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**SUSTAINABLE FISHERIES LIVELIHOODS PROGRAMME**

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**STRUCTURAL ADJUSTMENT POLICIES AND SUSTAINABLE  
LIVELIHOODS IN WEST AFRICAN INLAND FISHERIES**

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## **ABSTRACT**

The impact of Structural Adjustment Programmes (SAPs) on developing country economies is the subject of wide controversy. Whilst some economists attribute major improvements in national macro-economies to adjustment, others are unconvinced. There is widespread concern about the social impact of SAPs, particularly upon the poor. Although the literature is abundant, there are no simple answers about the overall benefits or disadvantages to the development of Sub-Saharan African nations.

Against this background it is difficult to tease out from the sparse fisheries related literature, the specific impact of SAPs on inland fisheries management. This paper attempts to address the issue using the Sustainable Livelihoods Approach (SLA) adopted by the Department for International Development (UK), with guidance from the Code of Conduct for Responsible Fisheries. The SLA provides a reference framework against which to assess the likely impacts of SAPs on the livelihoods of fisheries communities. The framework in turn offers a range of entry points for analysis. This paper focuses on the vulnerability of fisheries communities to the potential impact of SAPs, and on the policies, institutions and processes through which SAPs may influence the external environment in which such communities pursue their livelihoods.

A range of potential and actual negative impacts are identified. Fisheries communities are vulnerable to changes in the cost of inputs (eg gear, fuel and salt), to fluctuations in market value of their outputs and to decreases in public services and infrastructure provision. It is argued that, due to the variability of fisheries production, the livelihoods of fisheries communities are particularly unstable and vulnerable to short term hardships resulting from price cuts and decreases in public spending. However, it is also recognised that this very instability creates diversified livelihood strategies and an entrepreneurial approach which may make fisheries communities well placed to take advantage of economic changes resulting from SAPs.

It is suggested that there are even more fundamental issues underlying the problems of inland fisheries management. Government policy determines the level of investment in any sector, and this in turn influences the institutional resources and the processes applied. Under adjustment programmes there is pressure to focus on those sectors viewed as essential to the national well being (eg agriculture) and those where there is scope for export oriented production. It is argued that inland fisheries management is very low on the priority list of many nations, and that given the scale of the challenge, and the competition for resources, there will always be limited investment in management with or without SAPs.

The paper investigates the perceptions and attitudes of governments to fisheries management, and the policies, institutions and processes which constitute the external environment for inland fisheries livelihoods. It is concluded that pressure to decrease the size of the public sector under SAPs will inevitably impact on the services delivered to fisheries communities, but that in many remote but important areas, these services are anyway severely restricted. It is suggested that the most positive way forward is to consider the most appropriate means of addressing the problems posed by inland fisheries management, and to minimise any negative impact that SAPs might have on the institutions and processes required to deliver solutions.

The widespread regional commitment to decentralisation and to empowerment of local authorities and communities to manage their own resources, offers a way forward. If government policies are shaped, through recognition of the national value of inland fisheries, towards facilitating this process, then it may be possible to generate the necessary human, social and financial resources to improve management. It will, however, require significant investment in understanding and building upon the existing institutions and processes at a local level, and on the legislative framework necessary to implement a policy of devolvement. It is argued that resources already exist within the sector, and that it is the redeployment of these, rather than the provision of new funding that is required.

The paper concludes that whilst SAPs may have significant economic impact on the livelihoods of rural communities, including fisheries dependent people, the underlying problems of inland fisheries management cannot be laid entirely at the door of public sector downsizing and spending cuts. Such cuts may in fact bite more harshly on areas such as health, education and infrastructure. It is suggested that, even in an external environment influenced by SAPs, there is an opportunity to capitalise on the human and social capital present in inland communities to develop a way forward for fisheries management. What is required are the necessary policy shifts, and the necessary participatory institutional approaches to build upon an existing potential



## **SECTION 1: INTRODUCTION**

The sustainability of world inland fisheries is a major development concern. FAO (1999) suggested that neither the present state, nor the short term future look encouraging. Although estimated inland catch levels have remained fairly consistent at around 7.5 m tonnes per annum in recent years, it is widely recognised that this is a best guess and, more important, that there is very limited understanding of the increase in effort required to maintain this production. The UN predicts world human population increase in the order of 80 million per year over the next 25 years and the World Bank foresees a rise from the current 5.6 billion to around 10 billion by 2050. The issue of increasing effort and uncontrolled access clearly cannot be ignored in fisheries management.

The World Bank has stated that "... tropical deforestation and the decimation of the world's fisheries are stark reminders of the sorts of perverse results created by unregulated open access to resources...". The Bank (1997) noted that establishing property rights for land, water and logging concessions provides a fundamental incentive for better resource management. It is apparent that inland fisheries management in West Africa cannot be considered only through technically and sectorally oriented approaches. Today it is necessary to take a far broader view of the external environment, national and regional, in which such fisheries operate

The Code of Conduct for Responsible Fisheries (FAO, 1995) has provided a platform for an integrated and multi-nation approach to sustainable use. The DFID Sustainable Livelihoods Approach (SLA) offers an opportunity to understand the impact of a wide range of factors both internal and external to the sector, on the livelihoods of poor people who depend upon sustainable inland fisheries. Combining the CCRF and the SLA offers a fairly comprehensive toolbox for appraising the factors which influence the vulnerability of such people.

Structural Adjustment Programmes are one such factor. SAPs have had a bad press since their inception in the early 1980s. They were intended to loosen trade and investment regulations, promote exports, improve foreign exchange earnings and reduce government deficits by cuts in public sector expenditure. In reality, they are viewed by many as increasing poverty, eroding self-sufficiency, generating population translocation and encouraging non-sustainable use of resources. Such issues obviously have an impact on the operation of inland fisheries, and the livelihoods of those dependent on these resources. In SLA terms, understanding of the policies, institutions and processes through which SAPs are implemented is crucial to assessing the options for sustainable resource use. The multiple impacts on the capital assets of fisheries communities, the influence on their livelihood strategies and the accumulative effect on their vulnerability can only be understood and addressed through a holistic approach to fisheries management.

This paper attempts to relate the general global experience of SAP impact to the specific circumstances governing inland fisheries management in West Africa, using the CCRF and the SLA to tease out the most pertinent issues. These are then examined in the context of current management systems and options for the future.

## **SECTION 2: THE SUSTAINABLE LIVELIHOODS APPROACH AND THE CODE OF CONDUCT FOR RESPONSIBLE FISHERIES**

### **2.1 The Sustainable Livelihoods Framework**

The Sustainable Livelihoods Approach (SLA) has been evolved by the UK Department for International Development (DFID) as a framework for structured thinking about the objectives, approaches to, and consequences of, development. In its simplest form the SLA is a checklist to guide the identification, monitoring and implementation of development activities. At its most complex, the SLA provides multiple points of reference, to guide a truly integrated and holistic approach to development. The SLA framework has been described in the context of West African fisheries by Campbell (1999) and Palin (2000), and only the essentials necessary for application of the SLA to SAP issues are given here.

The definition of livelihood for SLA purposes is: **a livelihood comprises the capabilities, assets and activities required for a means of living.** In essence, the SL framework comprises 5 elements :

**Element 1 : The assets** upon which people's livelihoods depend:

<b>Capital assets</b>	<b>Examples</b>
1. Natural capital: the resources naturally available to people in pursuing their livelihoods	1. Water resources, fisheries resources, forest resources
2. Human capital: the skills and knowledge which people use to pursue their livelihoods	2. Where to find fish, how to catch fish, how to process fish
3. Social capital: the relationships, groupings and arrangements within communities	3. Co-operative arrangements, traditional management mechanisms, trader groups
4. Physical capital: the tools and infrastructure used to pursue livelihoods	4. Fishing gear, boats, jetties, smoking kilns
5. Financial capital: the financial resources used to implement livelihoods strategies`	5. Cash, credit, liquid assets, remittances

**Element 2 : the Transforming Structures and Processes** which influence the access that people have to the various assets, and which help to determine the outcome of a given livelihood strategy. This includes the institutions, the policies and the regulations which influence the way in which people make use of their livelihood opportunities and the approaches they adopt.

**Element 3: the Livelihood Strategies** are the product of the range and combination of options people identify and adopt as their answer to the challenge of making a living. Individuals in fishing communities may thus rely on fish only for part of the year, and may combine fishing with other activities such as sale of labour for agriculture

**Element 4: Livelihood Outcomes** are the results of the strategies adopted by people from the range of assets and options available to them. The outcomes are very much the property of the people concerned and interpretation must reflect both actual achievement and aspirations and ambitions.

**Element 5: the Vulnerability Context** encompasses the factors in the external environment which may affect the success of people in pursuit of the livelihood strategies, and may render them susceptible to poverty. For inland fisheries communities floods and droughts are good examples of vulnerability.

