

# Local Ecological Knowledge and Practice: An Original Approach in France

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# Table of contents

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<b>Foreword</b> .....	<b>5</b>
<b>Introduction</b> .....	<b>7</b>
<b>The revival of the local issue</b> .....	<b>11</b>
Heritage, culture and identity .....	12
<i>Terroir</i> and local ecological knowledge .....	13
Acknowledging indigenouness .....	15
<b>Conservation</b> .....	<b>18</b>
Knowledge, indigenous practices and conservation .....	18
Public and private initiatives .....	21
<b>Value Enhancement</b> .....	<b>25</b>
An early regulatory role .....	25
More informal initiatives .....	28
<b>Conclusion</b> .....	<b>31</b>
<b>Annexe</b> .....	<b>36</b>
Provisional table of contents of the book to be published ..	36
<b>List of acronyms</b> .....	<b>40</b>

The views contained in this document are those of their authors and not necessarily those of the institutions to which the latter belong.

## Foreword

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The conservation, use and value enhancement of local ecological knowledge have become the major strategic challenges facing policies for sustainable development and the protection of biocultural diversity. They are especially important in negotiations on the Convention on Biological Diversity and its article 8(j). The world community's growing interest in this subject is reflected in the high number of case studies and experiments being requested. France's experience in this field provides an original insight into the matter, and IDDRI and the IFB (French Institute for Biodiversity) believe it appropriate to present and discuss this experience in the light of current international debates.

In 2002, Iddri drew up an initial inventory identifying all organizations involved in heritage value enhancement, territorial development and supporting local products. At the same time, the IFB organized a think-tank on access to natural resources and local customs that led to the launching of an appeal for tenders. Between April 2002 and February 2003, working groups met on a regular basis. In September 2003, during a debate meeting, researchers, members of public bodies and associations compared their findings. These were recorded in an Iddri working paper entitled "Taking into Account Knowledge and Know-how about Nature: the French Experiences". This publication was presented in Kuala Lumpur (Malaysia), during an unofficial workshop of the conference of the parties

to the Convention on Biological Diversity (February 2004), with the aim of gaining the attention of international negotiators.

Consequently it became clear that it would be vital for all those involved in local knowledge — international negotiators, scientists, the field of environmental development and protection, whether public or private, French or international — to have access to a work of reference defining the key concepts used in France and describing significant experience.

An editorial committee was set up, including teams from the IRD (Institute for Development Research), the MNHN (National Natural History Museum), the University of Lille 3 (Cersates), and the CIRAD. The committee consulted renowned researchers and experts in the field.

This *Note* is the result of a collective effort and provides a synthesis of the contributions to the work underway (*cf.* provisional table of contents on page 36).



## Introduction

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It was during the Jakarta Conference in 1995 that the parties to the Convention on Biological Diversity (CBD) first decided to include the application of article 8(j) in the agenda for the next meeting, in Buenos Aires in 1996. In the rather heavily worded CBD style, the article states the need to “respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles”, and few of the observers and negotiators imagined at the time the importance that this text would take on in the field of biodiversity. The term ‘local ecological knowledge’ seems the most apt to describe the knowledge, innovations and practices in question, as it opens up the possibilities for theoretical and political debate.

When the treaty was opened for signature in 1992, this issue was considered marginal, and even minor, in comparison with the principal objectives of the convention: conserving biodiversity, ensuring the sustainable use of biological resources and establishing a system for sharing equitably benefits arising from their use. Between Buenos Aires and Kuala Lumpur, where the last conference of the parties was held in 2004, between the workshops in Madrid in 1997, Seville in 2000 and Montreal in 2002, the work carried out under the aegis of the CBD has brought about a significant change in thinking, and raised awareness about the issues introduced in article 8(j). The creation of mechanisms to ensure the application of this article

has become a central theme in negotiations. Perhaps this is because it especially concerns certain communities that have been given a great deal of media coverage, such as the Amerindians or the Australian Aborigines, whose struggle to survive and be recognized has become a strong symbol for the anti-globalization cause. The issues of article 8(j) have unmistakably become a kind of test for measuring the success and progress of the CBD.

To understand the nature of this progress, it is necessary to bear in mind one of the most significant innovations of this convention: it recognizes in the preamble that States have sovereign rights over the various components of their own biodiversity. Because of the considerable economic stakes involved in the use of biological resources, these components are no longer considered as being part of the common heritage of humanity. In terms of governance, the initial determination to manage biodiversity at an international level using a scientific basis (the creation of a network of scientists) and regulations (the definition of taxons and protected zones) is gradually being replaced by a system for coordinating access and exploitation that is based on international equity. We have therefore moved from a collective interest in our common heritage, to a common interest in the management of a whole host of different heritages, all under State responsibility. This State pre-eminence is nevertheless tempered in the aforementioned preamble by the obligation for parties to take into account a category of stakeholders in the conservation of biodiversity: indigenous and local communities.

This reversal has changed the very nature of debates and the content of decisions made. Local knowledge has been reinstated: it is no longer reduced to mere mining predation. Knowledge “embodying traditional lifestyles” is seen as being ‘sustainable’, especially in article 10 of the CBD. The reasoning behind this appears self-evident: belonging to a tradition seems to guarantee a certain antiquity, and if the components of biodiversity are still in existence today, then this is because their use is ‘sustainable’. Human activities are therefore no longer excluded from conservation plans recommended by the CBD, which advocates, for example, on-farm conservation of agricultural biological resources. Decisions grant an important place to humankind, and use an ecosystem approach that includes anthropic factors. Actions relating to international programs are also welcomed, such as the UNESCO Man and Biosphere program, which has been monitoring the activities of resident populations in biosphere reserves since the 1970s.

This rehabilitation of knowledge and know-how related to nature has also been accompanied by a change of status. From

tools for sustainable use and management, they are increasingly considered as objects for conservation, an integral part of the heritage to be protected, in the same way as the other components of biodiversity. They become the subject of demands relating to identity and are found, for example, at the heart of struggles for the recognition of the political and territorial rights of indigenous people. This is seen in the relationship between the indigenous issue and ecological knowledge, a key concern in debates that has grown in importance to the point that the CBD now plays a predominant role in international negotiations concerning the rights of indigenous communities.

Today, the aim is thus to conserve local practices, to control their use and to enhance their value. This implies identifying them in order to draw up an inventory and to set up conservation and monitoring mechanisms. It is also vital to reinforce the rights of the holders of this knowledge by promoting access legislation and contracts for use. In this context it is no surprise that intellectual property rights are thrust to the forefront. Clearly a large part of the negotiations concerns the intangible resources (knowledge) attached to the biological resources exchanged. If we consider that everybody benefits from this exchange, the challenge is to ensure it functions efficiently, in other words that it complies with objectives for conservation and sustainable use, and that it is seen as legitimate by those who practice it.

