CHAPTER THREE

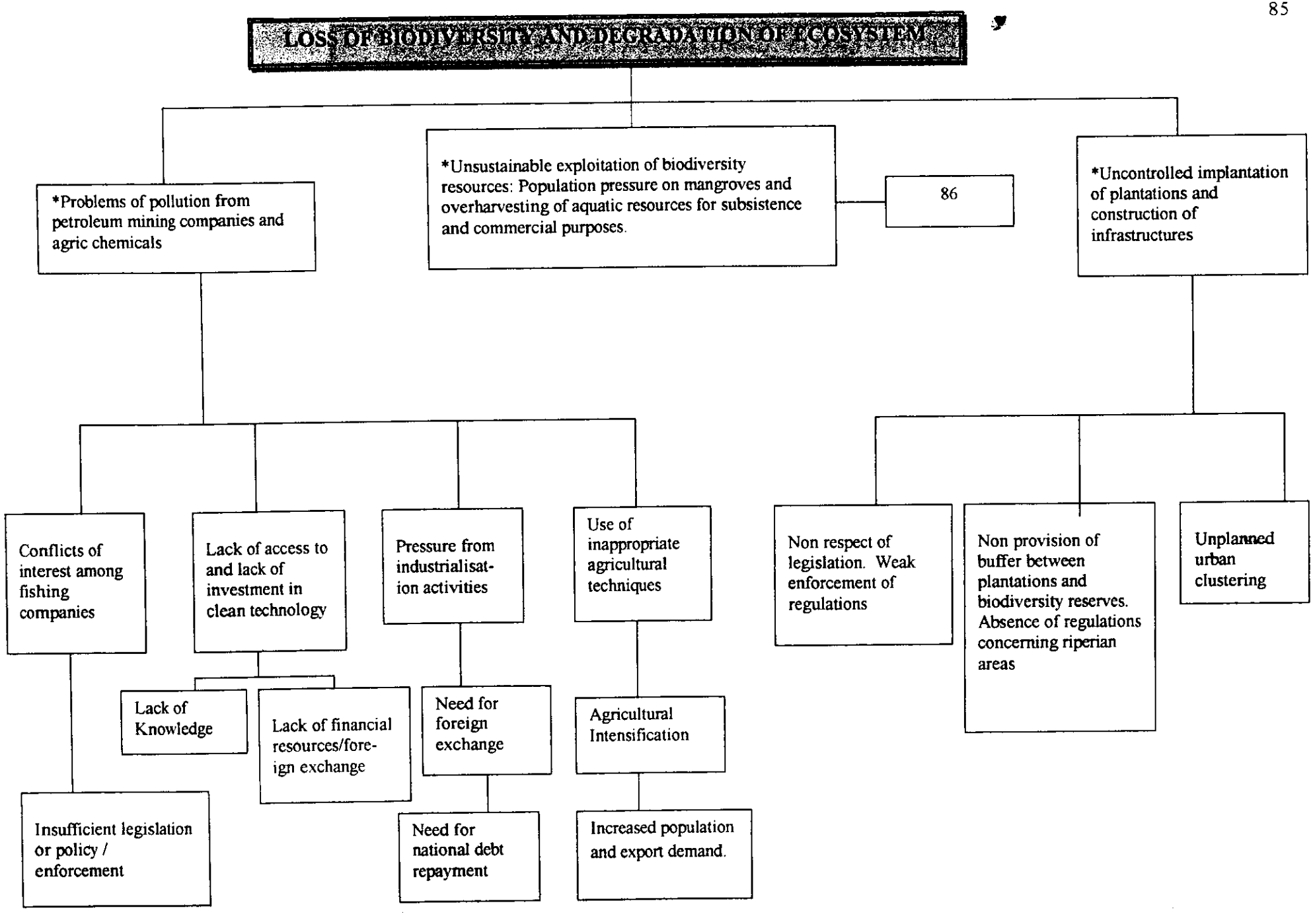
BIODIVERSITY PROBLEM ANALYSIS

3.1 Introduction

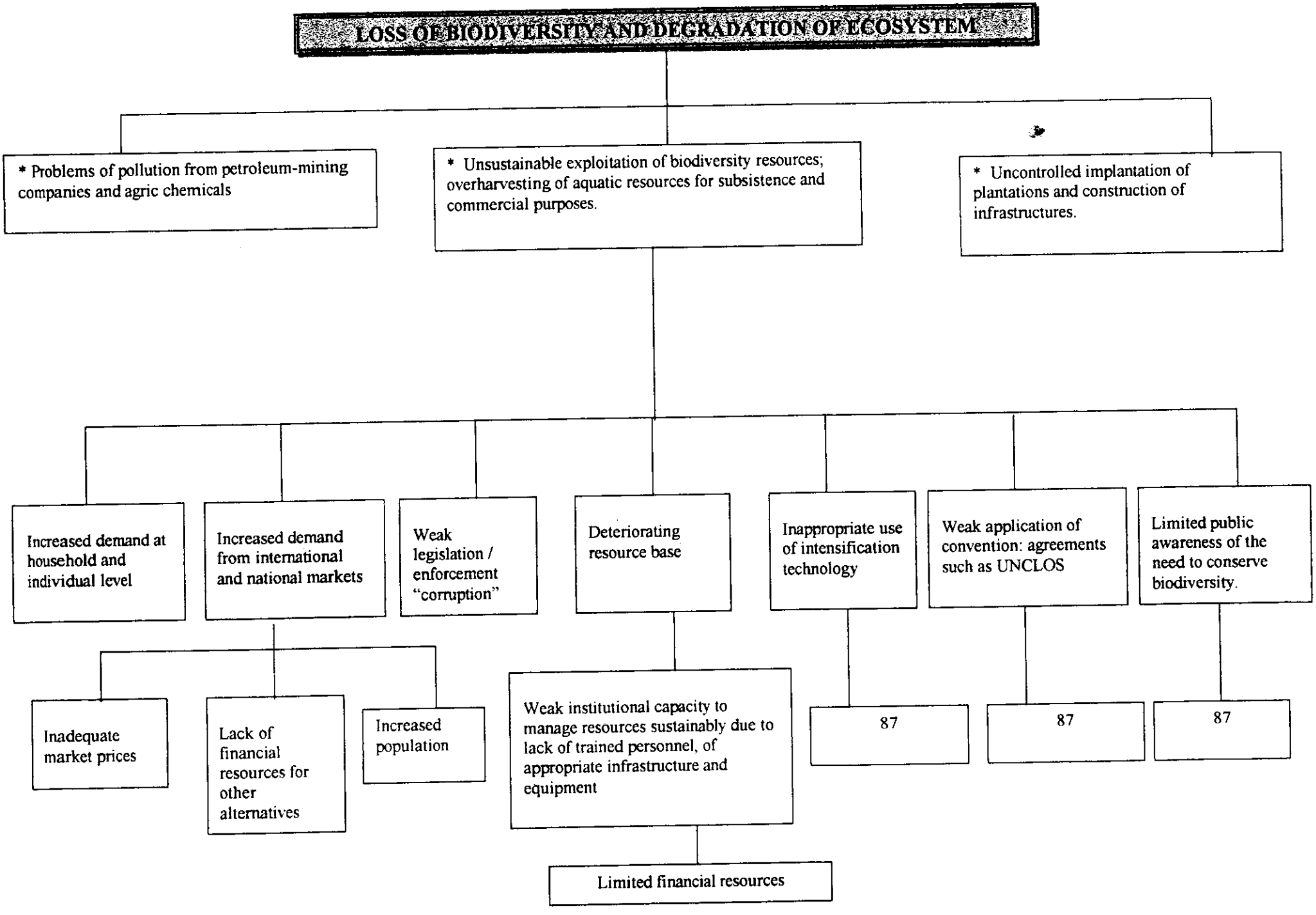
The ecosystem provides the natural environment within which organisms live in harmony with each other, interacting and competing for available resources which, without external interference or natural disaster, usually remain about sufficient to sustain a natural equilibrium among all life forms within that ecosystem. However, the exigencies of modernity in terms of the provision of infrastructure (roads, bridges, airports, sea ports, military bases); plantation and subsistence agriculture; the need for medical care (use of tree barks and leaves) or the need to satisfy habits and tastes (preference of wildlife meat to domestic animals) and the trappings of tradition (choice of skins of endangered wildlife as symbol of authority) would naturally lead to biodiversity degradation and distortion of the natural equilibrium. The establishment of the natural equilibrium calls for the understanding of the underlying issues driving the degradation and the mechanisms to control them. Analysis of the problems associated with habitat protection and identification of objectives to be attained in the conservation of every ecosystem are complicated by the nature of the interdependence between life forms in the ecosystem. How, for example, do you protect and conserve the frog without reducing the reptile population ? How do you strike the balance between the need to maintain sustainable elephant population in an ecosystem such as the semi-arid ecosystem in Cameroon known for its water/food scarcity and high human population ?