The SLA integrates all five of these elements in consideration of the factors affecting people's livelihoods and their susceptibility to poverty. The flexibility of approach makes this a valuable tool for assessing the likely impact of a potential or actual intervention. There are various entry points for the SLA, and the vulnerability context is often very useful as a starting point in understanding the issues faced by people in a given context such as the introduction of a Structural Adjustment Programme. Alternatively, given that the SAPs are policy driven and institutionally focused, the structures and processes element may be the best entry point (Policies, Institutions and Processes). Both entry points for the use of the SLA are explored in this paper.

## *2.2 The Code of Conduct as a guide*

The CCRF is well known in West Africa having been widely promoted by FAO under the former IDAF programme and more recently under the FAO/DFID West African Sustainable Fisheries Livelihoods Programme (SFLP). Only brief comment will be made here where the Code is particularly relevant to the issue of SAP impact. The CCRF is essentially a voluntary instrument intended to contribute to achieving sustainable benefits from fisheries for people throughout the world. The Code provides principles and standards to guide fisheries conservation and management.

The CCRF has a wide range of objectives which include:

- To establish principles for responsible fisheries activities (Article 2 a)
- To establish principles for elaboration and implementation of national policies (2b)
- To help in establishing or improving the legal framework for responsible use (2c)
- To promote research in fisheries (2 i)

These objectives imply significant guidance to governments in shaping the ways in which they manage their fisheries resources, and the policies, institutions and processes through which management is achieved. The inter-relationship between a voluntary code aimed at sustainable use and a sometimes less than voluntary programme of structural adjustment, is obviously pertinent to the consideration of impact on inland fisheries management.

During preparation of the SFLP Scullion et al (1999) identified a range of technical and management constraints relevant to inland fisheries and related these to the provisions of the CCRF. The breadth of relevance of the CCRF to the management issues under discussion at this meeting is instructive:

Major constraint to sustainable use	CCRF Context (Articles)
1. Inadequate fisheries management	6.1, 6.2, 6.5, 6.6, 7.1.7, 7.6.6, 8.4.2
2. Over-exploitation of resources	6.1, 6.2, 6.3, 7.1.8, 7.6.1
3. Inadequate information for planning	6.4, 12.4, 12.5, 12.9, 12.13, 7.4.4, 7.4.5
4. Post-harvest inefficiencies	6.7, 6.17, 8.6.1, 11.1.1, 11.1.5, 11.1.8

This table highlights the view that West African fisheries in general suffer from too little management, that this in turn is (at least in part) a consequence of insufficient information, and that the consequences include over-exploitation and sub-optimal post-harvest utilisation. All areas where the CCRF offers clear guidance.

### **SECTION 3: FISHERIES MANAGEMENT IN WEST AFRICA**

#### **3.1 Some generic issues**

It is accepted that inland fisheries are under-represented in world production statistics. Data collated by FAO suggest global figures of around 7+ million tonnes per year up to 1997, with around 700,000t contributed by West Africa:

Production (millions t)	1990	1992	1994	1995	1996	1997
Inland capture fisheries	6.59	6.25	6.91	7.38	7.55	7.70
Total world capture fisheries	85.88	86.21	92.68	93.00	94.63	93.73
West Africa inland capture	0.628	0.647	0.627	0.741	0.707	

*Source FAO statistics*

However, the general view is that these figures are some two to three times lower than the actual production (FAO, 1999). **The first issue in inland fisheries management is thus, a lack of information upon which to base sound management practice.** There are no consistent data time series, and monitoring programmes are patchy or absent.

A second issue involves the perceived importance of inland fisheries. Although they apparently contribute only 8% of total global production, it is generally accepted that fisheries in inland waters make a vital contribution to the livelihoods of a very large number of people, many of whom are living in, or close to poverty. Nonetheless the information available relates to the quantity of fish believed to be produced, and the value of that fish. In national macro-economic terms the sums involved are trivial compared with marine fisheries or cash crop agriculture. **The second management issue is thus the policy importance attributed by national governments and the resources allocated as a consequence.** Associated with this is a relatively poor understanding of the role of inland fisheries in the livelihoods strategies of widespread, and often remote rural communities

The available resources in turn determine **the national capacity to understand, monitor and manage what are intrinsically highly complex and diverse natural**

**resources.** The complexity is highly relevant to the management needs. The cyclical regimes of major rivers and floodplains impose conditions and management needs very different from those on lakes and reservoirs. **This implies a research, extension, field management and monitoring capacity that would be a burden to any national economy.**

In line with the seasonality and complexity of inland fisheries, are the fishing communities themselves. Migration is commonplace and management strategy needs to take account not only of the use by indigenous communities, but also of the periodic, or long term influx of foreign fishers. **Control of access is a management issue of major importance**

Whilst the figures for global inland fisheries production currently show a modest increase of around 130,000t per year, there are few comprehensive data on effort, and there is a fairly widespread view that over-fishing is a concern (Scullion et al, 1999). Irrespective of the accuracy of this view, what is known is that the human-induced changes on inland fisheries resources are many and varied, and the greatest threat to sustainability may come not from uncontrolled access and excessive fishing effort, but from environmental degradation. The issues are well known (hydro-dams, pollution, deforestation etc), but the core problem for fisheries management is that the control of environmental degradation does not rest with those bodies held responsible for fisheries. **There are thus major institutional issues to be addressed in securing the necessary holistic approach to fisheries management.**

Fisheries management is a complex matrix of inputs, outputs, structures, processes and policies. The SLA approach offers an opportunity to look at the complexity of the management environment, and Box 1 is an attempt to illustrate the various entry points for consideration of the impact of SAPs in the sections that follow.

**Box 1**

Fisheries Management  
Components (not  
exhaustive)

**POLICIES**  
Sectoral, national development

for  
example

Decentralisation  
*Privatisation*  
*Structural adjustment*  
*Fisheries sector*

**PROCESSES**  
Planning, regulating, information exchange, training and extension

for  
example

Fisheries planning  
*Enforcement*  
*Monitoring*  
*Development of*  
*human/social capital*

**INSTITUTIONS**  
Government, community, NGO, sectoral, general, private

for  
example

*Fisheries department*  
*Extension dept*  
*Traders groups*  
*Processing groups*  
*Police*  
*Village committee*

**DIRECT INPUTS TO FISHERY**  
Human capital, social capital, financial capital, physical capital

for  
example

Fishing skills  
*Site knowledge*  
*Seasonal knowledge*  
*Cooperation*  
*Savings*  
*Gear*

**OUTPUTS FROM FISHERY**  
Local nutrition, national nutrition, local economy, national economy

for  
example

Processing  
*Marketing*  
*Distribution*  
*Sales*  
*Food quality*

### **3.2 Management - the current situation**

Modern fisheries management systems exist in all West African countries. The basis is generally "top down" with centralised government institutions responsible for policy, planning and management. The line ministry has statutory responsibility for the collection of fisheries statistics, formulation of policy objectives and development strategies and for the formulation of regulations with which to manage fisheries. The central government agency is usually also responsible for the enforcement of these regulations to ensure sustainable use.

Centralised management systems were generally introduced during the colonial era when they were superimposed on, or replaced traditional systems. After independence such systems continued to operate under a range of differing political and government systems across the region, often with the support of external donor agencies. In the 1950s-1980s the emphasis was on the application of new pre- and post-harvest technology to increase production, rather than on the management issues of sustainable use. In the 1990s there has been increasing concern over the state of fish stocks and more attention has been focused on the adequacy of current management practices.

Bonzon and Breuil (1992) reviewed the management practices in Sahelian countries and concluded that in most countries modern management methods had failed to achieve their objectives. This was attributed to poor understanding of an immensely complex resource base, and a lack of human and financial resources in the institutions responsible. It was also recognised that the modern "top down" approach provided little opportunity for participation by fishing communities in the processes and policy planning of the sector.

The outcomes of the lack of priority ascribed to governments in terms of the resources allocated are summarised graphically in Figure 1, and the weaknesses of the centralised approach are represented in Figure 2 .

### **3.3 Summary**

In very simplified form, the management of inland fisheries in West Africa is currently characterised by:

- Low priority in national macro-economic and policy terms
- Limited understanding of the direct and indirect importance of fisheries to human livelihoods
- Inadequate information for planning, management and decision making
- Institutional isolation of those responsible for fisheries planning from those responsible for other national development issues (eg power, transport, agriculture)
- Inadequate human and financial resources to implement plans, strategies and regulations
- Limited participation by users in the policy planning and processes of the sector; limited macro-micro linkage pathways
- Little real control over the exploitation of resources and little capacity to ensure sustainable use

However, the last decade has seen a shift away from centralised thinking towards a decentralised approach with implicit shifting of the focus for implementation of fisheries management policy and for regulation to the local level. What the role of the SAPs has been in this process is hard to tease out, but what is clear is that central governments in the region

find it difficult to allocate the necessary resources for research, management planning, capacity building and implementation. The impact of SAPs on government spending is obviously a factor but, given the size, remoteness and complexities of the inland water systems, it is questionable whether a largely central approach could ever be viable, irrespective of the funding implications. The inland delta of Mali is a classic example. Operation Peche de Mopti makes a substantial contribution to the pre-and post-harvest management issues of the Delta, but they would not claim to be able to manage the exploitation of a resource which, seasonally, supports upwards of 300,000 fishermen and their families across an enormous geographical area.