The work of the CBD on traditional ecological knowledge is far from complete. The process has in fact only just begun. Official declarations insistently call for information to be collected and for a variety of case studies to be carried out. Such is the aim of this *Note*: to offer food for thought to negotiators and in this way help international debates to evolve. With this in mind, experiences in France and the French-speaking world have been gathered and analyzed.

In order to remain open and available, the negotiators have provided no definitions, nor have they limited the meaning and content of the often polysemic and controversial terms at the heart of the debates: tradition and natural heritage, local communities, indigenism, and many more. The first part is made up of opinions and thoughts on these concepts, and on the institutional arrangements that allow local communities and the indigenous issue to be taken into account.

The conservation and development of local ecological knowledge holds an important place in current concerns: these issues are discussed in the second and third parts. The second part puts forward an examination of various inventory and conserva-

tion mechanisms, such as regional parks and conservatories. The third part will assess action carried out in France: development of heritage, territorial development, and support for local industry, among which the geographical indication mechanism plays a key role today.

## The revival of the local issue

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In France, 'local' status has enjoyed varying fortunes throughout time. Since the Revolution, the French model has been based on a unified political body and central planning of the country, affirming the pre-eminence of the capital and the powers located there. The idea of belonging primarily, or even exclusively, to the 'nation' was inculcated from an early age at school. The educational curriculum provided all pupils with common historic and cultural references, regardless of the region in which they lived or their religion. This model was, to a certain extent, exported to the colonies. The fact of belonging to the French Empire, in this case, was to transcend all differences or diversity, which were all treated in a similar way: such societies were considered 'traditional' and their cultures 'primitive', just as the peasantry of mainland France was considered 'archaic'. The assimilation of indigenous populations in colonies also took place in schools, but the administrative regime applied to these populations turned schoolchildren into French subjects, rather than fully-fledged citizens. In this context the notion of indigenes was irrelevant since all groups were indigenous in relation to the single authorized referent and speaker: the colonizer. It was not until the end of the 20<sup>th</sup> century that the recognition of indigenes became an issue once more. Having long been denied in spite of, or perhaps because of, France's colonial past, it was now imposed in opposition to the

doctrine previously enforced; only citizenship could guarantee equality for all before the law, be it at the cost of marginalizing and ignoring the customs of certain of the nation's populations.

It was therefore from the model of a centralized nation state, master of economic and social tools, and of the ability to remodel the country, that profound changes and new awareness were to arise. As part of a movement called 'return to the local', with associated concepts such as 'community' and 'tradition' (previously linked to archaisms and opposition to progress), arguments for development, value enhancement and promotion encouraged local action and the appearance of new stakeholders. The local issue was henceforth seen as a renewed framework capable of mobilizing skills and creating a sense of belonging.

The concept of heritage was restored, or perhaps even reinvented. With its many meanings, the notion of *terroir* became one of the principal tools in restoring local agricultural knowledge at a time when practices were being standardized as activities fell victim to economic constraints. Distinguishing itself from the agricultural strategies previously favored, this new approach was part of the wider trend for reviving the importance of location and of the relationships between local communities and their environment.

*Terroir*, heritage and indigenusness are concepts that are currently key issues in discussions and mechanisms for recognizing and protecting local culture, especially knowledge relating to biological diversity.

## **Heritage, culture and identity**

From the 1960s onwards, a true change in the perception and treatment of local cultural specificities began to take shape, coinciding with the process of decolonization (although there is no implicit relationship of cause and effect). France began modifying its notion of culture to accept cultural differences, and thereby rediscovered the local issue. Social sciences began to take an interest in the subject and this new awareness was accompanied from the 1980s on by a revision of the meaning of heritage. This key concept was henceforth applied equally to natural objects (animals, plants and landscapes) and to cultural objects, whether tangible (buildings or tools, for example) or intangible (knowledge, forms of expression and communication, etc.). Over the following decades the range of heritage components gradually formed the basis of policies aiming to identify

these resources and to plan and organize their protection and conservation. The task involved classifying sites, objects, practices and traditions in order to pass them on.

This evolution came at a time of rapid destructuring, in all areas of French society, of local economic tissue, professions — and corresponding social categories and identities — that had been maintained, after a fashion, during the *Trente Glorieuses* (from 1945 to 1975). Heritage was seen as a solution to the crisis and illustrated the move from a productive use of goods to a cultural use.

Various structures were set up to institutionalize this movement: the *Mission du patrimoine ethnologique* (Mission for Ethnological Diversity), created in the early 1980s within the Ministry of Culture, developed initiatives for collecting, protecting and analyzing local heritage. Local and regional museums, ecological museums, and various other spontaneous organizations for heritage protection all contributed to reviving local culture. National parks and regional nature parks inventoried, conserved, restored and enhanced the value of natural heritage.

The trend for reviving heritage was increasingly extended to intangible elements, and especially to local technical and ecological knowledge. Specialist debates on the concepts of tradition, identity and heritage led to a new and more open approach to museology. By showing to advantage technical systems, and social systems linked to a particular trade or environment, and by combining educational activities and research, these structures created jobs and encouraged new tourist flows. These initiatives became a resource that the newly created regions took back under their control. Some private companies even used them to develop their organizational culture and image. Cultural heritage thereby became a tool for promoting and developing regions by revitalizing activities that were in danger of disappearing.

## ***Terroir* and local ecological knowledge**

In France, an idiomatic expression is used to characterize the relationship between a local rural community and the natural environment it uses, and this is the idea of *terroir*. This is an old French term that is difficult to translate into other languages, and has experienced various semantic changes over time depending on the circumstances in which it was used. It has always been an important concept from different viewpoints; its

recent path reflects the move from an almost exclusively naturalist usage to one that has gradually come to include the social and cultural dimensions of places and products. The word has various senses and continues to be used to mean different things, depending on the person using it (farmers, environmentalists, tradespeople, etc.) and on its interpretation by the different scientific disciplines (earth and life sciences, agronomy, ethnology, geography, etc.). In certain cases it refers to a specific rural space possessing distinctive physical characteristics. But these specific characteristics, which were initially considered almost exclusively as the result of agro-ecological conditions, are now increasingly seen not as a natural occurrence, but as the product of the interaction between a human community and the place in which it lives. This relationship results in a tangible and visible outcome: food or agricultural products and the landscapes associated with these goods (such as a vineyard or a chestnut grove).

Seen in this light, the rural space did not exist in its current form before the arrival of its inhabitants; on the contrary, it is considered as being the product of an 'invention', to use the phrase coined by certain anthropologists. This invention consists of the symbolic and practical recognition of the spatial limits and intrinsic properties, and the simultaneous socialization (which some call domestication) of the site, which henceforth becomes a *terroir*. The natural resources concerned are no longer inherited, but selected; knowledge applied to these resources is not simply passed on, but constructed and renewed; areas are assigned to particular uses and access to production resources is governed by institutions and, more broadly speaking, by the social organization of the group.