Chapter one (Section 1.3.2, Table 1.1) presented the ecosystems that had been retained for the Cameroon NBSAP process. In this section a problem tree analysis approach is used to examine the problems associated with each ecosystem, allowing us to clearly distinguish the real causes from the symptoms. This ties up with Art. 7 of the CBD. The problem tree analysis enables us define the goals, objectives and related actions. The following "trees" (3.2-3.7) summarise the major problems identified in each ecosystem.

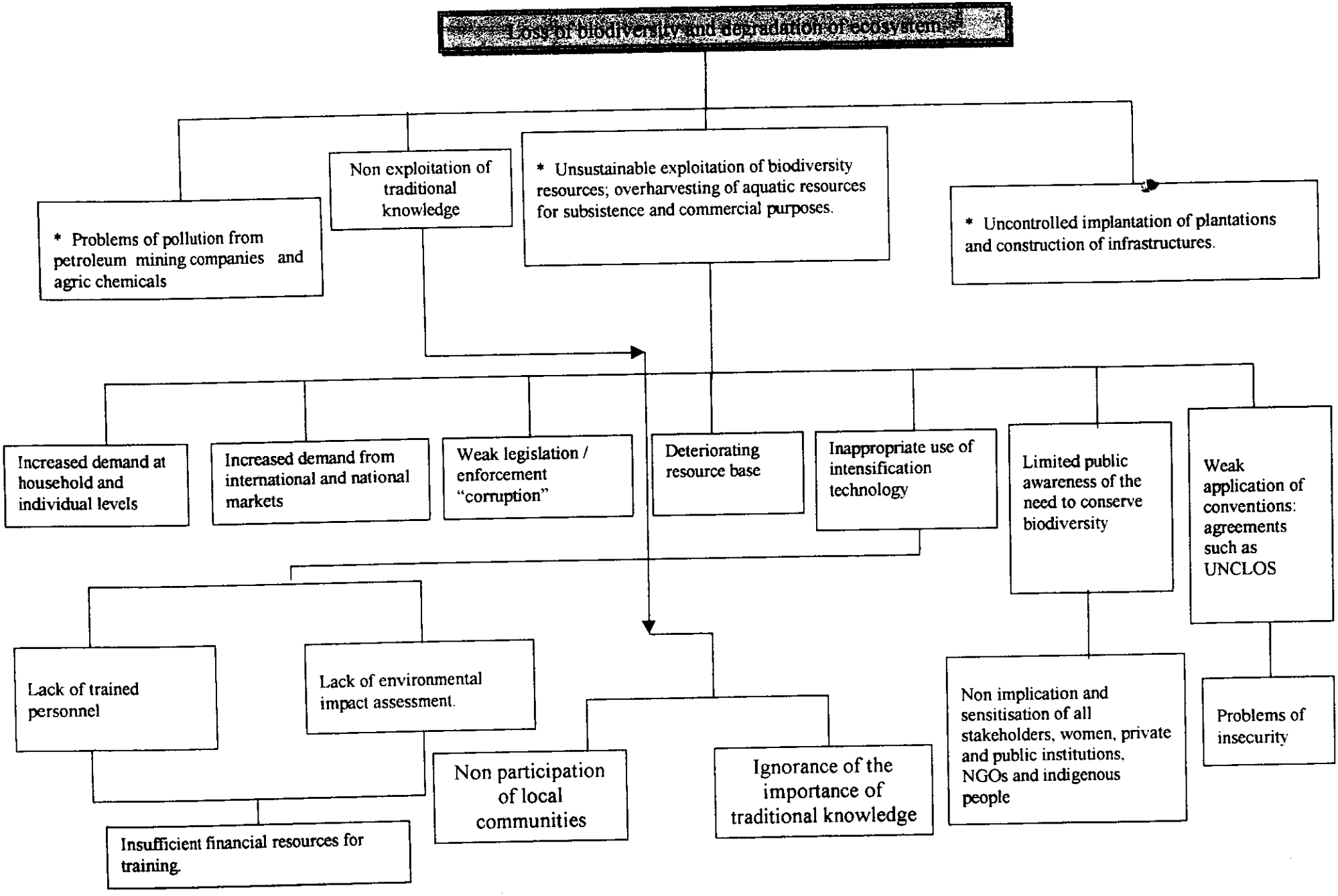
3.2 Marine and Coastal ecosystem problem tree



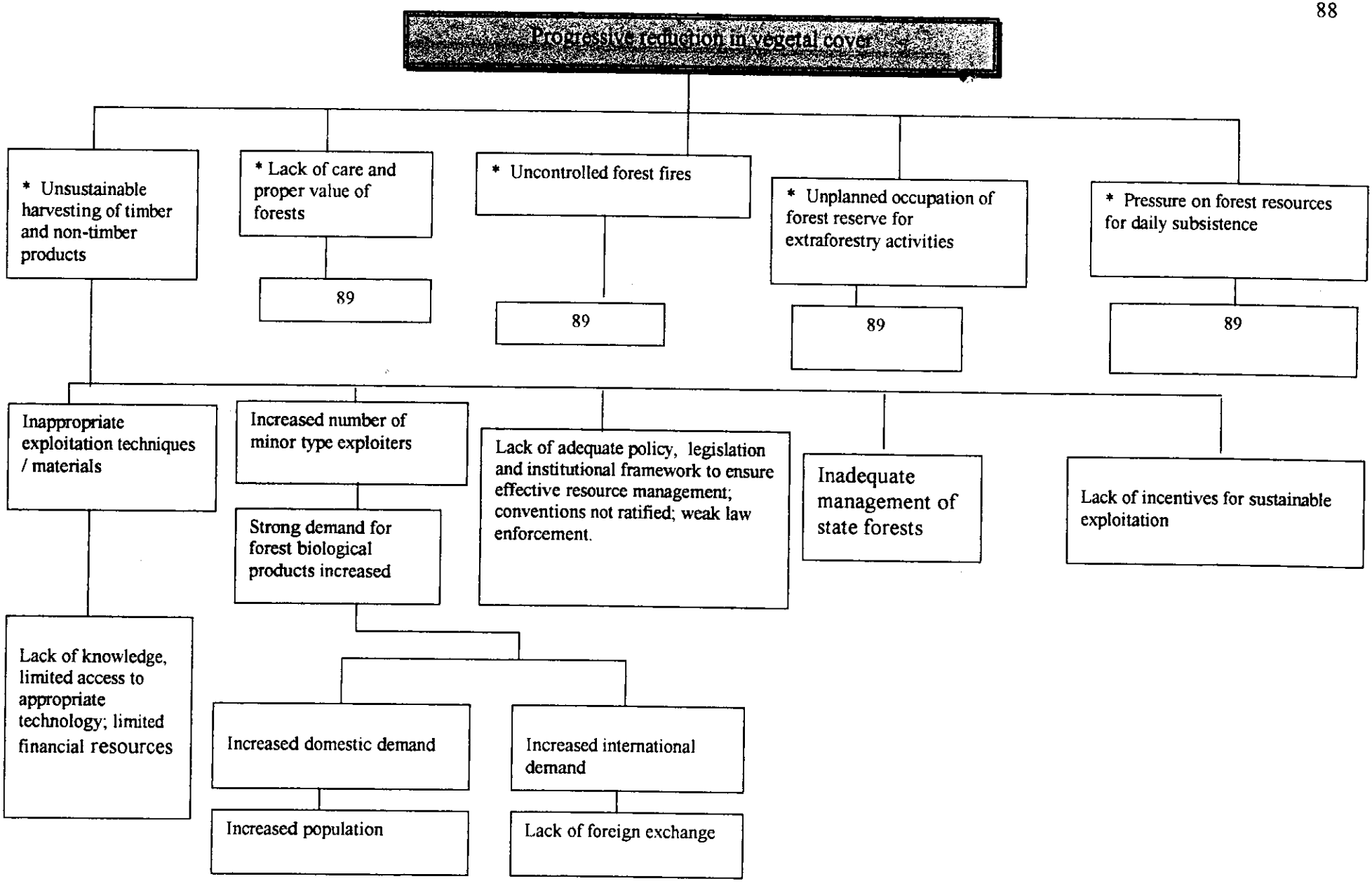
* Major problems


LOSS OF BIODIVERSITY AND DEGRADATION OF ECOSYSTEM
* Problems of pollution from petroleum-mining companies and agric chemicals
* Unsustainable exploitation of biodiversity resources; overharvesting of aquatic resources for subsistence and commercial purposes.
* Uncontrolled implantation of plantations and construction of infrastructures.
Increased demand at household and individual level
Increased demand from international and national markets
Weak legislation / enforcement "corruption"
Deteriorating resource base
Inappropriate use of intensification technology
Weak application of convention: agreements such as UNCLOS
Limited public awareness of the need to conserve biodiversity.
Inadequate market prices
Lack of financial resources for other alternatives
Increased population
Weak institutional capacity to manage resources sustainably due to lack of trained personnel, of appropriate infrastructure and equipment
87
87
87
Limited financial resources