The relevant question is thus perhaps not, how have SAPs constrained governments from managing, but rather what options do they hold for new management under a decentralised system. The brief analysis of issues above indicates that the appropriate entry point for consideration of SAP impact and potential is policies, institutions and processes (PIPs). However, it is first necessary to examine what is known of SAPs and their actual or likely impact on fisheries management

## **SECTION 4: STRUCTURAL ADJUSTMENT PROGRAMMES (SAPs)**

### **4.1 Brief overview**

There is a vast generic literature on the origins and impacts of SAPs. In addition, Marquette (1998) has produced an extensive bibliography on small scale fisheries which captures the (very limited) literature relating directly to the fisheries sector.

SAPs arose in the early 1980s from the increasing inability of developing countries to repay debts. The rationale was simple - if the inflow of funds from international development agencies was to continue, countries with severe economic difficulties, had to subscribe to and implement a range of structural adjustment programmes. In general terms the purpose of the SAPs was to promote market-driven capitalist economies in place of state controlled monopolies. This was to be achieved by liberalising the domestic economy, eliminating trade and investment regulations, boosting exporting income and reducing public expenditure. The philosophy was that the way out of debt was to privatise, minimise government intervention, stimulate investment and promote export market orientation. An inevitable consequence was the "right sizing" of the public sector in the light of its reduced responsibilities, role and inefficiencies.

The SAPs have been supported strongly by the Bretton Woods Institutions which have promoted their widespread application (World Bank and the International Monetary Fund). They have been widely criticised by many, notably non-governmental organisations, which see their policies as an attack upon already weakened nation states. The crux of the argument seems to lie between those of the World Bank persuasion (the neo-liberal view) and the structuralists (Lensink, 1996). The former are committed to the view that liberalisation, privatisation and the removal of government intervention are the way to economic revival in Africa. The latter are unconvinced about the appropriateness of a free market economy in Africa, suggesting that under the circumstances pertaining in many countries, a strong government lead is essential to economic development, and that SAPs have seriously disadvantaged the poorest parts of populations (notably women) and the environment.

Taking the extremes of view, those against the SAP approach argue that the impacts include:

- Privatisation of state enterprises (eg state fishing companies)
- Abolition of subsidies (eg on fuel and on fishing gear)
- Cuts to social welfare programmes (health, education, housing)
- Major job losses in the public sector and increased pressure on natural resources (increased entry to inland fisheries)
- Currency devaluation leading to increase in import costs (nets and engines)
- Higher interest rates to attract foreign investment (credit for purchase of capital assets for fisheries activities)
- A shift from focus on crops for domestic consumption to export cash crops (shrimp trawling/by-catch issues)

*\*Adapted from the web site of the 1995 People's Summit (P7) prior to the G7 Halifax Initiative which addressed Bretton Woods Institution issues*

Views on the negative social and environmental impact of SAPs, are fairly widely held. Destruction of the environment, loss of access to land for small scale agriculture and unequal income distribution leading to deepening of poverty, are all identified as consequences. It is also suggested that women are increasingly actually or potentially marginalised as a result of SAPs (Lensink, 1996, and Nzomo 1992, cited Lensink). The negative views are summarised by Drakakis-Smith (1997) who stated that "... more than 30 African States have been bullied into SAPs, the common denominators of which are increased private sector investment, liberalisation of exchange rates and trade, reduction of government expenditure and deregulation of the economy in general...." Gibbon (1992) held the view that the social consequences have been substantial: ".....increased unemployment, drastically reduced investment in education and housing, rampant inflation and stagnant wages....."

The World Bank, on the other hand, defends the effectiveness of SAPs, and the fact that adjustments have apparently had a positive effect on GDP in many countries is regarded by some as proof of effectiveness. However, the outcomes are not unequivocally decided, and the economists continue to measure performance against a range of criteria which include GDP, levels of exports, investment and savings. There is no single answer, although the attempt to monitor impact is interesting (eg see Mosely and Weeks, 1993). However, the focus of this meeting is specifically inland fisheries, and we can fortunately afford to step around much of the central debate.

#### **4.2 The Fisheries perspective**

Literature on SAPs and the fisheries sector in general are few, and outside contributions to this meeting (eg Eremie, 2000), work specifically on small scale inland fisheries is sparse. This section will draw heavily on field experience from the preparation of the West African Sustainable Fisheries Livelihoods Programme (Scullion et al, 1999; Blake et al, 2000) and on the information collated and assembled into an as yet unpublished paper on SAPs and fisheries in Ghana by Catherine Marquette (Draft 2, 1999).

Marquette summarised possible SAP impact areas in Ghanaian fisheries:

**TABLE 1**

<b>Sphere</b>	<b>Issues to consider</b>
Key inputs and credit	<ul style="list-style-type: none"> <li>• Use of credit and investments</li> <li>• Price, availability and use of gear, boats and fuel</li> <li>• Price, availability and use of technologies for processing (ovens, salt)</li> </ul>
Change in organisation and institutions in fishery activities	<ul style="list-style-type: none"> <li>• Size and composition of crews</li> <li>• Forms of ownership</li> <li>• Sexual division of labour</li> <li>• Use of middlemen</li> <li>• Distribution and marketing networks</li> <li>• Fishery migration</li> <li>• Diversification between fishery and agricultural activity</li> <li>• Nature of formal and informal institutions regulating fisheries activity</li> </ul>
Economic returns to fishing activity	<ul style="list-style-type: none"> <li>• Profits from fishing</li> <li>• Depreciation and maintenance costs</li> <li>• Processing and distribution costs</li> </ul>
Standards of living in fisheries communities	<ul style="list-style-type: none"> <li>• Prices of basic goods</li> <li>• Access to public services</li> <li>• Infrastructure development</li> </ul>

*\*Reproduced with kind permission of Catherine Marquette*

In the context of impact upon fisheries communities Marquette argued that there were both potential disadvantages and benefits to fisheries communities from SAPs. Thus whilst the relative instability of fisheries communities (variation in production) may render them vulnerable to short term hardships resulting from price rises and cuts in public spending on services, the adaptability and entrepreneurship which exists (eg in women traders) may prepare communities to take advantage of opportunities resulting from economic liberalisation. Similarly, the need for a diversified livelihoods strategy in fisheries communities lays a foundation for survival in the face of economic change resulting from adjustment.

While SAPs may have a profound impact on interest rates in the formal credit sector, small scale inland fisheries have always relied on informal credit (if this is available), and their access to financial capital is less affected by adjustment. This is not true of price increases for key inputs, but on the other hand, trade liberalisation was often a key factor in making imported nets, gears and engines available in the first place. Fuel subsidy, which was removed Ghana in 1995, may have had a significant impact on fisheries communities

Perhaps the one clear area of potential impact is that of reduction in public sector spending. However, the likely impacts are not specific to fisheries communities, and are not related in any direct sense to fisheries management. These include restricted access to health

services and education, and limited expansion in infrastructure and communications. The last will, of course have major implications for distribution as implied in the table above. More directly, cuts in the public sector will limit the resources available for the development of social and human capital in fisheries (and other rural) communities, but this presupposes that such interventions would otherwise have made a major contribution to development.

One further area of potential impact is that on fishing effort. Jul-Larsen (pers comm.) has investigated small scale fisheries in Kariba, and found that increases in fish prices as a result of price liberalisation, and increases in unemployment as a result of labour market reform, have had a significant impact on fishing effort in 1994-1998. In contrast, increases in the price of nets appear to be related to a decrease in the number of nets on the lake and a decrease in effort. It was also pointed out that it is necessary to look hard at non-fishing activities of fisheries communities when assessing the reasons for changes in effort, since economic change may favour other livelihood strategy components.

Since the concern of this paper is the likely consequences of SAPs for the target of poverty eradication amongst people who depend on inland fisheries, it would seem appropriate to apply a Sustainable Livelihoods Approach to these suggested impacts. The following sections look at the vulnerabilities of inland fisheries communities, and at the policies, institutions and process through which impacts are transmitted.

## **SECTION 5: A SUSTAINABLE LIVELIHOODS APPROACH TO SAP IMPACT**

### **5.1 The Capital Assets Context**

The SLA seeks to understand and build upon the strengths of the people depending on inland fisheries resources. These strengths are embodied in their Livelihood Assets as outlined in Section 3 above. It is important to note that natural capital includes not only the fisheries resources which are extracted by communities, but also the forests from which fuel and building wood is gathered, the water used for drinking, washing, irrigation and transport and the land itself. The likely impact of SAPs on the access of people to these assets is reflected in their vulnerability (see Table 2 ).

