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Third meeting
Montreal, 8-12 December 2003
Item 4 of the provisional agenda*

COMPOSITE REPORT ON THE STATUS AND TRENDS REGARDING THE KNOWLEDGE, INNOVATIONS AND PRACTICES OF INDIGENOUS AND LOCAL COMMUNITIES

Regional report: Europe and Russia

Note by the Executive Secretary

1. The Executive Secretary is circulating herewith, for the information of participants in the third meeting of the Ad Hoc Open-ended International Working Group on Article 8(j) and Related Provisions, the regional report for Europe and Russia on the status and trends regarding the knowledge, innovations and practices of indigenous and local communities, which was used as input to the first phase of the composite report on the same subject (UNEP/CBD/WG8J/INF/1).

2. The report is being circulated in the form and language in which it was received by the Secretariat.

* UNEP/CBD/WG8J/3/1.

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Traditional Lifestyles and Biodiversity Use

Regional report: EUROPE & RUSSIA

**Composite Report on the Status and Trends
Regarding the Knowledge, Innovations and Practices
of Indigenous and Local Communities
Relevant to the Conservation and Sustainable Use of Biodiversity**

Prepared for the Secretariat of the Convention on Biological Diversity

Compiled by UNEP-WCMC

Project number: 1248

2003

The **UNEP World Conservation Monitoring Centre** (UNEP-WCMC) is the biodiversity assessment and policy implementation arm of the United Nations Environment Programme, the world's foremost intergovernmental environmental organization. UNEP-WCMC aims to help decision-makers recognize the value of biodiversity to people everywhere, and to apply this knowledge in all that they do. The Centre's challenge is to transform complex data into policy-relevant information, to build tools and systems for analysis and integration of these data, and to support the needs of nations and the international community as they engage in joint programmes of action.

El **PNUMA Centro de Monitoreo de la Conservación Mundial** (UNEP-WCMC) es el brazo del Programa de las Naciones Unidas del Medio Ambiente, la principal organización intergubernamental ambiental en el mundo, encargado de evaluar la biodiversidad y la implementación de políticas ambientales. El UNEP-WCMC aspira a ayudar a tomadores de decisiones a reconocer el valor de la biodiversidad para la gente de todo el mundo, y a aplicar este conocimiento en todo lo que hacen. El desafío del Centro es transformar datos complejos en información relevante para las formulación de políticas de gestión, desarrollar instrumentos y sistemas para el análisis y la integración de esos datos, y apoyar las necesidades de las naciones y de la comunidad internacional en general en sus esfuerzos por desarrollar programas de acción conjunta.

Le **PNUE Centre de Surveillance Continue pour la Conservation de la Nature Mondiale** (UNEP-WCMC) est l'agence chargée de l'évaluation de la diversité biologique et de la mise en oeuvre des directives du Programme des Nations Unies pour l'Environnement, la principale organisation intergouvernementale environnementale au monde. Le Centre aspire à aider les gouvernements à reconnaître l'importance de la diversité biologique pour les êtres humains du monde entier et à appliquer cette connaissance à toutes leurs activités. Le défi du Centre consiste à transformer et simplifier des données complexes en informations pertinentes afin de trouver des outils et d'établir des systèmes permettant leur intégration et leur analyse dans la politique de tous les jours. Le Centre vise à appuyer les besoins des nations et de la communauté internationale dans leurs activités et programmes communs environnementaux.

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The proposal to produce this regional report for Europe was developed by the UNEP World Conservation Monitoring Centre (UNEP-WCMC), in response to the CBD Notification SCBD/SEL/HM of 27 June 2002 *Hiring of a consultant team for the preparation of a Composite Report on the Status and Trends Regarding the Knowledge, Innovations and Practices of Indigenous and Local Communities Embodying Traditional Lifestyles Relevant to the Conservation and Sustainable Use of Biological Diversity.* The proposal was developed and the project managed by Harriet Gillett. The report was compiled by Alice Davies, Mark Elliott, Harriet Gillett, and Jenny Hodgson, and edited by Mark Elliott. Gerardo Fragoso was project supervisor, and is thanked for providing support and guidance throughout the project.

Henrietta Marie from the CBD Secretariat is thanked for her guidance, constructive comments and collaboration.

INTRODUCTION

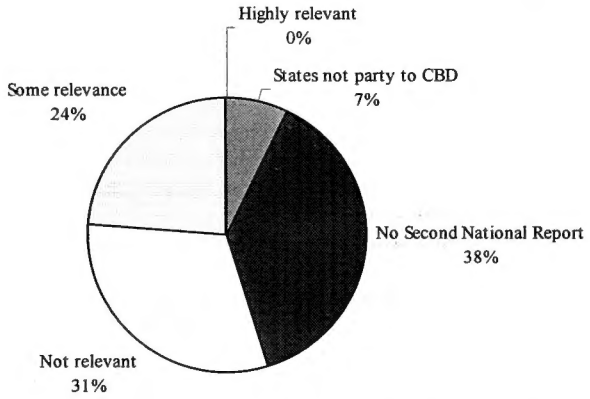
General comment

The issue of traditional knowledge in relation to biodiversity is of relatively little importance in this region. A list of countries reviewed for this region is given in table 1, with information on which countries are Party to the CBD. For these Parties the status of information provided in the Second National Reports, in relation to Article 8j is provided. In particular this provides information from responses to the Second National Report question 120: *Has your country taken measures to promote the conservation and maintenance of knowledge, innovations, and practices of indigenous and local communities?*

Figure 1 illustrates the general status of information available from the Second National Reports. Ten Parties appear to consider that the issue of traditional knowledge within their country to be of some relevance although none implied that it was of high relevance. Thirteen Parties implied that it was not of relevance. Fifteen Parties did not provide a Second National Report. Only three countries within the region are not Party to the CBD (Andorra, Bosnia & Herzegovina, Holy See)[1].

Many European Parties reported that they provided support to the maintenance of traditional biodiversity-related knowledge in other countries. This information is dealt with under the relevant regional report.

Fig. 1 Europe: Information from CBD Second National Reports on the relevance of traditional biodiversity-related knowledge



[1] In addition, two parts of Denmark – the Faroe Islands and Greenland – which have separate, semi-autonomous, legal status, are not included within Denmark's National Reports. Both are included within this report, however. In the National Report of France the only references are to issues in overseas territories, which are covered in the relevant regional report.

Table 1: Status of information according to Second National Reports to the CBD

Country	Second Report Available	Relevance of traditional biodiversity-related knowledge	
		Relevant	Not Relevant
Albania			
Andorra	Not CBD Party		
Austria	x		x
Belarus	x		x
Belgium	x		x
Bosnia & Herzegovina			
Bulgaria	x	x	
Croatia			
Cyprus			
Czech Republic			
Denmark	x		
Estonia	x		x
Finland	x	x	
France	x		x
FYROM (Macedonia)			
Georgia			
Germany	x		x
Greece			
Holy See	Not CBD Party		
Hungary	x	x	
Iceland			
Ireland	x		x
Italy	x	x	
Latvia	x		x
Liechtenstein			
Lithuania	x		x
Luxembourg			
Malta			
Moldova	x	x	
Monaco	x		x
Netherlands	x		
Norway	x	x	
Poland	x		x
Portugal	x	x	
Romania	x	x	
Russian Federation			
San Marino			
Slovakia	x		x
Slovenia	x	x	
Spain	x	x	
Sweden	x		
Switzerland			
Turkey			
UK	x		x

Ukraine			
Yugoslavia			

Indigenous People and Indigenous Knowledge in Europe

"Indigenous knowledge" (IK) refers to the knowledge and skills developed outside of formal education systems, and is widely identified with indigenous peoples. It is *dynamic*: the outcome of continuous "experimentation, innovation and adaptation", and enables communities to "survive" (UNDP-CSOPP 2000). No single, unambiguous or universally accepted definition exists of "indigenous peoples", however.

UNDP-CSOPP (2000) makes reference to two widely employed definitions, suggested by José Martínez-Cobo, Special Rapporteur to the Subcommission on Prevention of Discrimination and Protection of Minorities (Martínez-Cobo 1987), and in the International Labour Organization's Convention 169 (ILO 169; 1989).

In Article 1 of ILO 169, "indigenous peoples" is deemed to refer to tribal peoples' distinguished from other sections of a national population by their cultural and economic conditions, and for whom customs, traditions or special regulations (such as "customary law") wholly or partially regulate their "status". Indigineity constitutes an identification with a land or territory which implies indigenous peoples' priority over settler populations "irrespective of their legal status". Furthermore, ILO 169 supports the principle that *self-identification* is the fundamental criterion for determining whether a group is "indigenous". This principle is all the more essential given the lack of a satisfactory, single definition of indigenous peoples "that captures their diversity" (UNDP-CSOPP 2000).

The International Working Group for Indigenous Affairs defines indigenous peoples as principally "disadvantaged" groups descended from the inhabitants of a country *prior* to colonial settlement or state formation. Indigineity in this sense explicitly distinguishes certain groups "culturally" from other peoples. In particular, this distinction may involve a history or a continued experience of marginalisation and discrimination by the "dominant society" (IWGIA 2003). IWGIA states that there are at least 350 million "indigenous people" worldwide, divided into over 5000 peoples and mostly living in "remote areas of the world" (IWGIA 2003). It is specified that indigenous peoples have "prior rights" to their territories, land and resources, but that these are often denied them by the state. Again, the fundamental right to self-determination is maintained.

In addition to those definitions presented by the UNDP and Martínez-Cobo, Erica-Irene Daes, Chair of the UN Working Group on Indigenous Populations, has suggested that indigenous peoples are those *descended* from (and therefore with a *historical continuity* and *identification* with - Martínez-Cobo 1987) those groups who inhabited a territory before "other groups of different cultures or ethnic origins". Such peoples have "preserved almost intact the customs and traditions of their ancestors". They are *isolated* from the majority of the national population, and yet subject to a state structure based on concepts that are alien to their social and cultural characteristics.

Essentially, then (as has been suggested by the anthropologist Adam Kuper), the category of "indigenous people" is a *relational* one: indigenous peoples claim a historical *priority* over, and a cultural or ethnic distinctiveness from, other groups, by whom they are often marginalized and dominated culturally, politically or economically. This marginal status, and the identification of threats to the continuity,

cultural distinctiveness and survival, have underpinned discussions about both indigenous people and indigenous knowledge, and have been the basis of many initiatives in the area:

"Because IK is handed over from generation to generation in an oral way, it is not easily accessible and has not been stored in a systematic way. Furthermore, as indigenous peoples become more integrated into Western society and economic systems, traditional knowledge and practices are being lost."
UNDP-CSOPP 2000

However, Ingold and Kurtilla (2000:186) highlight the danger that these concepts can provide, and often have provided, justification for state policies of removing indigenous peoples from their land, effectively posing a greater threat to indigenous people's knowledge, cultural distinctiveness and traditions:

"To ensure the continuation of valuable traditional wisdom, it is argued, no more is needed than adequate institutional mechanisms for its storage and replication. Thus, resources for the preservation of indigenous cultures are put into museums, schooling in native language and handicraft, folklore research and so on. For local people, by contrast, traditional knowledge is inseparable from actual practices of inhabiting the land. For it is in the relationships that are forged with the land, along with its animal and plant life, that their knowledge is generated."
Ingold and Kurtilla 2000:186

The countries and peoples of Europe are generally represented as those most responsible for the colonial expansion and settlement that have had such a calamitous impact on indigenous peoples elsewhere in the world. This notion is perpetuated by many of the statements of European nations with regard to Article 8(j) and related concerns.

In the **European Union** (NR2), "The number of indigenous people within the EU is small and limited to two or three Member States (e.g. Finland, Sweden, France (overseas departments and territories))." **Austria** (2001), **Belgium** (2001), **Denmark** (NR2), **Estonia** (NR2), **Ireland** (2001) and the **United Kingdom** (2001) each state that there are no "indigenous or local communities" at least within the meaning of Article 8(j) in their countries. In **Latvia** (NR2), Issues related to Article 8(j) are deemed not relevant "Due to history of national economic development" in the country. Similarly, such issues are not considered a priority in **Poland** (2001), owing to a lack of traditional customs and practices important to the conservation and sustainable use of biodiversity. **Germany** (2001), **the Netherlands** (NR2) and the city of **Monaco** consider such issues irrelevant in terms of national implementation of the CBD for similar reasons (although in the context of international cooperation these issues are considered). The **Russian Federation** is an exception in that it recognises a substantial number of indigenous groups, and describes their customs in its National Report (Russian Federation 1997).

