacts on fisheries resources	Impacts on access to fisheries	Impacts on conflict	Impacts on income	Impacts on overall well-being
++		2	12		
+	4	30	14	11	11
0	2	7	7		5
-	15	1	5	19	13
--	15		2	16	11
TOTALS	40	40	40	46	40

#### *Impacts on fisheries resources*

The only community where some respondents felt that there had not been negative impacts on fisheries resources in the wake of the policy reforms was in Prek. Given that a small majority of respondents in this community, as well as all other respondents in other communities, felt that they were experiencing declining catches, this perception is probably explained by the fact that fishers in Prek have had a far greater area opened up for fishing in the wake of the policy reforms – theoretically they now have free access to over 15,000 hectares of ex-Fishing Lots Nos.4 and 5 – and the sheer size of the fishing area now available to them may have partially off-set the intense additional pressure to which fisheries resources are now subject.

Most of the other respondents, whether Khmer, Cham or Vietnamese, and whether engaged in full-time or seasonal fishing, have detected a marked decrease in their catches. The landless, full-time Khmer fishers in Anlong Reang Village specifically mention that they have no way of knowing whether this decline is due to the increased number of people fishing, to natural factors related to the relatively low flooding experienced in 2003, or to an actual decline in fisheries resources.

The consensus among most fishers seems to be that the enormous increase in fishing activity is beginning to have severe impacts on the condition of the fisheries resource. Fishers in Prek estimate that there are now up to 400% more people fishing, most of them seasonal migrants from upland areas who come down to the shores of the Great Lake and the surrounding floodplains during the draw-down period of the floods, from November to March, to fish.

Interestingly, the Vietnamese fishers in Ko Kaek place the blame on what they describe as a 70% decline in catches more on the use of illegal gears and, in particular, the use of small-mesh nets by remaining lot owners in their barrier traps. This perception is probably linked to the fact that this fishing community is located within the area of Fishing Lot No.7 which has been retained, thus they have more direct experience of the activities of lot owners and less contact with the influx of seasonal fishers that has affected released areas.

***Impacts on access to fisheries resources***

Most respondents indicated that their access to fisheries resources has improved considerably. Those who have noted the least difference are the Vietnamese fishers at Ko Kaek, again due to their situation inside retained Fishing Lot No.7. The effects on fisheries access have been most dramatic for the Khmer full-time fishers in Prek and the Vietnamese fishers in Koh Keo, both located within the area of Fishing Lots Nos. 4 and 5, both of which were completely released.

However, it is also noteworthy that almost all those who have experienced these improvements in their access also lament the greatly increased levels of competition they are experiencing on their new fishing grounds. This increased competition is having the effect of undermining the improved access they experienced initially.

Given the situation of intense competition now affecting fisheries, several respondents made the point that poorer fishers now found themselves worse off as they could not compete effectively with those fishers who had been able to invest in larger, more efficient, and in some cases illegal, fishing gears.

***Impacts on conflict***

For most of the Khmer fishers contacted during the course of the assessment in Pursat Province, levels of conflict have greatly reduced. This finding needs to be seen in the context of the extremely tense relations existing between local fishers and fishing lot owners in the period prior to the policy reforms. Violent confrontations between fishing lot guards and fishers were frequent and two fishers from Prek were reportedly killed in 1998 in such an incident. It is therefore not entirely surprising that the decline in conflict was highlighted by most of the Khmer fishers who had suffered most as a result.

The situation for the two groups of Vietnamese fishers contacted was very different. For the Vietnamese fishers in Koh Kaek, located within Fishing Lot No.7, conflicts had not apparently been a major problem for them in the past and there was little change now. For the other Vietnamese group involved in the impact assessment, at Koh Keo village, the complete release of the fishing lots around about was actually perceived to have increased the conflicts they face, largely because of the large numbers of outside fishers now arriving in the area and conflicts that they face over the use of their relatively larger fishing gear. This group also complained of increased conflict over with fishers using illegal fishing gears.

***Impacts on income***

Khmer full-time fishers in Prek were the only group of respondents who felt that their current incomes were better now than before the fisheries reforms. Again, this may be because of the very extensive fishing areas now opened up to them in ex-Fishing Lots 4 and 5, or it may be a "perception" deriving from the particularly tense situation affecting people in this community prior to the fisheries reforms.

In all the other communities in Pursat, respondents felt that their current incomes from fishing were inferior to what they obtained prior to the fisheries reforms. The benefits of improved access have been largely outweighed by increased competition with other fishers and declining catch rates for individual operators. For Vietnamese fishers in Koh Kaek, this decline has been relatively slight but in all the other communities the change has been more consistent.

However, it needs to be noted that, while the seasonal fishers in Po Andet also feel that their current incomes from fishing are now less than before the policy reforms, they also note the fact that their improved access to fisheries in the immediate wake of the policy reforms played an important role in permitting them to cope with the

drought conditions experienced in 2002-2003 when their livelihood opportunities from farming were significantly reduced.

### ***Impacts on overall well-being***

Stakeholders' perceptions of changes in their overall well-being followed similar patterns to their perceptions of change in income.

The Vietnamese fishers of Ko Kaek had seen little change. Khmer fishers in Prek felt that their livelihoods had improved overall, while all the other groups contacted felt that they were worse off now compared with prior to the policy reforms.

Once again, the importance of the new fishing opportunities in helping them to deal with the drought period in 2002-2003 was emphasised by several groups of respondents even where they felt that currently they had access to significantly reduced benefits from fishing.

### **3.2.4 Impacts on institutions**

#### ***Fisheries officers***

The withdrawal of fisheries officers from the field subsequent to the introduction of the fisheries policy reforms caused considerable resentment among fisheries officers.

Following training in their new role as facilitators of community fisheries, fisheries officers generally recognized that the role of facilitator is quite different from their previous role as inspectors. They feel that fishers are still unlikely to want to work with them in their new role. There is also concern about the implications for their incomes of adopting a facilitating role. This indicates how fisheries officers feel that, given the extremely low wages paid to fisheries officers (as with most other government staff), the extra, and illicit, income which some may previously have earned from their activities as inspectors and enforcers of fisheries regulations was considered essential to their livelihoods.

The perceived rise in fishing effort being applied to ex-plot areas since the policy reforms, along with the proliferation in the use of illegal and destructive fishing gears, causes considerable concern among fisheries officers in Pursat. Fisheries officers regard themselves as having been relatively effective in their previous role as enforcers of fisheries regulations and "custodians" of fisheries resources and they see the perpetuation of the current situation as threatening to the long-term viability of fisheries and the future possibilities for the development, conservation, management and use of fisheries resources. Fisheries officers voiced concerns that over-fishing and use of illegal fishing methods will lead to the depletion of brood-stock and damage to the aquatic food chain of fisheries resources. Some expressed their concern that that, over the next 2-3 years, the quantity of fish catches will decline dramatically due to the lack of recruitment.

Therefore, some fisheries officers may see the effects of the fisheries reforms as fundamentally undermining one of the main stated objectives of fisheries reform - to improve food security and reduce poverty of local-dependent fishers on fisheries resources. They express concern that long-term livelihood improvement and poverty reduction through these reforms may not be sustainably achieved and the viability of the fisheries resource severely compromised.

Fisheries officers in Pursat see several issues arising that will compromise the long-term possibility of the policy reforms helping the poor:

- the poor do not have sufficient financial resources to invest in the improved fishing equipment that would allow them to improve their catches in the conditions of increased competition for fisheries resources that are now widespread;

- by contrast, better-off fishers are taking advantage of improved access to fisheries resources to buy new equipment and so increase their fishing effort;
- what fishing equipment poor fishermen do possess, such as gillnets and long lines, is increasingly subject to damage by the trawlers being used by richer fishers;
- this means that the benefits deriving from the release of fishing areas to community fisheries are being “cornered” by wealthier fishers at the expense of poorer fishers.

### ***Law enforcement agencies***

There is widespread perception in fishing communities that members of the police and military continue to be involved in illegal fishing and protect those involved in the use of destructive fishing gears. This could not be independently verified during the course of the assessment.

### ***Local authorities***

The introduction of the policy reforms is reported to have brought fisheries and fisheries-related issues far more to the attention of local authorities than was previously the case. Generally, it is felt that local authorities in Pursat are supportive of the reforms and the introduction of community fisheries in released fishing areas. In some area, local authority hesitates to support the community fisheries because there is no legal framework and, in some cases, they may take this opportunity to collude with offenders.

## **3.3 FINDINGS FROM TAKEO PROVINCE**

### **3.3.1 Description of Takeo Province**

Takeo Province is located on Southern part of the country about 78 km from Phnom Penh. It borders with Kandal province and Vietnam on the east, north and south and with Kampong Speu and Kampot provinces to the west. About 51% of Takeo's 3,563 square kilometers is given over to rice production in the wet season, and 20% in the dry, helping make it Cambodia's third strongest rice producing province according to most official estimates. About 85 percent of the population, estimated at 815,375 in the 1998 national census, call themselves farmers. The province of Takeo consists of 10 districts, divided into 100 communes and 1,116 villages.

The topography of Takeo province varies significantly from east to west. The eastern side is dominated by the flood plains of the Bassac River. Lowland plains occupy much of the centre of the province to the edge of the Cardamon Mountains to the west and southwest.

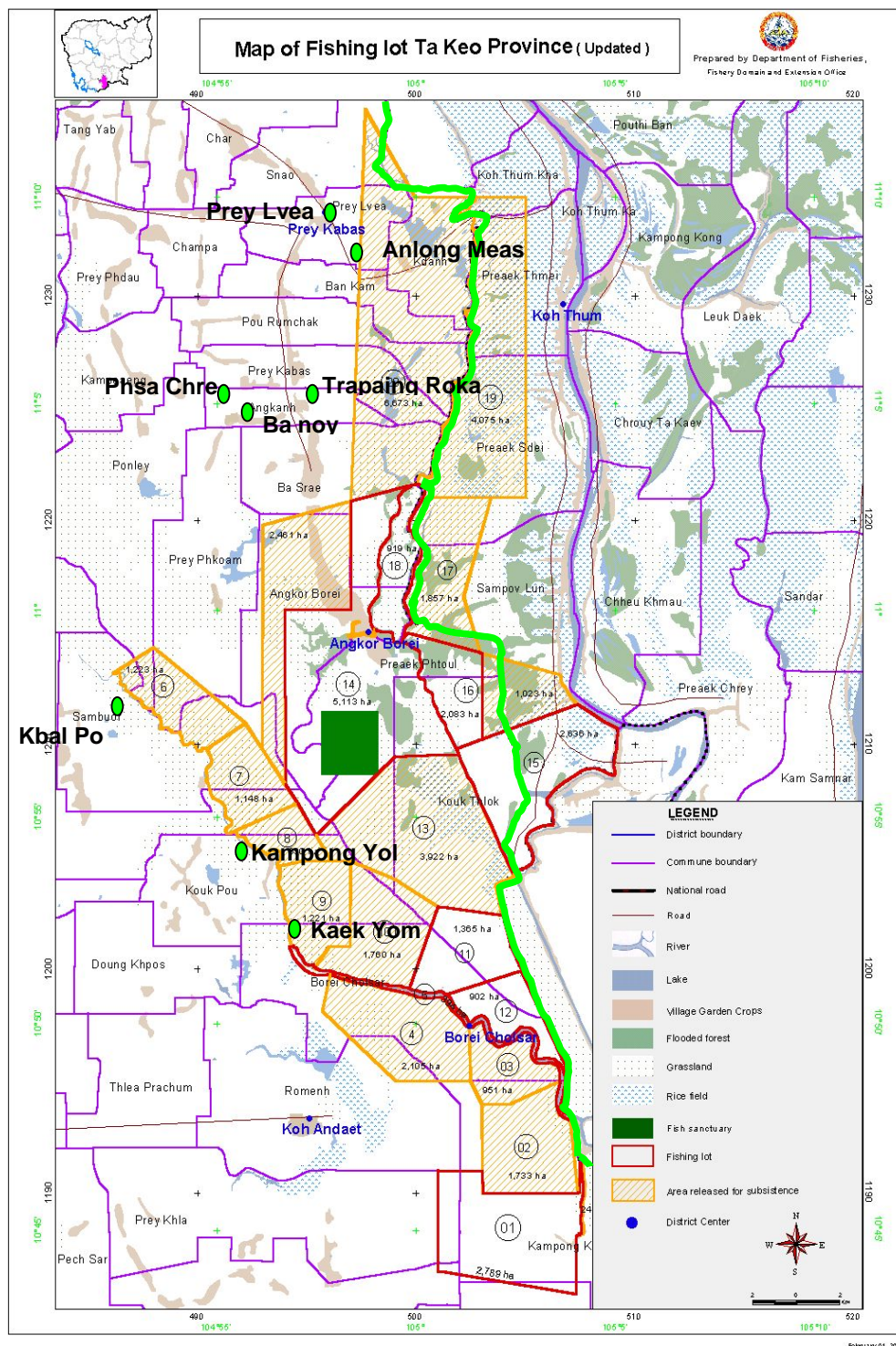
To the southeast Takeo directly borders with Vietnam, a significant feature as vicinity to the border has important impacts on the local economy.

Out of the population of Takeo Province, estimated at around 790,000 according to the 1998 census, about 97.4% are Khmer, 2% Muslim and 0.6% Vietnamese.

The hydrology of Takeo Province is dominated by the Bassac River, which flows out of the Mekong River just south of Phnom Penh then flows through Kandal and Takeo Provinces before entering Vietnam. The lowland areas of Takeo lie entirely within the floodplain of the Bassac River and are inundated generally between July and October. Within the floodplain area there are several more limited lower-lying areas that retain water for some time after the floods have receded from the surrounding countryside.

In the past, significant areas of this floodplain were covered with flooded forest. However, practically all of this flooded forest has now been cleared to make way for rice land dedicated to dry-season rice cultivation. This is facilitated by the dense network of canals that criss-crosses the floodplain, some built during the period of the Khmer Rouge regime and others more recently. This makes the Takeo an important rice producing area.

**FIGURE 5 : FISHING LOTS AND LAND USE PATTERNS IN TAKEO PROVINCE**



### 3.3.2 Implementation of the fisheries policy reforms in Takeo Province

The determination of which fishing lots or parts of fishing lots should be released following the announcement of the policy reforms in October, 2000 was entrusted to Task Force No.3. The findings of this task force were incorporated into Sub-Decree No.30 dated 27<sup>th</sup> March, 2001.

<b>TABLE 8: FISHING LOTS IN TAKEO PROVINCE</b>					
<b>Lot No.</b>	<b>Current status</b>	<b>Total area (ha)</b>	<b>Area released (ha)</b>	<b>Pre-release value ('000 riel)</b>	<b>Value after release ('000 riel)</b>
1	Partially released	2,836	24	76,000	30,000
2	Completely released	1,733	1,733	9,100	0
3	Completely released	951	951	15,100	0
4	Completely released	2,105	2,105	13,000	0
5	Not released	394	0	33,000	33,000
6	Completely released	1,223	1,223	2,700	0
7	Completely released	1,148	1,148	3,700	0
8	Completely released	630	630	6,200	0
9	Completely released	1,221	1,221	7,700	0
10	Completely released	1,760	1,760	66,500	0
11	Not released	1,365	0	11,700	14,500
12	Not released	902	0	6,100	9,450
13	Completely released	3,992	3,922	61,400	0
14	Partially released	7,574	2,461	17,600	21,000
15	Not released	2,636	0	22,500	26,900
16	Partially released	2,083	1,023	52,400	101,300
17	Completely released	1,857	1,857	14,500	0
18	Not released	919	0	83,700	101,000
19	Completely released	4,075	4,075	5,100	0
20	Completely released	6,673	6,673	46,000	0
	<b>Totals</b>	<b>46,077</b>	<b>30,806</b>	<b>554,000</b>	<b>337,150</b>

Table 8 shows the fishing lots in Takeo Province prior to the fisheries policy reforms, their area and their values in terms of revenue for their lease, as well as their current status following the reforms, the remaining area under lease and their current value.