### **5.2 Livelihood strategies**

As indicated in Section 4, whilst fisheries communities may be vulnerable to a wide range of external factors, some of them linked to SAP impact, in some ways such communities have a in-built flexibility which makes them well placed to adapt their livelihood strategies in line with change. The village of Agonli in Benin illustrates the point well, offering an example of a fisheries based integrated rural livelihoods strategy. Fishing is the major occupation during the flood in July – October and people amass money from fish sales. The capital is used to buy seeds and to hire external labour for rapid planting as waters recede in November. If the agriculture goes well and financial capital is accrued, some may be invested in improvements to housing, schooling for children, marriage, or new gear for the next fishing season.

A major seasonal vulnerability lies in the period between the drop in catches and the first harvest (say December – February) when people may go hungry. Also, if crops are poor there is nothing to invest in livelihood improvement or the next fishing season, although fish can still be eaten when the flood comes.

Integrating processes occur in this system. The labour hired during the planting period comes from non-flood plain areas where the quiet season has arrived. The flood plain cycle thus provides a livelihood opportunity for people outside the fishing communities. The relationship between land use and fishing is further emphasised through the problem of soil erosion. Land use practice contributes to erosion, which in turn leads to siltation affecting both the local area and downstream fisheries. This issue offers, at least in theory, an opportunity for an integrated livelihood improvement opportunity. If it were possible to introduce a fast growing ground stabilising plant with foliage suitable for livestock fodder, then soil erosion from run-off could be reduced, livestock potential increased and the fisheries environment improved. There are many questions to be asked before such a proposition is taken seriously (eg current loss versus run-off erosion etc), but the principle in terms of strategies is of direct relevance to the sustainability of livelihoods.

The Agonli livelihoods strategy diversity offers a bulwark against trickle down effects of SAP impact at the national level. Should a fishing season fail as a result of natural or man-induced changes, or should economic adjustment reduce the rate of return from investment in fishing, there is the option of agriculture, or sale of labour to floodplain agriculture. The vulnerability to hunger and poverty is, however, always present in the period between flooding and the planting, and this is what people fear most. At such times the impact of SAPs in terms of public spending cuts (eg reduced services for health and education) may be at their most critical.

This kind of livelihood strategy is widespread and as part of a Livelihoods Analysis in Mali, Monan (in Blake et al 2000) came up with the following report which encompasses all elements of the SLA:

The Malian village of Sayuna is on the right bank of the Niger River about 60 miles upstream of the main central delta town of Mopti. The community, which is physically extremely isolated, is made up of predominantly Somona people with a few Bozo families. Both these ethnic groups are traditionally fisherfolk and only with the onset of very dry weather between the early 1960s and 1992 resorted to cultivation as a means of producing food.

The following livelihoods analysis was carried out mainly with a women's group in the village. As with Agonli, the livelihood strategies were diverse and seasonal; vulnerability was the chosen entry point:

January to March:	Fish is available but at long distances from the village; men migrate
April to June:	No fish, land prepared for cultivation and planted
July :	Rice and millet harvested
September to October:	Fish return but catches limited
November to December	Plenty of fish available

The months that are best from a vulnerability point of view are November and December since they fish close to home. All other times present a degree of vulnerability since the participants claimed fishing was their main livelihood. But, although fishing, fish processing and trading are the principal elements of livelihood strategies, agriculture is a secondary element and women may also be potters and brick makers. Women in fact operate

very diversified livelihoods strategies and may also be involved in making fish traps, and bartering rice and fish with pastoralists for sheep or goats. In extremis women will husk rice or millet as day labourers and men will sell boats and gear (in good years extra boats and gear are purchased and rented out then if crisis looms are sold). There are thus a range of options for mitigating any negative economic impacts of adjustment programmes, and there is flexibility to grasp any positive opportunities.

The livelihoods of the people concerned in this fairly remote area would seem to be far more at risk from seasonality than from the impact of SAPs. In the absence of formal credit schemes there is no exposure to changes in interest rates, and the remoteness and migratory elements of the livelihoods strategies are likely to restrict any impact of reduction of public service provision. However, the sustainability of the natural resource base is of primary concern to these communities, and the largest threat, traceable to SAPs, might well be environmental change resulting, for example, from hydro-dam development. Fisheries management, in its restricted sense, may well not be the immediate issue for such communities.

### 5.3 The Vulnerability Context

Under the SLA, vulnerability is considered to be the product of a wide range of factors influencing the external environment in which people pursue their livelihood strategies. Fisheries communities share many vulnerabilities with others, such as agricultural workers, but there are some which, if not unique to fisheries, hold particular significance for this sub-sector. Table 2 shows examples of factors identified as potentially contributing to fisheries community vulnerability (drawn from Campbell,1999), and attempts to relate these to the possible impacts of SAPs from Table 1 above.

**TABLE 2**

<b>VULNERABILITY FACTORS</b>	<b>POSSIBLE SAP IMPACT RELEVANCE</b>
<b>Trends</b>	
1 Increasing poverty	All the other factors listed contribute
2 Declining resource base	Over-fishing as a result of employment losses in public sector; environmental degradation as a result of pushing for maximum extraction of export resources and maximum production of cash crops; no public sector capacity to plan, manage and enforce; no economic incentive for governments to invest in sustainable use
3 Declining access to markets	Increasing fuel costs due to devaluation; decreasing demand due to increased imports, decrease in domestic value of products and increasing cost of post-harvest inputs (salt, wood etc)
4 Increasing entry to fisheries	Increasing numbers of unemployed from public sector reform return to villages; problems of increasing level of migrants as a result of SAPs in neighbouring states

5	Loss of environmental quality (eg pollution, siltation, erosion, weed encroachment)	Increased pressure to clear land to maximise exports (timber, oil palms, pineapples etc); inadequate capacity in public sector to police environmental pollution; no economic incentive for govts to invest in environmental sustainability ; private sector favoured but accepting little responsibility; urgent need to maximise use of other exportable resources such as mineral resources or hydro-power
6	Changing technologies/ methods	Limited government capacity for extension and capacity building amongst fisheries communities; high cost of imported new gears and materials
7	Rising inflation rates	Domestic market liberalisation and loss of government control; uncertainty of availability of key imported commodities; private sector encouraged but objectives obviously profit motivated rather than national macro-economic welfare
<b>Shocks</b>		
8	Conflict between locals and migrants	Increased translocation to avoid economic hardship; urban drift change to rural drift as a result of employment policy? Loss of public sector jobs not compensated by private sector opportunities
9	Economic shocks	Sudden changes in valuation of the currency - instant drop in the value of the coin in the pocket; sudden removal of subsidies for fuel, nets or other physical assets; sudden increase in interest rates in formal sector (may not effect inland fisheries much?)
10	Sudden drop in resource availability	Possible environmental consequence of rapid large scale development policy encouraged by SAPs; eg impact of hydro-dam construction flood regime; or of pollution event such as mining reservoir breach
11	Outbreak of disease in community (eg water borne diseases)	Limited health care provision; reduced number of doctors, nurses and auxiliaries; reduced investment in infrastructure (eg clinics) in remote areas; reduced investment in health education; increased cost of imported medication
12	Outbreak of war	Potential for natural resources conflict over water resources, to meet needs for national economic growth in the export

	arena (eg hydro-power and cash crop irrigation)
<b>Seasonality</b>	
13 Catches	Possible positive impact as fishing communities compensate for instability in livelihoods by flexible, multi-stranded strategies; may be well placed to take advantage opportunities arising from changing economic conditions; the post-harvest component also breeds (female) entrepreneurs to feed on SAP driven change
14 Health issues	As above; but exacerbated by limited capacity of govt to respond to crises with manpower
15 Wage labour opportunities	Move towards privatisation and export cropping may offer seasonal wage earning opportunities which fishing communities are well placed to take up both in terms of availability and geography
16 Demand for products	Natural seasonal ups and downs may be influenced by changes in the domestic market and by fluctuations in currency
17 Post-harvest losses	Economic change and private sector emphasis may offer opportunities for improved products; but the use of technical and chemical inputs to control seasonal losses may be constrained by lack of extension capacity and high cost of inputs; thus wood is ever increasing in cost as it becomes a scarce resource

#### 5.4 The policy environment

The view that fisheries, including aquaculture, provide a vital source of food, employment, trade and economic well being for people throughout the world (FAO,1995) is globally accepted. In the concept note for the West African Sustainable Fisheries Livelihoods Programme DFID (1998) noted that in 1990 some 10 million people derive their livelihood from the sector, and 70% of these are involved in artisanal fisheries. The same document notes that fish protein provides 20% of the animal protein in the average African diet, rising to 65% in West Africa and higher still in coastal and riparian communities.

This general view of the importance of fisheries is reflected to an extent, in the stated policies of West African States. In The Gambia, for example the fisheries sector is viewed as a major potential source of rural employment, national food supply and export earnings (FAO/IDAF, 1995; FAO, 1997a). In Cote d'Ivoire it is hoped that, in the face of a period of general stagnation in the performance of the agriculture sector as a whole (1980-1990), the fisheries sector will make a major contribution in terms of both national wealth and nutritional requirements (FAO/IDAF,1997).