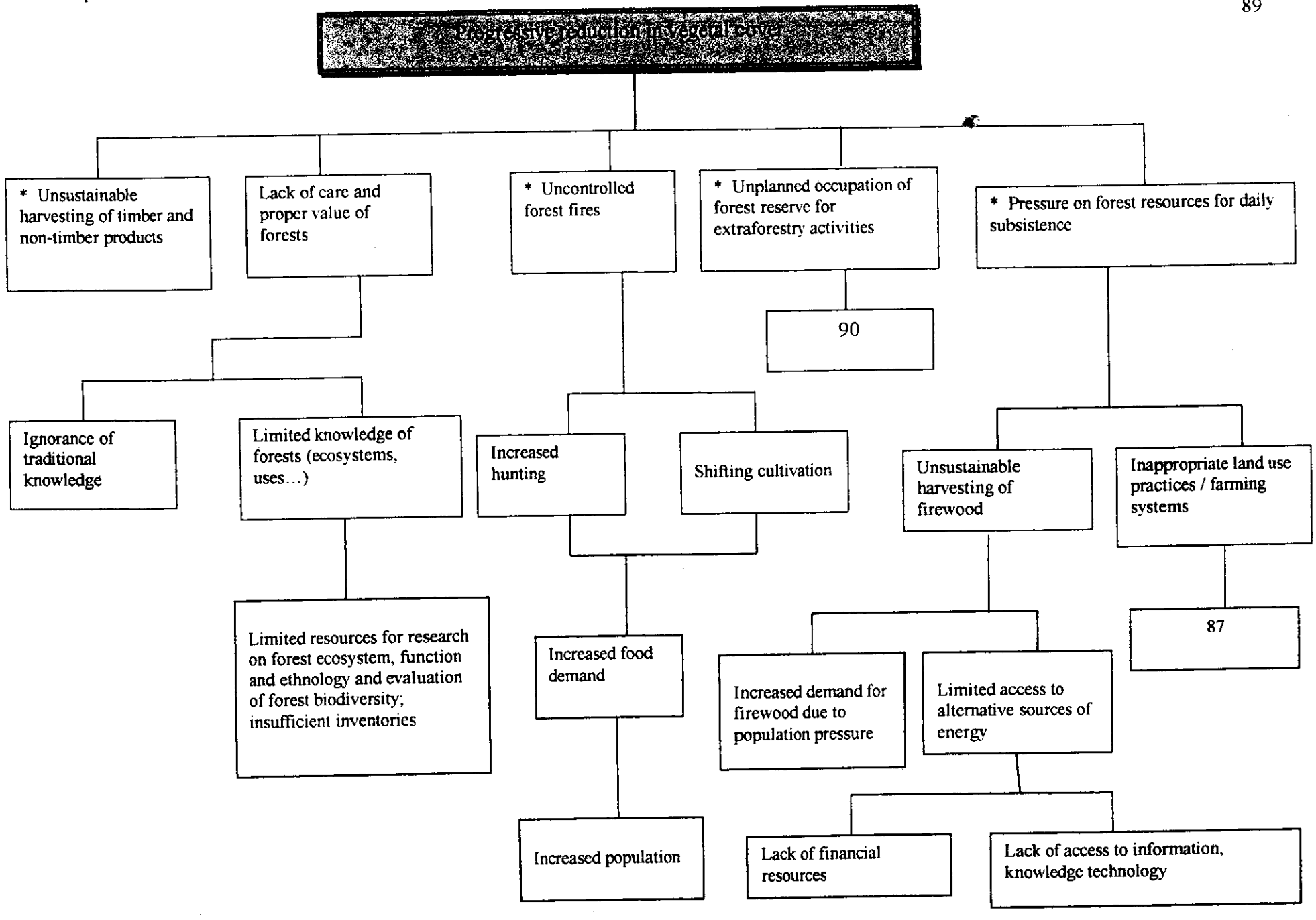
Marine and coastal ecosystem problem tree (continued)



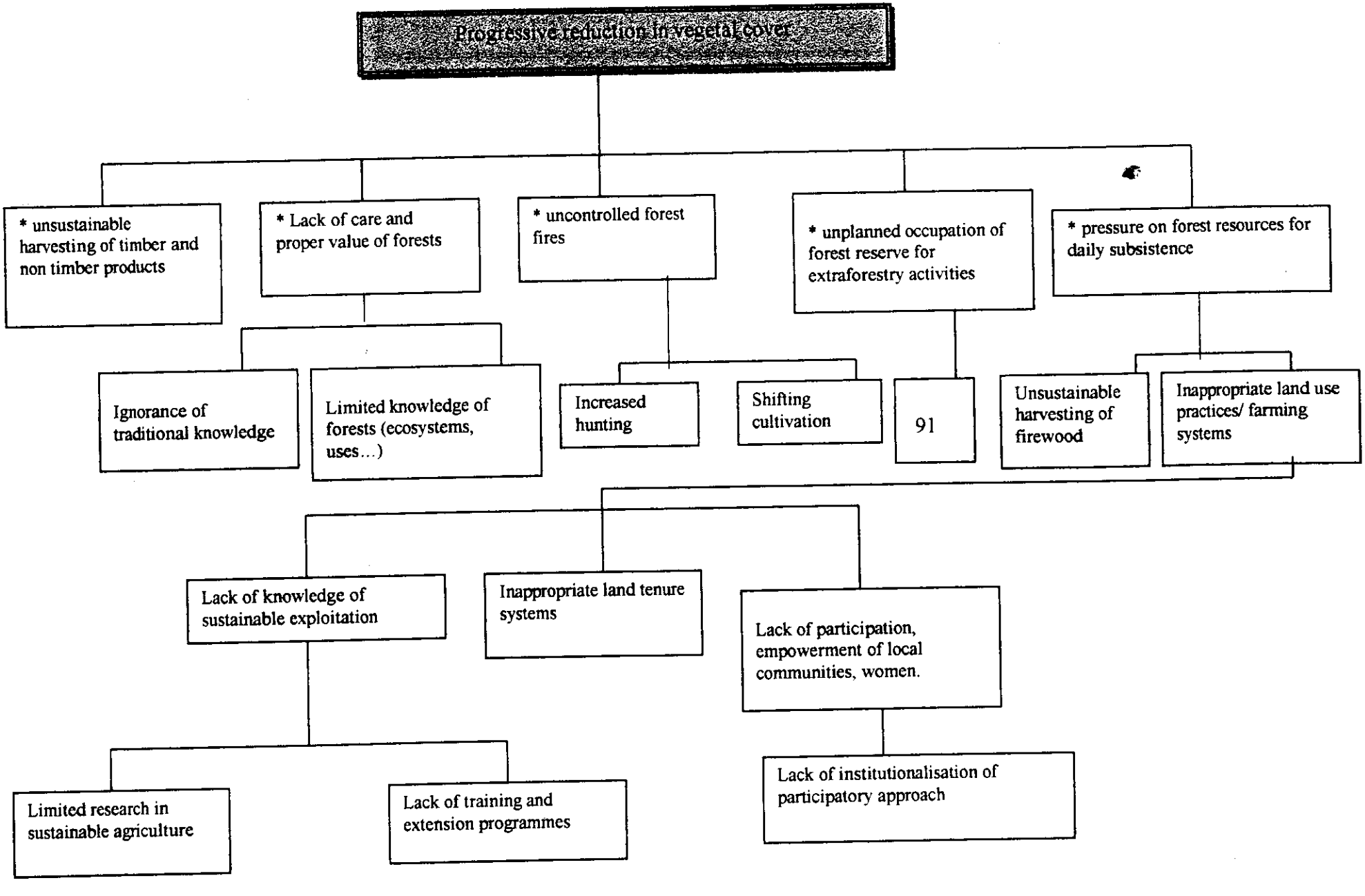
3.3 Tropical humid dense forest problem tree