The concept of *terroir* has also been approached from a planning and development point of view. As early as 1963, the pioneering work of geographers studying African and Madagascan farming practices described the agrarian landscape as a system associating a community with specific knowledge and products. In this sense, the *terroir* became an area of land that was claimed and planned by the group who lived there and used it for their survival. This notion was originally introduced to counter the widespread belief amongst agronomists at the time that the only existing agricultural systems in Africa were slash-and-burn programs. The aim was to show that African farmers also had roots and that their production areas were planned. In this context, the idea of *terroir* is explicitly used as a tool for the revival of local practices and knowledge.

For almost thirty years, the work of an entire generation of French, African and Madagascan researchers proved the rele-



vance of knowledge and farming production strategies, and also the validity of the method, using cartographical surveys and figures to support their findings. This approach has been continuously improved and is still used today to prepare and evaluate agricultural development initiatives implemented by French aid agencies in Africa. It existed long before participative studies and other community-based projects currently backed by international sponsors.

This meaning of *terroir* is closely akin to the understanding that emerged in France following the broader work of geographers, ethnologists and agronomists on local production systems. The *terroir* becomes a spatial and ecological unit of action and management, associating stakeholders, their history, and their social organizations and activities, especially farming practices. It therefore refers to an area of rural space where people attempt to resolve the problem of developing the land and creating specific products using renewable resources. Establishing social organization in order to carry out projects depends on their perception of this concept. When a human group develops its own technical culture throughout its lands, the relatively short production time gradually joins the longer period of heritage, where natural and cultural elements become intermingled. By laying down roots in the area in this way, this group becomes a local society.

Today the term *terroir* has even become part of everyday language in French society. Consumers use the word to refer to products they immediately associate with the idea of a geographical origin, a quality or a taste considered as being authentic or traditional.

In fact, the concept of *terroir* (like that of heritage) cannot be understood outside of its field of application, the people concerned, and the circumstances of its development and successive adjustments. Polysemic and evolutionary, these two concepts have been exploited during the execution of regional cultural policies and local development programs. Perhaps they will later contribute to the design and implementation of sustainable development strategies.

## **Acknowledging indigenoussness**

If the issue of acknowledging and valuing local communities appears to be more or less resolved, in a Republic that has absorbed the past tensions between a policy of standardization

and local identities, the recognition of indigenusness remains a problem. This acknowledgement can result in the creation of collective rights applying to specific groups (indigenous communities), thereby calling into question the principle of equality. The dilemma facing the French State with regard to indigenusness ties in with the traditional dilemma of politically managing multiculturalism within the rule of law: the need to simultaneously guarantee equality for all citizens before the law and the right of individuals and groups to difference.

However, despite popular belief, the French Republic has recently recognized the existence of indigenous communities in its overseas territories, such as the Kanaks of New Caledonia and the Kalinas of French Guyana. This acknowledgement of indigenusness (dating back to 1998) marks an evolution in the French doctrine. It is the result of a set of circumstances within France – the resolution of a political crisis linked to the demand for independence by New Caledonia’s indigenous Kanak population – and an international movement for the recognition of minority populations and the definition of their rights.

In addition to these circumstances, it is worth remembering that the French Republic has an older tradition of managing differences and communities, part of its colonial policy. It particularly stems from the regime applied to indigenous populations in colonies (repealed in 1946), which organized the subjection of the populations of the Empire. The abolition of this regime marked an important step in the emancipation of colonized populations and their access to citizenship. But it did not entirely erase the recognition of specific local character by French law, in spite of a Jacobinic rhetoric. In fact in several overseas communities (Mayotte, New Caledonia, Wallis and Futuna), French law strove to develop legal pluralism, combining a specific or customary legal status with the rules of common law.

The acknowledgement of indigenusness also has a political dimension that French lawmakers cannot ignore, especially from the point of view of recognizing and enhancing the value of ecological knowledge. This dimension is inherent in the definition of an indigenous community as “a population having former occupation of a given territory in relation to the population currently dominant in this territory (politically, economically, socially and culturally)”. What this definition fails to mention is that the concept only applies to overseas territories and that the situation of domination there, as in other parts of the world, is the result of a settlement colonization. Demanding rights (such as the right of access to resources, and to intellectual property) is thus inextricably linked with the numerous

initiatives for acknowledging indigenous minorities. It is therefore important to consider the demands of indigenous communities in the light of the political context in which they are made.

From this point of view, French experience in terms of the recognition of the role of local and indigenous communities is relatively innovative. It acknowledges calls for restoring the rights of minority communities while ensuring that principles of exclusion are limited. The organic law of 19 March 1999 resulting from the New Caledonia Agreements established a customary status for the Kanak communities, while maintaining all principles of citizenship.

Finally, contrary to other countries in the same situation, France does not have specific laws on the rights of indigenous communities to their intellectual property. Nevertheless, French law is not entirely without tools, since current legal measures allow the State to guarantee the recognition and protection of indigenous communities' rights to their intellectual property, including ecological knowledge.

# Conservation

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Conserving biological resources is nothing new: it is in fact one of the basic principles of domestication. The difference today is the new approach we have to conservation, where local knowledge and practices are being reintroduced into initiatives undertaken. Conservation is no longer the concern of specialists alone; but is beginning to interest a wide range of stakeholders at many different levels. Furthermore, the current trend for assigning heritage value to local resources highlights the interaction between the conservation and value enhancement of indigenous knowledge and practices.

## **Knowledge, indigenous practices and conservation**

Conservation is an issue in itself, but integrating this conservation with local knowledge and practices is a different matter entirely. In fact a whole host of projects exist for the conservation of both flora and fauna, with a wide range of different goals: obtaining reserves of genes for potential improvement or selection; informing, demonstrating and explaining; or implementing local development and value enhancement strategies. The issues at stake and the methods and techniques used differ greatly depending on the focus of the program — animals,

plants, micro-organisms or ecosystems — and will be just as influential as the actual objectives in the importance attached to the cultural dimensions.

This integration of local knowledge with conservation strategies works very well for certain kinds of resources, one example being fruit trees, such as apple trees. The interest of the public and the media in the trend for conservatory orchards is showing no signs of diminishing. This interest is, however, far less evident where animal species are concerned, and almost non-existent for micro-organisms, whose conservation is nonetheless tied to local knowledge. This is perhaps due to the technical requirements for such work: who has both the knowledge and the ability to conserve animals and microbes?

Specialized conservation is usually left to scientists, being more difficult to demonstrate and therefore far less accessible and popular. However, an increasing number of projects are striving to combine accuracy, visibility and local development, and in this context it becomes possible to reinstate local knowledge and practices.