Despite this kind of general statement, usually found in fisheries development plans or reviews, the hard fact is that in the region as a whole, fisheries often takes a back seat to agriculture, and sometimes to forestry, in terms of government policy. The reason is not hard to find. In The Gambia and Cote d'Ivoire, for example, the contribution of fisheries to GDP may, on paper at least, be as little as 2% in comparison to agriculture at around 40%. (this may not be the case in some inland countries such as Chad where the contribution may be as high as 15%). It is not surprising that the recent statements on government policy in The Gambia and Cote d'Ivoire are delivered through agricultural policy documents. In general, whilst the artisanal sub-sector may be included in planning, in reality it lags far behind agriculture, forestry and livestock priorities in many countries. This is particularly true of the inland fisheries of coastal states.

In Cameroon the policy priorities also lean towards the agriculture and forestry sectors; again understandable in macroeconomic terms since the contribution of fisheries to GDP scarcely registers on the scale used for agriculture (export and internal) and forestry (FAO/IDAF,1993). The focus is further emphasised by the government's securing of external funding for forestry and agriculture sector research at the newly formed Institute for Agricultural Research (IRAD), but the absence of comparable funding for the Centre for Oceanographic and Marine Resources Research (CROHL) under the same IRAD umbrella.

Even in the Gambia where there is a strong tradition of support to fisheries development, the attitude of the Government to the artisanal sector at the broad policy level does not suggest priority. In "The Gambia Incorporated Vision 2020" the President supports the key policy objective that ".....seeks to empower the people in order for them to realise their fullest potentials.....". While this is a mandate for devolved management, the natural resources focus in Vision 2020 is fixed firm on agricultural development. Fisheries receives one paragraph in a 45 page document. In that paragraph the first objective for the sector is given as ... " to maximise foreign exchange earnings...", after which come creation of employment and affordable protein (there is however reference to the scope for co-management).

### *Financing the sector*

If it is accepted that inland artisanal fisheries do not often receive a high national priority, it is not surprising that this is reflected when it comes to financing the operational activities of fisheries departments (DoF). The facilities and recurrent expenditure budgets allocated to DoFs do not appear, in some cases, to be commensurate with their national mandate, nor with responsibilities recommended under the CCRF. In some countries, more than 90% of budget has to be used for staff salaries, and operational funds are minimal.

In some countries government policy does nevertheless extend to the creation of mechanisms for feeding revenue from the sector back into fisheries. In 1991 The Gambia, under a revision of the 1977 Fisheries Act, (FAO, 1997b), established a Fisheries Development Fund which is fed by revenue from fish licensing and fines, up to a value of 1 million Dalassies There is also a fisheries revolving loan fund started with EU co-operation. Whilst the former supports infrastructure development and the latter provides loans to fishermen for gears, neither can be used by the Department of Fisheries to fulfil its operational mandate.

In Cote d'Ivoire, the Caisse de Developpement de la Peche Maritime (FAO/IDAF,1997) is also fed by fish licensing funds and fines, but receives additional income from the livestock sector (slaughterhouse fees and market fees). The result is that fisheries must compete with the more powerful livestock sector for funds from the Caisse, and the DoF cannot, in any case, receive funds from the Caisse for their operational expenditure.

There is clearly scope for re-thinking the policy which regulates the way in which fisheries-derived revenue is re-invested in the sector, to take account of the needs of the agency responsible for sustainable use of a national resource. This need is highlighted when the impact of SAPs on public sector manpower and expenditure levels is considered.

## **5.5 Institutions and Processes**

### **National administrative structures**

There are many national variations of detail, but it is relatively easy to generalise about broad administrative structures in the majority of countries in the region. In essence there is a central system of government ministries with a range of core (Interior, Finance, Defence, Justice etc) and sectoral (Agriculture, Environment, Water etc) responsibilities. Ministers report directly to the Office of the President. Below each Ministerial office may lie some form of centralised services unit through which the Minister interacts with a range of heads of Departments or Directions. Each Head of Department in turn manages a cluster of specialist sub-departments with variable numbers of branches.

The system is then reflected down through the administrative chain with the Ministry of the Interior or its equivalent providing the basic administrative framework. A country is divided into a number of regions or provinces (eg 10 in Cameroon, 16 in Cote D'Ivoire and 9 in Mali) each with a head at the level of "governor". Each sectoral Ministry has a representative in the regional administration and variable levels and numbers of staff through the district and sub-district levels. In the Anglophone case of the Gambia the country is divided into 8 Divisions each with a Commissioner. The Division comprises a group of Districts each headed by a District Chief who interacts with the village chiefs in his area.

In all countries the role of the traditional authorities remains significant although in most countries these authorities currently have little or no formal legal status and no formal administrative or financial function. The village chiefs and their advisers nonetheless remain the first de facto line of "government", a position that several countries are now seeking to recognise through a programme of decentralisation.

### ***Changing administration systems***

Decentralisation is a stated policy of several countries (eg Senegal, Mali and Cote D'Ivoire) and is implicit in the policy thinking of many others (eg The Gambia, Cameroon and Benin). The underlying driving force is the increasing difficulty faced by governments in finding the human and financial resources to control and administer what are often huge geographical areas with rapidly increasing populations. This is exacerbated by the SAPs which demand the right-sizing of the Civil Service and a moratorium on recruitment. Governments thus face growing management problems with shrinking, or at best stable, human resources. This is particularly apparent in the area of enforcement of laws, a function which relies heavily on the military in many countries.

The conclusion reached by some States is that the only realistic means to achieve effective government and enforcement at the local level is to empower community-based bodies to take over, or share responsibility for, administrative and financial management tasks at the local level. This strategy implies a shift to elected authorities at local and district levels, a high degree of empowerment of local State authorities, a close partnership between these authorities and the communities they serve and a reduction in the upward referral of issues to the centre. Implicit in the latter is a corresponding reduction in central administrative and regulatory cadres which is in line with the common requirements of adjustment policies.

In Mali this approach is designed to bring the village into not only local government but also into the central policy and decision making process. Thus each village has a committee which provides a member to the commune committee which is itself represented at the cercle (district) level. The cercle committee provides a member to the relevant regional administration committee which in turn has a seat on the relevant national consultative body that advises government.

The system has a great deal of merit in its principles, and may be highly supportive of the objective of sustainable rural livelihoods, but has significant problems in its implementation. A recent World Bank Staff Appraisal Report on Cote D'Ivoire (World Bank, 1997a) noted that village level administration implies a level of institutional and financial management capacity that does not currently exist. Decentralisation in Mali and other countries is likely to **be severely constrained by the absence of structures and mechanisms at the village/commune level** to assume the responsibilities they face under decentralisation policy. This is a major threat to government policy with respect to sustainable use of natural resources through community participation. It also emphasises that whilst devolution of authority to a local level may appear to offer answers to SAP pressures on central administrations, in reality, the necessary resources to offer support and guidance to communities in managing their own livelihoods strategies and options, must be found somewhere.

## **5.6 The fisheries sector – structures and capacity**

A core objective of the CCRF is to assist States in the establishment of the institutional framework necessary to the planning for, and exercise of, responsible fisheries (Article 2c). The necessary institutional framework is taken to include: the capacity to recognise and prevent overfishing (6.3), capacity to use the best available scientific information as a basis for sustainable use (7.1.1), capacity for monitoring, surveillance, control and enforcement (7.1.7), capacity to recognise and protect the rights of small scale fishers and fishworkers (6.18) and the capacity to generate and implement a management plan for sustainable fisheries (7.3.3). These requirements are borne in mind in the following discussion of fisheries institutional structure and processes.

The ministerial ownership of the national fisheries department is variable across the region. Fisheries is commonly grouped with forestry, water resources, livestock agriculture or rural development. The Head of the Department of Fisheries (DoF) reports direct to the office of the relevant Minister whose portfolio generally includes more than one natural resource sector. For example fisheries may lie with:

**The Gambia:** State Department for the Presidency, Fisheries and Natural Resources

**Mali :** Ministry for Rural Development and Water  
**Cote d'Ivoire :** Ministry of Agriculture and Animal Resources  
**Cameroon:** Ministry of Livestock, Fisheries and Animal Industries

The specific allegiance is somewhat mobile, and both The Gambia and Mali have seen more than one change in recent years.

In the Francophone system, although the Head of Fisheries reports to the Minister and is responsible for the planning and management of the sector, the regional and sub-regional networks which are determined by government administrative structure, do not report to the fisheries department, but through the regional hierarchy direct to the Minister's office. Thus while the same ministry may pay the salaries of the field-based staff and the DoF staff, they are not directly line managed by the head of fisheries. Although the Minister's office passes fisheries matters on to the head of DoF there is nonetheless an institutional issue in terms of the authority of the post with respect to cohesive national planning and management. In this context the pressure for down sizing under SAPs may generate a positive force for rationalisation of scarce administrative resources.