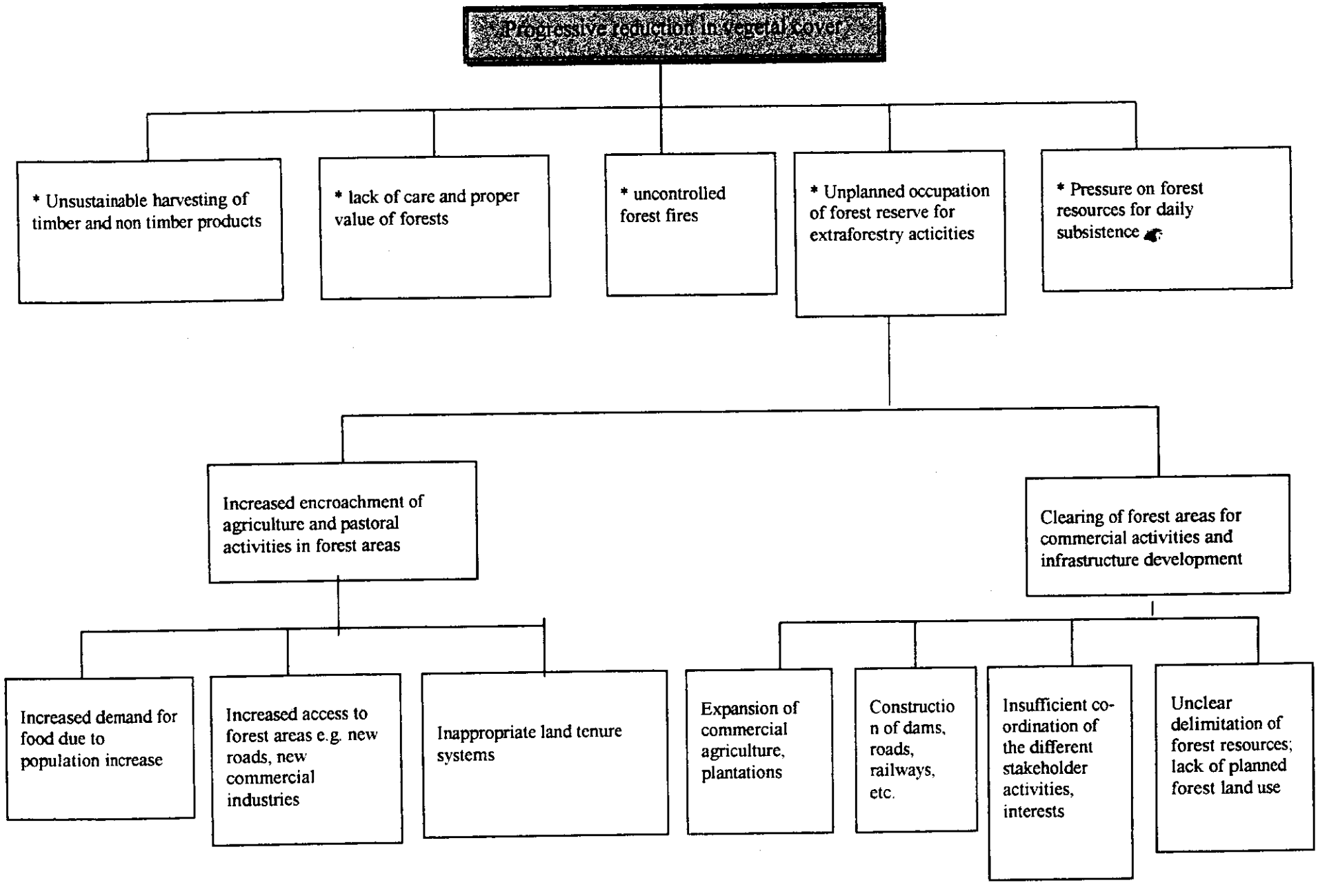
Tropical humid dense forest problem tree (continued)



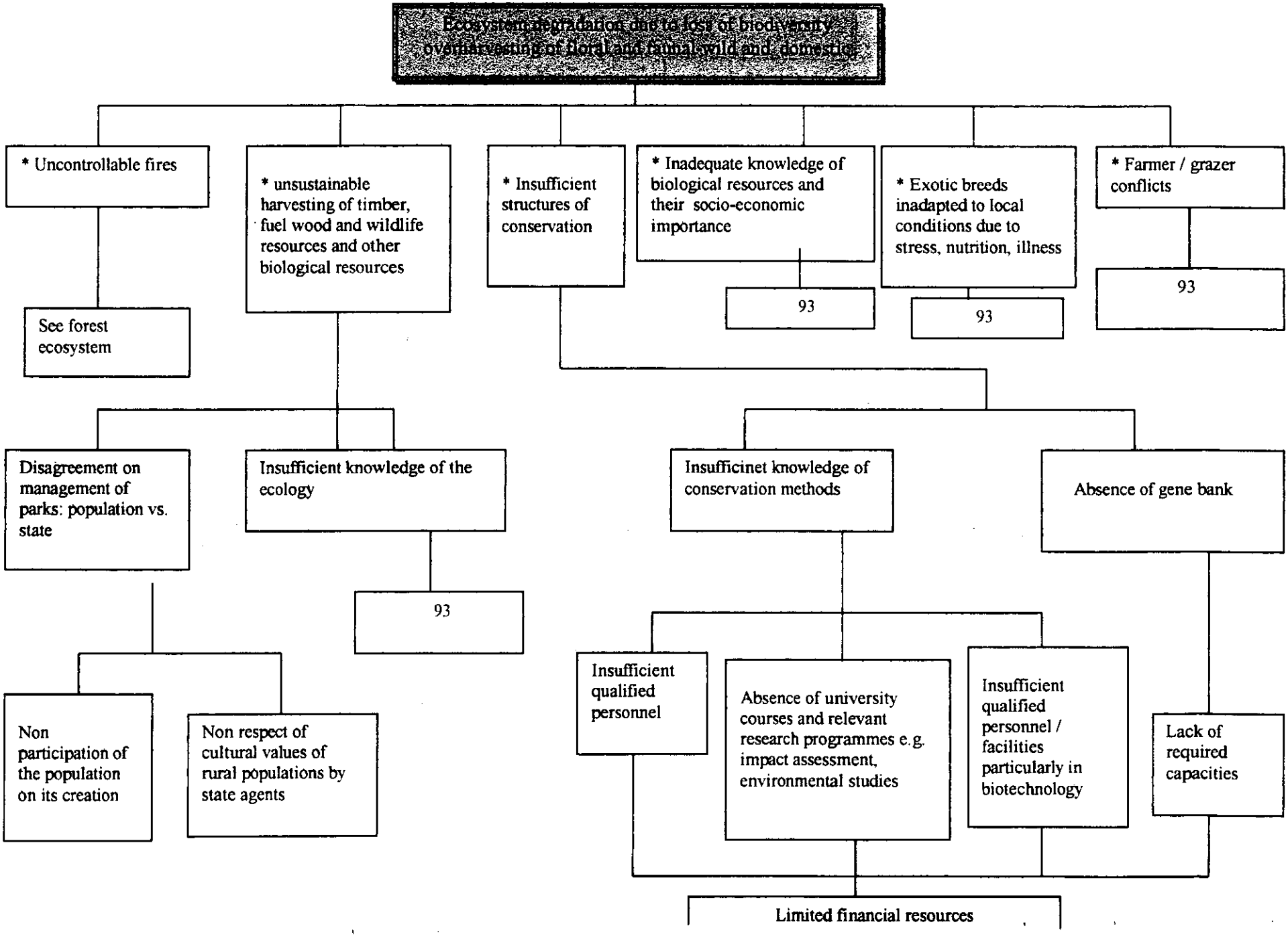
Tropical humid dense forest problem tree (continued)