The association between biodiversity conservation and local knowledge is particularly fruitful in the production of local agricultural food specialties, or *produits de terroir*, of animal, plant and microbial origin. Processed specialties such as cooked meats, cheese, drinks and fermented products in general, are the result of biological processes, and their production relies on various human interventions, such as cultivating, breeding, and fermenting. Technical knowledge and practices influence their underlying biological diversity. Other factors of varying importance also have a role to play in this process: food habits and organoleptic preferences, local customs, memory (individual, collective, oral or written), symbolism, social organization, the perception of time (cyclical, long-term or short-term), land management and exploitation, political and economic parameters, and communications infrastructure.

In addition to the goods produced, production systems of this kind also focus, combine and regulate some, or all, of these human and natural elements. They help to organize the way in which the association of biological and cultural factors functions. Some are supported by complex structures that maintain biological diversity on different levels, from whole landscapes, to local varieties or species, right down to microbial ecosystems. There are many examples to illustrate this concept, including orchard meadows in western France, fish farming in the ponds of the Dombes region, chestnut groves in the Ardèche, or Abondance cheese from the Alps.

Before tackling conservation and especially value enhancement strategies, it is first necessary to identify, inventory, describe and document. This implies establishing contacts and researching knowledge and know-how, breeding and farming techniques, their associated customs, and of course the terms used to describe them.

Next it is important to define the method of conservation; which option is best, *in situ*, *ex situ*, or a combination of the two? *Ex situ* conservation (away from the natural and cultural environment) is used for plants in botanical gardens and conservatories, and public or private collections. This form of conservation can also be used 'professionally', for selection and improvement purposes and its continuity may therefore depend on the duration of the programs. In general, this kind of conservation leaves little room for specific knowledge and practices, and where it does, they will only be recorded as part of the description of the plant. There are however certain cases where this know-how can be 'encapsulated' in the living material, such as in collections of ornamental plants (dahlias, roses and cannas, etc.), which are the products of unique knowledge in terms of selection and improvement. The national cryobank makes it possible to conserve animals *ex situ*, but the weight given to local knowledge is once again problematic here, as is the case with microbiological strains collections.

*In situ* conservation is more favorable to conserving indigenous knowledge, given that it implies activating or reactivating these practices and skills in order to maintain the resource. Within the current climate of assigning heritage value to resources, protecting geographical indications, and reviving plant and animal products, the future of the biological resources involved in local industry depends on their conservation in their natural environment.

This type of conservation becomes indispensable when the aim is to conserve the system and the way in which it functions, and therefore the knowledge and practices used. Traditional orchard meadows of hardy trees are an example of this, as are bocage landscapes (farmland criss-crossed by hedges and trees), agroforestry systems (such as chestnut groves), agropastoral systems with mountain pastures, or fish farming in wetlands. They not only produce produits de *terroir*, but also perform a range of different roles, such as providing shelter for endangered species, sustaining a variety of flora and fauna, landscaping, and many more, illustrating the as yet underdeveloped concept of induced, indirect or derived biocultural diversity.

If supported by specific know-how, the original genetic material involved in plant and animal production systems can

contribute to local development strategies and projects for diversifying agricultural production. This is a particularly interesting prospect at a time of cuts in State subsidies for conservation programs for indigenous species and varieties.

## Public and private initiatives

Since the 19<sup>th</sup> century, many naturalists and agronomists have taken a keen interest in the issue of conserving biological resources, but it was not until the 1980s that headway was truly made in the understanding of the value of this conservation. However, the concept of biodiversity was not yet on the agenda; talk at the time was of genetic resources. A report submitted to the Minister for Agriculture by Vissac and Cassini highlighted the importance of the national gene pool and the role of France in this field. This concept has clearly been successful, judging by the number of people involved, whether in public organizations or in foundations and associations, in local or national politics. The *Bureau des ressources génétiques* (Genetic Resources Board) was established in 1983 and continues to play a key role today. The *Institut national de la recherche agronomique* (National Institute for Agricultural Research), the *Institut de l'élevage* and other technical institutes — for pig, horse and poultry farming (with particular emphasis on less common breeds) — all work towards the conservation of local animal species.

At the same time, protected zones, such as the 44 French regional nature parks and the seven national parks are becoming bases for research and experimentation, true outdoor laboratories. Despite their different statuses, they are often motivated by similar goals, especially the conservation, restoration and management of heritage, including living and agri-cultural. As early as 1976, the Normandy-Maine Regional Nature Park set up a program for inventorying and conserving apple and pear trees used for cider and perry products, with particular emphasis on local knowledge. The range of varieties is seen in their cultural component: the local knowledge and know-how surrounding these trees, the ways in which they are used and the names of the varieties. The program took place within the framework of the ethnobotanical laboratory of the French National Natural History Museum, and was valuable in demonstrating that knowledge and practices cannot be dissociated from the plant material itself, whether during the identification process or when trying to understand its cultural dimension. Several years later, an 'inter-park' program on local varieties of

fruit trees illustrated the importance of joining forces on projects and implementing collective measures. In the Cévennes National Park, experiments currently underway show how conservation can fit in with a framework of human land management and exploitation activities (agro-pastoral systems, forestry, hunting, fishing or tourism).

Plant conservatories, especially those growing fruit trees, are another key player in this field, and have recently grown significantly in number. Many different kinds exist, ranging from official, national conservatories, to small ventures owned by local associations, and they do not all attach the same importance to local knowledge.

The eight National Botanical Conservatories in France cover the whole country, except for the south-west and a small part of the east. They fall under the responsibility of the Ministry of the Environment and make up the *Fédération des conservatoires botaniques nationaux* (the Federation of National Botanical Conservatories). Their main purpose is to protect wild flora, but some also house collections of cultivated plants considered as having heritage value, such as the horticultural collections in Nancy, or the fig trees in Porquerolles. They work in association with botanical gardens, national parks, research centers and associations.

The vocation of the 21 *Conservatoires d'espaces naturels* (Natural Reserve Conservatories) is to understand, protect, manage and enhance the value of sites where the heritage dimension (of which local knowledge and practices are a vital part) converges with biodiversity. From a slightly different angle, the *Conservatoire du littoral* (Coastal Protection Agency), a public organization created in 1975, conducts land-use policies for the protection of threatened natural coastal and lakeside areas.

At a regional level, local authorities also contribute to the work of specialized organizations. The *Centre régional de ressources génétiques Nord-Pas-de-Calais* (Nord-Pas-de-Calais Regional Center for Genetic Resources), created in 1985 within the *espace naturel régional*, aims to provide a long-term guarantee for the biodiversity of the region's domestic species (both animal and plant). In South-West France, the *Conservatoire végétal régional d'Aquitaine* (Aquitaine Regional Plant Conservatory), which specializes in plant varieties, aims to protect and develop local heritage, especially that concerned with fruit growing, by means of inventories, documentation, planting, and experiments (for example research on hardiness, parasites, and flavor, etc.). Various similar organizations are involved in animal conservation: in the same region, the *Conservatoire des races d'Aquitaine* (Conservatory for Aquitaine



Breeds), and further north in Pays de Loire the *Conservatoire des races animales* (Conservatory for Animal Breeds), the *Conservatoire des ressources génétiques* (Conservatory for Genetic Resources) in the mid-west Atlantic region, and the *Conservatoire normand* (Normandy Conservatory). The *Conservatoire du patrimoine biologique régional de Midi-Pyrénées* (Midi-Pyrenees Conservatory for Regional Biological Heritage) states that it is “more than just a museum collection or a gene pool”, in the words of the director. Most of these are good examples of projects that combine conservation, knowledge, practices and biodiversity.