Fisheries administration at the regional and sub-regional level is based on the general State administrative system described above, with a significant level of authority devolved from the parent Ministry to its regional representative, and lesser authority devolved downwards from the region to the departments and sub-departments . As far as may be generalised, in the Francophone countries the senior parent ministry representative at the regional or provincial level has responsibility for all the sectors covered by the ministry and may or may not have specialist fisheries knowledge. This situation persists through the department and arondissement (sub-department or sub-division) levels. Although some of the staff at these levels may have fisheries skills, many will not, having wider sectoral responsibilities in agriculture and livestock. At the field agent level the ministry staff will have some hands-on fisheries experience as they are involved in collection of catch data and license fees and in some countries may have a role in enforcement. They may, however, also have wider extension responsibilities and are not always dedicated to fisheries work. In some countries, there is thus an existing basis for the integration of community support services in line with proposed decreases in public sector staffing and devolvement of responsibility to the local level.

The pattern of devolvement of fisheries functions along State administrative lines is currently being reviewed in Cote d'Ivoire, and an innovative and highly relevant new system is proposed. There were until recently 10 administrative provinces in Cote d'Ivoire. Each of these has a regional representative of the Ministry of Agriculture and Animal Resources (MINAGRA) with responsibility for fisheries, agriculture and livestock (the incumbent is unlikely to have a fisheries background). In 1998 the number of provinces was increased to 16, but the MINAGRA has not increased its representation pending the outcome of the review. The intention is to dispense with administrative conformity and divide the country into 10 fishing activity zones, each with an inter-regional co-ordinator who will administer the fishery across provincial boundaries.

Thus, where at present the Lake Kossou fishery is shared administratively between two provinces, under the new system it would be dealt with as a single unit by a fisheries co-ordinator. Similar fishery based groupings are proposed for small lakes, coastal lagoons and coastal marine systems. This is a significant opportunity to reduce constraints relating to the

arbitrary management of fisheries on the basis of administrative zones, and could lay the foundation for improved, participatory, management. The government recognises this potential and intends to create multi-stakeholder consultative bodies for each fishing activity zone. **Here may be an opportunity to realise efficiencies both in the SAP-driven reduction of public sector capacity and in the inclusion of communities in the rationalisation of inland fisheries management.**

### *Informal institutions and processes*

Given that SAPs will inevitably mean a decrease in the staff and resources available for extension, monitoring and enforcement, organisation at the community level, is perhaps the single most important institutional issue in artisanal fisheries. Many countries have fisheries organisations which generally involve payment of membership fees and the option at some stage to benefit from a loan from the resultant fund. Such associations have an elected president who heads a committee of members who may represent different interest groups. Some groups are men-only fishermen's associations (eg at Kribi, Cameroon), some are women-only traders and processors (eg San Pedro, Cote d'Ivoire) and some are mixed organisations with men and women, some of whom may be involved in other activities such as market gardening or aquaculture (eg at Selingue, Mali).

In The Gambia there are associations centred around landing sites that started with government help, and have become self-sustaining (Njie,1998). The objective of these Community Fisheries Centres (CFCs) is primarily to ensure access by members to a range of land based facilities such as smoking ovens, drying racks, net stores, cool boxes and engine repair shops. The Centres also facilitate the trading of fish to the benefit of fishermen, processors and traders. Although the government still provides technical and management advice as required and relationships are strong, the centres operate independently of the state and concern themselves with optimising the benefits from production. It should be emphasised that whilst government can and does support these coastal initiatives, it is unable to extend this degree of support to inland fisheries. It should also be noted that fisheries management and conservation are not the objectives of the associations

In the coastal fisheries of Senegal there are also artisanal fisheries associations which seek to optimise marketing benefits from the high value demersal fishery. This goes beyond simple provision of landing site facilities to enforcement of association regulations regarding the quantity of certain species which may be landed per unit length of beach front . Again, this activity is undertaken independently of government and is driven by market forces. This is a situation which has thrived in the economic climate driven by structural adjustment.

In the inland fisheries of Mali there are complex and well-organised fisheries associations at national level (APRAM and APPAM) and at local levels (eg at Faraba and Selingue). The former acts as a form of trade union looking after fishermen's interests at national level, whilst the latter are typical community based groups seeking to optimise the benefits from production.

Two aspects of these informal institutional arrangements are particularly relevant to the objective of sustainable resource use in support of the livelihoods of fishing communities. The associations described are often not mechanisms for collaborative action, but are groups that support the activities of individuals, and generally, no thought is given to the sustainable use of the resource. There are, however, clear exceptions to this, where the adaptation of traditional

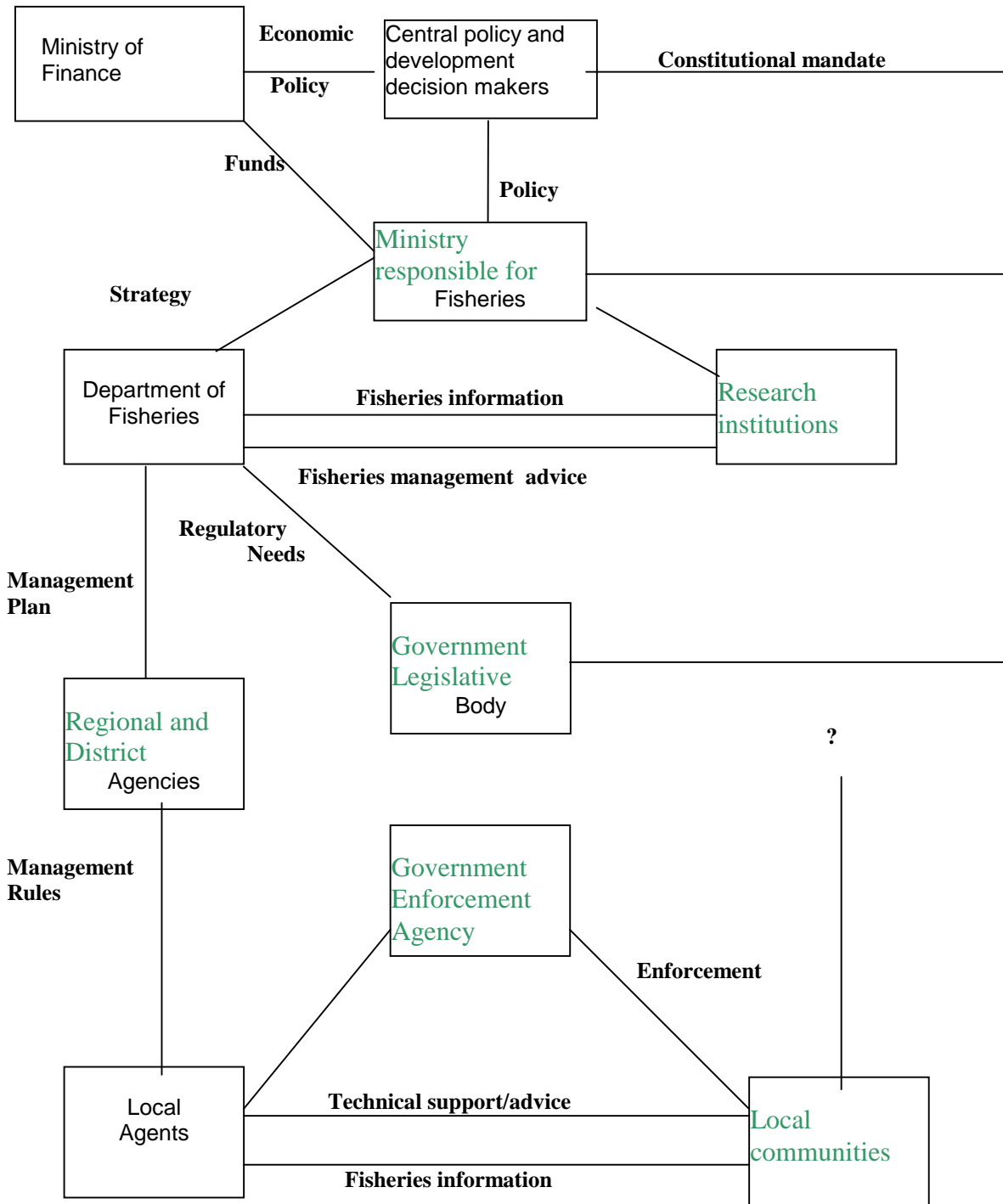
methods of access control has generated major success in resource management by the fisheries communities. Aby Lagoon in Cote d'Ivoire is a well known example of what could be achieved in inland waters. This kind of arrangement was reviewed in Scullion et al (1999)

In many countries, there is thus a ready made, traditionally based, informal institutional framework for participatory management. But the potential for co-management remains largely unrealised on a regional scale. If the impact of SAPs is indeed to withdraw or reduce the government's role in fisheries management at the field level then it would make sense to invest what funds are available in promoting and nurturing a management partnership where the central planning and policy role is informed from the community level and resultant plans are implemented at that level. This will, of course, require substantial rethinking of the role and capacity of fisheries departments, and of the legal framework for empowerment of communities.

**SECTION 6: THE IMPACT OF SAPS ON POLICY FORMULATION AND IMPLEMENTATION**

In principle, the centralised government approach to inland fisheries planning and management embraces the following kinds of institutions and processes:

*(Areas of weakness at macro and micro levels are indicated as dotted lines)*



**6.1 The macro level**

While it is difficult to identify which of the postulated areas of weak linkage (dotted lines) are actually the result of SAP impact, there is clearly some synergy with the potential impacts identified in Table 1.