In Takeo, out of 46,077 hectares under the fishing lot system prior to the policy reforms, divided between a total of 20 fishing lots, 30,806 hectares were released. This included 12 lots that were completely released and 3 that were partially released.

The area released represented 66.9% of the total area prior to the policy reforms, well above the national average of 56%. The value of the lots remaining was about 60% of the value prior to the reforms reflecting the increased value of some the remaining lots after the reforms and the fact that 4 of the 8 remaining lots were among the largest in the province.

Figure 5 above shows the location of fishing lots released and retained in Takeo Province as well as the communities contacted during the policy impact assessment. Some of the key characteristics of the different stakeholder groups in these different communities are shown in Table 10 below.

### 3.3.3 Impacts on different stakeholder groups

Table 9 summarises the ranking of different types of impacts identified by the stakeholders contacted in Takeo.

<b>TABLE 9 : CONSOLIDATED RANKING MATRIX – TAKEO PROVINCE</b>					
<b>ALL STAKEHOLDER GROUPS : TOTAL NO. OF RESPONDENTS : 24</b>					
<b>Positive/negative impact</b>	<b>Impacts on fisheries resources</b>	<b>Impacts on access to fisheries</b>	<b>Impacts on conflict</b>	<b>Impacts on income</b>	<b>Impacts on overall well-being</b>
<b>++</b>		3	2		
<b>+</b>		21	18	5	11
<b>0</b>	2		4	16	11
<b>-</b>	10			3	2
<b>--</b>	12				
<b>TOTAL</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>

#### ***Impacts on fisheries resources***

Respondents in Takeo were almost unanimous in feeling that fisheries resources were threatened by the increase both in the numbers of fishers and the amount of illegal fishing gear being used, whether electrocution, small-mesh gears or brush parks. In Kampong Yol, Cham farmers and part-time fishers accused Vietnamese immigrant workers and people from “outside” of being the principle culprits in the use of these illegal gears.

The Khmer rice farmers and labourers in Kbal Po, who fish seasonally in released Fishing Lots 6 and 7 noted that they had already seen a decline in fisheries resources prior to the policy reforms but that this process seems to have accelerated since the reforms were introduced and more and more people have got involved in fishing activity. Migratory rice farmers and labourers around this same area estimated that there were twice to three times the numbers of people fishing now compared to before the fisheries reforms.



**TABLE 10: REVIEW OF STAKEHOLDER GROUPS AND PERCEIVED IMPACTS IN TAKEO PROVINCE**

Village name	Ethnic group	Poverty status	Land ownership	Fishing lot status	Livelihood patterns	Relationship with authorities	Overall view of policy reforms
Trapaing Roka & Prey Lvea	Khmer	Medium poor	Some landless	Completely released Lot 20	Farmers & agricultural labourers - Seasonal & occasional fishers	Support from local NGO for Community Fisheries	Generally positive, in spite of negative impacts on fisheries resources. Impacts on Income and overall well-being limited or slightly improved. Greatly reduced conflict-
Temporary camps around Lots 6 & 7	Khmer	Poor	Landless	Completely released Lots 6 & 7	Migratory farmers & agricultural labourers involved in occasional & seasonal fishing		Generally positive, but many benefits from improved access to land for farming & agricultural labour
Kampong Yol	Cham	Poor	Most own some land	Completely released Lots 6 & 7	Seasonal & occasional fishing with dry season rice cultivation		Generally negative. Some improved access & reduced conflict but declining incomes & overall well-being because of increased competition.
Kbal Po	Khmer	Medium poor	Some landless	Completely released Lots 6 & 7	Seasonal & occasional fishing with dry season rice cultivation		Generally positive, but many benefits from improved access to land for farming & agricultural labour

### ***Impacts on access to fisheries resources***

Access to fisheries had effectively improved for all the stakeholder groups involved in focus group discussions. However, most of the groups mentioned the fact that it was access to land that had constituted the most important improvement for them as a result of the fisheries policy reforms. Improved access to fisheries is generally regarded as a welcome added option, but has been the possibility of clearing and cultivating new lands within fishing lot areas without conflicts with fishing lots owners over the use of water that seems to have constituted the main benefit for people in the area.

Certainly, the possibility of fishing over a wider area with reduced costs for licenses on medium scale fishing gear and no fees to pay to lot owners is a welcome advantage for most people. However, the perceived decline in catches means that this is not viewed as a long-term benefit by most of the people contacted.

Fisheries access appeared to more valued by migrant agricultural labourers from other areas of Takeo, who are now able to fish to supplement their incomes and food consumption without fear of harassment and, in addition, are able to carry out other activities that previously were restricted, notably duck raising which lot owners restricted within their fishing lot areas as it was perceived to “disturb the fish”.

### ***Impacts on conflict***

All the sites visited in Takeo Province, with the exception of Kaek Yom where a current lot owner was interviewed, were located adjacent to fishing lots that had been completely released. Therefore it was not surprising that most respondents had experienced improvements in the conflicts that they previously saw with fishing lot owners.

However, while this important aspect of their fisheries livelihoods had improved, many respondents also commented on the fact that tensions had increased between local fishers and farmers and the influx of people from outside the area who had also come to fish on newly released fishing lot areas and, in particular, with those using illegal fishing gears. In Kbal Po, Khmer fisher-farmers felt that the impacts on overall levels of conflicts had been relatively marginal.

### ***Impacts on income***

In spite of general concerns about the impact of increased fishing pressure on the fisheries resource, most respondents felt that their incomes from fishing were either stable or marginally improved. For those who regularly sold fish, the price of fish was reported to have risen sufficiently to compensate for the reduced amount being caught. In addition, where incomes from fishing had declined, it had generally been compensated by better earnings due to new agricultural opportunities that the policy reforms had opened up.

The Cham fisher-farmers in Kampong Yol were the only group where a significant part of the respondents felt that their incomes from fishing had actually declined as a result of the decreased catches and increased competition from other fishers.

Trapang Roka / Prey Lvea –marginal improvement in incomes in spite of lower catches – fish prices keeping pace with falling catches – improved access to farming land helping to support incomes

### ***Impacts on overall well-being***

For all groups, except the Cham farmer-fishers in Kampong Yol, the consensus was that their overall well-being had improved, at least marginally, or at least remained stable in the wake of the fisheries policy reforms. What improvements had been

experienced were generally due to the improved opportunities that had been created in agriculture, rather than because of improved access to fisheries.

People in Kampong Yol had also seen new opportunities arise in agriculture but were suffering from problems with agricultural pests that had limited the benefits they were able to derive from these opportunities.

### ***Impacts on food security***

Concern over declining access to fish is common to most of the stakeholder groups contacted in Takeo Province. Migratory agricultural workers around released Fishing Lots 6 & 7 particularly noted that their consumption patterns for fish had changed recently and they were only able to find relatively smaller and lower value varieties of fish for their own consumption.

### ***Impacts on lot owners***

The owner of one fishing lot was interviewed. He is considered a well-off person among people involved in fisheries in the area. He regards the policy reform as a significant threat to his business. In his view, the policy reform has opened up opportunities for local people to clear flooded forest, use illegal fishing gear and to expand areas used for dry-season rice cultivation. In addition he complains that he has lost much of his power to control fishing within the fishing lot of which he is still the lessee. He reports that people increasingly intrude into his lot area to catch fish and he has little ability to stop them. Any support he might have previously experienced from fisheries officers in enforcing his lessee rights over the fishing lot has also reduced as staff from the Provincial Fisheries Office rarely visit the field any more and have also effectively lost their ability to enforce regulations. The lot owner has experienced increasing tensions with local people as they have threatened to destroy his house and his fishing gear when he has attempted to enforce restrictions on their access to "his" fishing area. The income derived from his fishing business is decreasing, and fish catch is declining.

The lot owner expressed serious doubts regarding the viability of continuing his fishing business on the fishing lot under these conditions as he felt forced to leave the area and move to town to seek alternative forms of business.

### ***Impacts on post-harvest stakeholders***

Informal conversations with fish traders in Kompong Luang Village, Angkor Borey Commune, Angkor Borey District indicated several significant changes affecting them in the wake of the policy reforms.

- Larger volume production of fish, such as that generated from fishing lots, has obviously declined in the wake of the abolition of the fishing lots in this area.
- At the same time the number of smaller-scale fishers, each catching ever decreasing amounts of fish, has increased very significantly.
- Fish traders have had to adapt to this situation. It was reported that several of the larger scale fish traders in the Angkor Borey area had closed their activities while the number of small-scale fish traders, each dealing with relatively limited amounts of fish from diverse sources, has increased greatly.

This seems to have created new opportunities for employment in fish trading, but the impacts of these changes in fish trading on the flow of fish to consumers are unclear.

### **3.3.4 Impacts on institutions**

#### ***Fisheries officers***

Fishery officers viewed the policy reform as a “baby born before its parents”. Fishery officers feel that they are still unfamiliar with the new approach to natural resource management required for the implementation of community fisheries and that it will take some time for them to be able to adopt it effectively.

In addition, their livelihoods as fisheries officers has been negatively affected. For those fisheries officers who have been asked to take on a new role as “facilitator” of community fisheries, they are now totally dependent on their government wages and feel that they have fewer opportunities for generating “additional income”, as was apparently the case when their role was limited to enforcement.

For those fisheries officers whose principal role has remained that of enforcement of fisheries law and regulations, they perceive that the announcement of the fisheries policy reforms has effectively led to the loss of their legitimacy, in the eyes of local fisheries resource-users, to enforce fisheries regulations. As result, they limit patrolling activities and are reluctant to confiscate or arrest offenders. The situation is not aided by the perception among some involved in community fisheries that some fisheries officers stand behind those involved in the use of destructive fishing gears.

Fisheries officers see the current situation as one that is threatening the long-term viability of fisheries and the future possibilities for the development, conservation, management and use of fisheries resources. Without proper law, rules, regulations and guidelines put in place, and implemented, it is difficult to guarantee the equitable sharing and long term sustainable management of the resources. The set up of the CFDU (Community Fisheries Development Unit) is helping to build new relationships with local communities involved in fisheries, especially with those where Community Fisheries have been set up.

#### ***Law enforcement agencies***

There is perception in fishing communities that border police and military police allow Vietnamese migrants to fish in fishing areas within Cambodia. Some members of the police and military police are report to be involved in illegal fishing. However, with the establishment of community fisheries, local communities have a mandate to request the intervention of law enforcement agencies to control illegal fishing and there are signs of improving relationships as a result.

#### ***Local authorities***

The introduction of the policy reforms is reported to have brought fisheries and fisheries-related issues far more to the attention of local authorities than was previously the case. Generally, it is felt that local authorities in Takeo are supportive of the reforms and the introduction of community fisheries in released fishing areas. In some area, local authorities hesitated initially to support community fisheries as there was no legal framework for its implementation and, in some cases, local administrators may have taken this opportunity to collude with offenders. There were also complaints from fishing lot owners that local authorities have neglected to deal with illegal fishing as they did not wish to compromise their popularity in view of upcoming local elections.

## **4 DISCUSSION OF THE RESULTS FROM THE FIRST ROUND OF ASSESSMENTS**

### **4.1 ISSUES RAISED BY THE FINDINGS**

#### **4.1.1 Impacts on fisheries resources**

##### ***Access to Resources***

Access to fisheries areas has improved. This is regarded as a significant benefit by most stakeholders, but particularly by some of the poorest groups. In Kampong Cham, comments regarding the security of fishing activities, without the threat of apprehension by fishing lot guards, was noted as a significant benefit of the reforms which allowed far higher levels of household involvement in fishing. Women and children, who previously were afraid to go fishing, are now regularly involved.

Better access to fishing areas meant significant short-term benefits for fishers, whether full-time or part-time, and this proved particularly important in the face of the extended drought conditions experienced in many parts of the country in the immediate aftermath of the fisheries reforms. In both Pursat and Kampong Cham, improved access to fisheries resources helped many of the poorest groups living in the floodplains to cope with drought in 2001 and 2002 and the reduced agricultural production and labouring opportunities that it brought.

However, while access to fishing **areas** has undoubtedly improved, access to the benefits that can be derived from these areas in the form of fish catches seems to be under threat and may not be sustainable. Clearly it is very difficult to establish whether the perceived decline in fisheries resources is a result of long-term increases in fishing pressure, new fishing pressure as a result of the policy reforms, the use of illegal gears, habitat destruction, increased use of pesticides and fertilisers, the result of flooding patterns over the last few years, or, as is likely, a combination of all of these. What is clear is that access to fisheries resources is changing and is generally becoming more difficult, including for those who were the intended beneficiaries of the policy reforms.

##### ***Perceptions of resource changes***

There is a clear and widespread perception that fisheries resources have declined in the wake of the fisheries policy reforms. This is seen as being, above all, a function of the far higher numbers of people engaged in fishing. For most stakeholders, the decline is perceived in the form of fewer fish in individual catches. It is not possible to establish whether this represents a decline in the fisheries resource or simply the effect of higher levels of effort and the resource therefore being divided up among a greater number of people.

In addition to this, the current perceptions, widely reported during the policy impact assessment, that fisheries resources had declined sharply following the policy reforms needs to be seen in the context of general perceptions of resource decline over time. Studies conducted in Takeo prior to the reforms (Kato, 1999) show that people in communities not far from those contacted during the policy impact assessment indicated that fisheries stocks had already “collapsed” in the mid-1990s. This was blamed on illegal fishing practices by fishing lots owners and, above all, on the clearance of critical habitats for fisheries. Comments regarding a further “collapse” following the fisheries reforms, this time due to the increase in numbers of people fishing, need to be seen in this light.

### ***Changes in fisheries habitats***

Changes in key habitats that play a role in sustaining floodplain fisheries have been a concern since well before the policy reforms were introduced. However, it is clear that the abolition or reduction of some fishing lots brought in by the policy reforms has facilitated the acceleration of some of these ongoing processes. In some areas, notably Takeo, a major part of the benefits that have flowed to local people from the policy reforms actually come from the opening up of new areas for cultivation of dry season rice. While this has certainly created some new opportunities for poorer members of local communities, it is not clear to what extent the benefits of these new farming activities generally flow to the poorer sections of the community that the reforms were primarily aimed at assisting.

The removal of fishing lots has meant that more lowland areas are now being brought under cultivation, with the associated use of pesticides and fertilizers and their impacts on the fisheries environment, and some of the remaining flooded forest in these areas is being cleared. The Takeo it is reported that the very limited areas of flooded forest left in the Province prior to the policy reforms have now been completely cleared. It is not possible to say at this stage if this would have happened without the reforms.