The general ambiguity surrounding definitions of "indigenous" thus creates some confusion. So, too, does the perception that Europe has no indigenous people, and therefore no traditional or indigenous knowledge. Such confusion is evident in the responses from Parties to the Convention in the form of National Reports etc. and is explicitly referred to by a small number of countries. **Bulgaria** (2001) cites the "lack of complete concept on this issue" as one of the principal obstacles to implementing Article 8(j). **Hungary's** first National Report (GEFAJNEP Project, 1998:23) refers to a number of areas "with traditional management types" which have been damaged by large-scale agriculture, and to measures such as the Network of Environmentally Sensitive Areas which aim to combat this. However, the Second National Report, (Republic of Hungary 2002) admits to some confusion over definition and scope, and in particular how Article 8(j) applies to "traditional Hungarian rural lifestyles."

Estonia's first National Report (Estonia 1998) does make mention of the Setu people in south-east Estonia on the Russian border, and traditional islanders or coastal communities, as perhaps "semi-

indigenous" groups. However, it also states that biological diversity in relation to traditional or indigenous communities is irrelevant to the modern nation. Significantly, indigenous status appears to be viewed by the authors of the report as profoundly political and, echoing the definitions supplied by Martínez-Cobo and in ILO 169, linked to socio-economic deprivation and marginalisation. Referring to the period during which Estonia was annexed by the USSR, the report suggests that "the whole Estonia could be viewed in a position of an indigenous nation, facing the problems of imported environmentally hazardous economics – mining, agriculture, industries etc."

The implication of such comments is that the status of indigenous peoples, linked as it so often is with socio-economic deprivation, repression and poor political representation, cannot be ascribed to any groups within Europe (apart from some in Russia). In the case of Estonia such inequality is associated with the past. In the **Slovak Republic** (NR2), the country's historical development has seen an overlap between "traditional" and "modern" practices. In **Moldova** (2001), however, the use of "traditional knowledge" is considered necessary to national economic development.

A further trend, perhaps best illustrated by the responses of **Austria** (2001) and the **United Kingdom** (2001), demonstrates an over-emphasis on the *indigenous* aspect of indigenous/traditional knowledge. In Austria (2001), although there are no indigenous or local communities, some traditional knowledge *is* identified, such as that of organic farmers and farmers in "less favoured and mountainous areas". The United Kingdom's responses are much more representative of the dominant situation in Europe, however: the apparent inapplicability of Article 8(j) results in what might be termed "traditional" as opposed to "indigenous" practices being left out of national reporting. While activities to promote such knowledge are in place throughout Europe, there is little reporting of them to the CBD. This should change.

"TK in industrialised countries needs special attention and special policies. It is well recognised that many countries of Latin America, Asia, Africa, Oceania and countries of the North with ethnic indigenous groups have TK. But especially European countries ignore that many professions, that deal with biodiversity over generations, hold highly valuable TK for the conservation of BD."

Christian R. Vogl, Institute for Organic Farming, University for Natural Resources and Applied Life Sciences Vienna, 2003

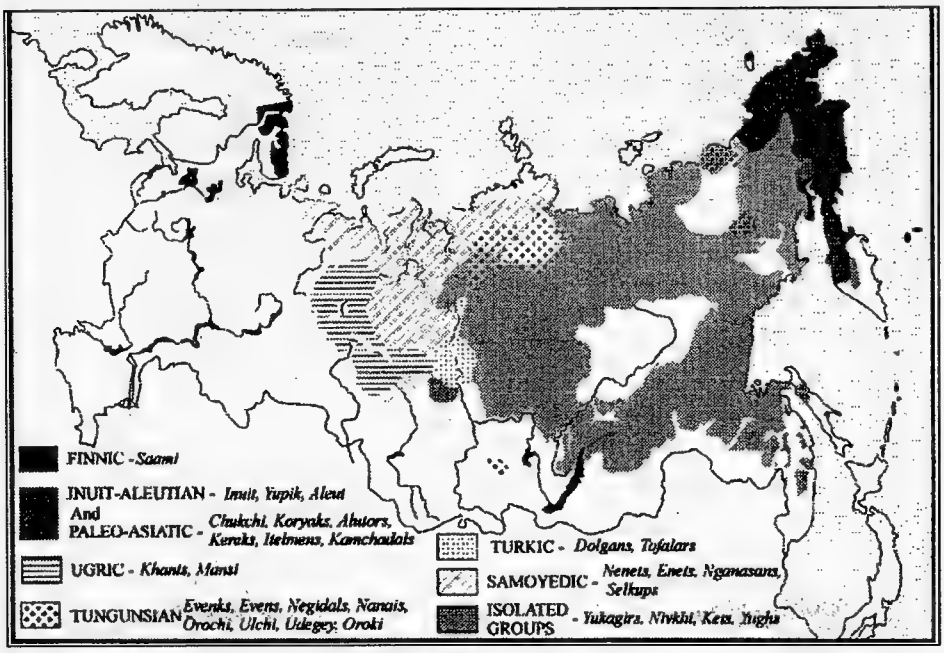
Indigenous people in the Russian Federation

Russia incorporates the traditional territories of many indigenous groups (Murashko 1999). The Red Book of the People of the Russian Empire has entries for 86 different peoples whose main area of settlement is on ex-Soviet territory (Kolga *et al* 2002) although this number varies according to the kind of classification used. According to **Russia's** first National Report to the CBD, the total population comprising all pools of small nationalities is over 1,646,500. Of these people, 849,200 live in rural areas, principally rural areas of the Khabarovsk and Primorski krais, Sakhalin and Murmansk oblasts, Yamal-Nenets and Khanty-Mansi Autonomous Areas. Around 283,000 km^2 of Russian lands belong to community-tribal homesteads with 17,100 km^2 being deer pastures and forests (Russian Federation 1997: 112).

Figure 2 illustrates the geographic distribution of the major indigenous groups in **Russia**. They have diverse cultures, languages and ways of earning a living, from reindeer herding and sea-mammal hunting in the north to cattle breeding on plains and steppes further south. Many indigenous groups use fishing and hunting as important forms of subsistence and some practice small-scale cultivation supplemented by forest harvesting (Russian Federation 1997).

Russia has no specific policy on TK, nor any policy which explicitly uses TK (Bocharnikov 2003), but some specific elements of policy do deal with indigenous people, that will be discussed later in this report.

Figure 2: Geographical distribution of indigenous peoples in the Russian North, Far East, and Siberia. *Adapted from Murashko (1999) Sources: original data—Narody Rossii I Sopredelnykh Stran, PKO "Kartografiya, " Moskva, 1995; compilation—W.K. Dallman, Norwegian Polar Institute; additional information—Russian Association of Indigenous Peoples of the North (RAIPON)*



Sami: Europe's Only Indigenous People?

The largest (indeed, according to the **European Union**, the only) indigenous people in Europe outside Russia are the **Sami**, whose territory – Sapmi – is located in the northern parts of **Norway**, **Sweden**, **Finland** and **Russia**, and who are traditionally reindeer herders. Norway's first National Report (p.33) describes the Sami as a minority in the country, and categorizes them as indigenous people. Estimates of their total population in Norway, Sweden, Finland and Russia, vary from 70,000 to 100,000. The Sami population in Finland is estimated at 6,500; in Norway, between 40,000 and 60,000; in Sweden, between 15,000 and 20,000, and 2,000 in Russia (Henriksen 1996:5).

Cultural rights have been the principal focus of Sami demands, as they have been of indigenous peoples worldwide. Carsten Smith (1995; see also Davies and Jentoft 2001) stipulates the importance of "the material foundation" of cultural rights under Norwegian law, "The use of natural resources and other economic conditions should be included to the extent that they are crucial for the group's ability to maintain and carry on its own culture." Whether claimed by indigenous peoples themselves, or ascribed to them by others, a relationship of particular *intimacy* with the natural environment is typical of many

expressions of indigenous identity. This relationship is characterised by coexistence and harmony rather than exploitation and intrusion:

"the traditional Sami relationship with the natural environment, where the hand of nature erases all traces of Sami migration and settlement, perhaps only leaving behind the ring of stones around a campfire or the folklore surrounding the meaning of a place name. The Sami structures have never been formidable, and our cultural monuments are, above all, memories of culture, transmitted orally, as reminders, rather than physical legacies such as a cathedral or a statue."

Gaski 1998:3

The first National Report from **Finland** specifies that careful scrutiny of the use of natural resources is in the interests of Sami traditional rights as well as of biodiversity and sustainable use of resources in the north generally. This is particularly important with reference to traditional Sami forms of land use such as reindeer husbandry, fishing, hunting and gathering, as well as forestry, mining, trekking and tourism (Finland 1997 [Kangas et al.] 6.10.1). **Sweden's** first National Report (NR1:38) acknowledges the importance of traditional knowledge and practices related to the principal Sami livelihoods of reindeer herding, hunting and fishing, and in turn their importance in relation to implementation of the CBD.

In **Greenland (*Kalaallit Nunaat*)**, the degree of autonomy afforded Greenlandic Inuit (*Kalaallit*) by Home Rule has enabled high levels of co-management of resources. For this reason, though indigenous/traditional knowledge continues to be used extensively, terms such as "indigenous knowledge" or "traditional ecological knowledge" are not used to the same extent as in other parts of the Arctic, or other regions worldwide (Burgess 1999:37-9).

THE STATE OF THE RETENTION OF TRADITIONAL BIODIVERSITY-RELATED KNOWLEDGE

1.1 Status of traditional knowledge of plant genetic resources for food and agriculture (PGRFA)

Although states in Western Europe continually play down the existence of traditional knowledge "as intended by the CBD" (Belgium 2001), the National Reports themselves refer to certain examples of the use of plant genetic resources for food and agriculture which fall within the scope of Article 8(j). Along the west coast of **Ireland**, species of seaweed have traditionally been used to aid soil fertility, and as food and medicine (Ireland NR1:19).

Box 1: The Isle of Lewis, Outer Hebrides, Scotland:

Lewis is one example of the effects of a decline in the traditional use of seaweed as a fertiliser in coastal Scotland and Ireland. Coastal *machair* grasslands on Lewis were once covered with raised beds called "lazybeds" where the community grew subsistence crops. It has become cheaper to buy food from the local shops, however, and *machairs* are no longer fertilised with seaweed, soot and dung as they used to be. As a result, it is suggested, the soil is starved of nutrients, the vegetation is weakened and more susceptible to damage by the strong winter winds.

Source: Macintosh 2002

Examples from this region appear to contradict the impression, given by comments in the second national reports, that traditional knowledge in Europe has been integrated with "modern" agricultural methods etc. In the Walloon Region of **Belgium**, there remains "some traditional knowledge linked to rural lifestyles" (Belgium 2001). However, as these lifestyles are disappearing, so too is the knowledge associated with them.

In Eastern Europe there is an apparently very different situation. National Reports demonstrate a strong awareness of the detrimental impact on traditional agricultural knowledge and practices of intensive agriculture under the communist system. In **Albania**, the legacy of this state-led development has been perpetuated within the free market, damaging the natural environment and even reducing "people's interest in protecting and improving the autochthonous variety of plants and animals" (Albania 1999:14). In the **Russian Federation**, all indigenous people of the North, Siberia and Far East continue to use some knowledge of plant resources (Bocharnikov 2003). There are characteristic cultivation styles, for example mountain land is cultivated with man-made slope terracing in the East Caucasus. In western regions, using small plots on slopes for gardens is typical. Mountain farmers have the same traditions in relation to nature as mountain cattle breeders. This is expressed in the customary conservation of all water sources (Russian Federation 1997: 115).

Among the vascular plants of the Russian wild flora, 1,363 species have been identified with usable properties, with 350 being used as foodstuffs (Russian Federation 1997: 52). In relation to non-timber forest products: "The *salex* leaf is used by the Chukchi People of the **Russian** Arctic in feasts, to symbolize the feeding of the people" (Diashkova 2000:3-4). Land cultivation combined with forest harvesting is typical for Russian peasants of forest regions and Finno-Ugric people - Izhors Vodyas Vepses and multiple Karels and Main Volga nationalities (Russian Federation 1997: 115). Harvesting

plants from the wild is not just the preserve of indigenous people, but also carried out on a large scale by country- and city-dwelling Russians:

"Picking up mushrooms and berries is among favorite recreation activities of many Russian urban and rural residents as well as a long-history tradition. In rural areas (especially forest ones), forest harvesting is an important feature of economy and part of a yearly work cycle. Both individuals and harvesting agencies harvest several kinds of berries, nuts (including Pinus sibirica*), wild onion species (*Allium *spp.) bracken (*Pteridium aquilinum*) and a lot of herbs and plant raw material usable in medicine. Official statistics on forest harvesting outputs is actually lacking. The data available for the Moscow oblast show that, e.g. in 1987, 170,000 tons of mushrooms and about 25,000 tons of berries were harvested there. As the population is very high in this area (about 15.3 million), the oblast is specific of particularly high harvesting outputs though they may give an idea of forest harvesting scales in Russia."*

Russian Federation 1997: 112

In **Portugal**, the long history of human manipulation of the landscape has "mostly occurred in a traditional and extensive way, thereby making it possible to retain a high percentage of the area's biodiversity and even an increase in it in some cases." Thus the agricultural ecosystem of Portugal retains "some unique characteristics", such as the *lameiros* – "hillside land irrigated by means of an ingenious and centuries-old system [which] represent a notable example of sustainable agriculture and constitute artificial habitats with a high level of biological diversity" (Portugal 1998:26).