Non-profit associations also contribute significantly to this conservation. The *Croqueurs de pommes* (Apple Munchers) Association set the tone in the 1980s, followed by such a range of different initiatives that it is now difficult to put a figure to the number of conservatory orchards in existence. Associations are very active in the field and sometimes have difficulty maintaining relations with the institutions. They rely heavily on the ideas and energy of the volunteers who make up their ranks, and often criticize the lack of assistance they receive. The importance of combining efforts and creating links between ‘official’ organizations and non-profit associations has thus become evident. The *Association française pour la conservation des espèces végétales* (French Association for the Conservation of Plant Varieties) was set up in 1983 as a meeting place for all those concerned by the future of plant biodiversity.

From a wider approach of understanding plants and their uses, the ethnobotanical gardens in Salagon combine cultural heritage and botanical conservation. Their objective is to explain the relationships between plants and humankind throughout space and time, with particular emphasis on oral traditions and local knowledge of flora and its interpretation. This form of conservation proves beneficial to biodiversity by providing media coverage.

Finally, local knowledge is beginning to be seen in mechanisms for managing nature. The 1990s saw the first attempt in agricultural France to recognize less intensive forms of production that play a part in conserving nature, with the introduction of agri-environmental measures, then the Natura 2000 program. Today, the example of *orientations régionales de gestion de la faune sauvage et des habitats* (Regional Schemes for the Management of Wild Fauna and Habitats) shows that it is possible to exchange ideas about the different forms of local knowledge, and thereby benefit mutually from them.

The concept of sustainable development has returned technical practices and local knowledge to the forefront and has raised

awareness of new issues, such as preserving resources by means of their management. Conservation is therefore vital not only to safeguard genes, but also to develop subsequent value enhancement projects. Many initiatives are currently underway demonstrating that these two roles can coexist and complement each other in the conservation of flora and fauna – domestic or not – and ecosystems of all kinds, including microbial ecosystems.

# Value Enhancement

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In France, enhancing the value of local ecological knowledge often depends on similarly enhancing that of agriculture and food production. Protecting geographical origins, which currently applies only to this sector, is a vital part of this process because of its repercussions and the issues it raises.

## **An early regulatory role**

At the beginning of the 20<sup>th</sup> century, French lawmakers first acknowledged the use of a geographical name to identify a product with strong ties to a particular *terroir* (or rural area) and to specific knowledge, and thus protect it from unauthorized imitations. The concept of *appellation d'origine contrôlée*, AOC (registered designation of origin), underpins this regulation and has been gradually developed over time, though the road has not always been easy. Numerous amendments have been made in order to strengthen the legislation. The decree of 1935, which created a committee that was to become, in 1947, the *Institut national des appellations d'origine*, INAO (National Institute for Designations of Origin), provided the foundations for registered designations of origin. At first, it only applied to the wine industry, but the law of 2 July 1990 extended its scope to cover the whole of the agri-food sector according to the same rules.

The concept of AOCs was again altered and extended by the Council of the European Communities. By opening up national borders, the single market created a threat to recognized quality products, and to the specialties of each country in general. In 1992 the Council therefore adopted two regulations, the first relating to the protection of geographical indications and designations of origin, and the second to certificates of specific character for agricultural products and foodstuffs. These regulations establish and protect the relationship between a product and a place in the first case, and between a product and a tradition in the second.

The official protection of geographical origins using registered designations of origin or protected geographical indications is a way of enhancing the cultural value of a product. In fact, having strong ties with its geographical origin implies a product has a certain authenticity, and this in turn will lead consumers, over time, to expect a unique product, whose price reflects its originality.

These protection strategies also help to structure the sector in question: they encourage local producers, who tend to work alone, to pool their resources. Individuals, who in the past paid little heed to one another, learn to cooperate on common projects. The economic success of the project will depend first and foremost on the quality of this collective process, even if it is nonetheless necessary to reinforce the initiative with suitable accompanying measures

Should producers decide to apply for protection, they must first draw up precise product specifications, recording in detail the different production processes. Itemizing practices, associated knowledge and definitions reveals the many difficulties inherent in codifying local technical culture owing to the level of diversity, the status of local knowledge, the evolution of tradition and the importance of indigenous species and varieties. The approach to this problem differs depending on the product involved, and raises issues specific to each case.

Salt producers on the Ile de Ré have opted for a protected geographical indication, and come up against the definition of their product given by Europe. Sheep farmers in the salt meadows have to contend with a unique natural environment: they assess grazing capacity and work together to manage land-use in the area. *Piment d'Espelette* (chili pepper) producers select, sort, preserve and manage their local pepper variety.

*Poiré Domfront*, which has been protected by a designation of origin since 2002, is a drink made from pears grown primarily in orchard meadows also used for cattle breeding (a common farming system in Normandy). The AOC mentions the local vari-

eties used, especially the *Plant de blanc* variety, and the methods of cultivation: standard trees of relatively low density on a full-grass surface. Recognizing these criteria, which correspond to local practices for managing orchards of hardy trees, introduces a landscape dimension into cider making and contributes to conserving local knowledge.

Geographical indications guarantee a return on investment in the region where production takes place. They therefore provide a useful tool, particularly in marginal regions that are under significant constraints, regions that are unable to support their activities and populations without a dynamic agricultural sector. This can only be achieved by means of producing high value-added products and retaining a large part of this value in the region in question.

The comparative study of Comté and Emmental cheeses, both traditionally produced in the Franche-Comté region using similar techniques, reveals a divergence in the evolution of the two forms of production due to the protection of designation. Emmental does not have a protected designation of origin, and has migrated to the west of France where production costs are lower due to a more favorable climate and landscape. Since 1986, the amount of Emmental produced in Franche-Comté has fallen from 50,000 to 30,000 tons, whereas the amount of Comté produced, a cheese strongly tied to its region by a dynamic AOC, has increased by the same proportion.

Despite the different situations and potential inadequacies or even misuses of this protection, it is important to highlight the original way in which geographical indications work. These indications define products belonging collectively to those who have created them (and consequently own them), and thereby provide them with protection. It is essential that the holders of this diverse knowledge, which has been constantly reinterpreted and revised over the generations, continue to discuss and reflect on the issues at stake.