The nature of the relationship between fisheries line ministries and the central planning and finance ministries is obviously coloured by the constraints of implementing economic reform programmes. In short, the ministry responsible for fisheries may have very little influence with central decision makers. Empowering the Department of Fisheries to sustainably manage inland resources and support livelihoods of fisheries-dependent poor communities thus becomes difficult. This area of vulnerability is further emphasised by the often weak relationship between the Ministry responsible for fisheries management, and those responsible for the nation's development in related areas, notably water management, environment, industry and research.

The CCRF makes clear and logical recommendations with respect to basing management on a firm basis of scientific research. However, the economic constraints applied to departments of fisheries apply equally to research institutions. This is exacerbated by the fact that in many countries the relevant research institutions are under the control of completely separate ministries and there is little congruence of prioritisation for what resources are available. Put bluntly, the research institutions do whatever research they can find funds for, rather than contribute consistently to an on-going programme to inform national management plans. This is particularly true for inland fisheries.

Ghana highlights a very specific area of SAP impact in this context. The Department of Fisheries is participating in a major capacity development project, using funds from the World Bank. The focus of the Department under this programme includes the management of the inland fisheries of Volta Lake. At the same time, the National Institutional Renewal Programme (NIRP), again with funding from the World Bank, is reviewing the role and structure of the CSIR, and specifically of the Water Research Institute (WRI). The mandate of the NIRP includes the commercialisation of the CSIR and its institutions, including WRI. This is clearly in line with policies guiding SAPs. The significance to inland fisheries is that amongst its six areas of mandate WRI includes increase of fish production through aquaculture and sustainable management strategies in inland waters. There is thus theoretically potential for overlap with the Department of Fisheries, but more important, a national research body serving the fisheries sector is facing reform as a direct result of SAP intervention. This does not necessarily imply a negative outcome, and indeed the opposite is possible. But it is a clear and relevant example of impact at the macro level which also impinges on inter-institutional linkages and processes, through policy shifts manifested in SAPs.

## **6.2 The micro level**

At the micro level, as implied in the diagram above there is often no pathway for communication between fisheries communities and those who determine policy, strategy and regulation. The processes of management flow downwards from the top, and the paths for information flow upwards from the bottom, with little in the way of feedback loops. There are questions here of the institutional arrangements at community, local and regional level, and of the processes whereby the resource user (fishing communities) communicates with the resource "owner" (the state).

In countries where the base of the state management body is not remote from the site of the inland fishery, the links with communities may in fact be good. But this in itself is not a sufficient answer to the issues of macro-micro linkages, and the value of an SLA approach to nurturing community participation in management becomes clear. The case of Nokoue Lake in Benin is illustrative of the issues involved. In 1988 a sequence of events began which would tax the macro-micro linkages in fisheries management, would ask serious questions about the understanding of people's livelihoods strategies and vulnerabilities, and would involve processes and institutions from the individual in a fishing village up to the national legislative authorities in central government.

The Benin Fisheries Department had good links with communities around Nokoue (being geographically close to Cotonou) and so when problems arose, the Department was immediately involved. The sequence of events was:

- 1988 - new small mesh gear introduced from outside
- 1990 - major stakeholders, the fixed gear (acadja) owners noted decline in production and asked for the new gear to be banned
- Department of Fisheries investigated but lacked the data or resources required to confirm the alleged impact of the new gear; a donor project (GTZ) assisted
- 1998 - it was decided that the gear was impacting on acadja production; the necessary legislative authority was secured and a ban was introduced
- There was subsequent violence and death as a result of the ban which a sector of the community felt threatened their livelihoods, even though the community asked for help in the first place
- The Department of Fisheries and the village Fisheries Committee which supported the ban now face a credibility gap, and co-management took a small step backwards.

The basis for this process was good - the fisheries community had a problem and went to the Department of Fisheries for help - a community-led management initiative. But the processes and institutional approach were less than ideal in two key areas relevant to the resources necessary for inland fisheries management. Firstly the Department of Fisheries alone was unable to access the resources to carry out the necessary data collection and analysis. Without GTZ they would have been hard pushed to respond in a rigorous scientific manner.

Secondly, there was no attempt at any kind of Livelihoods Analysis. The vulnerabilities of the community as a whole, and the likely impact of the ban on livelihoods strategies and outcomes was not fully understood. Thus whilst the acadja owners were threatened by the new gear, the users had no other option for their livelihoods at that time. In effect, the actions of government unintentionally favoured the better off at the expense of the poorer members of the community, and this stimulated a violent response to ban enforcement. Although this has a negative flavour, the underlying message is positive. Even with funding limitations, the Department of Fisheries was able to respond to a resource issue, and did have strong links with the community through the Fisheries Committee. The institutional and

process basis for effective, limited resource, input under SAPs is embodied in this kind of interaction between government and communities.

### **6.3 Conclusions on policy, institutions and processes**

It is unlikely that, in an environment dominated by economic reform programmes, the weak links at the macro level in the above diagram will be addressed. The processes whereby policies are determined will not favour consideration of inland fisheries needs, and the institutions with the capacity to provide the basis for sustainable use will not be enabled. What is not clear is whether the situation would have been otherwise without SAPs. A parallel consideration is whether, under these circumstances, bilateral donors will again support efforts aimed at support to inland fisheries management?

The answer to that question probably lies in the Sustainable Livelihoods Approach outlined in Section 2. Even given full compliance with SAP requirements and subsequent positive economic growth, such donors are unlikely to fund projects primarily aimed at conserving fish stocks or protecting aquatic ecosystems. What they may fund is projects aimed at supporting and improving the livelihoods of people who wholly, or partly depend on these resources. Which returns us to the weak links at the micro level in the above diagram. If governments implementing SAPs (or simply recognising that they will not, in the foreseeable future be able to control the use of their inland resources), decide to either devolve responsibility to a local level, or to engage fisheries communities in the co-management of resources, then a complete revision of policies, institutions and processes will be necessary. The new PIP environment will need to be highly participatory, including the process by which SAPs are designed and agreed. Such change will require reflection and action by international funding bodies as well as by national governments.

## **SECTION 7: OPTIONS FOR MANAGEMENT IN A SAP ENVIRONMENT**

Drawing on Sections 5 and 6 and on Table 1 from Section 4 above, the core implications of SAPs include:

- Given the imperative to reduce public sector spending, SAPs will persuade government policy to focus resources on areas of national development where there are clear macro-economic returns
- Inland fisheries do not obviously qualify for investment since their hard currency export potential is currently limited
- Whilst environmental degradation and resource depletion are of concern to national governments, in terms of national policy priorities there are more obvious immediate returns to be generated from cash crop agriculture, extraction of exportable commodities and realisation of national assets such as electricity generation potential (eg for sale to regional neighbours)
- The case for investment in management may thus seem weak, and the necessary resources and processes for community support, data collection, research, analysis and implementation will not emerge from the processes of national development planning
- Whilst all governments have signed up to the principles of the CCRF, implementation in the context of inland fisheries management faces severe constraints which can only be exacerbated by the imposition of spending cuts and manpower reduction under SAPs

- Whilst decentralisation, traditional practices and community based management may offer options for better fisheries management, there is nevertheless a need for investment in the development of the necessary capacity and empowerment mechanisms

It is therefore vital that several core issues are addressed if inland fisheries are to receive the attention required to safeguard the livelihoods of the communities which depend upon them. The priorities might include:

- Government policy makers to be informed and convinced of the importance of these fisheries to their constituents and to the well being of the nation as a whole
- Bare bones strategies for inland fisheries management to be developed on a country by country basis, using the CCRF and the SLA as a joint tool, and integrating the activities of the key relevant agencies
- The money that is currently available through fisheries development funds and the like to be channelled into support of the bare bones strategy; current fisheries and research capacity to be focused on critical control points (eg community capacity)
- Policy to be further moved towards formally adopting the concept, and embracing the empowerment, of community participation in inland fisheries management
- The necessary changes in institutional structures and processes to support such a policy shift to be defined and put in place, using the abundant real case history (eg Aby Lagoon community control, Cote d'Ivoire eco-system based co-management concept and Senegal fishing organisation regulation of landings ) as a basis.
- The design and agreement of Structural Adjustment Programmes to be a more participatory process rather than donor defined.

The SAP element appears last in this list, since in truth it is hard to suggest that the key issues of policy and process which must be addressed if inland fisheries livelihoods are to be protected and enhanced, can be laid solely at the door of the adjustment programmes. SAPs have been shown to have clear impact, or potential impact on the livelihoods of fisheries communities, but the underlying sheer practical problems of fisheries management, of monitoring, control and surveillance in inland waters, would surely have existed whatever the economic regime. What is, perhaps, significant are the political changes that have accompanied the move to free market economies, and the attitudinal changes towards traditional management systems which these may engender.