1.2 Status of traditional knowledge of animals and microorganisms for food and other purposes

There is an *impression* that traditional knowledge of animals and/or microorganisms for purposes such as food survives in contemporary Europe and is, in some cases, widespread. However, such knowledge is rarely documented, and this can therefore be little more than conjecture. It follows, too, that the actual or potential use of such knowledge to enable or encourage the sustainable use of biodiversity can only be guessed at.

Very few National Reports from Parties to the Convention in Europe contained information on such areas. In **Poland** (2001) and in **Portugal** (1998), certain breeds of horses are used in place of heavy machinery in forestry, and in Tyrol, in **Austria** (Vogl, 2003), lactic acid fermentation of *Brassica rapa* ssp. *rapa* is used to produce *Rübenkraut* and *schnapps*.

The existence of local breeds of domestic animals is not much mentioned in the context of traditional knowledge in Europe, but in some places they are still actively used, and in others they are in need of special conservation. In the **Russian Federation** (1997) far-range cattle breeding of plain steppes is practiced by some rather low-in-number native people of Cis-Caucasus, Kalmyks, Nogaitses, Bashkirs, Kazakhs, Bouryats, and Khakases. Also, mountain cattle breeding is a normal practice of all nationalities of the North Caucasus and in Siberia with the Shortses Altai and Tuva dwellers (for more information see the relevant ecosystem categories). Despite this, the number of many domestic agricultural animal breeds has reduced to a limit that threatens their existence. A particularly hazardous situation is observed in poultry farming where almost all domestic breeds are fully withdrawn from production and are conserved only by non-professional poultry breeders and at special collection farms (Russian Federation, ibid.)

In the Arctic nations of Europe, Sami possess extensive knowledge of reindeer and of practices related to reindeer husbandry. Given the relatively strong position of Sami in **Norway**, **Sweden** and **Finland**, their political representation through autonomous, elected assemblies and international indigenous peoples movements, and Sami participation in much of the extensive research that has been carried out on Sami

culture, traditional knowledge and practice, such knowledge can be said to be enjoy a healthy state of retention.

Box 2: Sami Reindeer Husbandry in Norway

Norway's first National Report on Implementation of the Convention on Biodiversity (p.33) describes domestic reindeer husbandry as a traditional Sami means of livelihood, practiced by Sami in six of Norway's 18 counties, though most concentrated in the country of Finnmark. Although only a minority of the Sami today are involved in reindeer husbandry, it is still recognised (Norway NR1:54-5) as an "important way of life and closely bound up with the Sami culture". Reindeer herding remains a vital component of Sami identity, as does the knowledge related to such traditional activities:

"To know your animals by behaviour and colour is valued in most of the reindeer herding cultures. The ability to create a well composed herd with all the important characterizations is also highly valued and signalises that you are a successful reindeer owner."
(Klokov & Jernsletten 2002:20)

A well composed herd is easier to manage and enables more efficient use of the pasture. Composition of the herd is determined by factors such as the proportion of male to female reindeer, variation in the animals' colours, and animals' behaviour (ibid.)

Reindeer husbandry is also carried out by other ethnic groups in **Russia**: notably the Nenets communities and some Komi-Zyryans in the European and West Siberian north and a majority of Chuckhees on Chukotka. Close to them are northern communities of Yakuts Koryaks Kereks and Saams though they are less mobile. Far-range deer breeding came into practice with Russian aboriginal people only in the 18th century. Its characteristic feature is wide-range season migrations around the tundra-northern taiga interface (Russian Federation 1997: 112). As with Scandinavian Saami, quite a lot of academic research has been carried out on the reindeer herding communities in Russia and, although methods are changing with mechanisation, etc., retention of traditional knowledge is comparatively high.

The indigenous peoples of the North, Siberia and the Far East of the **Russian Federation** also retain traditional knowledge in relation to hunting and fishing (Bocharnikov 2003). For example, The Chukchi People, in the Arctic and tundra regions of Russia, live primarily from reindeer breeding and sea mammal hunting (Diashkova 2000:3-4); Inuit and Aleuts also hunt sea mammals (Russian Federation 1997). Fishing ranks first or second in economic activities of aboriginal people of the North, Siberia and Far East, and Aboriginal hunters practice hunting of all kinds of game, including those falling out of the hunting pool: snowy owl (*Nyctea scandica)* and rough-legged buzzard (*Buteo lagopus*) (Russian Federation 1997) – for more information see later under ecosystem categories.

Deer hunting characterizes the economic activities of Iganasans and Entses in Taimyr tundras, Evenks and Evens in Middle and East Siberia and Far East, part of Khanty and Mansi in West Siberian taiga, and some other native population pools of Siberia (Selkups, Dolgans, Tofalars) and Far East (Yukagirs, Negidaltses, Oroks, Chuvantses). These ancient cultures have been preserved from Neolithic times and represent a careful attitude towards both land and game. The customary dependence of Khanty and Mansi people on deer forces them to burn areas for renewal of lichen grazings (once in 30 years on the West Siberian Lowlands south and once in 50 years in its north). This practice does not exist eastward from the Yenisei (ibid.).

1.3 Status of traditional medicinal knowledge

Traditional and homeopathic medicine is widely practised in Western Europe (90% of the population in the **United Kingdom**, 75% in **France** and 40% in **Belgium**, for example, have used complementary or alternative medicine at least once, according to Zhang 2000:2-3). Most examples relate to plant based medicines. It is curious that despite their apparently widespread use, the impact of practices regarding the medicinal plants of European countries has been documented much less than in developing countries.

In the **United Kingdom**, traditional medicinal knowledge concerning indigenous or naturalised species of medicinal plants is retained by homeopaths and traditional medicinal practitioners, and is the focus of institutions such as the *Chelsea Physic Garden* and *Flora Celtica* (See Section 2.3.1). In **Croatia**, the gathering of medicinal herbs for personal use is described as "particularly developed" (Croatia 2000:48-9). Plants gathered include sage, yarrow, common elder bourtree, rosemary, meadow saffron seeds, willow bark, and alder buckthorn. In the **Russian Federation**, around 1,363 vascular plants have been identified with usable properties, 1,103 of which are used in scientific and traditional folk medicine and 200 of which are officially permitted for use in medical practice. Many taxa, including medicinal plants (e.g. *Thymus, Astragalus,Artemisia,* etc.), "have not been studied well enough in the applied aspect although they are of high economic potential" (Russian Federation 1997: 52).

In **Austria** (Vogl 2003), the use of "wild biodiversity in veterinary medicine is widespread among small farmers. Fruit, crops, herbs and spices are also widely used as medicine or, simply "healthy food".

The Centre for Sami Health Research, Karasjok, part of the University of Tromsø, **Norway**, has been recently established to carry out research into a range of aspects of health and healthcare among Sami. It is not clear, however, how much this will take into account traditional medicine, which otherwise seems to be very little discussed and certainly is not an important issue for Sami activists. One description of Sami traditional medicine is provided by Wenke Brenna (1997), who details the role of the Sami *noiade*, or spiritual leader (often conceived of as a "shaman"), who served as "healer, social worker and storyteller".

"The Samis used both animal and vegetable products in their folk medicine. In cases of where a diagnosis was uncertain, the noiade *sought advice by means of his shamanic drum, or runebommen. He was capable of transcending states of consciousness and could travel to other spiritual realms to cure sickness or prevent death."*

Brenna 1997

Healers continue to operate in a number of Sami communities, says Brenna, and occasionally work in unison with local health personnel: "A healer's knowledge and authority can have a supplementary function to modern medical practice" (ibid.).

Alm (2002) gives an account of the use of V*eratrum album* (Melanthiaceae) in Norwegian and Sami folk medicine. Before being replaced by the introduction of tobacco, *Veratrum album* – known as *gastinrássi* or "sneezeplant" in Sami – was used as a kind of snuff, and as a cure for rheumatism, either as a compress applied to the painful area or drunk in a decoction. It is known in Sami and Norwegian traditions to cause sneezing in humans and as a livestock poison. "In Sámi folk medicine, sneezing was considered healthy, probably as a way of "getting rid of" diseases."

1.4 Status of traditional knowledge systems concerning ecosystem categories

1.4.1 Forests

In **Moldova**, although special methods for the active use of traditional knowledge have not been elaborated, traditions of sustainable forestry are embodied in the Forest Code, and promoted through various workshops and seminars. However,

"The traditional knowledge and experience of the local population on the sustainable development of the forest sector are not largely applied. The traditions of non-timber resources use (herbs, berries, walnuts cultivation etc.) have been revived lately and allow to apply the traditional knowledge to the conservation and sustainable development of forest biodiversity."

Republic of Moldova, 2002

The Thematic Report on Forest Ecosystems presented by **Belgium** states that some of the wealth of traditional practices relating to forestry in Belgium are being put into practice, though to a limited extent, such as the use of horses in timber extraction from less accessible forests, rather than machinery. In the Walloon region, in fact, a decree issued in 2001 grants subsidies for such activity. The authors of the report do not, however, consider this information applicable as far as Article 8(j) is concerned.

In the **Netherlands**, as in other Western European countries, the large number of small-scale privately-owned forests play an important role in the conservation of biodiversity, as the forest owners' knowledge often serves to protect and enhance forest biodiversity.

Box 3: Traditional Forestry, Austria

The Federal State of Salzburg, Austria, has taken several measures on the conservation of certain forest types (Lärchwiesenwälder); Based on traditional forest-related knowledge, near-natural forest management is increasingly being practiced in the forestry sector. The development of uneven-aged, species-rich and site-related stands with largely natural regeneration leads to ecologically stable forests. Protection forests, which require special silvicultural management, are subject to only limited use, safeguard ecologically sensitive sites (tree line, karstic sites, shallow soils). Closed forests play a key role in indirectly protecting non-forested land from avalanches, landslides, floods, etc.

Source: Austria's *Thematic Report of Forest Ecosystems*, 2001

The **Norwegian** Thematic Report on Forest Ecosystems suggests that the promotion of traditional forestry-related knowledge is not significant in Norway because "the indigenous Sami people live largely in non-forested areas in the extreme north of the country." However Klokov and Jernsletten (2002:140-1) and Lusty (2000) argue that expansion of the forestry industry in Sapmi poses a significant threat to reindeer husbandry, as up to 75% of reindeer in fact graze in forest pastures:

"The challenges are connected to the loss of important pastures for the reindeer, especially during late winter time. March and April are a critical period for the female reindeer. The bodyweight is low and the calving season is approach [sic]. Inaccess to pasture can be fatal for a large number of animals in a herd, and normally the pasture inside the forest is accessible. But large fall area (open area) creates a hard snow cover and make the access to pasture difficult. In addition to this, all old forest (more than 120 years old) is gone, so the important lichen on the old trees is not available."

Klokov & Jernsletten 2002:140-1

1.4.2 Dryland and steppes ecosystems

Dryland ecosystems do exist in Europe, although with the exception of grazing on the Pannonic plains of Burgenland Province, **Austria** (Vogl 2003), and the plains and steppes of **Russia**, no examples were put forward by National Focal Points, and little information seems to be available elsewhere.

In the Yakutia region of **Russia**, Yakuts have bred cattle on taiga-alas landscapes since the 11th century (Russian Federation 1997). These alas plains are formed by draining off lakes under which permafrost lies deeper than in the surrounding landscape. The Yakuts' traditional economy is further characterised by the use of horses in the management of their herds, and the use of meadows for grazing and haymaking. The traditional "far-range" cattle breeding practiced by a number of indigenous peoples of the Cis-Caucasus, including the Kalmyks, Nogaitses, Bashkirs, Kazakhs, Bouryats, and Khakases, involves moving herds on to new territories as pastures become exhausted, and selecting pastures according to moisture level and grass density of a steppe section. During the communist era, however, such practices were restricted, as land was allocated to collective farms and intensive grazing, cultivation and industry reduced the choices available.

"*Steppe cattle breeders are active hunters, though the Bouryats and Kalmyks having adopted Buddhism became less engaged in hunting. Hunting periods are normally not observed in places located far from settlements as, living on a meat-milk ration, local residents avoid excessive slaughter of cattle. They burn out dry reed debris to restore soft grass and open paths to the water. They keep up traditions of customary protection of some birds (ruddy sheldrake* Tadorna ferruginea*) and cults of holy areas (usually in interfluve areas)* ".

Russian Federation 1997

1.4.3 Marine and coastal ecosystems

Fisheries management in the countries of the **European Union** has been regulated by the Common Fisheries Policy since 1983, enforcing the perception that fish and other marine resources are part of the "common heritage" (Europa 1998) of the people of Europe. Such centralized regulation – taking the form of the setting of quotas etc. – has resulted in a dramatic decline in the sources of livelihood for countless fishing communities in coastal regions of Europe. An example of the impact of the loss of traditional fisheries knowledge and practices on marine biodiversity is given in the case study below.