Inspection mechanisms also raise a number of questions. They are at the center of a debate fraught with consequences owing to the status granted to biocultural diversity. Within the French AOC system, inspections are the responsibility of the local union for the product concerned, which approves producers and products, under the authority of the INAO. Talks are currently underway regarding the possibility of using an independent certifying body. This is already the case for the management of quality labels (such as French Red Labels or certification of conformity) that are necessarily associated with protected geographical indications. Requiring expensive technical stan-

andardization, this kind of inspection disrupts the process and jeopardizes concern for the cultural dimension.

Moreover, the cost and organization involved constitute the major difficulty in transferring geographical indication procedures to non-European countries, especially developing countries. Standardizing local knowledge requires a whole array of technical and institutional measures: a body governing registered designations of origin and protected geographical indications, continuous union activity, scientific and technical expertise, research programs, and assistance from regional authorities. These actions must be backed up both financially and statutorily by national and European policies. But countries that have been worn down by years of structural adjustment do not tend to dispose of such institutional and financial resources.

### **More informal initiatives**

In addition to formal measures for protecting geographical origins, initiatives at different institutional levels have also helped to enhance the value of local products. Actions undertaken are the work of operators from a range of different backgrounds, usually in the public sector (the Ministries of Agriculture, Tourism and the Environment). They fall within the framework of coordinated action, without being truly formalized. In 1993, the Ministries of Agriculture and the Environment carried out a joint operation called *'Paysages de Reconquête'* (Recovered Landscapes). It made a list of 100 sites that were then given a label, which was attributed to those landscapes "based on local cultures or specificities tied to the work of humankind and the history of the locality", and thereby closely associating a product with a landscape.

From a similar approach, the *Conseil national des arts culinaires* (National Council for Culinary Arts), an interdepartmental body that no longer exists, drew up a list of Exceptional Taste Sites. These sites, which must be open to the public, were selected according to a list of criteria associating a product of culinary heritage with knowledge, exceptional architecture, a historic site and a landscape. The product is considered as a whole: it reflects a production system that becomes a form of heritage. This process is closely linked to tourism, and has begun to bear fruit from an economic point of view.

The Inventories of French Culinary Heritage, again the work of the *Conseil national des arts culinaires*, cover all aspects of the

food industry. They were drawn up between 1990 and 2000 within the various regions, which financed them as part of a national program. They were to lead to the revival of certain products; such was the promise of the Ministry of Agriculture, which took part in the initiative along with the Ministry of Culture. The intention was to bear witness to the diversity of products, and researchers therefore examined historic depth, location, renown and local knowledge to determine the products that formed the identity of a given region. The initiative was accompanied by the publication of a book on every region researched, and being listed in this inventory made it easier for producers to submit an application for protection.

The Slow Food Foundation, present in 80 countries including France, has compiled its own list, called ‘The Ark of Taste’, according to criteria that differ slightly from those just described. To make it into the Ark, products must be considered to be at risk, tied to a specific region, produced on a small scale, and made from indigenous organic resources or products introduced a long time ago. Some of these will become Slow Food flagship products and thereby benefit from intensive promotion and the infrastructure of this powerful Italian foundation.

The Nature Parks of France launched the brand name ‘*Parc naturel régional*’ (Regional Nature Park) in 1997. It is a registered trademark belonging to the Ministry of the Environment. According to the regulations, parks have the right to use the brand name to identify their own events, products and services. It may also be used for products, services and events tied to any economic activity in the region surrounding the park, providing it complies with measures for protecting and developing heritage, and for receiving and informing the public. To legally mention the brand name, a product or service must possess the four essential qualities associated with the parks: they must be regional, natural, authentic and small-scale. Because of the importance attached to these values, the brand name raises awareness about initiatives for protecting landscapes and biodiversity, and for enhancing the value of natural resources and local knowledge.

In France the increase in cultural value of local products is closely linked to the heritage value assigned to these products. Heritage is a very popular issue at the moment and its attribution to local products raises interesting questions relating to the fact that agricultural products are by nature living, and to what this implies in terms of management. Heritage status is granted or refused depending on factors relating to society and the way in which it functions: just because something is traditional does

not automatically make it heritage. Identity plays an active role in the process of assigning heritage value, i.e. the construction of heritage by society, a process involving local products and a key element in defining their character. Most of these products call for a heritage dimension, which various actors, and especially producers themselves, are in the process of building. This action helps to structure the link between time, humankind and the land. It contributes to the creation of the collective representations of society. Rural products are part of this social construction process and constitute 'active' heritage, which is still being shaped. Furthermore, and more importantly, they reflect a certain ability to look collectively to the future.

Nevertheless, it must not be forgotten that the conservation of rural products ultimately depends on a group of key stakeholders: consumers. Whether connoisseurs or simply curious to try out new tastes and sensations, consumers do not limit themselves to blindly accepting products offered, but attempt to play an active role in conserving diversity by becoming determinedly involved in the demand.



## Conclusion

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Within the field of biodiversity conservation and, more broadly speaking, of sustainable development, local status has become a key issue when making policies for developing protected areas, using market instruments or creating institutions for decentralized management. However, local governance is struggling to begin work due to the lack of any clearly formed understanding, of proven tools and of frameworks for reference and comparison.

Giving greater importance to local status is an issue very much on the agenda for international institutions, such as the Convention on Biological Diversity, the World Intellectual Property Organization, and the Food and Agriculture Organization of the United Nations, which all tackle the issue from different angles: by recognizing and representing local and indigenous statuses, and by creating legal tools for intellectual property rights that are adapted to collective traditions and knowledge, etc. The purpose of this *Note* is to contribute to international debates by presenting some French measures used to manage local ecological knowledge and know-how, analyzing their results and highlighting their strengths and weaknesses.

Two concepts form the basis of the French approach to the local issue, and have an important part in discussions and measures for recognizing and protecting local forms of culture: *terroir* and heritage. The notion of *terroir* serves especially to revive agri-

cultural know-how and to acknowledge the relationships between local communities and their environment. Components of nature and the knowledge associated with them have become increasingly affected by the vast movement of assigning heritage value that has been taking place in France since the Second World War. This trend raises a number of issues: not everything that is traditional is heritage, and not all elements of nature, and particularly of biodiversity, will necessarily be chosen. Furthermore, local procedures for assigning heritage value often give greater weight to social and cultural arguments than to the demands of conserving living things. The acknowledgement of indigenosity in the specific context of French overseas departments and territories has added new dimensions to these concepts, namely politics and identity, making them more suited to the diverse regions to which they apply (such as South America for French Guyana, Oceania and the Pacific for New Caledonia) than to the issues of mainland France.