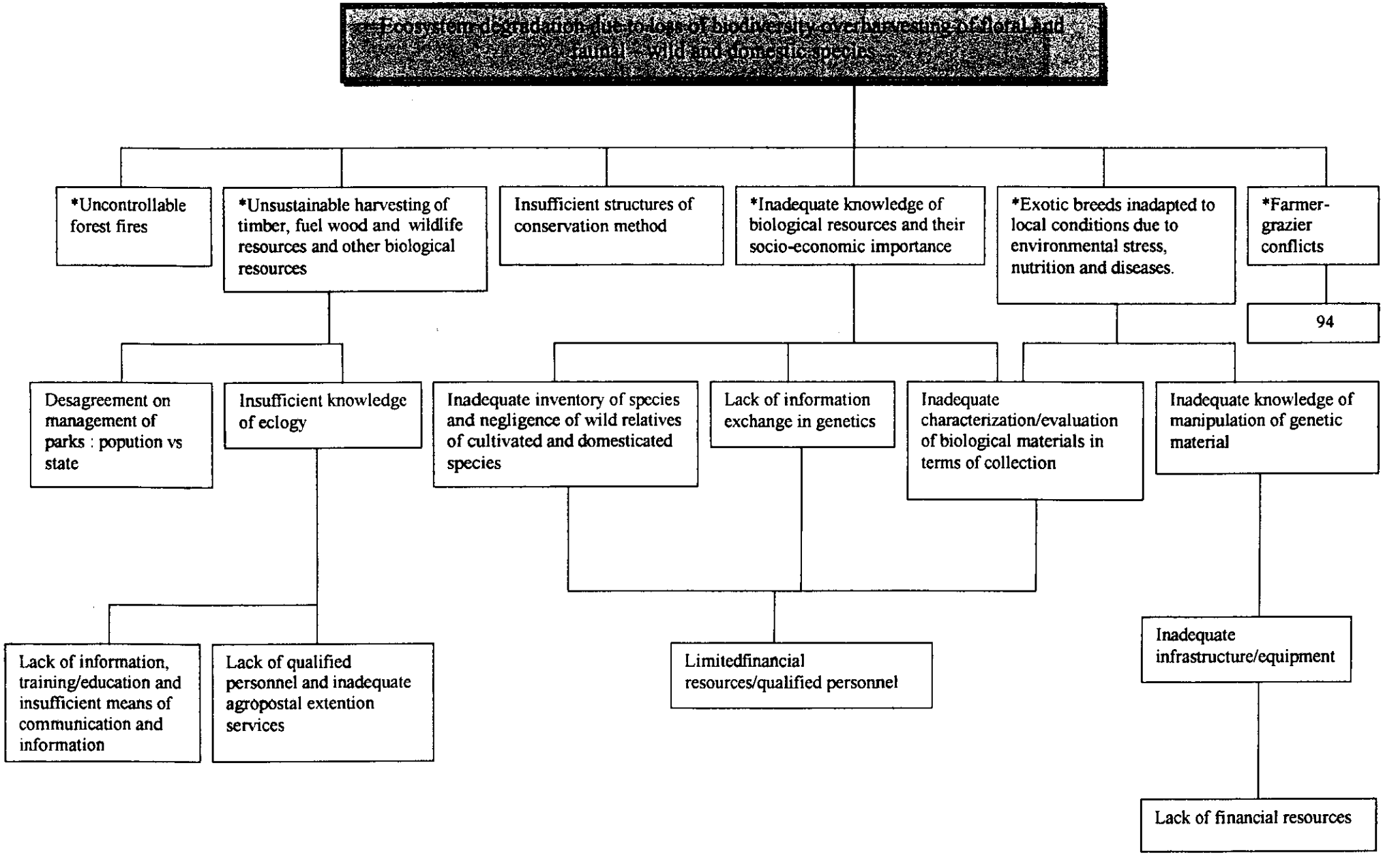
Tropical humid dense forest problem tree (continued)



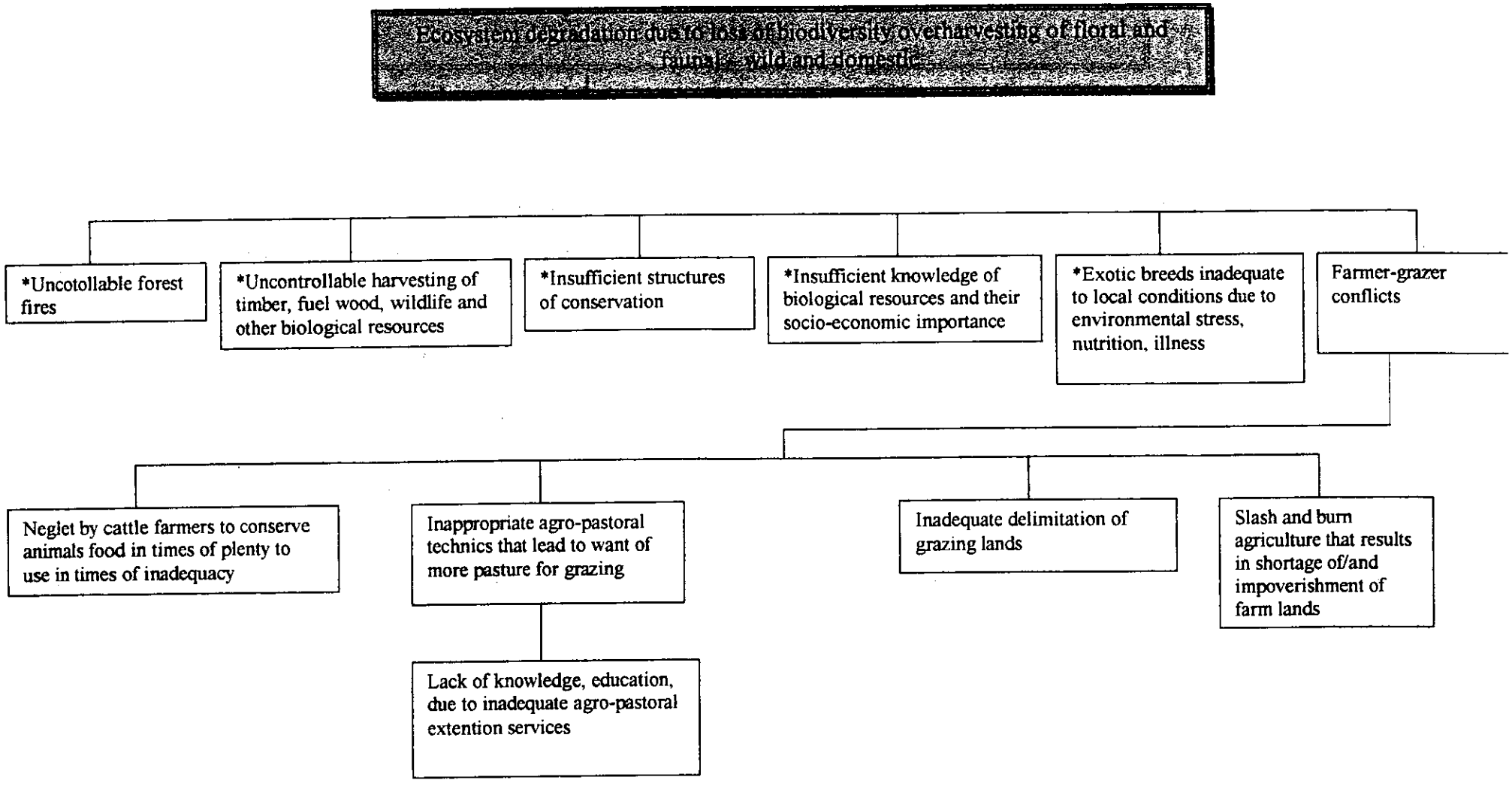
3.4 Tropical wooded savannah ecosystem problem tree