Whaling has traditionally been an important aspect of the subsistence of communities in northern Europe, particularly Scandinavia and the islands. **Iceland's** geographical location, climate and the cost of importing food results in a continued emphasis on whaling as a source of food. In **Norway**, whaling is said to have gone on for around 8,000 years. In the **Faroe Islands**, traditional hunting of pilot whales, which had been pursued and recorded since 1584, has in recent years been replaced by alternative modern methods. Traditional methods have, however, been deemed to be more humane, and subsequently reintroduced (Happynook 2000).

Burgess (1999:37-9) refers to two projects which have been carried out in **Greenland** dealing with traditional knowledge of fisheries. In 1994, local hunters became embroiled in a controversy with the Joint Canadian and Greenlandic Commission on the Conservation and Management of Narwhal and Beluga (JCCMNB), who advocated a reduction in the harvest of beluga whales from 670 to 78. The hunters disagreed, claiming different knowledge of beluga stocks. A research programme to collect local knowledge of stocks was initiated by the Inuit Circumpolar Conference and Greenland Home Rule

(Sejersen 1998), but the new findings were almost wholly dismissed by scientists who claimed it was neither useful nor correct. The report found that "hunters and scientists organise their observations differently. Hunters' observations are more loosely organised in informal and flexible systems, whereas the scientists structure and evaluate their observations in terms of repeatability and comparability" (Thomsen in Brooke 1993:110).

Box 4: "Sea Tenure" in Ireland and the Netherlands

Research conducted by the Department of Anthropology of Leiden University, the Netherlands, and the Department of Zoology, National University of Ireland, Galway highlights the importance of "sea tenure", or the partitioning of marine resources among those fishing communities that use them, as an aspect of traditional fisheries knowledge.

The Irish fishing communities studied, maintain traditional systems of partitioning shore and inshore areas, as well as seaweed and lobster resources, between groups and local communities. Such arrangements encourage the development of social cohesion within and between communities. Agreements for other resources, such as finfish, involve a geographically larger area and thus a larger social unit – agreements were made before the introduction of European regulation.

In the Netherlands, but also throughout Europe, regulation of fisheries at the national and European level has not only rendered obsolete such traditional local agreements and controls but, as fishing communities in both countries argue, has had a detrimental impact on marine biodiversity. Unpredictability of fishing resources is the root cause of many of the Common Fisheries Policy's problems. This unpredictability is not felt, however, to be due to the sea's inconsistent ability to produce fish, but because EU fisheries management policy is changeable and unequally implemented. Unpredictability encourages fishermen to catch as many fish per day as they can get away with, because they don't know how many they can catch tomorrow:

"Many of the fishermen said they realised, more than anyone, that the way they were fishing was not sustainable in the long term, and furthermore that they resented being forced into this position by national and international fisheries regulations."

Source: Connolly 2001

The "success" of traditional knowledge, and to some extent the autonomy that has come to Greenlandic Inuit as a result of Home Rule, has presented its own problems. Sejersen (1998: 41) suggests that increased interest in the indigenous knowledge of the Inuit in Greenland has put indigenous people in a difficult situation:

"On the one hand, they are eager to have their knowledge integrated into research and policy making which for so many years have ignored or looked down upon their knowledge. On the other hand, they do not want to separate knowledge from context"

Roepstorff (1998: 113) points out that knowledge related to the halibut fishery of Disko Bay, once heavily dependent on traditional knowledge, has become increasingly arranged in terms of a "scientific" and "modernised gaze", further distancing management and regulation of fisheries from the indigenous knowledge and practitioners concerned.

In Scandinavia, Pedersen (1989) describes traditional knowledge related to hunting (ptarmigan and grouse) and fishing (freshwater and marine) among Sami. This includes skills such as making nets and snares, and unwritten rules such as hunting territories, fishing away from spawning areas, not taking young animals, etc. The knowledge is now under threat because the land is overrun by visitors undertaking year-round uncontrolled hunting and fishing for pleasure with high-tech tools, and marine resources are being depleted by large commercial fishing boats. Young Sami do not learn the traditional methods, which are no match for the new technologies, and as they are relegated to the status of "spectators" to the contest for their resources, they become increasingly alienated from their environment and the knowledge which it supports.

Freire & Garcia-Allut (2000) argue that the traditional ecological knowledge of coastal artisanal fishers in Galicia, **Spain**, could present a more effective fisheries management system than the present industrial models, which have resulted in large-scale overexploitation. Artisanal fishers in Galicia use low or medium level technological equipment, that can be handled by one or two people. Fishing strategies are characterised as based on flexibility, in the exploitation of diverse species, in diverse fishing grounds, and using a range of equipment. Unlike industrial fisheries, artisanal fishers follow an annual fishing cycle in which different equipment and methods are used at different times, according to both knowledge of resources and relevant regulations. While conceding that, in some cases, the equipment used in artisanal fishing can have a negative impact on coastal ecosystems, they argue that such practices can also be an important agent in conservation (Freire & Garcia-Allut, 2000:382).

1.4.4. Island ecosystems

No specific information on traditional knowledge regarding island ecosystems is provided by National Focal Points. The example of the use of *machair* cultivation in the Hebrides, **United Kingdom** (Section 1.1, above) illustrates how knowledge is at risk of being lost as practices die out.

In Kamchatka, Sakhalin island, and the Bering sea in the Russian North the Chukchi, Koraks, Nivkh, and Itelmen people maintain traditional knowledge on islands (Bocharnikov 2003).

1.4.5. Mountain and valley ecosystems

In the **United Kingdom**, much of the upland landscape continues to be sustained by traditional land management practices, some of which can be traced to the nineteenth century and have been handed down within communities from one generation to another. Place names in mountains often derive from traditional, local community languages.

Both **Austria** and **Slovenia's** *Thematic Report on Mountain Ecosystems* cite changes in land use, such as the loss of traditional pasture management, as a major threat to biological diversity.

Ott's (1981) study of a Basque shepherding community in **France** highlights the importance of the concept of *aldzikatzia* ("alternation" or "serial replacement") in a number of spheres of everyday life, including naming, funerary customs, local religion and ritual processes, and how it influences traditional pasture management. In the summer months shepherds traditionally move up to the high pastures with their flocks, returning to the valleys in the winter months, during which time flocks are moved around different pastures, as many as five times a day. This movement of sheep, known as *ardiak khanbiatzen* or "changing of the ewes" is said to prevent over-grazing of the small pastures.

Knowledge of mountain and valley ecosystems in **Russia** is retained by the Yukagir, Even, Udege, Evenk, Kety and Shor in Siberia and the Far East (Bocharnikov 2003). Mountain cattle breeding is a

normal practice of all nationalities of the North Caucasus and in Siberia with the Shortses Altai and Tuva dwellers (Russian Federation 1997). The Tuvintses Todjintses form a transitional type to deer hunters. Mountain breeders of the West and Middle Caucasus do not perform far-range cattle driving and store feedstock for winter. In Siberia and East Caucasus, cattle breeders practice vertical migrations between summer and winter grazings. They are less active in hunting than plains-basead cattle breeders. The Caucasian communities keep up customs of protecting predatory birds - owls, eagles, and peregrines. Siberian cattle breeders have a negative impact on forest areas, replacing it with pastures. Further comments on mountain land cultivation in the East Caucasus are given in secton 1.1.

In the Russian Federation (1997) fishing is practiced by low-population aboriginal communities and population pools: part of Khanty in West Siberia, Chulymtses Kets on the Yenisei, some small native communities dwelling on the Amur (Ulches) in Sikhote-Alin (Udegeis) on Kamchatka (Itelmens and Kamchadals) and Sakhalin (Nivkhs). Isolated groups of Russian communities also specialize in fishing: Lena and Ob old- timers, Indigirka dwellers and Ust-Yenisei selduks. As their residential areas are local and specialization is narrow, their influence on biodiversity is minor.

1.4.6 Inland waters

For the Sami in Finnmark, **Norway**, fishing is important during the summer months. Sami have the right to fish and hunt in appropriate seasons within reindeer husbandry areas: commercial fishing takes place in the large lakes, and fish are transported by air for sale in the east (Lusty 2000:74).

1.4.7 Arctic ecosystems

The Arctic regions of Europe are home to the Sami, the only group in Europe outside Russia officially recognised as an "indigenous people". A number of examples of Sami traditional knowledge have been given in preceding sections.

The Chukchi, Nenets, Khant and Even of the **Russian** North continue to use indigenous knowledge of Arctic ecosystems (Bocharnikov 2003). According to Russia's first national report, most of the modem tundra south (particularly on the Yamal peninsula) has become woodless as a result of reindeer herders cutting out larch on the northern taiga boundary, for example. Yet herders are extremely cautious with fire, which often destroys valuable grazing land. They are also active in chasing and killing wild reindeer and wolves and carry out regular shooting of some predatory birds without breaking their nests. Long-range reindeer herding is responsible for a lower number of geese in the West Siberian north if compared with Taimyr where reindeer herding is underdeveloped. The low population density of reindeer herders "encourages a cautious attitude to grazing, which outweighs any adverse impact on tundra biodiversity" (Russian Federation 1997).

A critical issue in relation to Arctic ecosystems in recent years has been that of climate change. Sami perspectives, and those of other indigenous peoples in the Arctic, have been recently documented.

Sami reindeer herders divide the year into eight seasons, according to what is important for the herds (Klokov & Jernsletten 2002:18-19). Spring (April-May) is the calving season, when the reindeer are taken to the calving land. Early summer (June) is a time of intensive grazing, when animals need to gain weight and so graze undisturbed in one area. In the summer (June-July), reindeer move towards higher pastures where patches of snow in the mountains cool the reindeer, provide respite from biting insects, and provide fresh grass as the snow melts. Some herds move to the coast, where the winds drive insects away. The reindeer owners mark their calves during this season. In August, the animals continue to graze

on the pastures, but mushrooms become important, as fat reserves are being built up for the winter. Autumn (September-October) is the rutting season, and some bulls are slaughtered before they go into heat, preventing the meat from tasting unpleasant. During this time the reindeer diet changes to lichen. Autumn-winter (November-December) is the slaughtering season, and the time to decide herd structure – selecting which animals to slaughter and which to keep for breeding. After the slaughter, animals are collected into herds and moved down to the winter pastures. During winter (December-March), the reindeer are divided into smaller herds, grazing mainly on lichen. Herders keep a distance and watch for predators. In the spring-winter (March-April) the herds return to summer pastures.

Traditional knowledge of the weather has long been important to Sami, influencing when and how they will move their herds, and thus structure their own lives, for most Sami define themselves in relation to the traditional practice of reindeer herding. Climate change in their traditional pastures have had a detrimental impact on traditional knowledge and practices relating to weather forecasting, for example.

"*...And I'm not so very old, a bit over 50 years old, and I remember very traditional people who used to have a very good weather man, we had reindeers before. My father and my family was reindeerherders. So we always used to go to this old man and ask how is the weather going to be this spring, because the springtime is always the, the spring-winter is always the very critical time for the reindeers to survive or not to survive. And this old man was always able to tell about the weather for the whole year. Not just the spring, but how the summer is going to be, is there going to be lots of berries and stuff like that. And he was very accurate in seeing the weather and he was not just taking it from the air and just saying that I feel it's going to be like this, he had an explanation to everything. And he used to tell us why he thought that it's going to be snowy or icy or very cold spring and so on. And he had his signs allover the nature.*

And I have a little bit thought that if we can think of this kind of information because lots of very good and very...information is lost. And it's a very very...not just the...I mean that information has been created in a very long period of time, thousands of years and now all of a sudden, one generation is wasting it away by just turning on the radio and listening to the weather forecast. And it makes people very dumb because you just get the information from the radio and the radio doesn't explain you why the weather is going to be like that. And it means that there's lack of education. Our generation hasn't been educated the right way".

Nilaas Somby, Sami, interviewed by Tero Mustonen, 2002

Methods used to predict the weather include how the snow lies on the grass and which way the grass grows, as well as the behavior of insects, birds and animals. Weathermen also consult fish guts and the internal organs of other animals (Mustonen 2002).

1.5 Knowledge versus practice: state of retention of traditional knowledge concerning practices relevant to the customary management, conservation and sustainable use of biological diversity that are no longer maintained or are at risk of disappearing

The European situation is fundamentally different to that in other regions. Holders of traditional knowledge are not necessarily peoples defined as culturally or ethnically distinct from other, dominant, groups within a country. "Traditional" knowledge is thus not regarded as relevant to a contemporary indigenous or cultural group, but as knowledge relevant to the *past*, and therefore implicitly obsolete, and in need of "preserving". Many folklorists, historians, museums, etc. maintain knowledge concerning traditional – historic – practices, but there are also many traditional activities which are perpetuated *as* traditions, "for their own sake". This can cause their practical potential to be undervalued. However, unrecognised by official perceptions, the true extent of the retention of traditional knowledge as compared to practice remains uncertain.