This process also needs to be placed in context. Studies conducted in Takeo prior to the fisheries policy reforms (Kato, 1999) clearly indicate that most flooded forest in Prey Krabas and Koh Thum Districts near the study location had already been cleared as early as the 1980s and this was regarded by local people as having played an important role in the decline of fisheries resources before the policy reforms were introduced.

In Kampong Cham, another form of impact on the fisheries environment because of the policy reforms is seen in the removal of barrier traps. These are reported to have played an important role in retaining water in lowland areas for longer periods, facilitating fishing activities, but also access to water for irrigation. With the abolition of fishing lots and the removal of these barriers, which were maintained by fishing lot owners, water drainage as the floods recede is no longer impeded, and this has reportedly left many farmers without access to water for irrigation of dry season crops and significantly shortened the fishing season. It is also reported to have reduced the density of aquatic plants with their role in providing feed and shelter for fish.

In Pursat, flooded forest continues to be cleared rapidly although less for agriculture than for the provision of fuel wood for fish smoking, and for brush parks and poles for barriers.

#### **4.1.2 Impacts on poverty**

The findings from the policy impact assessment in three provinces indicate that it is almost impossible to generalise regarding the impacts on poverty caused by the policy reforms. There have been important impacts, for some groups in some situations, that have diminished poverty or helped people cope with situations that could have increased their poverty. For other groups in other situations, poverty or vulnerability to poverty has probably increased.

Below, the impacts of the policy reforms on different groups of stakeholders across the three provinces covered is discussed. In this discussion, the principal livelihood strategy and ethnic group is used as a means of definition, largely for convenience. However, the deficiencies of this means of defining groups needs to be realised and treated with some caution. A feature of floodplain fisheries in Cambodia, and elsewhere, is that people's livelihood strategies are extremely dynamic, particularly among the poorer groups. They may vary considerably from one year to the next depending on the patterns of flooding and the consequent access to different kinds of

resource that higher or lower flood levels may make available to them. In a year of higher flooding and rich fisheries production, more people are likely to become involved in fishing and many may become “full-time fishers”. The following year, with lower flood and changing opportunities, they may shift their attention to agricultural work or, particularly in the current context of Cambodia with the development of new opportunities in secondary and tertiary sectors in urban centres, migrate, at least temporarily, to seek work in factories or services.

Having said this, the characterisations of different stakeholder groups used below is primarily intended to broadly indicate the relationship of these groups to fishing activity and the role that fishing tends to play in their livelihoods, although this will inevitably vary considerably from year to year.

### ***Khmer full-time fishers***

“Full-time” Khmer fishers are those for whom fishing generally represents a dominant feature in their livelihoods. It is significant that out of three provinces covered in the first round of the policy impact assessments, only in Pursat were groups encountered for whom fishing was genuinely the principal livelihood strategy. In Takeo, all the Khmer “fishers” met were at least as dependent on agriculture, either as labourers or as farmers, as on fishing while in Kampong Cham, while Khmer “fishing” groups were also involved in agricultural work, dependence on fishing often seemed to be relatively higher.

The perceptions of impacts on those who have higher levels of dependence has been variable. Those with the most positive view were full-time Khmer fishers in Pursat (Preak village) who were previously located inside a fishing lot and whose access to fishing grounds was therefore very strongly conditioned in the past by fishing lot owners and who had suffered from violent conflicts with lot owners in the past. This is an important point, as people’s perception of the positive impacts of the policy reforms is inevitably affected by the degree to which they perceived **negative** impacts in the past from the fishing lot system.

Khmer fishers in Maort Khmong village in Kampong Cham also have generally positive perceptions of the change, particularly from the point of view of security while fishing – the possibilities created by the partial release of the fishing lot in which the community is located for women and children to engage in fishing is particularly important. However, it is also significant that the possibilities for diversification into agricultural activity in new lands opened up by the release of the fishing lots is also important for this group, and particularly for the poorest, completely landless, members of this group.

The fact that, among the communities covered by the policy impact assessment, those with the highest levels of dependence on fishing tended to be located either closest to, or within, fishing lot areas certainly contributes to the more positive perception that these have had of the policy reforms. However, the concern expressed by them regarding the levels of competition that they face from new entrants to fishing or from seasonal fishers who are also taking advantage of improved access makes them particularly emphatic of the need for stronger support in establishing new mechanisms to manage access to fisheries. In Pursat, in Anlong Reang, in spite of support in setting up community fisheries from a local NGO, Khmer fishers are less enthusiastic regarding the reforms as they feel that it has partially undermined the benefits they had hoped to perceive from their community fisheries, which were initiated before the reforms were introduced.

Khmer fishers with higher levels of dependence on fishing are generally recognised as being among the poorest groups in rural Cambodia – they are generally landless and their high level of dependence on an intensely seasonal and variable resource

makes them particularly vulnerable to poverty. Their poverty is linked to limited capacity to invest in productive assets and their dependence on the use of small, relatively cheap fishing gears. In the context of higher levels of competition with other fishers, including the less poor, and a lack of control over access to the resource, these groups tend to lose out in the long-run – other, less poor groups that can afford to invest in more efficient and larger fishing gears will almost inevitably be able to acquire a larger proportion of the available fisheries resources at their expense.

It is not possible to affirm that the declines in fisheries perceived by many of these stakeholders are completely the result of the policy reforms. It may be that pressure on the fisheries resource may be less in future years when agricultural opportunities may be better. However, it is clear that, in the current situation on released fishing lot areas, the ability of those dependent on fisheries to maintain an adequate livelihood from fisheries will remain at risk. Seasonal, yearly or longer-term changes in overall economic conditions or livelihood opportunities in other rural sectors will encourage more rural people to use fishing as a safety net and this will almost invariably have negative impacts on full-time fishers. From the point of view of these full-time fishers, the establishment of Community Fisheries should provide them with a mechanism for regulating access to fisheries and stabilising their livelihoods from fisheries, provided that Community Fisheries effectively take the needs and priorities of full-time fishers into account and are not “high jacked” by other sets of interests.

Even where community fisheries have been established that should protect the rights of these groups to fisheries resources, experience to date seems to indicate that it is particularly difficult for them to sustain those rights in the face of high levels of competition- poverty is not just lack of assets it is also lack of power. In order to ensure that the policy reforms guarantee sustainably improved livelihoods for these particularly vulnerable groups, the establishment of stronger management of the resources they depend on needs to be accompanied by measures to strengthen their overall position.

### ***Khmer fishers/agricultural workers***

This group of stakeholders covers, at least nominally, a considerable proportion of the rural population of Cambodia living in floodplain areas, for whom the combination of fishing activity, during periods when it is accessible, and agricultural work has always been a fundamental feature of their livelihoods. The opening up of fishing lot areas, at least initially, seems to have generally been of considerable benefit for many of these people, particularly as it took place during a period when their access to agricultural work was diminished by drought conditions in many areas. More intensive involvement in fishing has always been a key “coping” strategy for many agricultural workers and the removal of restrictions on fishing lots has made this coping strategy more accessible for many.

However, the benefits of these arrangements, particularly for the poorer stakeholders in this group, seem to be unsustainable as the increasing number of people competing for the resource often means that the returns for each individual fisher are reduced to a minimum.

As with full-time fishers, the open-access situation created in many released fishing lot areas has created strong incentives for seasonal fishers to invest in larger, and more numerous, fishing gears, including illegal fishing gears such as electrocution or small-mesh fishing nets. The seasonal fishers in Prek Youn and Entanel villages in Kampong Cham Province, who manufacture small-mesh nets, have seen demand for their gears, and their use increase significantly since the policy reforms opened up the fishing lots in their area.



Poorer seasonal fishers, who cannot afford to invest in larger or more effective gears, are unable to ensure adequate catches and often are reported to end up fishing on behalf of wealthier people who provide them with the gear they require, including illegal gears. Others have indebted themselves in order to purchase larger gears, with negative overall impacts on their livelihoods.

### ***Migratory Khmer seasonal fishers and agricultural workers***

Another distinct group of stakeholders that includes many poor people are the many rural people who seasonally come down from more upland areas to fish in open-access fishing areas. The responses of this group, and the benefits they have realised, in the wake of the policy reforms have been very similar to those seen by local Khmer seasonal fishers and agricultural workers. Initially, the improved access to wider fishing areas was perceived as a major benefit, but the increase in fishing pressure has made it more and more difficult for this group, as with others, to sustain access to fish.

In Takeo, one interesting benefit realised among migratory agricultural workers staying in ex-fishing lot areas was the fact that they are now able to supplement their incomes, not only from fishing, but from other activities, notably duck raising, that fishing lot owners had previously restricted.

### ***Farmers***

Notable benefits from the fisheries policy reforms seem to have accrued to farmers as the removal of fishing lots has created opportunities for opening up new areas for cultivation of dry-season rice. This access is generally made possible by the removal of barriers that lot owners previously used to hold water in their lot areas. These areas now drain much more quickly as the flood recedes creating the possibility of planting lands that previously remained under water for too long for dry season rice to be planted.

Clearly taking advantage of these opportunities depends on the capacity of farmers to mobilise the resources required to occupy and clear land and find the labour and investments required to cultivate it. While in some cases farmers who were already better off may have found themselves in a better position to take advantage of these opportunities, cases were found in both Kampong Cham and Takeo where previously landless households had been able to cultivate land to which they previously had no access, usually through rental or sharecropping agreements from landowners who do not have the resources necessary to directly cultivate these lands themselves. This improved access to land probably represents one of the clearest and most significant benefits that the policy reforms have generated, at least in Takeo Province. Many of these stakeholders have also been able to generate sufficient income from fishing to assist them in purchasing essential agricultural inputs such as gasoline for irrigation pumps and pesticides.

Paradoxically, in some areas of Kampong Cham, the precise process has created significant problems of access to water for irrigation for some farmers. During the dry season, standing water areas are now significantly reduced and, while this may have benefited those wishing to farm in lower-lying areas of the floodplain, it has created major difficulties for those with relatively higher lands.

### ***Cham full-time fishers***

Cham fishers, tend to be engaged in “medium-scale” fisheries and for those using these types of gear some advantages have accrued from the reforms as they now no longer have to pay licensing fees for their gear. However, they have also seen a dramatic increase in the numbers of other fishers using these gears and the competition for resources has greatly increased. For some of these fishers,

particularly those encountered in Kampong Cham Province, this increase in competition, and the perceived impacts of this on their fish catches, has been sufficiently severe to force them to abandon fishing and seek out alternative forms of livelihood.

The ways in which Cham fishers in Kampong Cham have responded to declining livelihoods from fishing is particularly significant as it illustrates the potential importance of creating opportunities in the secondary and tertiary sectors as a strategy for reducing pressure on natural resources. Cham fishers living in Rokaleu village, near Kampong Cham town, have reportedly shifted almost entirely to operating motor taxis and, in some cases, to recycling waste paper, plastic and metal. The extent to which the outcomes of these new livelihood strategies match their expectations was not entirely clear from the assessment findings.

### ***Vietnamese full-time fishers***

In Kampong Cham, where Vietnamese fishers were particularly active in fishing along the Mekong River, many Vietnamese fishers are reported to be leaving fishing altogether as they feel that their activities are no longer economic due to declining catches. In part this may be due to the overall decline in catches that many other fishers are detecting. However, for some of these Vietnamese fishers the change has also been brought about by the strict enforcement introduced since the policy reforms on the use of illegal fishing gears. This is particularly the case for the bottom trawlers used in conjunction with electrocution (*yang kao*) that was reportedly introduced by Vietnamese fishers as long ago as the late 1980s. It is significant that a concerted effort by law enforcers and the Provincial Fisheries Office in Kampong Cham has reportedly been sufficient to restrict the operation of this gear and encourage fishers involved in its use to consider changing occupation.

By contrast, in Pursat, some Vietnamese fishers seem to have experienced more limited impacts from the policy reforms as they have largely affected areas where they were rarely engaged in fishing. They too have perceived a significant decline in fisheries resources but have generally been able to invest in larger, and more efficient, fishing gears that have enabled them to continue to ensure sufficient access to resources to enable them to continue their activities. This is reported to include the utilisation of the bottom-trawling with electrocution methods that have been successfully stamped out in Kampong Cham.

However, Koh Keo, Pursat, Vietnamese fishers located close to the areas of released Fishing Lots 4 and 5 also perceive more negative impacts as a result of declining catches and intense competition.

Specifically in Takeo, the livelihoods of Vietnamese fishing lot workers have also been negatively affected, although many migrant Vietnamese workers are also now finding more work in the area in agriculture. However, the demand for Vietnamese labour seems to be as much linked to the fact that many of the Khmer women who previously carried out much of the agricultural labour in the area are now reportedly working in garment factories in Phnom Penh, driving up the costs of local labour and encouraging local farmers to higher cheaper workers coming across the nearby border from Vietnam.

### ***Fish processors***

For those involved in processing fish for home consumption, particularly in the form of *prahok* or *phaork*, access to supplies of fish for this activity has become particularly difficult over the last 1-2 years. As discussed above, it is not clear to what extent this can be attributed to the change brought about by the policy reforms and whether it has anything to do with the general increase in fishing effort seen by most stakeholders interviewed in the course of the policy impact assessment.

Most of those involved in more commercial fish processing have noted a marked decline in the volume of fish available to them and a steep increase in prices. In Pursat Province, where fish processing activities have traditionally been an important element in the livelihoods of communities around the Great Lake, many fish processors have been forced to seek out alternative sources of livelihood as they can no longer access the fish required to keep their businesses going. Part of this may be due to the diffusion of fish trading among many smaller-scale traders, at least in those areas where fishing lots have been completely released.

Interestingly, in Pursat, those involved in trading smoked fish note a different trend, with more people involved in the activity.

### ***Fish traders***

The impacts on fish traders of the changes to which the policy reforms seem to have contributed seems to be varied.

In Takeo, the effects seem to follow a reasonably logical pattern. With the closure of fishing lots, the production from those areas, that was previously concentrated in the hands of the fishing lot owner and the large-scale fishing operations operating on his behalf, has been spread among a far larger number of smaller producers. This has created new opportunities in fish trading as more buyers have opportunities to trade small amounts of fish. Similar changes may have taken place in Kampong Cham, where the women in Cham fishing communities have reportedly become more engaged in fish trading since the reforms came into effect.

Increased opportunities for small traders have arisen side-by-side with declining opportunities for larger-scale traders, many of whom reported to have gone out of business in area around Prey Krabas in Takeo Province. These larger scale operators can be generally assumed to have the resources at their disposal to invest in other forms of activity. What is less clear is what effects this change in patterns of fish trading may have had on fish supply to consumers.

#### **4.1.3 Impacts on food security**

Several of the changes in freshwater fisheries production, and access to freshwater fisheries, that have resulted from the fisheries policy reforms have impacted on food security.

The release of fishing lots that constituted, at least initially, the centrepiece of the fisheries policy reforms was intended to improve access to fisheries resources for the public in rural areas. Clearly, while not necessarily specified as an “objective” of the fisheries reforms, this improved access was also intended to improve supplies of fish for food. So first of all it is worth considering whether this has taken place.

In the initial boom in fishing activity immediately following the policy reforms, most stakeholder groups seem to have derived benefits both in income and food supplies from this improved access to fishing grounds. In several areas this change came at a time when opportunities in agriculture had been negatively affected by drought conditions, particularly in Kampong Cham and Pursat, and fishing activity constituted an important safety net, both for food and income, for many of the poorest groups who were suffering as a result of this situation. So, in the short term, there seems to have been a clear positive impact on food security for sections of the rural population that were particularly in need at a critical time.