Figure 3 shows the benefits of a co-management system as compared with the centralised system illustrated in Figure 2 . To realise these potential advantages will require investment under a SAP umbrella, and economy will be necessary in seeking solutions. The Cote d'Ivoire example again serves to illustrate the point. In the eco-system based concept, economies were to be sought, firstly by co-option of communities onto management committees, and secondly by reducing the number of such committees by basing their activities on aquatic resources ecosystems rather than on administrative geographic boundaries.

The government of Mali has committed to the handing over of water rights to community bodies, and in parallel has considered abolition of centralised sectoral support in favour of local availability of polyvalent agents. Again, if the practical issues can be solved, there are significant economies of scale to be made.

At the end of the day, the fate of inland fisheries must, to a significant degree, lie in the hands of the people to whom they matter most. This remains true with, or without, structural adjustment programmes, since the power of the external institutional environment to intervene will always be limited in a developing economy. What is vital is that the policy environment be shaped appropriately to support management by the most appropriate and realistic means available.

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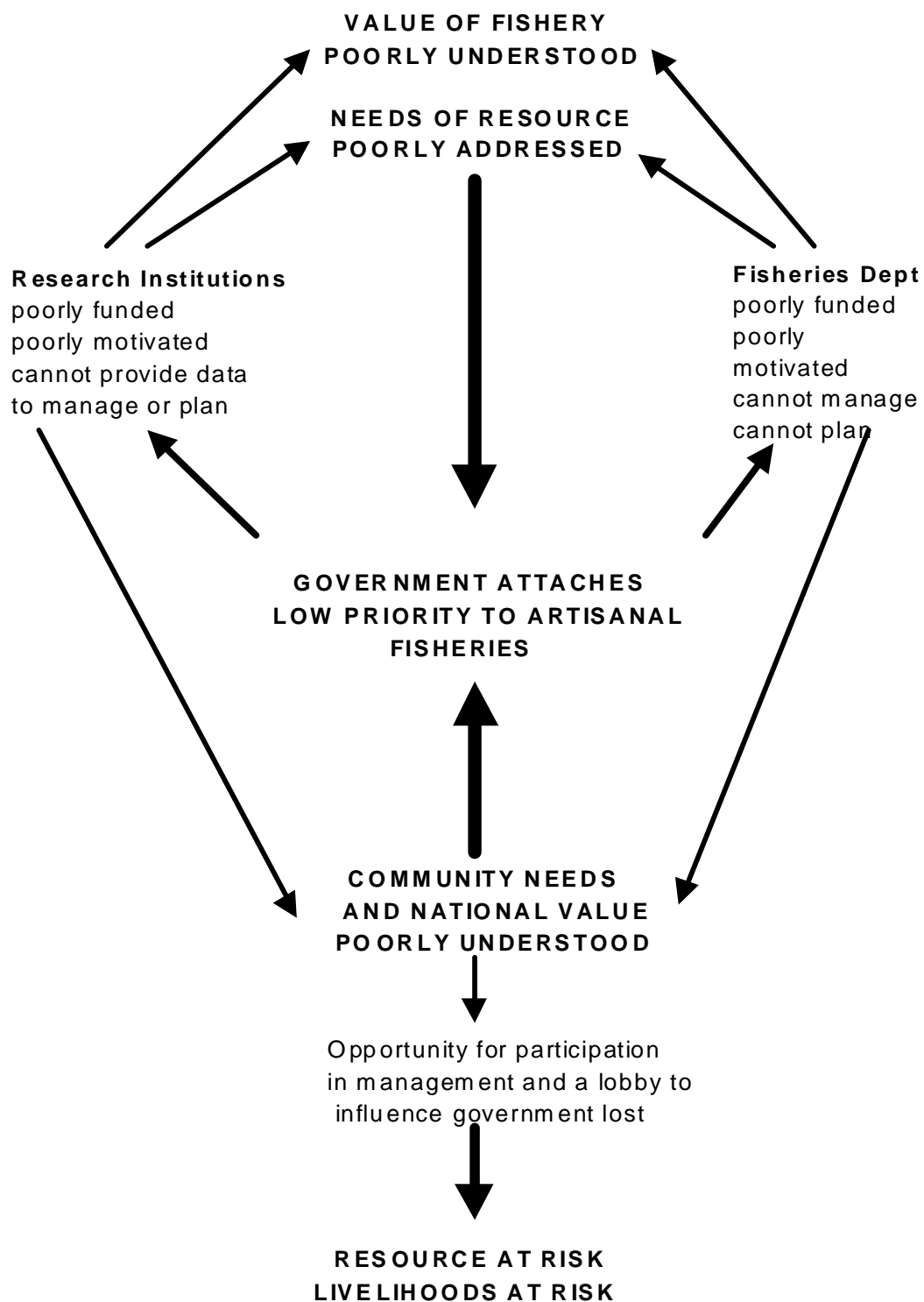
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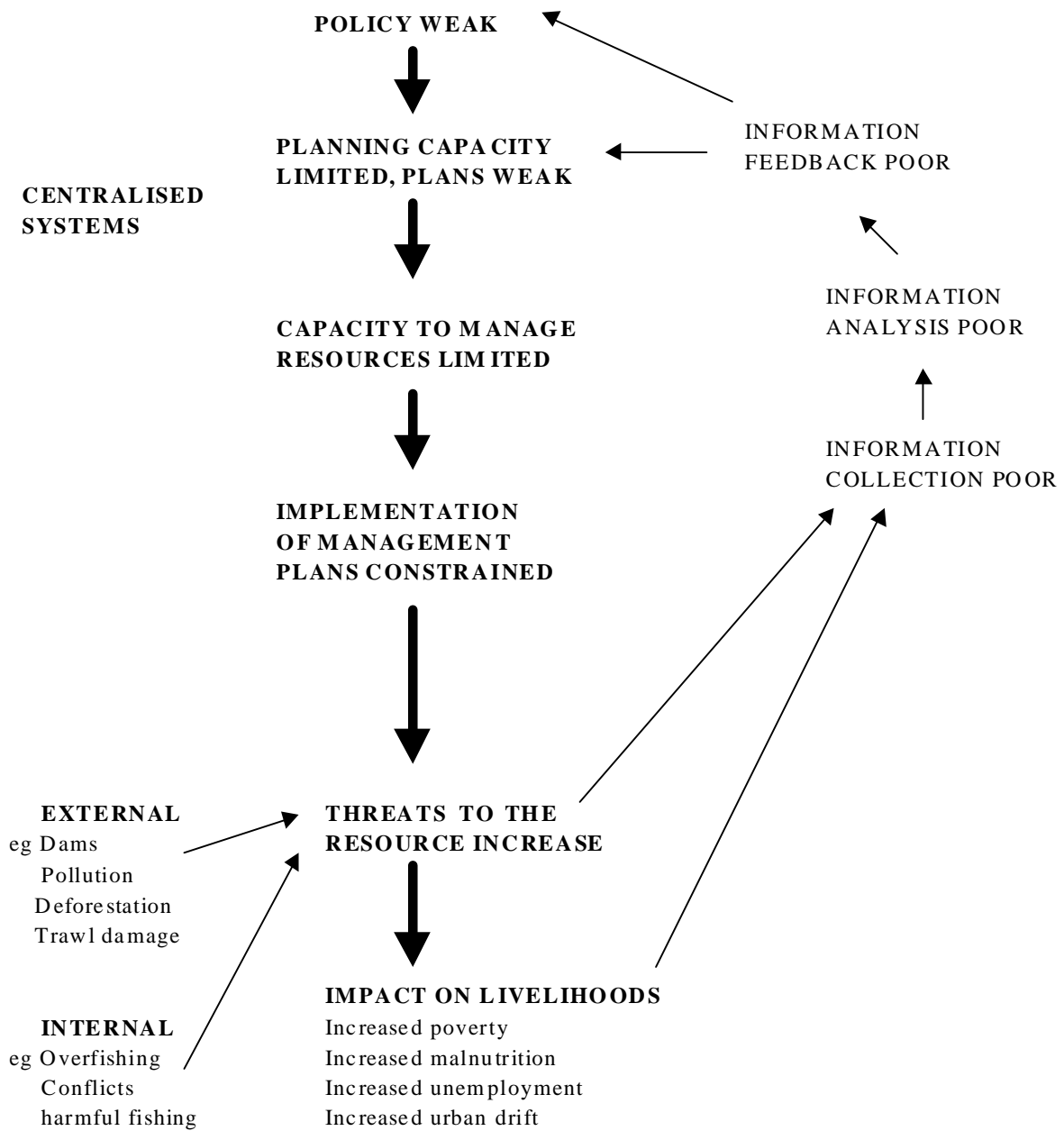
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**Figure 1  
 INSTITUTIONAL ISSUES  
 AND CONSEQUENCES  
 OF LOW SECTOR PRIORITY**



**FIGURE 2 CENTRAL GOVERNMENT RESOURCE MANAGEMENT**



**FIGURE 3 COMMUNITY BASED CO-MANAGEMENT**