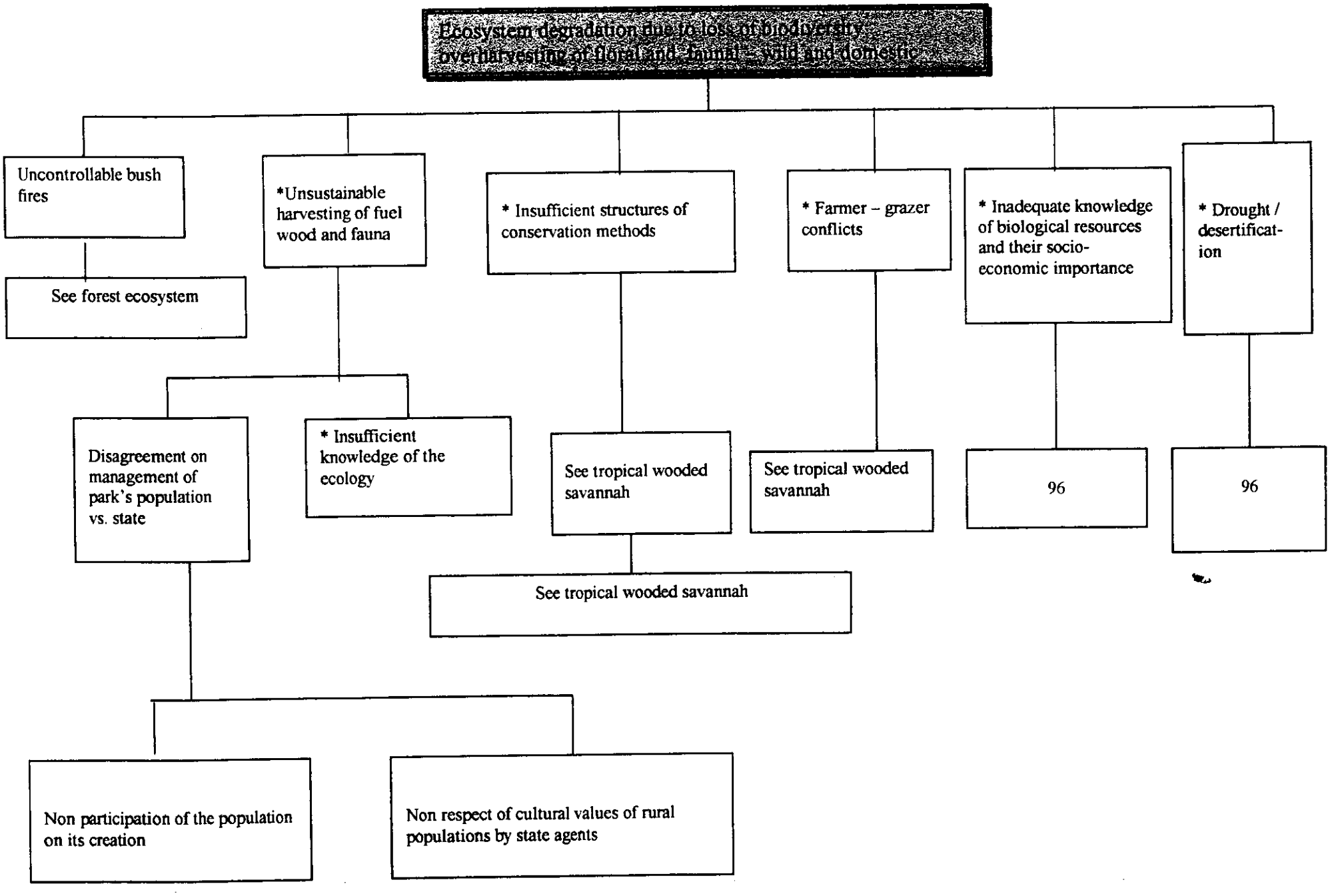
Tropical wooded savannah ecosystem problem tree (continued)



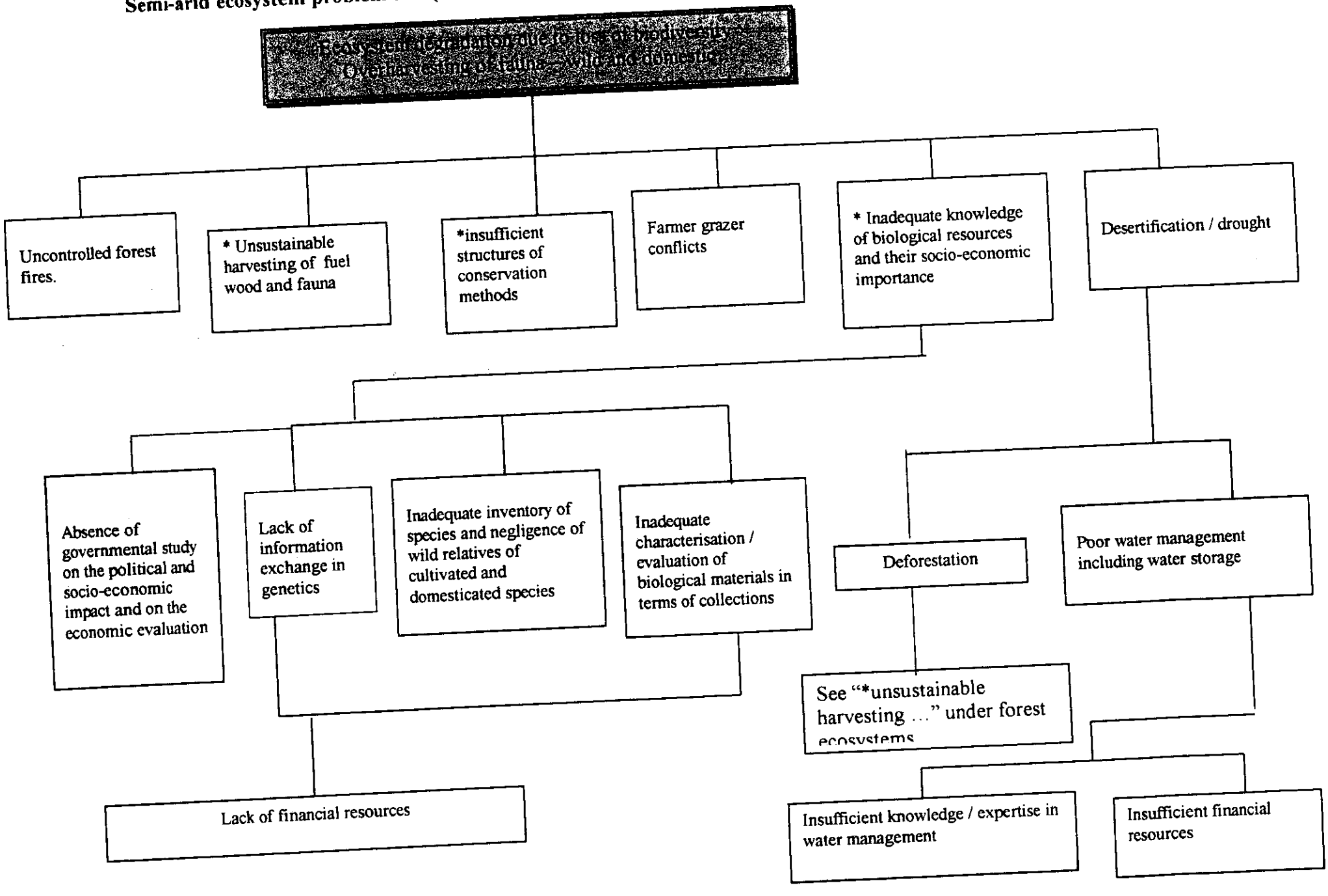
Tropical wooded savannah ecosystem problem (continued)



3.5 Semi-arid ecosystem problem tree



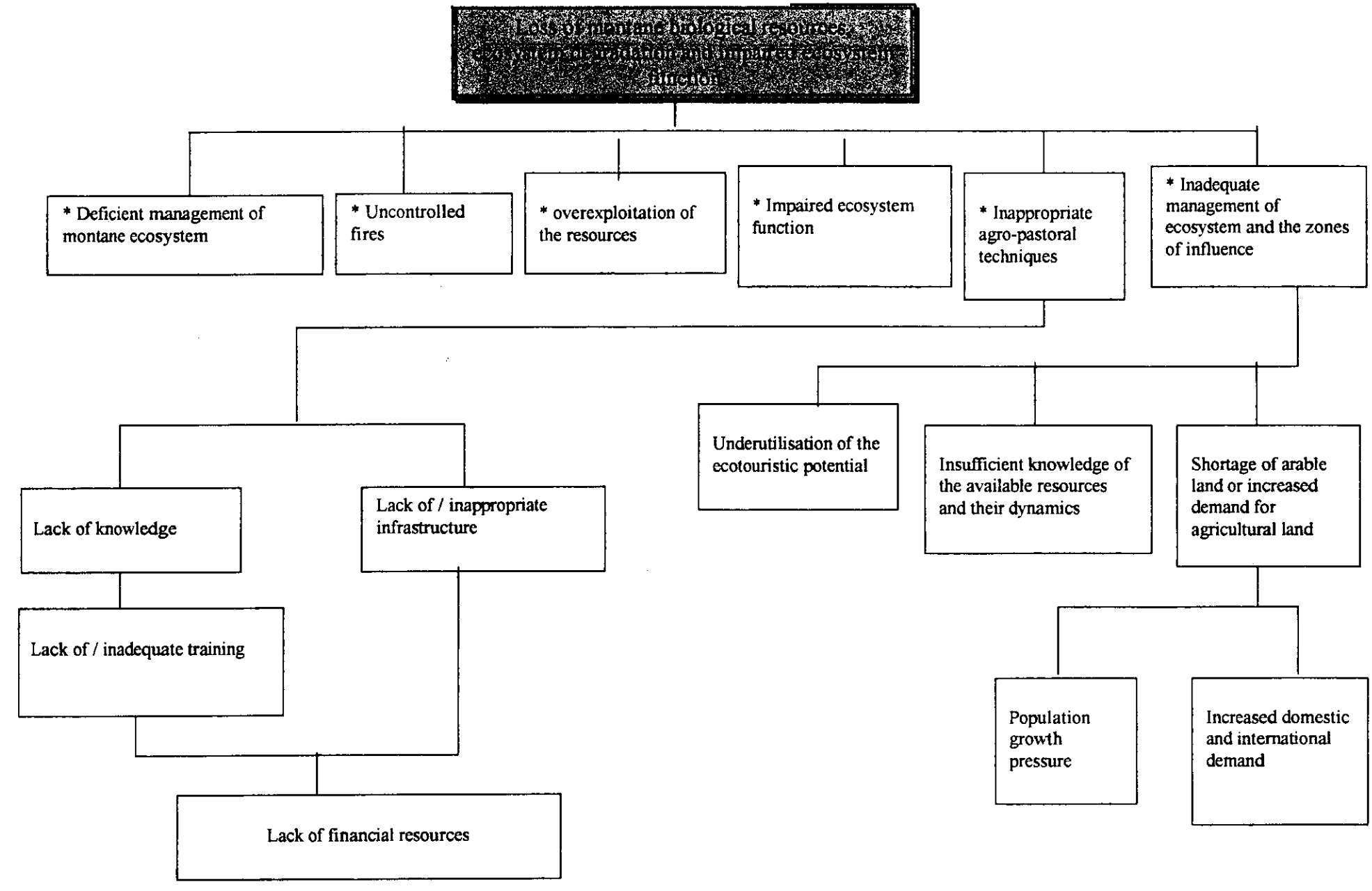
Semi-arid ecosystem problem tree (continued)