Already during the fishing season of 2002-3, it seems that the benefits perceived initially were already starting to wane as fish, for most stakeholder groups, began to become more scarce. Whether or not this can be attributed to the increased fishing effort that had followed the opening of released fishing lot areas cannot easily be established, as discussed in relation to fisheries resources above. However it is clear

that the ability of people who, it is assumed, were the intended beneficiaries of the fisheries reforms to access fish for food has declined during the fishing season of 2002-2003.

Several effects besides changes resulting from the fisheries policy reforms may have played a role in this. Flooding in some areas was relatively low and this may have caused relatively lower fish production. Drought conditions may also have played a role in encouraging more people to fish, quite apart from the improved access to fishing grounds as a result of the fisheries reforms.

However, respondents reported, almost everywhere, that their ability to catch, or buy, fish has diminished. Those who are catching fish are catching fewer, and smaller sizes. In Kampong Cham, migratory or seasonal fishers who usually go fishing to catch small fish for making *prahok* and *praork* to last them through the rest of the year were not able, during the fishing season 2003-2004 to catch sufficient to make their normal quantities of these products and so have been forced to sell rice in order to purchase *prahok*. Other farmers and agricultural workers used to coming down to fish landings to purchase *trey riel* or other small fish in order to make their own *prahok* have not always been able to purchase enough. Given the importance of this foodstuff in the diet of rural Cambodians, and particularly the poor, this is of great concern.

Only continuing monitoring will be able to establish whether this change in fish supply is directly related to the reported increases in fishing effort that have been allowed by the fisheries policy reforms or whether they are due to the effects of annual flooding and weather patterns. However, it is certainly true that the removal of some of the larger-scale fishing activities normally carried out by fishing lot owners on lots that were released in 2001 has removed an important source of the types of fish used for *prahok* and *praork* production. Because this production was concentrated in specific locations, it was also easier to access for the large numbers of people migrating from more upland areas specifically to purchase, or barter produce for, these fish in order to make fermented fish or fish sauce to provide them with a source of preserved animal protein through the rest of the year. Where fishing lots, and the operations that fishing lot owners maintained, have been removed, fish production is now much more diffused among many small producers, apparently making it more difficult for these people to get hold of the fish they need for this purpose.

In response, many of these migratory workers have engaged directly in fishing activity. According to local fishers it is often these groups of “outsiders” who are often employing illegal and destructive gears. But it would seem, by their own reports, that even this has not allowed them, over this last year, to access sufficient fish for their needs.

#### **4.1.4 Gender and age differentiated impacts**

In some areas, notably in Kampong Cham, it is clear that the general levels of violence and intimidation that surrounded some fishing lots prior to the policy reforms acted as a deterrent for women and children to engage directly in fishing, even when fishing areas were located close to homesteads. In one community, Maort Khmong, in Thoung Khmum District, in Kampong Cham Province, the opening of part of the local fishing lot has facilitated a major increase in the involvement of women and children in fishing. Given the high proportion of female-headed households among the poorest sections of society in rural Cambodia, the potential importance of this positive impact should not be underestimated, particularly in those areas where the only fishing grounds available to people were located inside fishing lots that have now been released.

A further set of changes not directly related to the fishery reforms but which are almost certainly having an effect on fishing activity in released lot areas is the increase in alternative livelihood strategies opened up to women by the development of the garment industry in and around Phnom Penh. For women in Takeo and Kampong Cham Provinces this seems to be steadily becoming an important option that has led to a relative shortage of agricultural labour in the area, as women were the principle source of agricultural labour in both these areas. This change has been sufficiently widespread for farmers to widely mention that the costs of agricultural labour have risen considerably – in Takeo a change from Riel 3,500 per day to Riel 5,000 per day was mentioned – and they have changed their agricultural practices in response, shifting from transplanting dry-season rice to broadcast directly in the fields.

#### **4.1.5 Impacts on ecology**

There are several changes in the ecology of fisheries habitats that seem to have been encouraged by the policy reforms.

The release of fishing lot areas has encouraged more people to move into these areas, in some cases settle there and begin cultivating lowland areas that previously remained under water for longer periods. In Kampong Cham, Khmer fishers in Maort Khmong village mentioned that this increase in human settlement, while providing distinct advantages for some landless households, has also had a marked impact on water quality and access to clean water is becoming more difficult.

The removal of barriers and barrages previously used by lot owners to hold water for longer periods during the draw-down of the floods means that water now drains off these areas much more quickly making them suitable for dry-season rice cultivation. In Kampong Cham, the removal of these barrages was also reported to have allowed an increase in the transport of silt and stones from the river into floodplain areas during the onset of the floods.

The more rapid draw down of floods also has had several ecological impacts that are known to affect fisheries, although it is impossible to say at present how severe these effects might be. The earlier, and faster, drainage of floodwaters clearly reduces the floodplain areas where fish can find refuge in the dry season. Fishers in Kampong Cham also report a reduction in the growth of aquatic plants in the floodplain, partly because of shorter periods under water and partly because of increased agricultural activity in the lower parts of the floodplain. In some areas, the clearance of residual flooded forest has also accelerated. This reduces both shelter for fish and, possibly, the organic materials that end up fertilising the soil in floodplain areas. The increase in dry season rice cultivation has also reportedly led to increased use of pesticides and herbicides that may be having an impact on water quality. Fishers in Takeo mentioned this factor in particular, encouraged by ready availability of relatively cheap agricultural inputs from across the border in Vietnam.

#### **4.1.6 Impacts of the mode of implementation of the policy reforms**

The mode of implementation of the policy reforms has influenced the way in which its impacts have been felt at the household level.

Several key features of the series of events and changes that have made up the policy reforms to date are:

- The objectives, and content, of the fisheries reforms were less a result of systematic assessment of the needs of the sector but were more a response to a particularly urgent social conflict;
- The resolution of this conflict was nominally in favour of poorer aquatic resource users, in that the contention of representations to the authorities

that the rights of these users were being ignored by lot owners, and the fisheries and law enforcement agencies that were perceived to be supporting them, were apparently accepted and acted upon;

- While the central element of the reforms announced by the Prime Minister in October 2000, the release of 56% of the fishing lots in the country, was implemented relatively swiftly and simply, the associated measures to implement more participatory forms of management involving local communities were not defined and many of the basic preconditions for implementing them were lacking;
- The announcement of the reforms provided a strong impetus for change in the fisheries management arrangements in the country, even if the initial changes have effectively been introduced into a legal and administrative vacuum where the basic structures and legislation to accommodate these changes were not in place. Given that many of these changes have gone against the interest of strong sets of vested interests, it may be that a radical initial “push” for change of this sort was necessary. More incremental approaches to reform may have encountered strong opposition from these groups and it might have been difficult to maintain their momentum;
- The removal of senior fisheries department officials from their posts, and the withdrawal of fisheries inspection staff from the field in the wake of the announcement of the reforms clearly indicated, in the eyes of many stakeholders, that they were regarded as “part of the problem” and in collusion with the lot owners. This represented a strong delegitimisation of Provincial-level fisheries officers and their institutional roles;

These features of the way in which the policy reforms were implemented have had particularly important impacts on the institutions involved in putting the reforms into action and on the perceptions of institutional actors regarding what the reforms are about.

#### **4.1.7 Impacts on institutional arrangements**

The reforms have led to a significant re-shuffling of the roles and positions of different institutions concerned with the fisheries sector. In addition, the policy reforms took place during a period when other important changes were taking place in institutional arrangements in Cambodia. The timing of the reforms has created both opportunities from this point of view and some problems.

##### ***Provincial Fisheries Offices***

The introduction of the policy reforms, with the withdrawal of fisheries inspectors from the field was widely seen as “punishing” fisheries inspectors for perceived abuses of their position. This has had the longer term impact of effectively delegitimising of the Provincial Fisheries Service in their role of enforcers of fisheries regulations. It was notable that respondents in most sites visited during the policy impact assessment made relatively little reference to fisheries officers as playing a role in their fisheries livelihoods since the policy reforms. One exception has been Kampong Cham where fisheries officers have reportedly been active in suppressing the use of some illegal fishing gears, notably the bottom trawls with electrocution previously used by some Vietnamese fishers, particularly on the Mekong River.

The effects of this delegitimisation of the Provincial Fisheries staff was particularly marked in Takeo where many people involved in fishing stated that the policy reforms had given them the right to do as they pleased in released fishing lot areas and that any efforts to change this situation would require, in their eyes, the direct intervention of the Prime Minister who had promulgated the reforms in the first place.

From the institutional point of view, this perception is important, as the process of rebuilding an effective role for the Provincial Fisheries staff, whether as facilitators of Community Fisheries in the case of the new Community Fisheries Development Units, or of other sections of the Provincial Fisheries Offices as enforcers of fisheries regulations, will be a long process that will require strong and visible support from the highest institutional and political levels.

It is also clear that the shift in role that is being asked of Provincial Fisheries staff, from enforcers of the law to facilitators of local institutional development and community-level organisations, is extremely significant and is liable to require time and resources spent on capacity-building. The measures taken to date have focussed on defining a new set of tasks for Provincial Fisheries staff but resources have not yet been made available to undertake a serious retraining of these staff.

The incentives for these staff in their new role is also an important issue. Their past role of enforcers, often working in defence of what, previously, was the principle fisheries management mechanism in the country – the fishing lot system – created numerous opportunities for fisheries inspectors to supplement their income. The policy reforms have effectively removed these opportunities in many cases. Indeed, this was one of the specific intentions of the reforms.

Whether or not these “incentives” for fisheries inspectors were justifiable, their removal has also removed some of the principal incentives for these staff to perform their tasks, incentives that were important given the generally accepted fact that the official incomes of these staff are inadequate and resources are not currently available to augment them.

In addition, the relationship between Provincial Fisheries staff and the newly established Community Fisheries, and with the newly constituted Commune Councils remains unclear and requires formal definition before provincial fisheries officers can begin to rebuild a role for themselves in the new fisheries management context created by the policy reforms. In the specific case of the staff of the CFUDs, this process has begun, but the relationship of other staff of the Provincial Fisheries offices and, particularly, their enforcement role needs to be redefined.

### **NGOs**

NGOs played an important role in bringing some of the issues that led to the implementation of the policy reforms to the attention of the authorities. The policy reforms, by formalising the acceptance of the principle of community-based natural resource management in the fisheries sector have also created considerable opportunities for NGOs to play an important role in support of the establishment of Community Fisheries, where it is generally perceived that they have a “comparative advantage” through their skills and experience in community organisation and advocacy of the rights of the poor.

The active involvement of the NGO sector, actively encouraged by the Department of Fisheries, in working out the details of how to implement the fisheries policy reforms and in the development of the Sub-Decree on Community Fisheries has been essential in representing the interests of a broader group of stakeholders in the process.

This role needs to be built up and strengthened in order to complement the activities of the DoF, particularly in view of the limited resources available within government to conduct the intensive capacity building that will be required in order to make Community Fisheries work.

### ***Local authorities***

While it is generally recognised that commune councils are likely to have a critical role in supporting communities in the management of their resources, the mechanisms by which this is liable to take place and the relationship between Community Fisheries and local authorities is still unclear. This is not unexpected given that the first commune council elections only took place in 2002 and many of the responsibilities of these commune councils are still being defined.

At present, while some cases of supportive local authorities were encountered, there is also widespread concern among many fishers that there may be conflicts between the needs of Community Fisheries and the role of commune councils in managing natural resources. Several cases were mentioned where local authorities have acted contrary to the desires of local communities and, in some cases, continued to lease out released fishing lot areas to private parties as a means of generating revenue.

It is clear that the roles and responsibilities of local authorities, and the way in which they interact with Community Fisheries remains an area where much work has to be done.

### ***Community Fisheries***

While some Community Fisheries already existed in Cambodia prior to the policy reforms, they are still a new institutional form that represent a major departure in community-level organisation in the country.

Several key perceptions regarding Community Fisheries were detected during the course of the policy impact assessments.

Many of the respondents on the ground, although they were “users” of community fisheries, still had only the vaguest of notions regarding what Community Fisheries actually were. Where people were more informed regarding the notion of Community Fisheries, there was general recognition that they represented a “good idea” but there was little understanding of how they were to be implemented and what their precise roles and responsibilities, as well as their powers, would be.

There was particular concern regarding the extent to which Community Fisheries, as local-level institutions, would be able to enforce any kind of management measures on the areas under their responsibility, given the general view among many fishers that the policy reforms had opened up ex-fishing lot areas for fishing by anyone who wished to do so. It was particularly emphasised, in Takeo Province, how any changes to the current situation, including attempts to increase the role of Community Fisheries in controlling access and use of community fisheries resources, would be unlikely to be taken seriously if support from the highest levels of policy was not clear and explicit. Several respondents expressed the idea that the Prime Minister had given people free access to released fishing lots, and only he can take it away or modify that access.

## **4.2 COMPARISONS WITH THE FINDINGS OF OTHER ASSESSMENTS**

### **4.2.1 MRC Monitoring of the Cambodia Fisheries Management Policy Reform**

In the immediate wake of the policy reforms, in April-May 2001, the Director of Fisheries requested the Mekong River Commission to conduct a preliminary monitoring of the implementation of the reforms. This was carried out in four provinces – Kampong Chhnang, Kampong Thom, Siem Reap and Kandal. Meetings were carried out in selected communities located near fishing lots.

The monitoring meetings focussed on recording the process that had been gone through in different areas in implementing the policy reforms and highlighting key issues that had arisen at that time. Clearly, the monitoring was conducted very soon



after the policy reforms had been introduced and the findings generated reflected the relatively short time that had passed.

Key findings of this monitoring activity, and comparisons with the findings of the PRIAC assessment, include:

- The withdrawal of the fisheries inspectors in the wake of the policy reforms had created a vacuum where little enforcement of fisheries regulations was possible. From the current policy reform assessment, it is clear that, while this situation has improved in some areas, it is still commonly perceived that the role of Provincial Fisheries officers in enforcing fisheries law has remained low following the policy reforms.
- Illegal fishers had taken advantage of this enforcement “vacuum” to engage in widespread illegal fishing in many released fishing lot areas. The tendency of larger-scale fishers to take advantage of newly opened fishing areas was particularly noted. This was already encouraging a perception that the better-off fishers were likely to derive the most benefits from the fisheries reforms. The PRIAC findings suggest that this situation has also continued although the use of illegal fishing gear is not limited to large-scale fishers but also often involve smaller-scale fishers using small-mesh fishing nets and electrocution methods. The PRIAC findings also highlight how a significant number of poorer fishers also feel that they have benefited from the reforms although there is continuing concern over the lack of controls on fishing effort.
- Communities attempting to implement the new Community Fisheries arrangements were, at the time of the MRC assessment, encountering difficulties due to the fact that the sub-decree establishing the precise rights and responsibilities of Community Fisheries had not yet been passed. At the time of the PRIAC assessment, this situation was still prevalent as the sub-decree was still under discussion. The PRIAC assessment highlights the need to act quickly to pass the sub-decree and support its implementation. It also emphasises how the legislative and administrative framework provided by the sub-decree would not necessarily be sufficient, on its own, to provide communities with the power necessary to manage their own fisheries. In particular, findings indicated the need for visible and explicit support for the contents of the sub-decree from the highest political quarters in order to encourage acceptance and observance among those currently involved in exploiting fisheries resources.
- The implementation of the policy reforms had been uneven across different areas with considerable variations in ways in which the reforms had been interpreted and put into effect. Some of this was due to the lack of consistency in the processes of consultation carried out in different provinces prior to the development of the respective sub-decrees that defined which fishing lot areas in each province were to be released. The continuing unevenness of implementation was also evidenced by the PRIAC assessment. With the growing role of local authorities in the management of natural resources without a systematic effort to harmonise the institutional responsibilities of Provincial Fisheries Offices, local authorities and Community Fisheries there are opportunities for these inconsistencies to increase.
- The MRC monitoring emphasised the lack of sufficient capacity-building efforts in support of the policy reforms. Provincial Fisheries officers had received only a relatively brief preparation for the major change in their role which was envisaged under the reforms and the lack of resources within the DoF for follow-up and monitoring was noted. The importance of this aspect is re-emphasised by the PRIAC findings which suggest that a concerted effort is

required to provide the necessary capacity-building of all the institutions and agencies involved with Community Fisheries, as discussed in the policy considerations below. The PRIAC findings also suggest that continued monitoring, on a wide scale, of the situation on the ground as the policy reforms develop and different elements are implemented is essential. Donor support for such activities is likely to be required given the limited resources available within the DoF for such activities. The involvement of a wide cross-section of agencies and civil society organisations is also likely to be necessary to supplement the man-power available within the DoF, and the CFDO in particular.

