

COMPONENT 2C
Marine Bioprospection

PROJECT 2C1
Legal framework - Upgrading the legislations

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FINAL REPORT

CRISP



Coral Reef InitiativeS for the Pacific
Initiatives Corail pour le Pacifique

**MARINE
BIODIVERSITY LAW
IN FIJI, SOLOMON
AND VANUATU
ISLANDS**

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CRISP



Coral Reef Initiatives for the Pacific
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The CRISP programme is implemented as part of the policy developed by the Secretariat of the Pacific Regional Environment Programme for a contribution to conservation and sustainable development of coral reefs in the Pacific.

The Initiative for the Protection and Management of Coral Reefs in the Pacific (CRISP), sponsored by France and prepared by the French Development Agency (AFD) as part of an inter-ministerial project from 2002 onwards, aims to develop a vision for the future of these unique ecosystems and the communities that depend on them and to introduce strategies and projects to conserve their biodiversity, while developing the economic and environmental services that they provide both locally and globally. Also, it is designed as a factor for integration between developed countries (Australia, New Zealand, Japan and USA), French overseas territories and Pacific Island developing countries.

The CRISP Programme comprises three major components, themselves composed of projects, which are:

Component 1A: Integrated Coastal Management and Watershed Management

- 1A1: Marine biodiversity conservation planning
- 1A2: Marine Protected Areas (MPAs)
- 1A3: Institutional strengthening and networking
- 1A4: Integrated coastal reef zone and watershed management

Component 2: Development of Coral Ecosystems

- 2A: Knowledge, beneficial use and management of coral ecosystems
- 2B: Reef rehabilitation
- 2C: Development of active marine substances
- 2D: Development of regional data base (ReefBase Pacific)

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- 3A: Capitalisation, value-adding and extension of CRISP Programme activities
- 3B: Coordination, promotion and development of CRISP Programme
- 3C: Support to alternative livelihoods
- 3D: Vulnerability of ecosystems and species
- 3E: Economic task force

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■ PROJECT 2C-1:

Legal framework - Upgrading island country legislation for the sharing of benefits from development of active marine substances

■ PROJECT 2C-2:

Taxonomy - Improvement of knowledge of benthic reef invertebrate and algae taxonomy

■ PROJECT 2C-3:

Technological aspect - Identification of active marine substances

■ PROJECT 2C-4:

Institutional strengthening - Training of Pacific island resource persons

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**CORAL REEF INITIATIVES FOR THE PACIFIC (CRISP)
COMPONENT 2C: BIOPROSPECTION AND MARINE ACTIVE SUBSTANCES**

**Final report on Legal aspects related to the
valorization of marine active substances: MARINE
BIODIVERSITY LAW IN FIJI, VANUATU AND SOLOMON
ISLANDS**

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TABLE OF CONTENTS

I- Introduction: General presentation and methodology	p. 6
II- Final report	p. 9
A- General characteristics of the three legal systems and determination of convergent and divergent points.....	p. 9
B- Facilitation of Marine Scientific Research (MSR) and Procedure to obtain the coastal State authorization for scientific expeditions conducted from the littoral and at sea.....	p. 19
C- Table of international conventions to which Fiji Islands, Salomon Islands and Vanuatu are State parties.....	p. 33
D- Identification of legal gaps and necessary evolution of the legal framework.....	p. 40
E- Outline of the principles for the legal qualification of marine living organisms: Absence of a unique status for marine living organisms in Melanesia.....	p. 67
III- Models of texts	p. 81
A- Methods for a law on marine bioprospection.....	p. 81
B- Methods for a law on marine protected areas.....	p. 83
C- Methods for a law on the protection of deep-sea coral reefs.....	p. 84
D- Method for the sharing of benefits and (potential) setting up of joint ventures.....	p. 85
IV- Conclusion	p. 86

LIST OF FIGURES AND TABLES

- ❖ **Table 1- The seven selected branches of the legal work method.....p. 7-8**
- ❖ **Table 2- USP funds (dollars) in 2004- 2005.....p. 23**
- ❖ **Table 3- Rules pertaining to Marine Scientific Research
in Partner States.....p. 24-26**
- ❖ **Figure 1- Procedure to require a bioprospecting permit
in Vanuatu.....p. 28**
- ❖ **Table 4- Situation of Marine Scientific Research
in Partner States:synthesis and assessment.....p. 30-31**
- ❖ **Table 5- Table of international conventions
to which Fiji Islands, Solomon Islands
and Vanuatu are States parties.....p. 33-39**
- ❖ **Table 6- Synthesis of legal gaps.....p. 41-51**
- ❖ **Table 7- Legal framework suggested to Partner States:
comparative table.....p. 60**
- ❖ **Figure 2- Evolution of aleatory component in activities
involving marine biological resources.....p. 62**
- ❖ **Table 8- Criteria of distinction between fishing
(fisheries research included) and bioprospecting.....p. 63**
- ❖ **Table 9- Intellectual Property Law of Partner States.....p. 64**
- ❖ **Table 10- Qualifications and customary rights
regarding the environmental elements.....p. 70-71**
- ❖ **Table 11- Legal definitions of the environmental elements
in Partner States.....p. 75-77**