There is an appreciation from many National Focal Points that as traditional practices decline in the face of modernization, traditional knowledge and biodiversity are both threatened (Denmark 1998:12). In **Croatia**, it is only economically underdeveloped regions that have preserved traditional knowledge, because of the absence of "modernizing" development projects in the past. Elsewhere in the country, agricultural development programmes were directed towards intensifying food production rather than "preserving landscape values", and both biological diversity and associated traditional knowledge were lost (Croatia 2000:15-6).

However, to be identified as "European" seems to equate with being "modern" in many contexts, and therefore opposed to "traditional" or, by extension, "backward" or "old-fashioned". In **Estonia**, for example, although there is "an abundance of landscapes emerging from customary use,"

"*as we are dealing mainly with an European agricultural community, accepting most of the habits of the Western culture, the customary laws have been ousted by the state laws*".

Estonia 1998

The prevailing concept of "national development" seems to preclude retention of traditional knowledge among traditional practitioners: cattle breeding, for example, has been long since controlled by scientific institutions, and curative mud is now used in medical institutions rather than "fisherman's saunas" (Estonia 1998). It is reported that much traditional knowledge has either been absorbed within the common knowledge of the nation, or has been lost altogether.

Specific examples of loss of traditional knowledge concerning customary management, conservation or sustainable use of biodiversity come from the Alpine region of **Austria** and from the Arctic countries.

In **Austria**, traditional methods of crop rotation and arable farming have not been maintained, and related agro-biodiversity such as weeds and traditional crops, together with the associated local knowledge, have almost disappeared. Animal husbandry on Alpine slopes has been abandoned and replaced by forestry in some cases. Certain species have thus disappeared, but as the mowing of pastures is no longer done, the flora and fauna of highly diverse patterns of biotopes are being lost.

Box 5: Development and the 'loss of tradition' among Sami

"The traditional knowledge is a really really valuable thing, because it's about the...it's knowledge about everything. Of food and material and storytelling, symbols, you name it, it's everything. And the funny thing is that here in Sapmi, Scandinavia, both Norway, Finland and Sweden, we're claiming for aboriginal rights, indigenous rights. But we are so scared to touch the indigenous culture, the spirituality and the traditional knowledge. And our leaders are the well-educated young people from the universities without any knowledge. And it means that it's very, very fast change in to the other, to the non-indigenous system. And a way to live."

Nilaas Somby, Sami, interviewed by Tero Mustonen, 2002

The introduction of technological innovations such as motor vehicles and fences to prevent herds from mixing have combined with a growing monetary economy to transform the system of Sami reindeer production from "subsistence-based pastoralism" into an industry "integrated into a market economy". Perhaps as a result of these developments, traditional informal systems of land use have ceased to work well. Reindeer populations are increasing rapidly, leading to overgrazing, and it is increasingly common for herders to move their animals on their own and for their families to come later by car. Tourism has become an increasingly important source of income: "in fact, tourism has grown to be an accepted part of husbandry" (Kalstad, ibid.)

"Knowledge can be considered technology used to resolve problems and make decisions; for instance, the knowledge of how to select animals for slaughter and avoid mixing with other herds ... some of the values of Sami culture constitute the institutions which have made pastoralism possible where the natural resources have been common while the animals are privately owned... the preservation of these institutions require many preconditions, and Sami culture provides the setting in which to produce, develop and rejuvenate the preconditions... When these institutions no longer work, problems may ensue. However, the linkage between pastoralism and culture nowadays is fragile"

Kalstad 1998

Norway's first National Report on Implementation of the Convention on Biodiversity suggests that it is in Finnmark, where reindeer husbandry is most concentrated, that its impact on the environment is most severe, "in the form of overgrazing and wear and tear on vegetation caused by offroad vehicles". The Sami Assembly (Norway NR1:54-5) highlights this overgrazing, along with loss of reindeer to predators, as one of the main problems related to the natural resource base faced by reindeer herders. Similarly, Lusty (2000:73) reports the loss of significant amounts of winter grazing land with the development of modern forestry, agriculture and other industries.

1.6 Assessing the feasibility of using existing traditional knowledge to maintain customary practices relevant for the management, conservation and sustainable use of biological diversity

A majority of Parties within Europe consider the category of "traditional knowledge" in the context of Article 8(j), to be inappropriate to their national situation. Yet such knowledge does exist and, according to the responses of a small (and not necessarily representative) number of groups and individuals, has the

potential to be put to use in the management, conservation and sustainable use of biological diversity. If *awareness* of the existence of traditional knowledge is further developed, through extending *appreciation* of what constitutes traditional knowledge within the context of Article 8(j), then not only will a more accurate picture of the current state of retention of traditional biodiversity-related knowledge be possible, but so also will further use of such knowledge be toward the aims of the CBD.

In some contexts, of course, conceptualising "traditional", "local" or "indigenous" knowledge is not the only bar to its further use in implementing the CBD. Countries such as **Moldova**, for example, being "in the transition period to the market economy", claim to face particular difficulties in involving indigenous and local communities in such efforts (Republic of Moldova 2001).

In **Norway**, (Norway, 1997) there is a potential for integrating conservation with the maintenance of traditional reindeer herding on the condition that little or no *other* activity is permitted in those areas set aside. In such a situation, there needs to be close consultation and cooperation between the reindeer herders, other interests (such as industry) and the government or administrators of, for example, national parks and other protected areas.

IDENTIFICATION AND ASSESSMENT OF MEASURES AND INITIATIVES TO PROTECT, PROMOTE AND FACILITATE THE USE OF TRADITIONAL KNOWLEDGE

In Europe, numerous measures and initiatives are specifically directed towards stemming the loss of traditional knowledge. Education and documentation programmes are well established in some countries to prevent the "death" of regional languages such as Irish Gaelic or Catalan. Museums in Europe have been increasingly encouraged to forge links with local communities and originating communities from whence their collections derive, in Europe and elsewhere. Numerous heritage conservation programmes, often with a substantial tourism component, continue to preserve traditional architecture and traditional practices of all kinds, in protected areas, "folk museums" etc.

Many responses from National Focal Points concerning measures to implement Article 8(j) consiste largely of statements of intent. Some national reports refer to measures, either proposed or put in place, to preserve traditional knowledge and practices, but provide little or no detail on which further research or evaluation could be attempted. Spain's second national report, for example, refers to projects which have been put in place for the maintenance of traditional knowledge and practices in the Basque Country, but gives no further information.

2.1 Regional and national land use practices

There are many examples of the fostering of traditional management practices *in situ* in protected areas throughout Europe. In many parts of western Europe in particular, large-scale industrial development and urbanisation of the population has meant that traditional practices must be conserved "artificially" or *ex situ* in National Parks and similar forms of protected area, outside of the area in which they developed.

In the county of Finnmark, **Norway**, the Municipality of Kautokeino autonomous municipality project, which began in 1992, allocated responsibility for the management of natural resources to the municipality. It was intended that resource management should be adapted to the local culture and customs, and neither harm the balance of nature nor change the existing use rights of the county's population. The municipality's main objective was to increase the use of natural resources. The main objective of the central government was to develop constructive working conditions and organisational structures (Norway 1997).

The project's effects on nature conservation are uncertain: user interests appear to have benefited at the expense of natural resources. "The evaluation of the project established that nature conservation was not a high-priority task in the implementation of the project. Instead nature conservation and related national regulations have been a framework condition that have had a determining effect on the measures implemented" (Norway 1997).

The Norwegian government has also established protected areas and other forms of conservation in Sami areas where reindeer herding and traditional Sami primary industries exist. "The desire to secure the resource base for reindeer herding is not a distinct reason for conserving national parks" (Norway 1997), but Sami concerns are taken into account in establishing and managing such parks.

In **Austria**, although there are no land-use policies which explicitly consider traditional knowledge, regional land use practices are often maintained by farmers without policy intervention. Also, official measures to encourage, for example, the maintenance or establishment of hedges or orchards (*Streuobstwiesen*) help "in an indirect way" to maintain traditional knowledge, although not intended to do so (Vogl 2003).

Box 6: Reintroduction of traditional sheep grazing in the Ceske Stredohori Protected Landscape Area, Czech Republic.

Location: Northern Bohemia, Czech Republic

Responsible organisation: Ceske Stredohori Protected Landscape Area

Objectives and goals
The PLA (Protected Landscape Area) Ceske Stredohori has initiated and financed a project which aims to re-introduce sheep flocks in the protected landscape area for the maintenance of biodiversity.

Summary
The Protected Landscape Area Ceske Stredohori, located in Northern Bohemia is, at 1,063 km^2, the second largest Protected Landscape Area in the Czech Republic. It lies near the so-called "Black Triangle" area, which has been devastated by open cast lignite mining, the polluting effects of power generation and large-scale industrial development. There is a long tradition of grazing sheep and goats in the area (dating back to the 12^{th} century), but since the late 1980s the number of sheep had declined dramatically in the face of changes to the systems of agriculture, land use and ownership and the abolition of subsidies. Within three years the number had dropped by 90%. As a result, the area's dryland steppe ecosystem was severely damaged. Biomass has accumulated, plant and insect species and entomofauna species have declined sharply.

Best practices and lessons learned
- Reintroduction of extensive grazing maintains the grassland ecosystem while avoiding overgrazing.
- Reintroduction of traditional methods has gone hand in hand with the development of the commercial side of the pastoral economy:
- The project encourages negotiation and communication with local farmers, and some farmers have become strategic partners in ongoing conservation projects.
- The project planners have drawn on the experiences of initiatives in other countries, such as the "bottom-up", democratic partnership system adopted in establishing the future Scottish National Park, and traditional grassland management practices at Losehill Hall, England.
- Producing a high quality product desirable to speciality butchers, restaurants etc, devising speciality recipes, and advertising to encourage consumption of sheep meat among the Czech public.
- Commercialisation of sheep farming – the establishment of an international company, etc. – has developed among farmers a knowledge of market conditions and EU import/export regulations, and provided financial stability, but emphasis is placed on the potential for privatisation of the land by individual farmers. There is, therefore, a need "to seek out those who have conservation hearts, feelings; not wait for volunteers."

Source: Hamersky 2001

In **Portugal**, a number of initiatives aim to expand or retain traditional extensive agricultural systems. Many of these are aspects of more general conservation programmes intended to avoid or combat desertification of rural areas (Portugal NR1:50). In the Alto Douro Wine Region World Heritage Site, for example, the government have initiated the ADW Regional Landscape Management Programme. The Programme includes projects of landscape improvement: repairing and developing the distinctive terraced vineyards or *socalcos*, to reintroduce border crops and associated vegetation, and improvement of wasteland and woodland areas (Lourenço & Rebelo, 2002)

Protected areas in **Italy**, subject to local planning regulations, allow for experimental models for conservation and sustainable development. Incentives are provided to traditional production activities with acknowledged compatibility with the local ecosystem (Italy 1998:25). Conflict can arise, however, over whether or not certain land use practices are traditional enough or compatible enough to be allowed in a protected area. A recent example comes from the *Sar Vaddes* region of central Sardinia (Heatherington 2001). Here, local people, particularly farmers from Orgosolo, are struggling against the imposition of national park status on their lands, which would entail the dismantling of the traditional system of land management. Resistance to the National Park, they argue, is instrumental to the conservation of *Sar Vaddes*. Heatherington (ibid.) judges that the Italian government seeks to replace the closed and secretive, traditional social world of the Sardinian *omerta* (the Mafiosi "code of silence"), with a safe and accessible park designed for the enjoyment of an Italian and European public. She implies that the Sardinian's conservation case is discredited by the government because they cannot "exhibit purity and continuity of connections to the past." This may serve as an example that protected area strategies can be as damaging to the traditional lifestyles, knowledge and practices of local communities, as they can be beneficial to the local flora and fauna, in Europe as in other regions (e.g. Africa).

2.2 Incentive measures

Incentive measures should influence – whether by providing opportunities or constraints – the actions of groups, organisations and individuals. Such measures might involve a combination of legal and social sanctions or policies. In order to be successful, however, the Conference of the Parties has suggested that any implementation strategy must include stakeholder participation and capacity-building measures. It follows that such measures cannot fully be considered separately, for any well-conceived programme should include all these elements.

The third meeting of the Conference of Parties, in Buenos Aires, 1996 made a number of recommendations concerning designing and implementing incentive measures (UNEP/CBD/COP/3/24), the first of which was that parties should adopt an *institutional* approach, rather than an economic one, in developing such measures. In other words, economic, or indeed legal, incentives should *not* operate independently of other social concerns.