Where biological resources are concerned, one of the major characteristics of the French system is the importance given to national mechanisms for *ex situ* conservation, i.e. away from the natural and cultural environment. Collections, botanical gardens and institutional conservation initiatives are often organized at a regional level. Similarly, yet often without any true coordination, the number of collections belonging to private organizations and associations is on the increase. Many of them struggle to manage the knowledge and practices associated with the resources conserved, and this knowledge is often reduced to a mere recording. Furthermore (and usually with no direct relation to collections of genetic resources), local and regional museums, ecological museums and a number of associations and local authorities have implemented initiatives for protecting heritage, while striving to avoid the danger of folklorization.

*In situ* conservation, i.e. where the link with the original environment is not broken, or combining *ex situ* and *in situ* measures, though more favorable to local ecological knowledge, is not yet very widespread in France. This form of conservation is based on the understanding that local knowledge is necessary to maintain the resources in question, and that in order to conserve domestic animal species and cultivars, local conditions must be taken into account.

National parks, and particularly regional nature parks – the result of communal initiatives –, whose principal statutory vocation is to conserve, restore and develop the most emblematic components of local heritage, have become centers for experimentation on *in situ* conservation and for preserving the link

between natural and cultural heritage. Projects currently underway tie in with a framework of human land management and exploitation activities: agro-pastoral systems, forestry, hunting, fishing or tourism. A complex network of institutions and mechanisms is taking shape around these local measures for *in situ* conservation. Local associations are increasingly using parks to support and promote their development initiatives. Labels and brand names are being created in order to distinguish local products, events and services demonstrating an awareness of the aims of the parks and a commitment to their work, especially where the protection and development of the landscape quality, the components of local biodiversity and local knowledge are concerned.

It is precisely this synchronization between conservation and value enhancement that best characterizes the French approach to acknowledging local ecological know-how. The most successful initiatives are those concerning agricultural products and foodstuffs that use the market to enhance their value.

One such initiative, the protection of geographical origins, is particularly important because of its positive repercussions and the questions it raises. Interest in local products is often associated with their cultural value and justified by the heritage value assigned to them. There are a great many owners of traditional knowledge forming producer associations that master the specificities of the knowledge concerned by drawing up product specifications. Value enhancement thereby becomes a tool for sharing benefits, and is seen as even more equitable thanks to the fact that the specifications anticipate measures for keeping a large part of the added value in the area of production and for ensuring that local producers control marketing networks. However, it is important to note that by legally protecting a name, geographical indications control the use of resources and not access to them.

Although there is no doubt that geographical indications, a legal and economic tool, have proved their worth over the last few decades, they have clearly also shown their limits. They are difficult to set up and pose problems, such as control. Sometimes the compulsory standardization of knowledge is incompatible with requirements for maintaining biodiversity. Finally, applying a geographical indication requires a whole array of accompanying technical and institutional measures, along with energetic policies to support and monitor these measures at a regional and national level.

Despite these reserves, French experience may prove precious to international negotiations currently underway within

the World Intellectual Property Organization and the World Trade Organization, where opinion on geographical indication systems is still far from unanimous.

In France, the use of geographical indications - which has existed for some time but is now on the increase - is contributing, in a sense, to the revival of the concept of *terroir*. This term has experienced changes in meaning according to the time and context in which it has been used. Among its many meanings, one of the most pertinent is that which explains its agro-ecological characteristics as the result of interaction between a human group and the place in which it lives. The *terroir* is not only a localized spatial unit, but also the reflection of attitudes, mentalities and features tied to the use of the area, the expression of a tradition and of the specificities of the relationship between a society and nature. The *terroir* is the place where a story is created along with a shared understanding of the world. It refers to a state of mind that is, or has been, socially and politically efficient. It makes it possible to establish demands, especially to remain in the area and to make it productive. However, although the concept guarantees a certain recognition of local identity, it does not in any way refute the unique character of the nation. In this sense it distances itself significantly from the more political demands of indigenous French populations for autonomy, self-determination and regional sovereignty.

It is important to highlight the difficulty the French nation has encountered in examining the issue of indigenes in an efficient and diplomatic manner. Historically this reserve stems from the policy of centralization, which rejected any sense of belonging at a local level, but is also echoed in France's colonial past in attempts by the republican State to reconcile cultural differences with an assimilation policy. With the organic law of 19 March 1999, resulting from the New Caledonia Agreements, a new threshold was crossed: this law recognized the rights of an indigenous community within the Republic and established a customary status for the Kanak communities, while maintaining all principles of citizenship, thereby leading the French nation into a more federal age. However, although the specific bond between the group, their territory and the resources for which they requested privileged use has been formally recognized, in practice, interpretations of this law in terms of rights of access to the natural resources and knowledge, and their ownership and development have so far been noticeably hesitant.

Nevertheless, the understanding of the local issue provided by value enhancement tools, such as geographical indications, appears to be compatible with the acknowledgement of indige-

nousness: the fact that they are collective and recognize heritage and tradition within an intellectual property system provides a number of possibilities. The legal and institutional framework supporting these geographical indications presents interesting opportunities for indigenous communities wishing to benefit from their knowledge without giving it up.

Which aspects of the French experience of acknowledging the local issue could therefore be useful, and perhaps even transferred or adapted to other contexts? The method of governance, associating the conservation and value enhancement of local knowledge within policies for managing protected areas, is probably the most innovative and successful. With regard to the market, France is original in having used it to enhance the value of products and to protect local practices. The many experiences regarding geographical indications, which has proved their effectiveness but also shown their limits, ought to make it easier to establish similar systems in other countries. Clearly the approach to the local issue based on *terroir* does not meet the political demands of the indigenous populations, where citizenship is concerned, for example. But it allows those who have decided to play the market game to enhance the cultural and economic value of certain traditional ecological knowledge.

# Annexe

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*Provisional table of contents of the book to be published*

## **Taking into Account Knowledge and Know-how about Nature: The French Experience**

### **Editorial Committee**

*Laurence Bérard (CNRS), Marie Cegarra (Cersates, université Lille 3), Elisabeth Chouvin (IDDRI), Marcel Djama (CIRAD), Sélim Louafi (Iddri), Philippe Marchenay (CNRS), Bernard Roussel (MNHN), François Verdeaux (IRD)*

### **Foreword**

Issues, Objectives, and Expected Results, *Editorial Committee*  
International Issues Regarding Traditional Ecological Knowledge, *Jacques Weber (IFB) and Marie-Christine Cormier-Salem (IRD)*

### **General introduction**

Traditional Knowledge, The New Challenge of Global Governance, *Laurence Tubiana, Sélim Louafi (Iddri) and Bernard Roussel (MNHN)*

French Measures for Implementing Article 8(j) of the CBD, *Xavier Dupont (ex-secrétariat d'Etat à l'outre-mer)*

### **Chapter 1. Taking into Account the Local Issue in France**

**Introduction**, *Marie Cegarra (Cersates, université Lille 3) and François Verdeaux (IRD)*

## **A History of Taking into Account the Local Issue in France**

Between Centralism and Local Character: the Local Issue Under Strain, *Marie Cegarra* (Cersates, université Lille 3)