3.6 Montane ecosystem problem tree

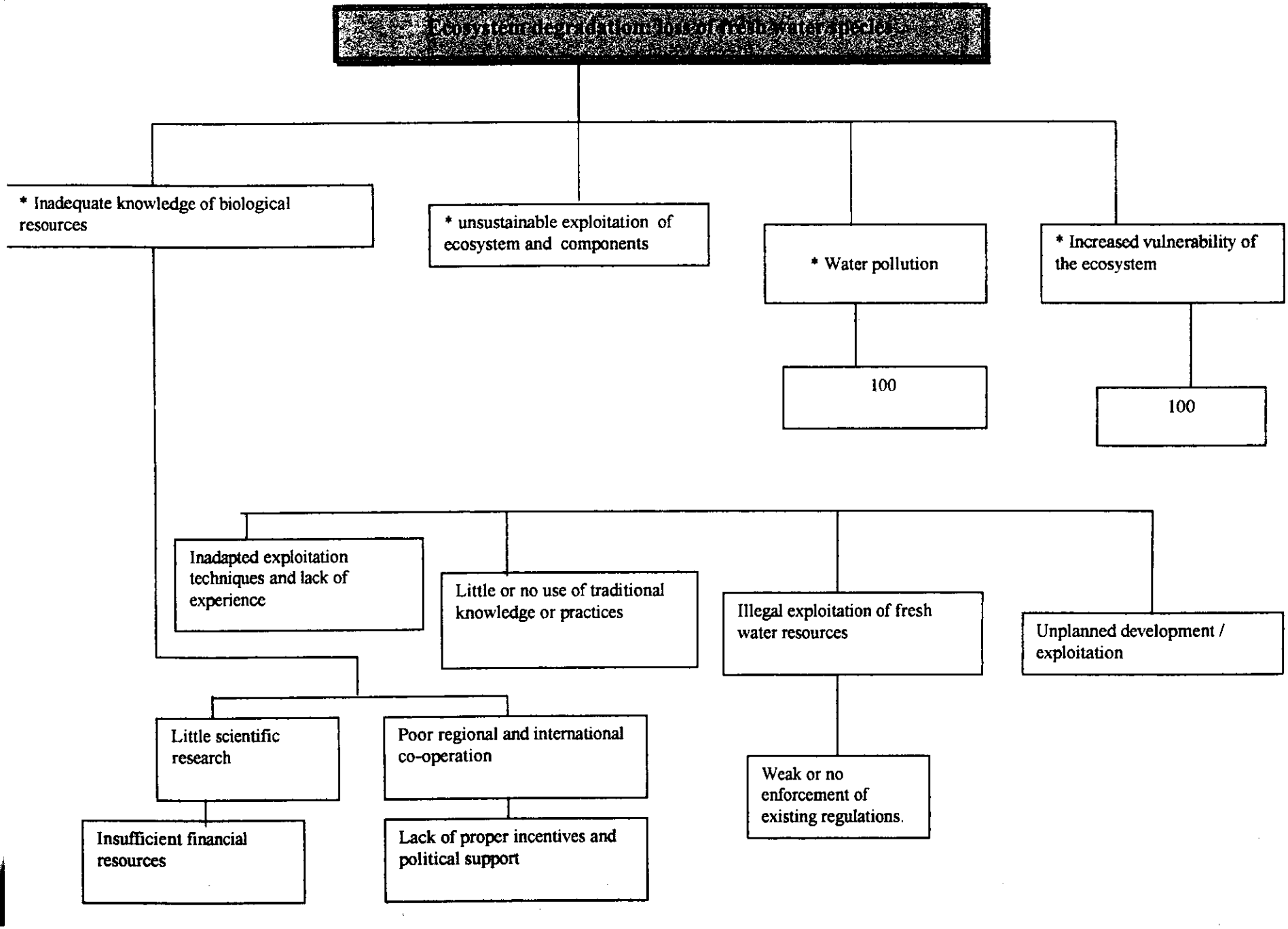
Semi-arid ecosystem problem tree (continued)

Montane ecosystem problem tree (continued)

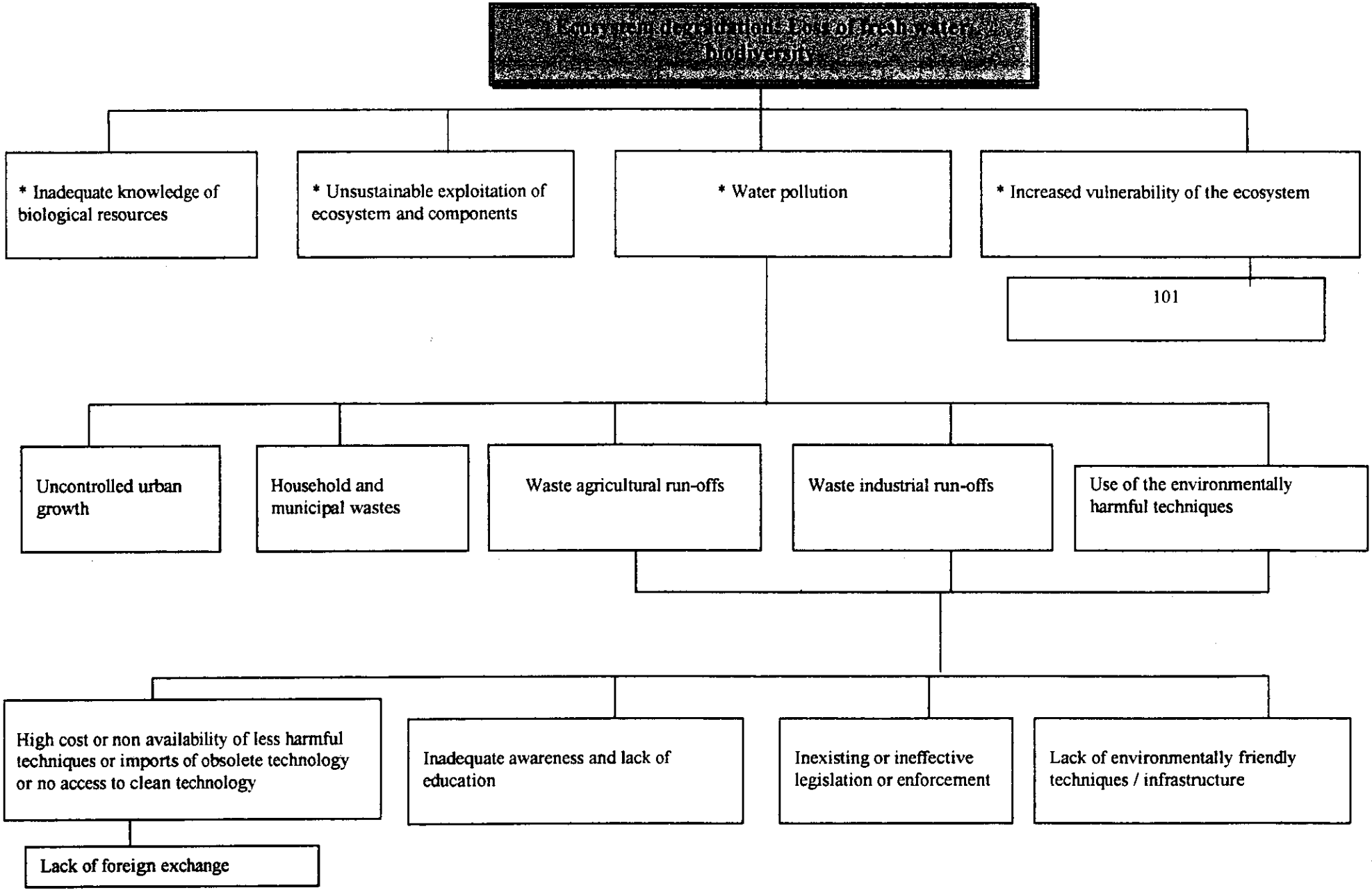


Montane ecosystem problem tree (continued)