In **Ireland**, the Native Woodland Scheme, introduced by the Forest Service of the Department of Marine and Natural Resources, provides financial support for landowners to protect and enhance existing native woodlands, and to develop new native woodlands, for which economic incentives are available. The revival of various silvicultural practices, skills and knowledges associated with native woodlands in Ireland is regarded as a key element of the scheme. (Ireland, *Thematic Report on Forest Ecosystems*).

In the **United Kingdom**, management agreements for protected areas encourage and often offer incentives for the inclusion of traditional breeds of animals, such as Welsh black cattle, for site management. Incentives are also given to encourage development of traditional expertise such as drystone walling and shepherding (United Kingdom 2002).

In **Romania's** National Report, there is a recognition that traditional harvesting and grazing practices could represent an opportunity to support by sustainable means a large rural community (Romania 1998:10). It is suggested that this could enhance tourism development. Tourist revenue would be an economic incentive to retain or revive traditional practices of sustainable use, or to develop new forms of sustainable use. Although this represents only a statement of intention, it clearly envisages an institutional approach.

Although in **Slovenia** there is no comprehensive programme for the protection of traditional knowledge in local communities, there are instances of the use of traditional knowledge to aid biodiversity conservation. In the Triglav National Park, for example, the *Organic Village Cadrg* project aims to revive traditional methods of cheese production in the area. The project has been awarded the Ford prize for ecology, and its success has encouraged similar projects in the park (Slabe 2002; Slovenia 2003). In 1995, support was provided for traditional mowing in the Triglav National Park. In 1997, subventions were allocated for maintenance of dry grasslands in the karst areas." (Slovenia NR1:31).

Box 7: European Union: LEADER+

LEADER+, the European Union's initiative for rural development, is designed to encourage pilot approaches to integrated rural development in selected local rural areas (typically where there are between 10 000 and 100 000 inhabitants) throughout the EU. It aims to contribute to a more sustainable social, economic and environmental development of rural areas with particular emphasis on four priority themes: use of know how and new technology, making the products and services of rural areas more competitive, improving the quality of life in rural communities, adding value to local products, and making the best use of natural and cultural resources.

"LEADER+ projects may help to protect local knowledge and support local development adapted to specific environmental conditions. Local traditions that use land in a sustainable manner also may be supported through providing increased subsidies to offset any additional effort involved."

Sources: Leguen de Lacroix, 2001; European Community. *Thematic Report on Mountain Ecosystems*

In **Austria**, funding is provided for the use of traditional management practices to control the causes of mountain biodiversity loss, and a number of ongoing programmes based on private contracts aim at the protection of traditional knowledge, such as the conservation of meadow-orchards, and larch-pasture forests (Vogl 2003). In **Poland**, programmes have been initiated to preserve traditional methods of food preparation and of livestock grazing in mountain ecosystems (Poland 2002).

In response to question 6 of the *Thematic Report*, which inquires after "measures to protect the traditional knowledge, innovations and practices of indigenous and local communities for conservation and sustainable use of biological diversity in mountain ecosystems", Austria states that some such measures are in place. Romania's report states that measures have been introduced and are "in advanced stages of development". No further information is given, however.

2.3 Capacity-building measures

"Traditional knowledge of Latvian people and earlier of Baltic tribes is well documented, described, analyzed, maintained in several museums and other collections, and published in books a lot. Traditional knowledge is taught in schools. Many people are engaged in different hobby collectives dealing with maintenance of these knowledge. So these knowledge are considered in Latvia as being in public domain."

Latvia, WIPO/GRTKF/IC/2/5: 75

A range of initiatives and measures which can be broadly described as "capacity-building" are in place throughout Europe. As is the case in relation to other sections of this report, however, evaluation of projects is rarely consistent and often incomplete. What follows is far from an exhaustive survey of existing measures.

2.3.1 Education

In the **United Kingdom**, traditional management practices which have until now been passed down from generation to generation are now taught through courses with Government approved National Occupational Standards, such as those offered by Lantra, the Sector Skills council for the environmental sector (United Kingdom 2002).

Sami Allaskuvla, a higher education college in **Norway**, is piloting the incorporation of traditional knowledge into the school curriculum, drawing on the expertise of local practitioners. They also plan to offer a 3 year course in Sami livelihoods and resource management, but cannot find funding (Burgess 1999).

L'auravetl'an Indigenous Information Center was founded in Moscow in 1996 (L'auravetl'an 1999-2002). The objective is for interns from different isolated communities to get to know each other and establish working contacts for the future. This should help indigenous communities to increase their cooperation in order to assist and support each other, and help them to understand their situation in a more national and global context. The interns also provide invaluable information about their own culture, societies, their regions, and their problems and human rights violations to the **Russian** federal authorities and public and the International Community. That knowledge is the first step to create bonds of mutual understanding which will: diminish conflict potential; help multicultural cooperation within Russian society; enable them to become functional participants in the democracy building process; break the isolation of the indigenous communities and will therefore contribute to their ability to protect their rights; and educate the rest of the world about indigenous peoples of the Russian North, Siberia and Far East.

The Canadian Government has been involved in the establishment of a "virtual University of the Arctic", of relevance to **Greenland**, which will provide distance education in appropriate traditional knowledge, and promote an understanding of sustainable development, cultural diversity and community viability (Greenland Home Rule 2000).

According to a survey conducted by Education International (1999), within the region covered by this report only **Sweden** and **Greenland** provide for indigenous education in the form of "Indigenous schools, classes, faculties or other educational services" available to even a proportion of the indigenous community. Indigenous control of such institutions, however, was said to be limited. The report also

describes an increase from 40% to 60% in the number of teachers in able to teach in Greenlandic (Kalaallisut) since the establishment of Home Rule in 1979 (ibid.)

The government of **Greenland** has undertaken to support the sustainable use of Greenland's natural resources through a continuing campaign which involves close cooperation with businesses and encourages input from both traditional and scientific knowledge. It envisages using the school system to promote principles of sustainable developlement alongside "traditional" and "modern" forms of knowledge (Greenland Home Rule 2002).

2.3.2 International Cooperation

The International Work Group for Indigenous Affairs (IWGIA) evolved from a Russian-based group called "Northern Alert", and the International League on Minorities and Ethnic Groups was founded in Moscow in 1991 (Murashko 1999).

The first **Finnish** National Report (Finland 1997:7.5) expressed the intention that Sami, as well as other organisations representing indigenous peoples, should participate in the international cooperation in which Finland is engaged in pursuance of their commitments to article 8(j).

The Sami Competence centre and Network (GAISA), aims to create awareness, responsibility and initiatives for preserving and developing knowledge through networks of indigenous communities in **Russia** and **Norway**. This is accomplished through encouraging contact and dialogue between generations, developing small businesses and traditional occupations and activities such as micro credit groups, knowledge-sharing activities, and courses (Burgess 1999).

Panels for Indigenous Peoples were involved in the IUCN/WCPA Circumpolar Marine Workshop in late 1999. Key findings of the Workshop included: the need to promote the application of community based resource management and to better integrate local and indigenous peoples in marine management decision-making; and the need to increase communication among the various stakeholders and to integrate traditional knowledge and western science (IUCN 2000)

2.3.3 Research projects and documentation

A substantial number of research and documentation projects have been conducted by universities, government departments, NGOs and other research bodies which, to a greater or lesser extent, focus on traditional biodiversity-related knowledge. The Arctic Council is a high-level forum of the governments of the eight Arctic states (USA, Canada, Denmark/Greenland. Iceland, Norway, Sweden, Finland and Russia) and includes representatives of the Inuit Circumpolar Council, the Sami Council, and the Russian Association of Indigenous Peoples of the North (RAIPON) as permanent participants. In 2004 the Council plans to publish its *Arctic Climate Impact Assessment* (ACIA), a project which has been running since October 2000, towards the development of appropriate strategies for environmental protection and sustainable development. It is felt that this Assessment will be "an effective way of integrating the environmental knowledge of the Arctic's indigenous peoples and involving them as key participants in the project" (Nuttall 2000:30-31).

RAIPON produces its own journal "Indigeous Peoples World Living Arctic" which focuses on the current state of affairs of indigenous people. From January 2001 until the end of 2004, the Nordic Sami Institute, Kautokeino, is conducting a research project entitled *Environment, culture and knowledge: use and management of cultural environments and natural resources in Sami territories*. The project focuses on the methods and means of management, and on understandings and perceptions of landscape and

resources. It aims at developing network-relations and co-operation with related projects nationally and internationally. The Swedish Biodiversity Centre is engaged in gathering information on Swedish and Sami traditional knowledge related to natural resources (Sweden NR 2).

The Centre for Sami Studies at the University of Tromsø, Norway, is carrying out a research project entitled *The challenge of indigenousness: Politics of rights, resources and knowledge.* Themes to be investigated include the development of indigenous politics, comparative studies of indigenousness, poverty and public institutions, and the creation and mediation of knowledge about indigenous groups, alongside comparative studies of land and sea-water use and management of indigenous peoples. The project runs from 2000 to 2004.

Burgess (1999) details several projects designed to document Sami traditional knowledge collected through interviews, namely: "traditional knowledge on natural resources use in the mountain region – Berit Inga, Swedish Mountain and Sami Museum;" "Documentation of traditional Sami knowledge about large carnivores in the Scandinavian mountain area – Olov Sikku, mountain regions research institute" and "Sami customs and Sami legal conceptions – Tom Svensson, University of Oslo."

Ecodata Finnmarksvidda was a programme financed by the Ministry of Environment and the Ministry of Agriculture that ran from 1996 to 2000 to establish a system "for storing, exchanging and presenting environmental information on the Finnmarksvidda." The Municipality of Kautokeino was used as a model municipality in the programme, and the Sami Parliament was represented on the programme's executive committee. (Norway 1997).

Box 8: Rural Poverty Study of the Caucasus Countries, 1997-8

A study has been conducted by the Centre for World Food Studies, Vrije Universiteit Amsterdam (SOW-VU), for the International Fund for Agricultural Development (IFAD), on the consequences of agricultural reform in Armenia, Azerbaijan and Georgia. The study sought to collect data on the current status of private farming activities and identify target groups that IFAD could support.

Not only was the study intended to collect indigenous knowledge of private farming, but indigenous and local knowledge assisted in composing the questionnaire and creating the survey sample for the research. Response to the survey was also improved with the benefit of knowledge of local language, customs and institutions.

Source: http://www.unesco.org/most/bpik24.htm

Many of these projects are still underway, and even those which have been completed cannot be assessed in terms of their efficacy as the dissemination of their findings, and the activities which such findings may enable or encourage, are still in progress. However, provided that the knowledge generated is made available *first and foremost* to the originating communities, and suitable restrictions are placed, where necessary, to protect traditional knowledge, further research must be seen as a priority.

Two studies have recently been published in France, *Intellectual Property Rights and Traditional Knowledge* (Mortureux, 2000) and *The Experience of France concerning traditional ecological knowledge and the implementation of article 8(j)* (Lefebre 2001).

During the development of management plans for protected areas in **Bulgaria**, information about traditional practices has been collected. It is intended that such information be used to devise further incentive measures and awareness-raising (Bulgaria 2001).

A number of research projects on traditional knowledge have been submitted to the government agencies and NGOs in Austria. However (according to Vogl 2003) these have not been supported largely because the respective agencies focus on life sciences, or "due to the fact that simply they do not understand the need to do so". The general picture painted by Vogl of Austria, which can be seen in other countries in Europe, is that traditional knowledge continues to be regarded as irrelevant to the conservation of biological diversity.

2.3.4 Establishment of traditional knowledge registers

The **Swiss** organization *Pro Specie Rara* aims to compile a traditional knowledge register, detailing the knowledge of farmers and breeders of domestic animals. The *Thematic Report* further refers to local initiatives which are attempting to preserve traditional knowledge of plant use in some mountain valleys (Switzerland 2002).

In **Spain**, *Proyecto Etnoflora Ibérica y Macaronésica* is a collaborative project between the Ministry of Environment, The Universities of Granada, Cordoba, Barcelona and Murcia, the Botanical Gardens of Cordoba and Madrid, the Pyrenean Institute of Ecology and the Consejo Superior de Investigaciones Científicas (Spain 2002).

In **Italy**, in cooperation with the Slowfood association, Legambiente is preparing an atlas of typical food products in the Italian National Parks in order to promote the knowledge and the conservation of sustainable local traditions (Italy 2001).

The Faculty of Science and Technology, University of the **Faroe Islands**, as part of the *Information System for Fishing in Faroese Coastal Waters,* has developed a *Traditional Coastal Fishing Database.* It's main objectives are to document part of the traditional knowledge "generated through fishing" in the coastal waters of the Faroes "before it is gone due to increasing dependency of modern technology." This is achieved through building a database of traditional knowledge of fishing, and making it accessible to the new generation of fishermen. The database will include GPS positions and landmarks for traditional fishing locations, and information on tides and seasons which provide for successful fishing. It aims to link the traditional knowledge on each location with "detailed bottom maps" & the tidal information system. Information is to be collected in cooperation with leisure boat organisations, local fishermen and the Fisheries Laboratory of the Faroes (Sleipnir 2002).