ABBREVIATIONS

ACP	European Union/ African, Caribbean and Pacific group of States programmes
ADB	Asian Development Bank
BG	Bonn Guidelines on access to genetic resources and the fair and equitable sharing of benefits arising out of their utilization
CBD	Convention on Biological Diversity
CCA	Community Conservation Areas
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMCA	Vanuatu Environment Management and Conservation Act (2002)
FFA	South Pacific Forum Fisheries Agency
FAO	Food and Agriculture Organization of the United Nations
IDA	International Development Association
IMO	International Maritime Organization
IRD	Institute of Research for Development
LDCs	Least Developed Countries
LMMA s	Locally Managed Marine Areas
MNHN	Muséum National d'Histoire Naturelle
MPA	Marine Protected Area
MSR	Marine scientific research
SIDS	Small islands Developing States
SPC	South Pacific Community
SPREP	South Pacific Regional Environment Programme

TRIPS Agreement	Agreement on Trade-related Aspects of Intellectual Property Rights
UNCLOS	United Nations Convention on the Law of the Sea
UNESCO	United Nations Educational, Scientific and Cultural Organization
USP	University of the South Pacific
WCPFC	Western and Central Pacific Fisheries Commission
WDPA	World Database on Protected Areas
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

I- INTRODUCTION: GENERAL PRESENTATION AND METHODOLOGY

The research agreement signed on 19th December 2005 by the Institute of Research for Development (IRD), the University Paul Sabatier (Toulouse III) and Nantes University, the Pharmacochemical laboratories of Natural Substances and Pharmacophores Redox (UMR 1165) and the Centre of Maritime and Ocean Law (EA 1165, CDMO) led to the international research program “Coral Reef Initiatives for the Pacific” (CRISP). Within the CRISP program, the research work was incorporated under component 2C: Bioprospection and marine active substances, CDMO being in charge of the section: Legal aspects related to the valorization of marine biodiversity¹. This study was undertaken by a team of researchers from CDMO as named below:

- Professor Jean-Pierre BEURIER, Director of Research
- Bleuenn GUILLOUX, researcher
- Doctor Karolina ZAKOVSKA, researcher

1- OBJECTIVES OF THE STUDY

Studying the marine biodiversity valorization process in the light of legal science requires answering two preliminary questions: What is the state of international law in force in partner States and what is the state of their positive law capable of influencing this valorization? The answer to these questions firstly allows us to document the enforceable international law and to compare it with the domestic law of partner States. This legal point of view leads to an initial conclusion on the differences between the necessary and existing laws.

A second approach aims to search the relevant local authorities' objectives regarding the valorization of marine biodiversity in areas under sovereignty or jurisdiction of partner States. These objectives are then compared with the international conventions relating to the rational and sustainable management of natural resources which had been ratified by the partner States and on which are founded regulations for the protection of marine environment.

A third approach then needs to set the legal point of view and the objectives stated above against all the branches of law concerned with the valorization of marine biodiversity. Seven branches of law have to be studied successively:

- International Law of the Sea (legal nature and regime of maritime zones, local implementation of the United Nations Conventions on the Law of the Sea (UNCLOS));

¹ The term valorization comes from the verb ‘to valorize’ which refers to the increase in value of an item of right (sovereignty, jurisdiction, property). In the field of biodiversity, it designates the action to give or assign a new value (economic, scientific, cultural, etc.) to a component of the environment such as animals, plants, or any living resource and part of it (molecules, genes, etc.). Contrary to a simple extraction or transformation, valorization implies a gradual modification of the valorised resource nature and value. Such process is characterized by the contingency, i.e. “a possible but not very likely future event and condition, an eventuality” (Collins English definition Thesaurus). In the present case, there are many possible events and conditions: firstly, the discovery of marine living resources, secondly, the fact that this discovery could be at the root of a more detailed study, which could thirdly maybe conduct to the development of a potential biotechnological application and more generally, could lead at least to scientific results.