The Hidden Side of Heritage: The Example of Non-institutional Heritage, *Marie Cegarra* (Cersates, université Lille 3)

*Terroir*: A Controversial Concept, *Jean-Pierre Deffontaines* (INRA)

Applying the Notion of *Terroir* in Africa, *Paul Pélissier* (université Paris X)

Intangible Heritage, Between Negligence and Attraction, *Thierry Charnay* (Cersates, université Lille 3)

## **Dealing with Indigenoussness in France**

Introduction, *Marcel Djama* (CIRAD)

The Historians' Viewpoint, *Isabelle Merle* (CNRS)

The Legal Viewpoint. Protecting the Rights of Indigenous Communities to their Intellectual Property and the Law in France, *Philippe Karpe* (CIRAD)

The Kanak View of the French Position, *Paul Neaoutyine\** (New Caledonia Northern Province)

## **Chapter 2. Conservation**

**Introduction**, *Philippe Marchenay* (CNRS)

### **The Conservation of Local Varieties and Species, and Microbic Strains**

The Concept of Local Varieties and Species, *Philippe Marchenay* (CNRS)

Institutional Initiatives, *Louis Olivier\** (PNC)

The BRG (Genetic Resources Board), *Andrée Sontot* (BRG)

L'AFCEV (French Association for the Conservation of Plant Varieties), *Pierre Guy* and *Romarc Pierrel* (AFCEV).

Le Conservatoire du patrimoine biologique régional de Midi-Pyrénées (Midi-Pyrenees Conservatory for Regional Biological Heritage), *Annick Audiot* (INRA)

Plant Varieties and Local Knowledge, *Claude Foury* (ex-ENHV)

L'Association des croqueurs de pommes (Apple Munchers Association), *Claude Scribe* (Association des croqueurs de pommes)

An Account of Experience in France Concerning Animal Species. *Annick Audiot* (INRA)

The *Institut de l'élevage*, *Laurent Avon* and *Coralie Danchin* (Institut de l'élevage)

Conserving and enhancing the value of local microbial resources: Résomil, *Jean-François Chamba* (ITFF)

### **Natural and Cultivated Land, and Local Knowledge**

Local Naturalist Knowledge in the Face of Biodiversity Conservation. The Cévennes National Park as a Base for Experimentation, *Capucine Crosnier* (PNC)

Salagon Ethnobotanical Gardens. Between Cultural Heritage and Botanical Conservation, *Pierre Lieutaghi* and *Danielle Musset* (Musée ethnologique départemental de Salagon)

Conservation of Agroforestry and Bocage Systems, Local Knowledge and Biodiversity, *Philippe Pointereau* (Solagro)

Fédération des conservatoires d'espaces naturels (Federation of Nature Reserve Conservatories, *Pascal Daneels* (Fédération des conservatoires d'espaces naturels)

Local Knowledge in French Mechanisms for Managing Nature, *Pierre Alphandéry* and *Agnès Fortier* (INRA)

## **Chapter 3. Value Enhancement**

**Introduction**, *Laurence Bérard* (CNRS)

### **Protecting Geographical Origins and other Regulations**

The Protection of Yellow Wood and the Recognition of Traditional Practitioners, *Sigrid Aubert* (Cirad) and *Frédéric Picot* (CBNM)

Regulations and Procedures for Geographic Labelling: analysis and prospects in France, *François Roncin* (INAO)

Designation of Origin for Comté Cheese, *Jean-Jacques Bret* (Comité interprofessionnel du gruyère de comté)

Protected Designation of Origin for Marais Salant Salt, *Benoît Poitevin* (Ecomusée du Marais salant)

Local Practices and Knowledge in AOC Procedures, *Christine de Sainte-Marie* (INRA) and *Laurence Bérard* (CNRS)

AOC Piment d'Espelette, *Catherine Richer* (INAO)

The Impact of Protection Regulations in Local Development, *François Casabianca* (INRA)

Economic Aspects of Geographical Indications, *Dominique Barjolle* and *Erik Thévenod* (Service romand de vulgarisation agricole, Switzerland)



## Enhancing Value and Protected Areas

Experiences of Enhancing the Value of Local Knowledge in the Cévennes National Park, *Capucine Crosnier* (PNC)

The “*Parc naturel régional*” Collective Trademark, *Stéphane Adam* (Fédération des parcs naturels régionaux de France)

Application for AOC recognition of salt-meadow lambs, *Thierry Fabian* (INAO)

## Public and private Initiatives

Making Traditional Agri-food Products Part of Heritage, *Lucie Dupré* (INRA)

The Exceptional Taste Sites, *Muriel Bousquet* (Association des sites remarquables du goût)

The Ark and the Flagships of Taste, *Didier Chabrol* (Slow Food France)

*Conseil national des arts culinaires*’ Inventory, *Philippe Marchenay* and *Laurence Bérard* (CNRS)

## French Expertise at the International Level

Certification Experiences in the Countries of the South, *Denis Sautier* (CIRAD)

Certification in the Countries of the South and International Agreements, *Valérie Boisvert* (IRD)

INAO’s experience in international cooperation, *Audrey Aubard* and *François Roncin* (INAO)

## Conclusion

### Afterword

#### Views of the French Approach from...

- a negotiator, *John Herity*\* (ex-Secretariat of the Convention on Biological Diversity)
- a member of an international NGO, *Maria Fernanda Espinosa*\* (IUCN)
- a legal expert in Anglo-Saxon law, *Graham Dutfield*\* (Queen Mary Intellectual Property Research Institute, United Kingdom)
- a researcher specializing in Africa, *Peter Geschiere* (University of Amsterdam, the Netherlands)

\* *To be confirmed.*

## List of acronyms

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AFCEV	Association française pour la conservation des espèces végétales
AOC	appellation d'origine contrôlée
BRG	Bureau des ressources génétiques
CDB	Convention sur la diversité biologique
CIRAD	Centre de coopération internationale en recherche agronomique pour le développement
CNRS	Centre nationale de la recherche scientifique
IDDRI	Institut du développement durable et des relations internationales
IFB	Institut français de la biodiversité
IGP	indication géographique protégée
INAO	Institut national des appellations d'origine
IRD	Institut de recherche pour le développement
ITFF	Institut technique français du fromage
IUCN	The World Conservation Union
MNHN	Muséum national d'histoire naturelle
PNR	Parcs naturels régionaux

# *Les notes de l'Iddri*

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# Local Ecological Knowledge and Practice: An Original Approach in France

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Local ecological knowledge and know-how play a central role in the negotiations on the Convention on Biological Diversity. Here the authors present and analyze the specific characteristics of the French approach on the subject: the concepts of terroir and heritage, a reinterpretation of indigenesness, and diverse forms of conservation; all of these are often tied to enhancing the status of products *via* the market.

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