Box 9: Flora Celtica

Flora Celtica is an international project co-ordinated by the Royal Botanic Garden Edinburgh, documenting and promoting the knowledge and sustainable use of native plants in the Celtic countries and regions of Europe. The project conducts research into traditional knowledge and contemporary uses of the native flora, both domestic and commercial. To date the focus has primarily been on Scotland. The project leaders at RBGE are Dr William Milliken or Sam Bridgewater.

The results are being published in both scientific and public literature. In addition, the millennium-funded *Flora Celtica - Scotland 2000* project has an ongoing education programme including a roadshow for primary schools and a touring exhibition.

Source: www.rbge.org.uk/rbge/web/science/celtica.jsp

/...

2.3.5 Language programmes to recover and/or maintain local languages

Preservation and invigoration of traditional and regional languages has long been an important issue in Europe. Language movements in Ireland (Gaelic) as well as regions of **United Kingdom** (Gaelic in Northern Ireland and Scotland, Welsh in Wales, Cornish in England, for example), or **Spain** (Galician, Catalan, Basque), have secured education and both written and broadcast media in their respective languages. For the most part, traditional knowledge does not appear to be threatened by language loss. In **Norway**, perpetuation of the Saami language is closely related to maintenance of traditional reindeer herding practices:

"It is estimated that less than 10 per cent of all the Norwegian Sami are employed in reindeer herding. On the whole, however, reindeer herding is a central aspect of Sami society and culture. It is among this section of the population that traditional ways of working and related customs, societal patterns and the Sami language are most active."

Jernsletten 1993

Sami are not bound by a common language, but can rather be distinguished according to three linguistically distinctive regional groupings. The Davvi- or North Sami, in northern Finland, Norway and Sweden, are the largest Sami group. A strong media in their language sees the production of several newspapers, a large number of books and records, and daily radio programmes. Many websites on Sami affairs are available in Sami language versions.

The TerSami, KildinSami and Skolt Sami in **Russia** participate in cultural exchange programmes with Sami in Scandinavia. The language of the TerSami is very little used and there are no educational facilities available. There are a few hours of regular classes for KildinSami and Skolt Sami in schools, but materials are unsatisfactory.

Enare Sami in northeastern **Finland** do not have a separate educational system, but some share educational facilities with neighbouring Sami groups.

In **Finland,** the Sami language is supported through government subsidies. An EU directive on minority and regional languages, ensuring provision their use in schools, the media and dealings with officials as well as in other spheres of life, began to be implemented in 1998 (USDS 2000).

Language programmes, in the context of Europe, may not be such an important component in strategies to conserve traditional knowledge related to biological diversity, given that such knowledge, where it is not institutionalised or nationalised, is overwhelmingly held by groups of practitioners, rather than distinctly "cultural" or "ethnic" groups.

2.4 Repatriation of objects and associated information to communities of origin

Many of the examples in Section 2.3 demonstrate a high level of dissemination of knowledge "back" to practitioners from research organisations and institutions (such as the Royal Botanic Garden, Edinburgh).

The Inari Sami Museum in **Finland** was established by Samii Litto - *Saamelaisten yhdistys ry.* ("The Union of the Sámi") in 1959. It provides support for the scientific study of Sami culture, and for the publication of such research, and cooperates with other Sami museums internationally. One permanent exhibit focuses on the relationship between the Sami and the natural environment (SIIDA 2001).

Slovenia's second National Report refers to projects involving museums, but no detailed information is given. In **Estonia**, museums house "abundant" collections of folklore and fragments of traditional knowledge, although there is little material related to biodiversity, and this has not been extensively studied (Estonia NR2). **Latvian** institutions have expressed a desire to make accessible museum collections of traditional knowledge related to medicinal plants, medical and agricultural methods and devices, but cannot do so without financial assistance (WIPO/GRTKF/IC/2/5:75).

Each of the above examples demonstrates the value of museums as resources for indigenous peoples, awareness of which has shown a marked increase in recent years. Museums can make the information and objects in their collections accessible to the originating communities through exhibitions or through other means. Further dissemination of traditional knowledge, and raising awareness of its value and importance can be an equally important role for museums to play.

Repatriation of *objects,* rather than information, appears to be less frequent, particularly in the context of biodiversity-related traditional knowledge or material culture. Repatriation of museum objects remains a difficult and contentious issue in Europe, as in other regions. Much progress has been made in recent years, and a variety of artefacts have been returned by European museums to originating communities overseas. In the main, however, these repatriations have involved sacred objects, human remains or otherwise sensitive objects (see Simpson 1997).

2.5 Strategic planning for conservation and sustainable use of biological diversity within the context of community development planning

This section reviews the degree to which conservation and development projects have involved traditional and local communities in consultation and planning, making room for wide stakeholder participation and taking full account of the existing traditional knowledge.

According to Larsen (2000:7), the authorities in **Norway**, **Sweden**, **Finland** and **Russia** have "officially only entered into limited formalized co-management agreements with the Sami". The Norwegian Department of Agriculture consults with the Norwegian Sami Reindeer Herders Union on legislative and administrative issues, but as Burgess (1999) points out, there is no guarantee that Sami concerns are taken into account.

Two of the five members of the Reindeer Grazing Convention, established by Sweden and Norway in 1997, represent Sami interests. The Convention has made recommendations on trans-boundary grazing areas which were under negotiation in 2000 (Larsen 2000:7). Larsen also makes reference to the pilot scheme on game management in Kautokeino municipality.

Davies & Jentoft (2001) describe the emergence of a "community- and locality-based approach to fisheries management" which takes account of local concerns and practices in developing management strategies. Government strategies regard fisheries as a common national property, open to exploitation and centrally regulated through a system of quotas and licenses. In contrast, these community-based initiatives emphasise long-term sustainability of both ecology and livelihood. The Sami Parliament claimed in 1990 that the national quota system neglected Sami interests, and was in contravention of international law on minority and indigenous rights. In 1995, a Sami committee proposed a "Sami fisheries zone", a geographical area where the Sami and non-indigenous small-scale fishermen controlled their own fishing for a fixed overall percentage of the Norwegian total allowable catch. So far the government is dubious about the plan, but the Sami are going ahead with small experiments in the limited area of the Tana fjord (Davies and Jentoft 2001). The high level of political organisation and the recourse

to international law seem key causes of the Norwegian government listening to the Sami expression of their rights. The consequence should be that Sami knowledge and expertise is preserved (in use, not just on paper), and there is the potential for non-Sami small-scale fishermen to benefit, even for the ideas to be adopted beyond Norway. However, it should be noted that experimentation is needed to adapt traditional fishing modes into a system that would work in the modern world.

In **Sicily**, development of a sustainable socio-economic model based on natural resources and local traditions has involved an ongoing process of consultation between stakeholders, local public administrations and the private sector (Italy 2001). In **Hungary**, a number of biodiversity programmes have been initiated and implemented by, and on the initiative of, local and regional groups, such as a green corridor in the county of Somogy and a sustainable village in Gömörszõlõs (GEFAJNEP Project, 1998).

In **Slovenia**, agri-environmental measures and initiatives such as the Forest Action Programme seek to implement traditional knowledge (Slovenia 2001). In **Poland**, enfranchisement of local authorities at the *gmina*, *poviat*, *voivodship* and regional levels supports local community development (Poland 2001).

In **Poland**, a collaborative project with France called *Areas, people, products* was initiated to mark and develop local products and services. In three communes from the so-called "Green Lungs" of Poland, historical, economic, social and cultural studies were carried out, and certain high-quality products were selected for development. Successfully marketed products which have emerged from this project include sweet-scented *hierochloe* grass from the Bialowieska Forest, and pickled cucumbers stored in oak barrels in the water of the Narew river. This project has involved local people and local knowledge in integration with a successful economic development programme (Poland 2001:5-6).

Box 10: Problems with the consultation process - Reindeer herding in the Bystrinskiy Region of Kamchatka

The five protected areas in the Kamchatka region of Russia were incorporated into the UNESCO World Heritage system in 1996. In 1997, the UNDP and the Global Ecological Fund (GEF) began developing a strategy for the conservation of biodiversity diversity in Kamchatka, in accordance with the principles of the CBD, and thus with consideration of Article 8(j).

Murashko was commissioned by the project organisers to participate as an ethnographer on the section of the project dealing with indigenous peoples, entitled "*Working out Recommendations on the Conservation of the Experience and Knowledge of Indigenous Peoples and Development of their Potential for Self-Support.* Her tasks were to include the preparation of a report and a set of recommendations after discussion with indigenous representatives. This involved an assessment of contemporary indigenous peoples' problems and concerns, and to devise a strategy to transform this information into projects that conformed with UNDP-GEF requirements.

Based on a tale of the grandfather of one of her colleagues driving reindeer from the north, it was decided that the basis for the development programme in question should be the revival of traditional small-scale reindeer husbandry in the region, which would in turn reduce pressure on fishing and hunting resources.

However, district association leaders did not submit project proposals, or attend meetings, as requested. Thus the report, due in December, did not adequately address their concerns, and many stakeholders thus "came out against the entire UNDEP-GEF project" at the project's Coordination Committee meeting in February 2000.

"The reindeer herders of the Bystrinskiy District and the communities of other districts whose projects were discussed were disconcerted - the representatives of indigenous were trying at the very beginning to undermine their hopes for the implementation of the plans for revival."

Eventually a proposal was made for a project to revive reindeer herding, which would first involve the employment of seven reindeer herders, the purchase of 500 female and 50 male reindeer from the Irkutsk region, and the construction of two field houses for herders. The reindeer would be prepared for riding and harnessing to a sled. Four hundred reindeer would be handed over to the reindeer herders as their property, and herders would begin managing the herd themselves. Once this had been achieved, the administration would employ a new group of herders to learn the skills of "small-scale reindeer herding, environmental protection and tourism".

Murashko was responsible for writing an official review of the projects:

"I felt awkward in front of the reindeer herders, who didn't know what to say after they familiarized themselves with the above-mentioned document. They would say that the reindeer would not survive transportation by aircraft as was planned by the project. The reason is that reindeer would not be tied up which causes their death. Those who would survive would still be doomed, because they could not become adjusted to a new place. The reindeer herders did not bring up the subject of their "learning the skills of small-scale reindeer herding" and subsequent "grazing of the herd on their own"; there is nothing that could be said politely, and reindeer herders are modest people with good manners..."

The review stated that the projects suggested by the Association of Indigenous Peoples would be at least three or four times cheaper, that the construction plans were unfeasible, and that the plans to transport Tofalar reindeer to the area was known by the indigenous people to be unworkable, and, further

"that the projects proposed are permeated with the spirit of paternalism, which is inadmissible in our time, that the projects initiated by the Association of Indigenous Minorities would be executed by themselves more successfully if they themselves were to be held responsible for the execution of those projects."

In the end, at the Coordination Committee meeting, the indigenous peoples won their case, and the Park Administration withdrew their draft projects. [Murashko's account does not say what happened instead.]

Source: Murashko 2000

2.6 Legislative (including policy and administrative) measures

In the context of the Sami, legislation covering a broad range of themes is perhaps the most visible means of protection and promotion of traditional knowledge. The Sami Parliament in **Finland** has emphasized that Sami cultural, material and administrative autonomy should be supported by legislation and administration as well as funding, in terms of the Finnish constitution and international agreements (Finland, National Biodiversity Strategy and Action Plan).

However, in Europe as a whole, *specific* legislation directed towards traditional knowledge has not been implemented or even drafted. Many Parties conceded that no such legislation was in place, and that there were no plans for such legislation in the future. A number of Parties emphasize that, although no specifically targeted legislation has been developed, some legislative provision does deal with traditional knowledge indirectly.

2.6.1 Legislation governing access to genetic resources that also requires the free prior informed consent of affected indigenous and local communities

Portugal (2001) has drafted legislation on the issue of implementation of Article 8(j), in the form of a framework for the registration and protection of traditional knowledge with potential value to agriculture, forestry or landscape conservation. In general, however, legislative provision in this area has not been developed in Europe.

2.6.2 Recognition of customary systems of land tenure

Land rights are often the most important issue for indigenous peoples. Article 14 of ILO 169 – the International Labour Organization's Convention on Indigenous and Tribal Peoples – reads:

"The rights of ownership and possession of the peoples concerned over the lands which they traditionally occupy shall be recognised. In addition, measures shall be taken in appropriate cases to safeguard the right of the peoples concerned to use lands not exclusively occupied by them, but to which they have traditionally had access for their subsistence and traditional activities. Particular attention shall be paid to the situation of nomadic peoples and shifting cultivators in this respect."

The USSR signed ILO Convention 169 in 1989, and since then has taken steps such as convening a Congress of Northern Indigenous Peoples (in March 1990), and drafting several federal laws on the rights of Indigenous people (Murashko 1999). However, we have not found that the **Russian Federation** ever ratified Convention 169, and many draft laws have been rejected by the parliament (*Duma*).