- While many of the elements of the MRC assessment are similar the PRIAC assessment has attempted to look at the changes in the wake of the policy reforms in a somewhat broader context as this is regarded as essential to understanding the relative importance of those changes that can be attributed to the policy reforms.

#### **4.2.2 Oxfam Evaluation of the Impact of the Fisheries Reform on the Livelihoods of Poor Fishers**

The coverage of this assessment differed from that of PRIAC primarily in that it concentrated on communities where Oxfam and its partners are involved in supporting community fisheries activities. The focus was specifically at the community level and involved interviews with fishers and with the members of village-level organisations such as Community Fisheries Committees and Village Development Committees. The assessment covered 5 provinces – Battambang, Pursat, Kampong Thom, Stung Treng and Takeo – and was carried out June-July, 2003.

Key findings of this assessment and comparisons with the findings of the PRIAC assessments include:

- The assessment findings indicated a strong perception among respondents that fisheries resources have declined, in line with the finding of the PRIAC assessment.
- The Oxfam assessment indicated that fishers have generally increased the amount of fishing gear used, a finding again supported by the PRIAC assessment.
- In the Oxfam assessment, many poor respondents indicated that they did not feel they had benefited from the fisheries reforms and that better-off fishers had tended to monopolise benefits. The PRIAC findings show that this is true in many places and for many groups, but some of the poorest groups do feel that their coping strategies in dealing with recent adverse conditions in agriculture have been positively supported by the policy reforms.
- The price of fish was generally felt to have increased significantly, as is indicated by the PRIAC findings.
- The Oxfam assessment indicated that roles in fishing had not changed significantly, emphasising the role of women and children in the harvesting of other aquatic resources besides fish. During the PRIAC assessment, some fishers living close to, or inside, released fishing lot areas indicated that the ability of women and children to engage in fishing without fear of harassment from fishing lot guards was a major benefit of the fisheries reforms. This change in roles in fishing is almost certainly location specific and the two findings are not necessarily contradictory.

- The speed of the process of introduction of the policy reforms and identification of the areas to be released for Community Fisheries was identified as having caused considerable confusion and misunderstanding of the policy reforms, as well as creating a “management vacuum” where no one was effectively responsible for ensuring the observance of fisheries laws. The PRIAC assessment confirms this finding, although it highlights how the way in which the policy reforms were announced have created a significant impetus towards continuing this open-access situation that will be particularly difficult for Community Fisheries to overcome, even once they have been provided with adequate legislative instruments to do so. The need for visible and explicit high-level political support is emphasised by the PRIAC findings if the Community Fisheries are to be able to establish effective management mechanisms.
- The Oxfam findings focus on local-level attitudes to Community Fishery projects, and they mention the social benefits that communities have realised from these. At the same time the problems of participation and legitimacy at the community level for Community Fisheries Committees, and the failure, in some cases, of transparent procedures for the election and establishment of these committees, was mentioned. The PRIAC findings do not focus specifically on the functioning of Community Fisheries Committees but highlight how similar problems are recognised in several locations and how this is indicative of the need for concerted capacity-building at the community-level in relation to the establishment of Community Fisheries. It also emphasises how this capacity-building needs to look beyond community fisheries management to address wider issues of community organisation and planning.
- The Oxfam findings support the findings generated from PRIAC that there is significant variation between communities and stakeholder groups in terms of their perceptions of the policy reforms. The PRIAC findings elaborate more on the range of factors that influence these differences.
- The Oxfam findings emphasis the importance of ensuring genuinely participatory approaches at the community-level in establishing Community Fisheries, while noting the time-consuming nature of these processes. The findings of the PRIAC assessment support this point strongly and highlight the frequent fractious nature of relations within communities that make the establishment of the norms of cooperation required for community organisation difficult. This emphasises two important points – the need for strong support at the community level to build their organisational capacity and the need for support from external institutions to make Community Fisheries work effectively.
- The Oxfam assessment is broadly compatible with the PRIAC assessment, both in terms of its key findings and the approach used. Elements of the Oxfam approach, and particular its specific coverage of communities where Community Fisheries are being established, should be incorporated into future policy assessments as the problems and issues raised by the implementation of Community Fisheries will gain increasing importance as these become more widespread. The PRIAC assessment has taken a broader focus, looking not just at poorer stakeholders but at a range of stakeholders affected by the policy reforms. In particular the PRIAC assessment has attempted to look at the changes in the wake of the policy reforms in the context of other economic, political and social changes on-going in Cambodia, as this is

regarded as essential to understanding the relative importance of those changes that can be attributed to the policy reforms.

#### **4.3 WIDER SOCIAL, ECONOMIC, POLITICAL AND ENVIRONMENTAL CHANGES AND THEIR INTERACTIONS WITH FISHERIES**

During the decades from the beginning of the 1970s up to the present, Cambodia has passed through a period of turmoil and rapid change that has touched upon almost all aspects of life, and livelihoods, in the country. In order to understand the relative significance of changes as a result of changes in fisheries policy, these broader processes need to be understood.

Many of these changes have affected the country as a whole, while some are specific to individual provinces. It is likely that at least some of the province-specific changes noted below are shared with other provinces not yet covered by the policy impact assessment, and further differences and similarities between provinces may be revealed by future assessments.

Table 11 shows a consolidated timeline for key changes affecting the political, institutional, economic and environmental context in all three provinces. This has been derived from the timelines developed in each province in consultation with the LCG.

##### **4.3.1 Changes in the political and institutional context**

During the period of the Khmer Rouge regime, from 1975 to 1979, most pre-existing institutional and political structures within Cambodia were systematically dismantled. The preceding and subsequent periods of civil war, that lasted, in some areas, up until 1998, also caused considerable disruption of political and institutional processes. The three provinces covered by the policy impact assessments were mostly pacified by 1993, but the creation of a new institutional and political framework for the country inevitably requires time and has had to deal with deep rifts in the fabric of society left by the traumas of the Khmer Rouge period.

The fisheries policy reforms need to be seen in this context where the structures, and the legitimacy, of local institutional structures are still in the process of being built. On the one hand this situation represents an opportunity, as there may be openness to the idea of new institutional forms (such as community fisheries). On the other hand it also means that clear lines of institutional responsibility backed by a concrete sense of the legitimacy of institutional structures are still in the process of being defined and this process has to deal with a strong distrust of authority, rules and regulations born out of experience in the recent past.

The consequences of this institutional and political context are not necessarily the same everywhere. For example, under the Khmer Rouge regime, Takeo Province was part of the Southwest Zone headed by Chhit Choeun (Mok). This zone chief was particularly ruthless in pursuing the regime's policy of using manual labour to construct irrigation works for agriculture. The resulting canal network in Takeo is the densest of all the provinces in Cambodia, consisting of 3,450 km of principal canals. Apart from the environmental and livelihoods consequences of this, the reaction of local people in some areas of Takeo to the fisheries policy reforms could be in part due to this past experience. Local fishers, farmers and agricultural labourers in the province have been particularly strong in their interpretation of the policy reforms as giving them a "free hand" with regard to fishing activities and the use of areas recently released from the fishing lot system.

TABLE 11 : TIMELINE FOR KEY POLITICAL AND ECONOMIC PROCESSES IN CAMBODIA – 1970 – PRESENT DAY							
	1970	1975	1980	1985	1990s	1995	2000 ⇒
<b>Political</b>		Khmer Rouge regime	Vietnamese domination	1989 – Vietnamese withdrawal	1992- UNTAC 1993- General election - provincial governors assigned	1998 – General election	2000 - Fishery policy reform introduced 2002 – 1° commune elections 2003 – General election
<b>Civil Unrest</b>	⇒ Civil war		Civil war ⇒ 1993			1995 - Khmer Rouge integration	
<b>Local Governance</b>						1996 ⇒ start of SEILA Programme: (Pursat)	2001 ⇒ SEILA Programme starts in Kampong Cham
<b>Gov. Institutions</b>					1994 - Dept. of Environment & Dept of Rural Development	1996 - National Disaster Planning Committee	2000 – Dept. of Water Resources detached from DAFF
<b>Infra-structure</b>						1996 ⇒ rural roads improving	⇒ increased urbanisation ⇒ increasing services & communications(cell phones)
<b>Agriculture</b>		Irrigation works (Takeo)	⇒ increasing number of agricultural cycles / declining soil fertility				
			1982 - introduced new rice varieties (Takeo) ⇒ 1983-84 introduced inorganic fertilizer & agricultural mechanization⇒			1995 ⇒ new rice varieties introduced by NGO programmes (K.Cham)	
						1996 ⇒ start of IPM	⇒ increased use of IPM
							⇒ increasing vegetable imports from Vietnam & Thailand
<b>Local Economy</b>							⇒ boom in garment factories ⇒ increasing petrol prices
<b>IOs &amp; NGOs</b>					1993 Presence of UNDP, UNHCR, UNESCO & NGOs ⇒		PRASAC EU support⇒

More recently, the “reconstruction” of institutional mechanisms in the country has gathered pace and a variety of programmes are now underway that aim to strengthen the capacity of local government and the structures and agencies delivering services to rural communities.

The SEILA programme, initiated in 1996, with Pursat as one of its pilot provinces, is a UNDP-supported programme aiming at the development of institutions and agencies of local governance, building democracy at commune level and local poverty reduction. It has since expanded to cover more provinces including both Takeo (from 2000) and Kampong Cham (from 2001). This programme is extremely broad based and has included activities in natural resource and environmental management, the development of infrastructure such as roads, schools, water supply and sanitation. In Pursat, the SEILA programme has also supported the establishment of community fisheries in the wake of the fisheries policy reforms.

The European Union-financed Program of Rehabilitation and Support to the Agricultural Sector of Cambodia (PRASAC), begun in 1995 has developed irrigation systems, improved agricultural extension, established village-based rural credit associations and worked to improve access to agricultural inputs in many parts of the country and is active in both Kampong Cham and Takeo.

While general elections held in 1993, 1998 and 2003 have been important in establishing democratic processes in the country as a whole, the local elections for commune councils, held for the first time in 2002, have perhaps been more significant from the point of view of the fisheries policy reforms. While these elections have been a key step towards establishing mechanisms for local level representation and accountability in government, the recentness of their establishment is of considerable significance.

The fisheries policy reforms of 2000, by initiating the process of establishing “community fisheries” began a process of devolving responsibility for natural resource management to local communities, before fully representative forms of local government had been established. Even to date, the roles and responsibilities of commune councils have not been entirely defined and the intended devolution of authority to these bodies has not fully taken place. This means that the establishment of community fisheries, an essential part of the fisheries policy reforms, has taken place in the context of an extremely fluid and dynamic institutional environment and without having clear lines of authority and responsibility to which it can relate.

#### **4.3.2 Changes in the economic context**

Cambodia’s economy is largely based on agriculture (particularly timber, rubber, rice and fish) with a strong textiles sector and a growing tourist industry. Main export partners are the US, Singapore, Japan, Thailand, Hong Kong, Indonesia and Malaysia. The economy is currently struggling to recover from decades of war and instability but is showing positive changes and relatively strong rates of growth – 5.3% in 2000.

The industrial sector (and in particular the garments sub-sector) has led economic growth in recent years registering rates of growth above 10%. The services sector is growing more slowly at 1.9% in 2000, and tourism continues to play an important role. However, per capita incomes are still only rising by around 2% a year.

The strong growth of the garment industry, while limited to urban areas of the country, is affecting responses to changes in fisheries as urban migration to seek work in garments factories is increasingly viewed as a livelihoods option by some of those who would normally be engaged in fisheries activities. This particularly affects young women.

The agricultural sector is apparently in a state of considerable transition with an increasing orientation towards urban and export markets that is having a significant impact on livelihood patterns in rural areas.

Agriculture in Cambodia is affected by both by the government's macro-economic policies and by its' proximity to Thailand on the one hand - a relatively more developed and dynamic economy with strong centres of demand for high value products – and Vietnam on the other - a “transitional” economy with rapid growth rates, a strong export orientation and significant subsidies to the agricultural sector. There are no tariffs on the import of agricultural machinery and inputs. This is manifested in the increasing use of fertilisers and pesticides in agricultural production. Particularly in areas near the border with Vietnam, cheap, subsidised inputs are readily available and are extensively used. While the impacts of this on fisheries are un-quantified to date, some effects are probably there.

While the import of agricultural produce is subject to tariffs, the borders between Vietnam and Cambodia are relatively porous and many farmers, including those in Kampong Cham and Takeo, complain of cheap Vietnamese produce “flooding” the market and affecting their earnings from agricultural production. Competition from imported agricultural produce could represent a further factor encouraging farmers and agricultural workers to supplement their incomes from fishing activities.

As fisheries is an integral part of livelihoods in all lowland areas of Cambodia, it is not surprising that almost any change in agricultural patterns is likely to have impacts on fisheries, either directly as a result of changes in the floodplain environment, or indirectly through the relative importance that people give to fisheries as part of their livelihoods. Many of these influences may be quite localised both in time and space. For example, in Kampong Cham, the opening of a British American Tobacco collection centre in 1999 created considerable opportunities for households living near to sources of water for irrigation to adopt a new element in their agricultural livelihoods. The fall of tobacco prices in 2001 led to a major shift in cropping patterns to irrigated rice with reportedly 40-60% of the area previously dedicated to tobacco crops along the banks of the Mekong being converted to rice fields. This would influence both the local ecosystem and the patterns of labour demand and employment in the area with possible knock-on effects in fisheries.

In Takeo Province, the boom in dry-season rice cultivation in lowland areas, including recently released fishing lots, is having environmental effects - increased use of fertilisers and pesticides and increased pump irrigation – and labour effects – drawing in increasing numbers of migrant labour during the dry season to work, and fish, in lowland areas. Recent shifts from transplanting of rice to direct broadcasting of seeds has a very significant negative impact on demand for agricultural labour and this, in turn, could be encouraging more people to do more fishing.