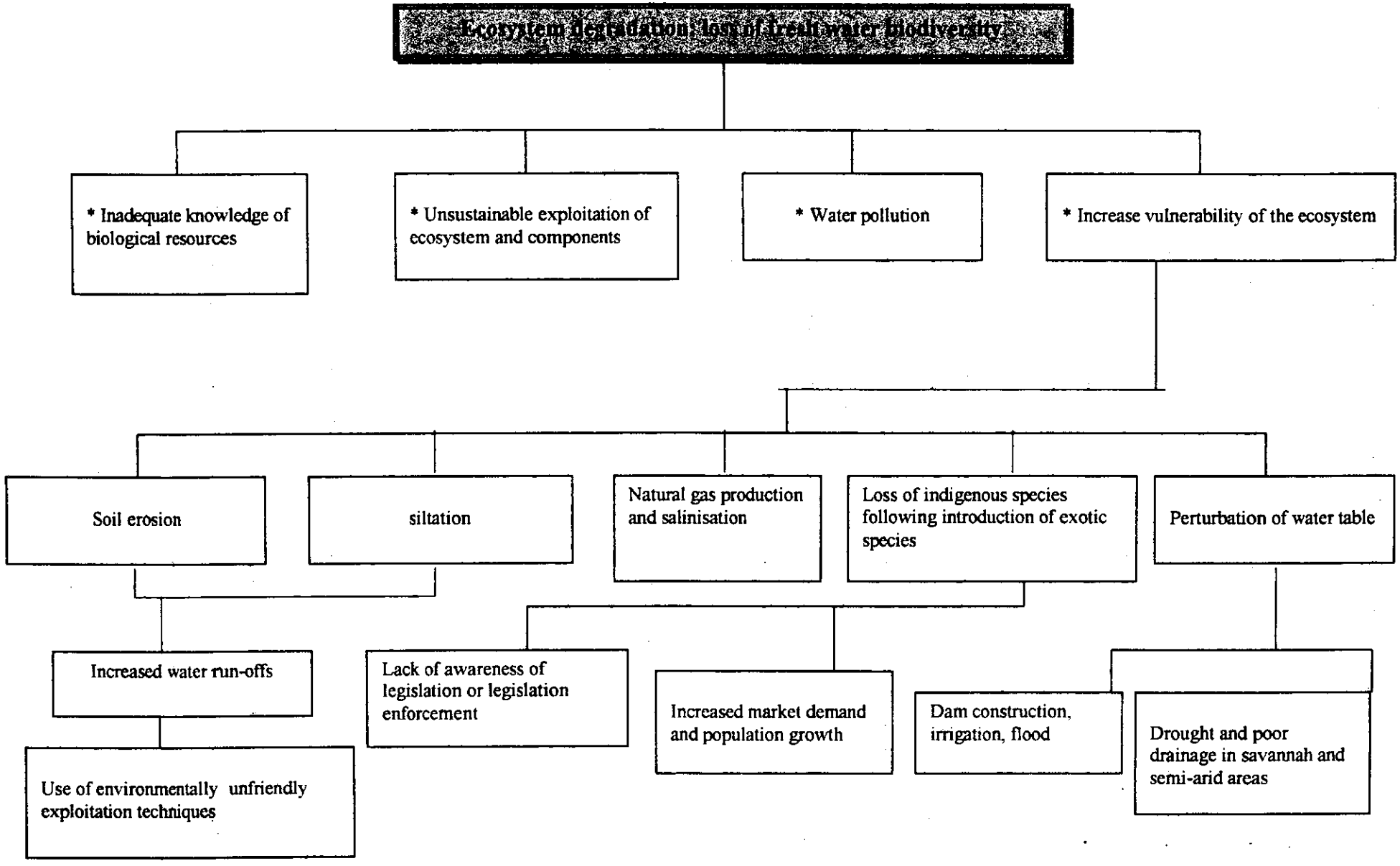
3.7 Freshwater ecosystem problem tree



Freshwater ecosystem problem tree (continued)



Freshwater ecosystem problem tree (continued)



The workshop held in Limbe (MINEF, 1997a) identified the following core problems:

- In the marine and coastal areas: loss of biodiversity and degradation of ecosystem;
- In the tropical humid dense forest : progressive reduction in vegetal cover;
- In tropical wooded savannah areas: ecosystem degradation due to loss of biodiversity - over harvesting of floral and faunal wild and domestic species;
- In the semi-arid areas: the ecosystem degradation due to loss of biodiversity-over harvesting of floral and faunal wild and domestic species;
- In montane areas: ecosystem degradation due to loss of montane biological resources;
- In fresh water areas: ecosystem degradation due to loss of fresh water species.

The causes of these core problems, identified by all the categories of stake-holders were then organised in cause and effect chains forming problem trees as indicated above. When new problems will be identified, they will be added easily to the problem trees. The Limbe workshop translated the problem trees into objectives and action trees and identified sets of key actions expressed as strategic goals targeting the underlined causes of the core problems. The full list of actions is given under the Action Plan in chapter five. In identifying actions addressing the identified problems, the workshop drew particular attention to linking CBD provisions to other biodiversity - related conventions to which Cameroon is party, in particular the UNFCCC, the CCD, CITES, UNCLOS.

The participatory approach has been used in developing the NBSAP process, involving stakeholders and their concerns for issues affecting their access to, their use of, and their conservation of biodiversity. This has been necessary because their effective participation will also be required in the management of the NBSAP and biodiversity endeavours in the country.

The main stakeholders in biological diversity in Cameroon consist of the government, local communities, economic interest groups, scientific communities, non governmental organisations, tourists, and, the international community.

The direct interests of these stakeholders in biological resources are discussed below:

(a) The Government: Ministries of the Environment and Forestry; Agriculture; Mines, Water and Energy Resources; Livestock, Fisheries & Animal Industries; Town Planning & Housing; Industry & Commerce; Territorial Administration; Public Works; Transport; Scientific & Technical Research; Tourism; Culture; Justice. The municipal authorities fall within this category. The major roles of the ministries in biodiversity include

the development of policies, programmes, and funding. These services regulate, conduct research, and exploit biological resources according to their respective mandates.

(b) Local or village communities, under the leadership of traditional chiefs (themselves auxiliaries of the administration):

- Legal entities: Co-operatives and Common Initiative Groups (CIGs). They can acquire a community forest, hunting, farming or other ground for themselves according to Article 27 of the Forestry, Wildlife and Fisheries Law N^{0} 94/01 of January 1994, and in this manner, exploit various components of biodiversity for varied reasons.

- The youths who collect and use biological resources (for food and /or money) their livelihoods, their demand for them today aggravated by the current economic austerity situation.

- Women who represent about 60 per cent of the population (villages): interest in biological resources involves their pre-occupation with agricultural activities.

(c) Handicraft and commercial exploiters: (logging companies, fishing companies, commercial hunters): interest here is economic at various degrees

(d) Scientific Communities: whose major interests are in maintaining, developing and exploring the scientific potential of biodiversity.

(e) Non-governmental Organisations (NGOs): This category is formed in Cameroon under the Law on liberty of Associations (N^{0} 90/053 of 19 December 1990). Their headquarters, as well as their funding sources, determine whether they are local, national or international. Several NGO's in the country are specifically orientated towards the sustainability of biological diversity.

(f) Tourists: for recreation, the beauty of the environment (eco-tourism), and the satisfaction of the knowledge of the existence of certain species etc.. Places most often visited include national parks, game reserves, botanical/zoological gardens and lakes.

(g) The international community: with interests generally expressed by some specific technical organisations concerned with world wide pre-occupations (e.g. European Union, UNEP, WWF, IUCN, CITES including, *inter alia*, conservation, exploitation and trade.

The participation of all these groups was ensured by their representation at the various workshops and meetings.