One Russian law, enabling the establishment of "Territories of traditional natural resource use" (*zemli traditsionnogo prirodopol'zovaniia* or ZTPs/TTPs) was passed in 1999, and entered into force in 2001 (Murashko 2001, Wilson 1999). Up to 2001, however, most applications for TTP status were rejected, and two that had been accepted were later annulled (the Noglikskii district and the "ethno-ecological refuge" Tkhsanom in the Koriak autonomous region) (Murashko 2001, Wilson 1999).

Murashko explains that the establishment of TTPs constitutes the only way to protect indigenous people's territorial rights. The choice of site, and the area of ground covered by a TTP must be supported by various proofs of indigenous claims, including

"information on historical, cultural and archeological monuments, sacred sites, ancestors' burial grounds, ancient settlements and so on. Statistical data are also needed about the number of indigenous as well as local population likely to be engaged in traditional subsistence activities on the planned territory"
(Murashko 2001)

To assist indigneous people in making such claims, RAIPON and legal experts at the *Rodnik* Legal Centre have drafted model applications and TTP regulations. As a result of this, another complication has been discovered: a TTP under a local subdivision cannot be established on federal lands. Most indigenous peoples of the Russian north inhabited and were engaged in traditional activities on lands under federal ownership, and most TTPs must therefore be established at the federal level (Murashko 2001).

There is a particularly pressing need for formal land rights in the cases where oil, gas, or mining industries are trying to develop the land, as in this example from Sakhalin Island. As Wilson (1999) describes it, there is as yet no mechanism through which people can claim compensation for the loss of land:

"According to Article 101 of the "Land Code" any land user is bound to carry out any necessary regeneration work on the land when they have finished using it. However, this kind of regeneration work is rarely done, and much of the land around the north-eastern bays is littered with old drilling equipment, pools of oil and rusting pipes. The system of compensation payments for disrupted reindeer pastures has not yet been agreed with the companies working on the Sakhalin I and II projects."

Wilson 1999

Outside of the Russian Federation, the Sami are granted exclusive rights to reindeer husbandry under the terms of the Treaty of Accession of Austria, Finland and Sweden to the European Union, 1994, Protocol No.3 on the Sami People (European Union 1997:10, 2002; Sweden 1997:18).

In Norway, the Reindeer Husbandry Act was revised in 1996 (Norway NR1:33), permitting greater control of resource utilization and giving reindeer owners greater responsibility. Each reindeer husbandry district must formulate a management plan, and a resource tax has been introduced to encourage reindeer owners to keep pressure on shared resources to a minimum.
The Purpose Statement of the Act (section 1(1)) provides that

"land and natural resources in Finnmark shall be used and administered in the best interests of the inhabitants and in particular as a foundation for Sami culture, with industries and social life."

The Sami Law Committee (Bull 2001:225-6) has emphasised that in this regard, reindeer husbandry is thus an important consideration. The Committee also asserts that the Sami Assembly must be able to exercise a veto, for a specific period of time, with regard to any measure which might encroach on the natural environment, such as mineral extraction.

The Reindeer Husbandry Agreement is principally an economic agreement between the state and the reindeer husbandry industry. Since the CBD came into force, the use of policy instruments in the agreement has changed considerably: "To protect the vulnerable winter grazing grounds and prevent overgrazing, current grant schemes encourage an earlier date for the annual slaughter. An upper limit of 600 animals per operating unit has also been introduced. Units with a larger number of animals will lose their production support." (Norway NR1:33).

Reindeer herding rights within the Lapponian area of Sweden are granted to around 250 Sami, with herds of 30- 35,000 reindeer. In the area's seven districts, Sami regulate herd management according to national allowances set by the Board of Agriculture, which also monitors grazing resources (Larsen 2000:7; Lusty 2000:74). In 1994 the government rescinded Sami authority over hunting and fishing activities on Sami lands. Hunting and fishing is now unlimited on all government property (USDS 2001).

2.6.3 Introduction of *sui generis* laws to protect traditional knowledge

While a substantial number of Parties express enthusiasm for the development of *sui generis* systems to protect traditional knowledge, most do not consider such measures to be relevant or appropriate to their own national context. There are no *sui generis* laws in place to protect traditional knowledge in **Norway**, although there is a potential for developing these in the contexts of herbal medicine and agriculture (Norway, WIPO/GRTKF/IC/2/5:82-3). Traditional communities in Norway may register collective trademarks under which to market goods produced by their community, although there are no instances of such collective trademarks being sought. It is illegal under the Marketing Act to market a herbal medicine, for example, as a Sami product when it is not: and imitation must be marketed as an imitation.

In European Community legislation, if traditional knowledge is compiled in a database, or in a performance, then it can be protected under the *sui generis* protection in the legal protection of databases, or under the rights of performers (European Union WIPO/GRTKF/IC/2/5:130).

2.6.4 Constitutional recognition of the rights of indigenous and local communities, with empowerment at the local level to enact various laws that can be used to protect the interests of the community;

The Sami in **Sweden** and **Finland** are covered by the European Framework Convention for the Protection of National Minorities. The Sami in **Norway** *are not covered*: "Saami Parliament in fact recommended that the Saami were not listed as a minority but instead retained their legal status as an indigenous people" (Føllesdal 2001:105). "In 1997 the Government initiated an inquiry into whether the country could ratify ILO Convention 169. The inquiry was published in 1999 and concluded that the country could ratify the convention, but that it should not be ratified until a number of steps relating to Sami land rights are taken. No further steps were taken during the year" (USDS 2001).

Given the history of tension between Sami groups and the state, and the issues over which battles have been fought, there is an evident gulf between what the state (influenced to some extent by the CBD) sees as important and that which is called for by Sami themselves:

"The Saami political demands are simply to have the right to make decisions concerning the issues which affect our lives, culture and our land, as many of the other indigenous peoples around the world have."
Baer 1996:17

In Finland, Norway and Sweden, Sami Parliaments or Assemblies are democratically elected bodies which provide political representation for Sami populations vis-à-vis the state.

In **Finland**, the Sami Parliament cooperates with other the Finnish Ministries of Agriculture and Forestry, Environment, Justice, Trade and Industry, and Labour, as well as the Finnish Forest and Park Service, to co-ordinate the management, use and protection of natural resources in regions inhabited by Sami (Finland 1997).

In **Sweden**, the *Sametinget* has functioned since 1993 as an advisory board to the government (USDS 2001) although there have been clear tensions with the state government (Baer 1996:19).

In **Norway**, the *Sameting*, or Sami Parliament, was established in 1987. "In practice the Sameting has been most interested in protecting the group's language and cultural rights and in influencing decisions on resources and lands where Sami are a majority." (USDS 2001). Since 1997 a Deputy Minister in the Ministry of Local Government and Regional Affairs has dealt specifically with Sami issues.

2.6.5 Establishment of codes of ethics, to be determined by indigenous peoples, to guide conduct of researchers.

In the context of the Sami, Lusty (2000:74) refers to research projects undertaken in *partnership* with Sami groups in Sweden. Burgess (1999), however, points out that, although recent social science research has been carried out into Sami traditional knowledge, "nearly two decades of work of the Norwegian Sami Rights Commission has so far not taken Sami oral testimony regarding land use, traditions, ecological knowledge, renewable resource management, and so on, into account."

Professional and research Codes of Ethics have been adopted by numerous organisations, in particular the International Society for Ethnobiology and the European Association of Social Anthropology, although the extent to which indigenous peoples are officially consulted in drawing up such ethical policies is variable at best.

3. RECOMMENDATIONS

	Recommendations: Europe and Russia	Level			
		CBD	Regional	National	Local
1	**Establish baseline indicators for the state of retention of traditional, local and indigenous knowledge.** The development of baseline indicators for the state of retention of traditional knowledge requires further research than could be achieved in this 12 week study. It is essential to determine indicators based on sources other than the existing literature, actively engaging indigenous and local communities.	X			
2	**Establish baseline indicators to assess the success or failure of measures to promote or preserve traditional knowledge and practices.** Baseline indicators regarding the success or failure of measures to promote or preserve traditional knowledge and practices, could not be determined in this 12 week study. It is essential to determine indicators based on sources other than the existing literature, actively engaging indigenous and local communities.	X			
3	**Take steps to ensure parity between the submissions of indigenous peoples and, for example, Parties through National Focal Points.** The "full and effective participation" of indigenous and local communities has not been attempted in the compilation of this desk study. Ensuring parity of esteem between all stakeholders at this level could encourage this further.	X			
4	**Put in place mechanisms to encourage representatives of indigenous groups and local communities to present information to the CBD.** The aim of an "accurate and comprehensive assessment" of the status and trends regarding the state of traditional knowledge, and methods taken to ensure its promotion or preservation, requires further concrete steps to be taken by the CBD. Participation by indigenous groups *cannot* be achieved simply by issuing invitations: Parties must accept that this involves capacity-building and incentive measures, which require financial outlay and considerable political will.	X			

	Recommendations: Europe and Russia	Level			
		CBD	Regional	National	Local
5	**Working definitions of "indigenous" and "traditional knowledge" must be decided upon as a matter of urgency.** "Traditional" knowledge and practices in Europe are often excluded from national reports because knowledge holders are not considered "indigenous peoples". It is necessary to decide at an early stage what constitutes "traditional knowledge" in the context of Article 8(j).	X			
6	**Develop mechanisms to ensure input from overseas territories and autonomous or semi-autonomous regions.** National Reporting constituted an excellent starting point for assessing the state of retention of traditional ecological knowledge in many countries. However, in a number of important and highly politicised contexts the autonomy of indigenous peoples' regions (Reunion, Greenland) excludes such peoples from this forum.	X			
7	**The CBD should define conditions for traditional knowledge in the context of 8(j) to be considered "in use".** There is an apparent acceptance that traditional knowledge is least threatened when actively "in use" (being of a "practical nature" and transmitted orally). Yet TK can be said to be "in use" by a variety of groups and interests (multinationals, bioprospectors, "indigenous" businesses, or neighbouring indigenous groups), and to a variety of ends (TK holders' economic development, treatment of diseases, conserving biodiversity or tourism). Traditional knowledge which is exploited by "outsiders", without the involvement and subsequent benefit of traditional knowledge holders, is still "in use". When does such "use" cease to be healthy?	X			
8	**Actively involve local communities in the management of protected areas.** Local communities should be actively involved in the management of protected areas in which they live, work or have culturally significant sites. This must go beyond "consultation", failures of which have been referred to in this report.			X	
9	**Incorporate restrictions of use and access to "sacred" or otherwise culturally significant sites into appropriate local or national legislation.** Where appropriate, such legislative action can strengthen and enforce traditional laws and restrictions, and preserve intact the local biodiversity in keeping with local traditions. This should be done only after			X	

	Recommendations: Europe and Russia	Level			
		CBD	Regional	National	Local
	full consultation with local indigenous groups.				
10	**The European Union must formulate a policy which allows for local and cultural distinctiveness in hunting, fishing and agricultural practices, and recognises the unique situation of indigenous peoples within its borders.** European Union regulations now apply to a number of traditional and indigenous communities and professions, such as Saami reindeer herders. These are not always appropriate, and room should be made in the EU's policy on indigenous people for the special situation of such traditional knowledge holders and practitioners.		X		
11	**The European Common Fisheries policy should be fundamentally reassessed in the light of an extensive investigation of local fisheries knowledge on issues such as sea tenure.** Consultation and *cooperation* rather than simple regulation, is required.		X		
12	**National Focal Points should compile information, perhaps as a thematic report to the CBD using a structure report format, on basic information and quantitative indices related to the status of traditional knowledge, and measures taken to protect it, to provide a "thumbnail" sketch of simple trends.** As repeatedly stated in this and other regional reports, the task of arriving at an "accurate and comprehensive assessment" of both the state of retention of, and measures to promote, indigenous, local and traditional knowledge is a significant undertaking, for which the resources have not been available. In the meantime, it would be helpful to have basic quantitative data, e.g. on the number of books/papers translated into indigenous and local languages, or legislation passed and cases which have come to court that have had a *positive or negative impact* on indigenous and traditional knowledge. Collection of such data may point to trends, and assist in garnering political and financial support where this is most lacking.			X	
13	**Appropriate training in indigenous knowledge should be integrated into formal, national systems of education which are directed towards local or indigenous communities.**		X	X	
14	**Offer appropriate technical training to allow indigenous peoples to develop their economies in a way that is compatible with their traditions.** In order to become economically viable, reindeer herders require access to and training on new			X	X

	Recommendations: Europe and Russia	Level			
		CBD	Regional	National	Local
	mechanised technologies. For mechanisation to be successfully integrated into contemporary reindeer husbandry, *without resulting in a loss of traditional knowledge*, technical training must be offered to herders alongside their traditional education.				

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