### **4.3.3 Changes in poverty**

Table 12 below shows the relative prevalence of poverty across the 3 provinces covered by the policy reform impact assessment, based on the National Poverty Reduction Strategy(NPRS) produced by the Council for Social Development of the Kingdom of Cambodia (CDS, 2002). While Pursat has significantly higher relative numbers of poor people, Kampong Cham, being the most populous province in the country (apart from Phnom Penh), actually has the largest numbers of poor people. Pursat has significantly higher poverty rates compared with the other two provinces, largely due to extensive upland areas found there, where poverty tends to be more severe.

TABLE 12 : POVERTY IN KAMPONG CHAM, PURSAT AND TAKEO PROVINCES				
Province	Poverty Severity Index %	% of total population living in province	Poverty share (% of national poor living in province)	Estimated nos. of poor people in the province
Kampong Cham	1	14.33%	6.27%	190,100
Pursat	5	3.13%	4.63%	140,200
Takeo	2	7.05%	3.89%	117,900

Source: NPRS (Council for Social Development, 2002)

The NPRS identifies the important characteristics of poverty in Cambodia as the following:

### ***Lack of opportunities***

This particularly affects those in the agricultural sector where 79% of the poor in the country are concentrated. Poor people in rural areas are conditioned by lack of access to land and access to other natural resources such as forest and fisheries that is “constrained”, either because of the degradation of these resources or by the access arrangements to which they are subject. The fisheries policy reforms can be seen as having addressed one aspect of these constraints – the access arrangements for fisheries – without fully addressing the problems of resource degradation being experienced by fisheries.

While employment opportunities in the secondary and tertiary sectors are still relatively limited, they have had a direct impact on fisheries stakeholders in two of the provinces covered – Kampong Cham and Takeo – where employment in garment factories, both locally and in the capital, represents an important option for some people involved in the fisheries sector. This opportunity is available particularly for younger, female household members.

### ***Lack of capabilities***

Poverty in Cambodia is often characterised by poor human assets – health, nutrition and education. Poor people in the country have a low life expectancy (54 years), suffer from high rates of child mortality (124 per 1,000 live births for the under-fives) and are vulnerable to a range of communicable diseases such as malaria, tuberculosis, and HIV/AIDS without having adequate recourse to treatment. Poverty, ill health and high health care expenditure are closely linked with an average of 11% of household expenditure going to health care expenses.

45% of children aged 6-59months and 20% of women are subject to protein malnutrition. This highlights the critical importance of fisheries resources that constitute the major source of high quality animal protein for large sections of the rural population. The small floodplain fish that are frequently consumed whole can be important sources of micronutrients that are deficient in the diet of many of the poor. Malnutrition is described as both a cause and an outcome of poverty.

77% of the poor in Cambodia come from households where the household head has had either no or limited primary schooling. School enrolment rates among children in rural areas are still low either because of poor access to education facilities or the involvement of school-age children in supporting household livelihoods.

The poor also suffer from poor access to basic infrastructure, such as roads, health centres, schools, electricity and clean water supply.



### **Social exclusion**

Social exclusion, particularly of the uneducated and illiterate, women, ethnic minorities and those suffering from stigmatised illnesses such as HIV/AIDS, is also an important characteristic of poverty. In assessing the impacts of the fisheries policy reforms, these influencing factors were important in terms of the participation of women in decision-making regarding fisheries and the participation of minority ethnic groups, notably Cham and Vietnamese fishers.

### **Lack of good governance**

The weaknesses in the governance process that are seen as playing an important role in the perpetuation of poverty in Cambodia are of direct relevance to the assessment of the impacts of fisheries policy reforms as many of the issues and problems identified in relation to the policy reforms centre on this issue.

The poor in Cambodia typically suffer from lack of access to government information and decision-making mechanisms. This was seen during the impact assessments in the form of lack of knowledge among fishers regarding the details of the fisheries policy reforms leading to misinterpretations of its significance and the cornering of benefits from the reforms by particular groups at the expense of the poor.

The poor also suffer from limited access to mechanisms of legal redress and support for their rights. A common complaint among fishers given the opportunity to manage released fishing lot areas in the wake of the fisheries policy reforms has been the lack of any substantive legal framework, and the mechanisms for enforcing rules and regulations, that would enable them to effectively manage their resources.

Corruption also affects the ability of the poor to access services and mechanisms to support their rights. From the policy reform impact assessments it is also clear that it directly influences the ability of poor fisheries resource users to benefit from the policy reforms as there is a widespread perception that corruption is leading to the protection of many of those involved in illegal and destructive fishing that is threatening the sustainability of fisheries.

### **Vulnerability**

The poor in Cambodia are made vulnerable by several features. Food insecurity is a widespread problem that affects the ability of the poor to maintain their health and build up their human assets. Chronic food insecurity is widely regarded as one of the defining features of poverty in rural Cambodia and one that affects many of the groups involved in fisheries. Fishing activity often constitutes a strategy for dealing with the food insecurity that derives from seasonal cropping patterns and fisheries.

The poor are also prone to natural disasters, such as flooding or drought. Given the concentration of fisheries activities in floodplain areas, many of those involved in fisheries are particularly subject to flood risk, although many of them also have developed strategies to deal with these risks. Changes in flood cycles do, however, seem to have significant impacts on access to fisheries resources. The relatively low flood experienced in many areas during 2003 was described as significantly reducing access among fishers to the small fish commonly used for making *prahok*.

The social assets available in rural society in Cambodia were severely disrupted during the Khmer Rouge period and this has increased the vulnerability of the poor who often lack the sort of networks of reciprocal exchange and support that would normally characterise rural communities.

Vulnerability to poverty has geographical dimensions as well. Poverty is particularly associated with upland areas, where agriculture is rain-fed. However, while many lowland areas have lower **rates** of poverty, the concentration of the population there

means that most poor people are found in lowland areas. Many poor people in upland areas also migrate seasonally to fishing areas in order to catch or purchase fish to make *prahok*, which constitutes a key source of dietary protein for a large proportion of people in the country and, in particular, for the poor. These movements are particularly important in Pursat and in Takeo provinces.

#### **4.3.4 Changes in the environment**

The fisheries policy reforms have also taken place in the context of rapid and very significant changes in the environment. The development of the agricultural sector following the return of peace in Cambodia in the mid-1990s led, not surprisingly, to a rapid expansion of the areas under cultivated. A lot of this expansion has taken place in floodplain areas and, in particular, in flooded forest areas.

##### ***Clearance of flooded forest***

Flooded forest can be regarded as a “critical habitat” for floodplain fisheries, serving a function both as a refuge where it is difficult to deploy large-scale, efficient forms of fishing gear, and as a breeding and feeding ground where the high levels of natural productivity provide food at key stages in the lifecycle of many floodplain fish.

Clearance of flooded forest in Cambodia seems to have started in the mid-1980s, although it was limited in many areas as forests were used as cover by guerrilla groups. At this time, government policies aimed at encouraging agricultural development in order to ensure food security and generate surpluses for export, contributed to increasing pressures on flooded forest areas. With the full pacification of the country in 1998, this process seems to have gathered pace. The fisheries policy reforms, and the abolition of many fishing lots in floodplain areas, often where residual flooded forest was still present, were often interpreted as a further justification for additional clearance and conversion to agriculture. Experience from the assessments in Takeo illustrate this well.

##### ***Changes in agricultural practices***

In addition to the clearance of flooded forest, agricultural practices in the country are also in transition. From the 1980s onwards, the use of new agricultural technologies, including higher-yielding varieties of rice, artificial fertilisers, pesticides and herbicides has slowly been spreading. Takeo Province seems to have been among the locations where some of these technologies first took hold, facilitated by the extensive irrigation network in the area. The impacts on production of rice as a result of these new technologies has, in places, been dramatic. In Takeo, previously only low-yielding, deep-water rice were grown during the annual Mekong floods, with yields of some 0.5 tonnes per hectare per year. Now, with irrigation and new technological packages, dry season rice yields can exceed 5 tonnes per hectare, while in some areas, where double rice cropping is possible, yields have been boosted to more than 10 tonnes per hectare per year.

The spread of these technologies seems to be gaining pace and demand from urban centres and export markets increases. The effects of the increase in the use of these inputs on the fisheries environment has not been quantified but some changes in water quality, and consequent impacts on fisheries resources, are likely to have taken place.

The spread of pump irrigation for dry season rice crops may also be impacting dry season refuges for fish as any areas of residual water in lowland areas are more likely to be targeted for irrigation purposes. Interestingly, in Pursat Province, some farmers commented that the release of fishing lots, and the consequent removal of barriers that were used by lot owners and sub-lessees to control fish movement, has

had a negative impact on the availability of water for irrigation purposes during the dry season, with flood waters now receding more quickly and earlier than previously.

Changes in agricultural practice can also affect demand for agricultural labour and this in turn is likely to have a significant influence on fishing pressure. Fishing activity is often a fall-back mechanism for the landless in lowland areas who go fishing when alternatives are not available. Any changes that reduce the demand for agricultural labour might therefore result in increased fishing activity. An example of this is the recent change in practices seen in Takeo Province where the shift from transplanting dry season rice – one of the most labour intensive activities in rice cultivation – to broadcasting seed directly into the field has significantly reduced labour demand. Increasing fishing activity represents a coping strategy for agricultural labour to deal with this change.

#### **4.4 ATTRIBUTION AND GENERAL APPLICABILITY OF THE FINDINGS**

##### **4.4.1 Attribution of findings**

From the discussion above it is clear that the complexity of the context within which the fisheries policy reforms in Cambodia have taken place make it impossible to attribute many of the changes currently taking place in fisheries in the country specifically to the policy reforms. Side-by-side with the policy reforms, fisheries, and the livelihoods of those who depend on fisheries, have been subject to changes as a result of climactic factors, broader economic and political factors, environmental changes, developments in agriculture and land use, and many other local factors that have all influenced the livelihoods of rural people and created change. Each of these factors has interacted with others, and with the policy reforms, to create diverse sets of circumstances that have influenced the livelihoods of stakeholders in fisheries in different ways.

To take one example, findings from both Kampong Cham and Takeo Provinces indicated that, in the wake of the release of fishing lot areas, many people in both these provinces have used the opportunity to expand their agricultural activity in ex-fishing lot areas and to bring new areas under cultivation, in some cases clearing areas of flooded forest. This has brought clear benefits for many of those involved but may be having negative impacts on fisheries resources in these areas by degrading habitats that play an important role in floodplain fisheries ecology and increasing the discharge of agricultural residues and pollutants in the environment. However, these are not changes that can solely be attributed to the fisheries policy reforms. Rising population pressure and demand for land has been encouraging this process since the end of the Khmer Rouge regime. The opening up of new areas to agriculture by the release of fishing lots has simply added extra impetus to a process that was already well underway.

Where there are several factors, including the fisheries policy reforms, that are creating similar changes in the livelihoods of rural people it is also difficult to assess, using the methodology as it stands, the relative contributions of these different factors – for example, what do fishers feel is having a greater impact on fisheries resources – the increase in numbers of people fishing, the use of illegal fishing gears or the clearance of flooded forest? Based on the experience of this first round of policy impact assessments, approaches for attempting to assess the relative scale of impacts from different sources can be included in future applications.

##### **4.4.2 General applicability of the findings**

While some general themes emerged regarding the impacts of recent changes in fisheries, clear local and regional differences were revealed by the policy impact assessments.

The priority given to the utilisation of newly released fishing lot areas in Kampong Cham and Takeo for agriculture was not seen so strongly in Pursat. The different roles that fisheries seems to play in people's livelihoods on the Upper Mekong and in the Lower Mekong and Delta areas compared to around the Great Lake and Tonle Sap seem to affect their responses to the policy reforms.

The reactions of local institutions and agencies to the changed conditions following the policy reforms also vary considerably. The Provincial Fisheries Office in Kampong Cham, along with other law enforcement agencies, seems to have maintained a closer contact with fishers in the field and maintained at least some of its enforcement role. In other provinces these institutions seem to be less "present". Local political and power structures also influence the impacts of the policy reforms in different ways.

These variations mean that generalisations based on experience in just three provinces is extremely difficult and could well be misleading.

## **5 POLICY CONSIDERATIONS**

### **5.1 CONSIDERATIONS REGARDING THE ASSESSMENT APPROACH**

#### **5.1.1 The need for continual monitoring**

Given the dynamic context within which the fisheries policy reforms have been introduced and the fact that new elements in these reforms are continually being developed and implemented, there is need for on-going monitoring. The methodology developed by PRIAC provides a means of doing this that is systematic and objective. Adopting a livelihoods approach has highlighted the complexity of fishing in people's lives and the effects and impacts of changes. Constant attention will be required to ensuring that the coverage of different stakeholder groups is made as complete as possible and that the perceptions of different stakeholders are incorporated effectively.

At present, the policy impact assessments are being implemented as a "project", with specific funding from DFID provided on the request of the DoF. The recognition of the importance of understanding the impacts of the policy reforms by the DoF is particularly significant as it indicates an awareness that the policy reforms, and the legislative and institutional mechanisms being put in place to implement them, are liable to require continual adjustment in the future in response to the changes taking place. This suggests that the monitoring of responses to changes in fisheries, and not just the changes induced specifically by the policy reforms, should, in the longer term, become a regular element in the activities of the DoF.

The DoF, in developing the various sub-decrees on fisheries in the wake of the policy reforms, has already developed a significant capacity to organise and conduct public consultations on policy matters and this provides an excellent basis on which to work. The longer term purpose of the policy impact assessment process developed by PRIAC could be to complement these public consultations with more detailed investigation at the field level of changes in livelihood strategies in response to changing conditions in fisheries.

#### **5.1.2 The need for wider coverage**

The findings of the policy impacts assessment clearly indicates that, while common themes emerge in the impacts of the policy reforms, there are important local and regional differences. This emphasises the need of wider coverage.

Plans are already underway to extend the coverage of the policy impact assessments in the next round to include at least 3 further provinces, but wider coverage would be desirable and necessary in order to obtain a more complete picture.

Given the limitations in the resources available to the CFDO to carry out these assessments, partnership with a wider range of agencies in order to carry out assessments in as many locations as possible seems to offer the best option for the future. Involvement of NGOs from other provinces would improve the involvement of civil society. Other projects, notably the ADB-funded Tonle Sap initiative could also be involved in order to complete coverage of provinces around the Great Lake.

#### **5.1.3 Capacity for implementing regular policy impact assessments**

The DoF clearly does not have at its disposal all the resources required to effectively implement the policy impact assessments on the broad scale required in order to make their findings meaningful. However, the experience of the CFDO to date in implementing the assessments, combined with capacity building activities already underway under the auspices of the DFID-funded Post-Harvest Fisheries Research

Project, the ADB-funded Tonle Sap initiative and the associated UNDP-supported “Capacity Building for Sustainable Development of the Tonle Sap Region” Project place the CFDO in a strong position to be able to provide training to partner agencies to carry out a wider range of assessments in the future.

## **5.2 CONSIDERATIONS REGARDING POLICY**

It is clear from the discussion that the impacts of the policy reforms must be placed in the wider context of what is happening in the fisheries sector generally, in the country more widely and within the wider region. Understanding the cause and effect relationships of this policy reform in the dynamic setting in which it has operated is not a simple process. It would be easy to jump to a set of conclusions that satisfy a particular perspective on the policy rather than look for a more objective analysis. The PRIAC process has started to take this objective approach forward and has started to bring together some tentative observations. Whilst the degree of coverage has been small so far and the results cannot easily be generalised without more data, it is clear that some policy considerations are beginning to emerge. These are discussed below.

### **5.2.1 The policy reforms and poverty reduction**

In the context of poverty reduction and equity the policy reforms have done much to spread the benefits of the fisheries sector across a much larger group of people. The previous fisheries management regime focussed large benefit flows on few people. The reforms were designed to increase the number of people benefiting from the resource, very much in line with the country's Poverty Reduction Strategy. There can be little doubt that this was achieved in the first year of the reforms. It is also likely that many who found it impossible to make a living from agriculture in recent years survived because of the more open access nature of the fishery.

The original aim of the reforms to achieve greater benefit flows for the family-scale fishers was extremely laudable. For much of the fishery large benefits to few people have been translated into smaller benefits for many more people, and some of the poorest in the country. Many people have entered the fishery in recent years, often in response to poor productivity from agriculture. Women in some locations have also found that their potential involvement in the fishery has increased as a result of the reforms. This has doubtless enhanced short-term incomes and food security.

This situation is a reflection of, and emphasises, the importance of the fisheries sector to the livelihoods of the rural poor. The degree of dependence on the fishery for food security, employment, income and as a safety net for many people has been understated within the wider policy framework in the past. The policy reforms have made the importance of fisheries to the many very clear. This is now being reflected in the national policy agenda.

### **5.2.2 The policy reforms and fisheries management**

However, as the open access nature of the released fishing lots has allowed more people to enter the fishery and to use unsustainable and illegal fishing gear, the early benefits have come under greater stress.

The benefit flows are now being spread over a far greater number of people than was originally envisaged by the reforms. This is happening so quickly that the legislative and institutional reforms have not been able to keep up. As a result people are sometimes confused about what they can do and what they cannot do under the current management regime. This has led to an expansion of illegal fishing gear use and conflicts between fishers is on the increase.

The fishery potentially faces a situation in the future where there is over-exploitation due to excessive and inappropriate fishing activity combined with environmental degradation from external pressures. This could lead towards a situation where many people will benefit from the fishery but by such a small amount that it will not constitute a major benefit flow to their livelihoods. With the possibility of the current avian flu crisis threatening the rural livestock situation in the country, food security demand may place even greater strains on the resource in the future.

The complex and multi-faceted response by the poor to the policy changes could not have been predicted but these responses have to be taken into account if future benefit flows are to be protected. This emphasises the importance of continued monitoring of those people's responses so that the institutional and legislative reforms that are accompanying the policy reforms can be adapted to the real needs and priorities of people on the ground.

These institutional and legislative reforms have, inevitably, required time to be developed and implemented. The priority given, by the Department of Fisheries, to ensuring that such reforms are done in the most effective and transparent ways has been time consuming and they have had difficulty in keeping up with the changes in harvesting practices. Whilst the reform may have provided a valuable safety net for farmers suffering from floods and drought, the changes pose a threat to future benefit flows if additional action is not taken quickly.

It is clear that the fishery cannot achieve everybody's needs; these have to be prioritised in the light of what has been learnt about the fishery and what we learn over coming years. The future aims of the policy reforms need to be agreed among all stakeholders and made explicit. Such aims need to define the balance between the benefit flows from the resources and the number of people who will be permitted to benefit and in what ways. We have moved from large benefit flows accruing to the few, to small benefits going to the many. A middle road now needs to be found which gives a larger but sustainable flow of benefits to a moderate number of poor people. This needs to be linked much more closely into the wider development process of the rural environment, especially the development of secondary and tertiary rural industries that will provide opportunities for those who are displaced from using the fishery. As the Poverty Reduction Strategy suggests, the future development of the fishery this must be tackled on four fronts:

1. increasing alternative livelihoods in order to decrease exploitation of the fishery
2. strengthening capacity of communities to manage the fishery
3. institutional capacity building to assist these processes
4. incorporating a cross-sectoral approaches to enable fisheries to work in harmony with other sectors such as agriculture, forestry and water management

It must also be poverty-focussed and be based on a sound knowledge of the livelihoods of the people that depend upon those resources. It also needs to link into the ongoing decentralisation and deconcentration processes, and the emerging role of communes and communities in decision-making and in natural resource and environmental management as outlined the Law on Administration and Management of Communes/Sangkat.

### **5.2.3 Institutional and legislative support for the policy reforms**

To do this needs a much greater and faster emphasis on the institutional and legislative reforms. The legislation for the formation of community-based fisheries management is nearing completion. The institutional changes, especially

community, commune and provincial-level capacities to implement management at this level, require substantial and rapid input from government and civil society. This cannot be done quickly enough from existing domestic resources. The international donor community has a major role to play in assisting this process through financial support, capacity building and knowledge brokering, but responses need to be initiated quickly.

The Community Fisheries Development Office (CFDO) within the Department of Fisheries is playing a major role in assisting the emergence of a viable way forward for community involvement in fisheries management. But CFDO is under-resourced in both people and funds to achieve this complex and difficult task in the required timeframe.

Likewise the role of the provincial staff is not clear although some have been very proactive in responding to the changed circumstances emerging from the reforms. Their future roles, especially the balance between enforcement and development, need to be much more clearly defined. They too require support in gaining new attitudes, skills and knowledge to complement the work at the central and community levels.

Other government departments that interface with the fisheries sector, such as the police, the army and the navy, need to be kept aware of their potential roles and fully informed of the implications of policy, legislative and institutional change.

Whilst greater responsibility is being placed on the commune councils to take on a role in natural resource and environmental management, few have the skills to do this effectively. Communes will need increasing levels of support to take on these roles in the future if they are to act as a conduit for improved involvement of rural people in decision-making processes.

At the level of Community Fisheries themselves, the development of local institutional mechanisms for managing community fisheries needs to be seen in the context of general development of communities. The findings from the policy impact assessment clearly indicate how the need to depend on fisheries resources in rural Cambodia is strongly affected by the other livelihood options available to people at any particular time. The development of appropriate mechanisms for managing fisheries resources therefore needs to be accompanied by efforts to enhance community organisation and capacity to plan and prioritise across a wider range of issues. The recent history of Cambodia, the deep fractures in society which have arisen in the past and the continuing distrust of collective organisation mean that special efforts are required in order to build the capacity of “communities” to function as communities. Not least, these broader forms of community organisation are liable to be important in order to mobilize and manage the resources necessary to implement community fisheries.

#### **5.2.4 Coordination with other initiatives**

Some valuable work is currently being done through government and civil society initiatives, and medium-term support will be available from projects funded by loans from the ADB. But this is not enough to ensure that the reforms sustainably achieve their original aim of increasing the number of people benefiting from the resource. Current efforts need to be increased substantially to ensure that legislative and institutional reforms are implemented quickly enough to maintain the food security, employment and income roles that the sector plays in the lives of the rural poor. This will require considerable financial investment and capacity building which are clearly beyond the government's resources in the short-term.

The donor community has access to a wealth of knowledge and experience from other parts of the world that can assist the process in Cambodia. Donors can play a



very meaningful role in knowledge brokering that makes that experience and knowledge available to Cambodia in forms that allow it to be adapted to local circumstances.

Likewise much can be learnt from existing community-based activities within Cambodia. The roles of traditional ecological knowledge and of traditional power structures and religion, in resource management need to be harnessed.

To some extent research into different institutional arrangements, methods and approaches to suit specific local situations will need to be carried out. Lessons can be learnt from donor involvement in research activities in other parts of the world that have benefited measures to introduce community-based fisheries.

All these forms of support are essential to future survival of the policy reforms but most crucially is the intensity of that support over the short-term.

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## **ANNEX 1 : GUIDELINES AND CHECKLIST FOR MEETINGS OF THE LOCAL CONSULTATIVE GROUP**

### **LOCAL CONSULTATIVE GROUP MEETING: CHECKLIST & PROCESS**

#### **Invite:**

- Departments of :
  - Fisheries
  - Agriculture
  - Rural Development
  - Water Resources
  - Forestry
  - Environment
- Members of the Provincial Rural Development Committee responsible for SEILA Programme (usually same as above)
- ExCom – Executive Committee for Provincial Development Plan
- Representatives from the local Chamber of Commerce
- Other NGOs

#### **Checklist for Analysing the Local Context in the Study Area**

This checklist aims to help fill in information about the area where each Impact Assessment Study is taking place so that we will understand the context in which the policy reforms in fisheries have been introduced.

#### ***Local Institutions (build a Venn diagramme)***

- What is the ethnic, social and cultural make-up of the area? Where are they located? Are there any specific features of different groups that need to be taken into account? Are there any sociological or anthropological studies of the selected pilot site?
- How is the area governed? What governance institutions function in the area? How are these institutions at provincial and local levels linked? What is their capacity?
- What service delivery agencies function in the area? Who do they work with? How do they function? Are there any mechanisms for coordinating their work? How are these agencies at provincial and local levels linked? What is their capacity?
- What private sector agencies function in the area? Who do they work with? How do they function? What is their capacity?
- What NGO agencies function in the area? Who do they work with? How do they function? What is their capacity?

- Are there any important religious and traditional institutions in the area? At what level do they function? What is their role?

***Agriculture and land use (create a map)***

- What are the dominant agricultural, land use and ecological features of the area? What information exists about this?
- How important, and to whom, are forests and swamps?

***Changes and trends (create a timeline)***

- What have been the major trends in poverty in the area since the reforms took place? What are the factors that are considered to be the main causes of these changes? What information exists on the poverty/wealth profile of the site?
- What have been the major trends in food security in the area since the reforms took place? What are the factors that are considered to be the main cause of these changes?
- Have there been any major policy or legislative changes that have affected the rural communities in the area, especially in terms of access to natural resources?
- How have the prices of major commodities, such as rice or cash crops, changed over the period since the reforms?
- Have there been any major outbreaks of disease at the area since the reforms?
- Have there been any significant changes in agriculture and land-use over the last 2 years, including episodes of agricultural pests or disease that might have influenced production and livelihoods in rural areas?
- What information is available on weather patterns over the last 2 years, including flooding, rainfall, drought or other significant climatic events?
- Have there been any major development projects started in the area since the policy reforms? What areas have these dealt with: Infrastructure? Agriculture? Communications? Health? Education? Natural Resources?

## ANNEX 2 : GUIDELINES AND CHECKLIST FOR MEETINGS OF THE LOCAL FISHERIES CONSULTATIVE GROUPS (LFCG)

### LOCAL FISHERIES CONSULTATIVE GROUP 1° MEETING - CHECKLIST & PROCESS

INTRODUCTION	
Process	Notes
Welcome	<ul style="list-style-type: none"> <li>• Welcome the participants</li> <li>• Thank them for giving their time</li> </ul>
Who are we?	<ul style="list-style-type: none"> <li>• Explain who the team members are and who they represent</li> </ul>
Why are we here?	<p>Emphasise:</p> <ul style="list-style-type: none"> <li>• Reasons for impact assessment</li> <li>• No prejudging – we do not assume that the reform is good or bad</li> </ul>
Personal introductions	<ul style="list-style-type: none"> <li>• Get everyone to introduce themselves and their role and position</li> </ul>
The Assessment Process	<ul style="list-style-type: none"> <li>• Explain the process that the assessment is undertaking</li> <li>• Explain the role of the Local Fisheries Consultative Group in that process</li> </ul>
HISTORY OF POLICY REFORM	
Process	Notes
Get participants to prepare a map of the area with fishing lots (past and present)	<ul style="list-style-type: none"> <li>• If available, use the Provincial Fisheries Office map of fishing lots</li> </ul>
Using the map for reference, get participants to explain the situation before the Fisheries Policy Reform	<ul style="list-style-type: none"> <li>• Check on any changes that may have taken place <b>before</b> the policy reforms</li> </ul>
Get them to explain how the reform was implemented	<p>Remember to ask:</p> <ul style="list-style-type: none"> <li>• <b>What</b> happened?</li> <li>• <b>When</b> did it happen?</li> <li>• <b>How</b> did it happen?</li> <li>• <b>Who</b> was involved? <b>Who</b> was affected?</li> <li>• <b>Why</b> did it happen that way?</li> <li>• <b>Where</b> did it happen?</li> </ul>
Get them to identify & locate any conflicts that have occurred before and since the reforms	<p>Remember to ask:</p> <ul style="list-style-type: none"> <li>• <b>What</b> happened?</li> <li>• <b>When</b> did it happen?</li> <li>• <b>How</b> did it happen?</li> <li>• <b>Who</b> was involved? <b>Who</b> was affected?</li> <li>• <b>Why</b> did it happen that way?</li> <li>• <b>Where</b> did it happen?</li> </ul>
Get them to explain the current situation	

FISHERIES STAKEHOLDERS	
Process	Notes
Who are the different groups involved in fisheries in the province?	<ul style="list-style-type: none"> <li>• Encourage participants to distinguish different groups involved in fishing</li> <li>• Use the <b>STAKEHOLDER IDENTIFICATION MATRIX</b> to review the different characteristics of different stakeholder groups and distinguish their different interests</li> <li>• As different groups are identified, fill in the matrix</li> <li>• Encourage participants to discuss and analyse whether, within the groups they have identified, there are separate “sub-groups” with different interests – for example: “lot owners” and “lot sub-leasees”; or “male Khmer fishers” and “female Khmer fishers”</li> </ul>
Where are they located?	<ul style="list-style-type: none"> <li>• Use the map to identify areas where each group identified by participants can be found</li> </ul>
How many of them are there?	<ul style="list-style-type: none"> <li>• Get an approximate idea of the relative size of different stakeholder groups</li> </ul>
What are the gender characteristics of each group?	<ul style="list-style-type: none"> <li>• Within the groups identified, are there distinct sets of interests that distinguish men and women?</li> <li>• Should these form distinct stakeholder groups?</li> </ul>
What are the ethnic characteristics of each group?	<ul style="list-style-type: none"> <li>• Do members of the group belong to a particular ethnic group?</li> </ul>
What types of fishing grounds are used by the stakeholders?	<ul style="list-style-type: none"> <li>• Distinguish between: river, stream, lake, floodplain</li> </ul>
What form of management regime are the fishing grounds used by each group under?	<ul style="list-style-type: none"> <li>• For the different fishing grounds that different groups use, what is the current and past management status – fishing lot, released fishing lot or no lot?</li> <li>• Which released lot areas have had community fisheries set up? Where are they?</li> </ul>
What is the relative productivity of the fishing grounds used?	<ul style="list-style-type: none"> <li>• Compared with other fishing grounds, how productive are the ones used by different groups – high, medium or low?</li> </ul>
What are the institutional linkages for different stakeholder groups?	<ul style="list-style-type: none"> <li>• Which fishing groups have received support for setting up community fisheries from the Provincial Fisheries Office / from NGOs?</li> <li>• How continuous is that support?</li> <li>• Which have not received any support?</li> <li>• What linkages with different institutions, individuals or channels of influence do different groups have?</li> </ul>
Which stakeholder groups should we talk to?	<ul style="list-style-type: none"> <li>• Ask for help in identifying which stakeholder groups are “representative” of different sets of impacts from the policy reforms and different sets of interests in those reforms</li> <li>• List the groups suggested by the participants</li> <li>• Ask why they have identified those groups</li> <li>• Where can we meet them?</li> <li>• What would the best approach be for contacting them?</li> </ul>

LOCAL FISHERIES CAPACITY	
Process	Notes
Staff and capacity	<ul style="list-style-type: none"> <li>• Ask what staff the fisheries office has at its disposal</li> <li>• Describe their various capacities, qualifications and skills</li> </ul>
Existing information	<ul style="list-style-type: none"> <li>• What information exists on the past fishery activities in the site?</li> <li>• What information is there on the fisheries resource base?</li> <li>• What information is there on fishing communities in the project area?</li> <li>• What information is there on the production and fishing effort of the site?</li> <li>• What information is there on the market for commodities, including fish, in the project area and any changes that may have taken place over the last 2 years?</li> </ul>

CONCLUSION	
Process	Notes
Follow-up	<ul style="list-style-type: none"> <li>• Explain how the suggestions of the LFCG will be used in the field</li> <li>• Remind participants of the entire review process</li> <li>• Arrange a further meeting to review field findings</li> </ul>
Recommendations	<ol style="list-style-type: none"> <li>1. Ask participants about whether there are other key issues that have not been discussed</li> <li>2. Ask for suggestions about how the policy review process should proceed</li> </ol>
Thanks	<ol style="list-style-type: none"> <li>3. Thank the participants for their time and efforts</li> </ol>



**LOCAL FISHERIES CONSULTATIVE GROUP 2° MEETING - CHECKLIST & PROCESS**

- Participants in 2° meeting:
- Fisheries group
- Relevant members of general group (LCG)

<b>INTRODUCTION</b>	
<b>Process</b>	<b>Notes</b>
Presentation of key findings	<ul style="list-style-type: none"> <li>• <i>Based on initial discussions within assessment team</i></li> </ul>
Validation & comment	<ul style="list-style-type: none"> <li>• <i>Ask participants for feedback and comments on the findings</i></li> </ul>
Differences across the province	<ul style="list-style-type: none"> <li>• <i>Focus the attention of the participants on possible differences between the findings presented and other areas or stakeholder groups in the province that have not been contacted</i></li> <li>• <i>Are there any significant differences from one part of the province to the other?</i></li> </ul>
Explain how the findings will be used	<ul style="list-style-type: none"> <li>• <i>Once the comments of the participants are complete, explain how the findings will be incorporated into an overall document reviewing the impacts of the policy reforms</i></li> <li>• <i>Explain how these will be presented and discussed by the IARG in Phnom Penh before finalisation</i></li> <li>• <i>Invite the Provincial Fisheries Officers to attend the IARG</i></li> </ul>
Thanks and goodbyes	

**ANNEX 3 : STAKEHOLDER IDENTIFICATION MATRIX**

KEY FEATURES	GENDER	TYPES OF FISHING GEAR	ETHNIC GROUP			FISHING GROUNDS				MANAGEMENT REGIME			PRODUCTIVITY			SUPPORTED BY:		
			KHMER	CHAM	VIET	RIVER	STREAM	LAKE	FLOOD-PLAIN	RETAINED FISHING LOT	RELEASE FISHING LOT	OPEN	HIGH	MEDIUM	LOW	PFO	PROJECT / NGO	NONE
ROLE / SCALE	♀♂																	
Lot owners																		
Small & medium-scale fishers																		
Small-scale fishers																		
Medium scale fishers																		
Small-scale traders																		
Sub-lessees																		
Fishers																		
Fishers																		

## ANNEX 4 : GUIDELINES AND CHECKLIST FOR STAKEHOLDER FOCUS GROUP DISCUSSIONS

INTRODUCTION	
Process	Notes
Welcome	<ul style="list-style-type: none"> <li>• Welcome the participants</li> <li>• Thank them for giving their time</li> </ul>
Who are we?	<ul style="list-style-type: none"> <li>• Explain who the team members are and who they represent</li> </ul>
Why are we here?	<p>Emphasise:</p> <ul style="list-style-type: none"> <li>• Reasons for impact assessment</li> <li>• No prejudging – we do not assume that the reform is good or bad</li> </ul>
Personal introductions	<ul style="list-style-type: none"> <li>• Get everyone to introduce themselves and their role and/or position</li> <li>• Keep track of who the participants are and record it.</li> </ul>
CHANGES	
Process	Notes
Review <b>general</b> changes that have affected the stakeholders	<ul style="list-style-type: none"> <li>• Ask what changes have taken place over the last 3 years</li> <li>• Ask what the impacts of those changes have had</li> <li>• Ask what the causes of these changes have had</li> <li>• Ask where these changes have taken place and, if relevant, show the locations on a <b>sketch map</b></li> </ul>
Review changes in fisheries	<p>Ask:</p> <ul style="list-style-type: none"> <li>• What changes have taken place in the fisheries over the last 3 years</li> <li>• What happened? What impacts did it have?</li> <li>• When did it happen?</li> <li>• How did it happen?</li> <li>• Who was involved? Who was affected?</li> <li>• How did they cope with the changes?</li> <li>• Why did it happen that way?</li> <li>• Where did it happen? Show the changes on sketch map</li> </ul>
Review knowledge of the fisheries policy reforms	<ul style="list-style-type: none"> <li>• If the reforms have not already been mentioned, ask what they participants know about them?</li> <li>• Ask how they know about them? – where did they hear of them? What information did they obtain? Who gave it to them?</li> <li>• When did they find out about the policy reforms? How were they implemented in their area?</li> </ul>
Review changes in relations & linkages with institutions & communities	<ul style="list-style-type: none"> <li>• Using the changes shown on the sketch map as a prompt, ask whether these changes have had any affect on their relations of the fishers with the Fisheries Service. For example, do they have closer contact now than before, or less contact, or the same</li> <li>• Ask about changes in relations with lot owners. How were they before? How are they now? Why?</li> <li>• Ask about relations with fish traders / money lenders. How have they changed? Who is involved? Where do they borrow money? What debts do they have? Why?</li> <li>• What about market linkages? How have they changed? Where do they sell their fish? How have prices changed and why?</li> <li>• What are their relations with other fishing communities? What were they like before? How have they changed? Why have they changed?</li> </ul>

<b>IMPACTS OF THE POLICY REFORMS ON STAKEHOLDERS</b>	
<b>Process</b>	<b>Notes</b>
What impacts have the reforms had?	<ul style="list-style-type: none"> <li>Ask the participants to focus on themselves as a group and think about how their lives have changed as a result of the policy reforms.</li> </ul>
How have the reforms affected their access to different assets that they use for their livelihoods?	<p>Check about the possible affects of the policy reforms on stakeholders':</p> <ul style="list-style-type: none"> <li>Human assets – knowledge, health, access to education</li> <li>Social assets – community networks, family relations, leadership &amp; organisation in the community</li> <li>Natural assets – access to fish and other resources</li> <li>Physical assets – local infrastructure, water supply, fishing gear&amp; fishing equipment</li> <li>Financial assets – income, expenditure, indebtedness &amp; assess to loans</li> </ul>
How have the reforms affected their ability to cope with vulnerability?	<ul style="list-style-type: none"> <li>How have the reforms affected the stakeholders' ability to deal with trends like changes in the climate, increasing fishing population?</li> <li>How have the reforms affected the stakeholders' ability to deal with shocks like flooding or drought?</li> <li>How have the seasonal patterns of the stakeholders' activities changed as a result of the policy reforms?</li> <li>How has the stakeholders' ability to deal with seasonal changes changed?</li> </ul>
How have their livelihood strategies changed?	<ul style="list-style-type: none"> <li>Have the stakeholders' livelihood strategies changed since the policy reforms?</li> <li>Why have they changed?</li> <li>How have they changed? Have they become more or less diversified? Have they got better or worse?</li> </ul>
How do they judge the overall impacts of the policy reforms?	<ul style="list-style-type: none"> <li>Lay out a sheet of paper with 4 key areas of impact of the policy reforms - changes in access to fisheries resources, changes in income, changes in conflict levels, changes in overall well-being in the household (remind respondents to think about the whole family)</li> <li>Next to each impact area, draw 5 squares: 1 – very positive change; 2 – positive change; 3 – no change; 4 – negative change; 5 – very negative change.</li> <li>Give the participants each 4 counters and ask them place one in one of the boxes next to each impact area</li> <li>Count the numbers that are left in each box for each impact area and announce the results of the "vote" to all the participants</li> <li>Discuss with them the significance of the results and whether they all agree with them</li> <li>Note down any disagreement or consensus about particular issues</li> <li>Record the results</li> </ul>
Have the policy reforms had an impact on poverty	<ul style="list-style-type: none"> <li>Ask the participants if the situation of any particular groups, either within their community or in other communities, has been affected by the policy reforms</li> <li>Focus their attention on the old and children, on men and women, on different ethnic groups.</li> <li>Have any groups got poorer? Have any got richer? Why?</li> </ul>
What are their hopes and aspirations for the future?	<ul style="list-style-type: none"> <li>Ask the participants what their hopes for the future are? In general? In relation to the fisheries?</li> <li>How could those hopes be achieved?</li> <li>Have the fisheries reforms contributed to achieving those hopes?</li> <li>What obstacles do they see?</li> </ul>

<b>CLOSING AND THANKS</b>	
<b>Process</b>	<b>Notes</b>
Thanks	<ul style="list-style-type: none"> <li>• <i>Thank the participants for their time and patience</i></li> </ul>
What we're going to do with what they told us	<ul style="list-style-type: none"> <li>• <i>Explain why we have collected this information and what we will do with it</i></li> <li>• <i>Emphasise that this is an opportunity for their ideas and concerns to be passed up to the Department of Fisheries and policy makers</i></li> <li>• <i>Ask whether there are any other important issues that they'd like to raise</i></li> </ul>

## ANNEX 5 : GUIDELINES FOR VALIDATION MEETINGS

### GUIDELINES FOR VALIDATION MEETINGS : PURSAT

The points to be covered in both the meetings of the LCG and stakeholder meetings should be broadly similar and are outlined in the checklist below.

INTRODUCTION	
Process	Notes
Presentation of key findings	<p><i>The key findings for Pursat Province are:</i></p> <ul style="list-style-type: none"> <li><i>All stakeholder groups are concerned over the effects of the increased number of people fishing on fisheries resources;</i></li> <li><i>The increased incentives for fishers to use destructive, and illegal fishing gears was also noted by all;</i></li> <li><i>Conflicts over access to fisheries have generally diminished and all stakeholders note improved access to fishing areas;</i></li> <li><i>Only one stakeholder group – full-time Khmer fishers from Prek village – felt that the reforms had had significant beneficial impacts on their overall livelihoods and income: for all the other groups interviewed, improved access to fisheries resources has been counterbalanced by the decline in fisheries resources;</i></li> <li><i>Some post-harvest stakeholders –fish processors, fresh fish middlemen &amp; iced fish exporters – note declines in the quantities of fish handled, in some cases by as much as 90%:</i></li> <li><i>The numbers of middlemen handling smoked fish has increased:</i></li> <li><i>Fish prices have generally increased.</i></li> </ul> <p><i>Provincial fisheries officers highlighted the following issues:</i></p> <ul style="list-style-type: none"> <li><i>The poorer groups involved in fishing can only benefit from improved access if this is accompanied by improved access to better fishing gear that will allow them to compete;</i></li> <li><i>Better-off fishers have been able to corner more benefits from the policy reforms because of their ability to purchase bigger, more efficient gears.</i></li> </ul>
Validation & comment	<ul style="list-style-type: none"> <li><i>Ask participants for feedback and comments on the findings</i></li> </ul>
Differences across the province	<ul style="list-style-type: none"> <li><i>Focus the attention of the participants on possible differences between the findings presented and other areas or stakeholder groups in the province that have not been contacted</i></li> <li><i>Are there any significant differences from one part of the province to the other?</i></li> </ul>
Explain how the findings will be used	<ul style="list-style-type: none"> <li><i>Once the comments of the participants are complete, explain how the findings will be incorporated into an overall document reviewing the impacts of the policy reforms</i></li> <li><i>Explain how these will be presented and discussed by the IARG in Phnom Penh before finalisation</i></li> <li><i>Invite the Provincial Fisheries Officers to attend the IARG</i></li> </ul>
Thanks and goodbyes	

## **ANNEX 6 : TERMS OF REFERENCE FOR THE IMPACT ASSESSMENT REVIEW GROUP**

### **BACKGROUND**

During the 2002 Cambodia Consultative Group meeting it was strongly recommended by donors that there was a need to conduct a review of the impact of fisheries reforms. The PRIAC project is aimed at meeting this need. It intends to contribute analysis to strengthening of the draft Fisheries Law and Community Fisheries Sub-decree.

The purpose of the project is: Future legislation and policy on fisheries enables equitable access to common property aquatic resources

The planned outputs of the project are as follows:

- Recommendations on policy, legislation and management as a strategy of poverty eradication.
- Review of activities undertaken to implement fisheries management reform from 2000;
- Methodology established for annual monitoring of the impact on livelihoods of future changes in fisheries legislation;
- Methodology applied for three annual cycles;
- Analysis of the perception and experiences of stakeholders of the effectiveness and efficiency of reform to date;
- Analysis of impact of the changes in policy on the livelihoods of riverine and lacustrine communities;
- Analysis of the livelihood studies to inform the next DFID Cap and offer opportunities that DFID might consider for engagement in promoting access to natural resources.

PRIAC is a Department of Fisheries driven initiative, seeking objective, balanced and reliable feedback on the status of the implementation of the fisheries management reform. It will be a joint government and civil society intervention at a time when the Fisheries Law and Community Fisheries Sub-decree are still being drafted.

Based on the livelihoods approach, which encourages holistic and people centred analysis, a methodology will be developed to assess the impact on livelihoods of Cambodia fisheries management reform.

### **THE NEED FOR A REVIEW GROUP**

Given the importance of fisheries both for the livelihoods of a wide diversity of stakeholders and the economy of the country as a whole, the assessment of the policy reforms needs to be carried out using as transparent an approach as possible. The Department of Fisheries is anxious that the process of carrying out the review should contribute to building a consensus between government, civil society and local stakeholders over the future directions for fisheries policy and development in the country.

With this in mind, the Department of Fisheries has proposed that the process be guided by a consultative group made up of expert opinion that can help to ensure that the work undertaken is of a high standard and its findings will be acceptable to as broad a segment of stakeholders as possible. It is envisaged that this group will

be made up of a combination of individuals with knowledge and experience of fisheries issues in Cambodia and representatives of institutions or civil society groups that are directly concerned with fisheries.

#### **THE ROLE OF THE REVIEW GROUP**

The role of this group will be advisory, rather than supervisory, and it is proposed that this group will meet periodically at various stages in the 3-year assessment process to carry out the following tasks:

- to review the methodologies developed by the project and comment on their soundness, relevance, objectivity, and wider applicability in Cambodia;
- to make suggestions on possible improvement for the methodologies;
- to assist the project team in ensuring a thorough inclusion of different stakeholder groups in the review process;
- to review the findings generated by the review, validate them and comment on their wider relevance throughout Cambodia;
- to provide comments and suggestions regarding technical issues that may arise during the course of the review;
- to provide comments and suggestions regarding approaches and channels for the diffusion and presentation of findings from the study to concerned stakeholders in Cambodia.



**ANNEX 7 : LIST OF PARTICIPANTS IN THE IMPACT ASSESSMENT REVIEW GROUP**

NAME	POSITION / INSTITUTION	CONTACT
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