- Coastal Law (foreshore regime, seabed and subsoil regime, coastal zones management, access to natural resources);
- Marine environmental Law (sensitive spaces, endangered species, actions against marine pollution sources, European Union/ African, Caribbean and Pacific group of states (ACP) programmes, tourism management, implementation of protocols related to conventions adopted within the Regional Seas Programme of the United Nations Environment Programme (UNEP), implementation of the Convention on International Trade in Endangered Species of wild Fauna and Flora (CITES);
- Coastal resources Law (marine fisheries regime, aquaculture regime; implementation of Law of the Sea, recommendations from concerned international fishery bodies, fishing licenses to exploit the admissible catch volume, administrative authorizations for marine cultures, police controls);
- Marine Scientific Research (MSR) Law (inter-state co-operation legal framework, land, sea and underwater research permits legal framework; inventories legal framework, bioprospection regime, collections and samples, shipping standards, domestic law regarding the access to information and to natural resources, benefit-sharing system, improvement of legal capacity building system of local partners, initial or ongoing training)
- Intellectual Property Law (plant variety protection certificate regime, patents regime, recognition and protection of traditional knowledge and know-how; Convention on Biological Diversity (CBD), Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) and Indigenous and tribal peoples Convention (No 169, International Labour Organization), Commercial Law (business companies, joint-ventures and foreign investments regime, fiscal regime, study of funds movements and nationalizations)

2- WORK METHOD

The seven selected branches of the legal work method (table 1) can be modelled as following:

LAW OF THE SEA	<ul style="list-style-type: none"> ⇒ Legal nature of maritime zones ⇒ Legal regime of maritime zones 	<ul style="list-style-type: none"> ⇒ UNCLOS implementation ⇒ Acts and rules of implementation and control (decrees, regulations, ...)
COASTAL LAW	<ul style="list-style-type: none"> ⇒ Regime of the foreshore ⇒ Regime of the seabed and the subsoil of the sublittoral ⇒ Regional programmes on coastal zone management 	<ul style="list-style-type: none"> ⇒ Coastal zone management ⇒ Coastal states laws, customs, role of public and private companies
MARINE ENVIRONMENTAL LAW	<ul style="list-style-type: none"> ⇒ Sensitive spaces protection ⇒ Species protection ⇒ Water pollution ⇒ EU/ACP programmes ⇒ Tourism Law 	<ul style="list-style-type: none"> ⇒ Implementation of regional seas protocols (marine protected areas) ⇒ Legal framework at national and decentralised levels ⇒ Acts and implementing legislation on trade in endangered species (CITES)
COASTAL RESOURCES LAW	<ul style="list-style-type: none"> ⇒ Fisheries Law ⇒ Aquaculture Law ⇒ Natural resources customary Law 	<ul style="list-style-type: none"> ⇒ Recommendations of relevant fisheries organizations ⇒ Fishing licenses to exploit admissible catch volume ⇒ Administrative authorizations for marine culture ⇒ Police control of exploitation

MARINE SCIENTIFIC RESEARCH LAW	⇒ interstate co-operation legal framework ⇒ Land, sea or diving research authorizations legal framework ⇒ Inventories legal framework ⇒ Bioprospection regime ⇒ Samples regime	⇒ Acts and rules (decrees, regulations, ...) designated to facilitate and control the satisfactory conduct of research ⇒ Acts and rules (decrees, regulations, ...) concerning access to resources and benefits sharing
INTELLECTUAL PROPERTY LAW	⇒ Plant variety protection certificate regime ⇒ Patents regime ⇒ Recognition of traditional knowledge regime ⇒ Customary rights	⇒ CBD implementation ⇒ UNCLOS implementation ⇒ TRIPS Agreement implementation ⇒ Convention OIT 169 implementation
COMMERCIAL LAW	⇒ Joint ventures regime ⇒ Foreign investments regime	⇒ Acts and rules (decrees, regulations, ...) on companies taxation, capital repatriation and nationalizations

The questions raised by this table were subject of fieldworks undertaken in the three following partner States in 2006 and 2007:

- Archipelago of the Solomon Islands
- Archipelago of the Fiji Islands
- Archipelago of Vanuatu

The fieldworks were prepared either directly with local contacts made during the Workshop on the protection and management of coral reefs in the South Pacific held in Noumea from the 24th to the 28th of January 2005, either through the intermediary of researchers from the University of the South Pacific, or finally through the French Embassy on location or the nearest one.

During the fieldworks, the chosen work method was to identify and then to collect the relevant legislation of the partner States and finally to proceed with a set of interviews of local administration representatives, choosing the administrative branches in charge of the themes stated in the above table. This allowed us to understand the administrative functioning of the States concerned, then to study the practical implementation of the legislation and finally to determine the boundary between the implementation of written law and that of the customary one. This method allowed us to identify areas of overlapping or conflicting administrative jurisdictions as well as legal gaps.

3- REPORT PRESENTATION

The final report published on the CRISP website² is composed of three reports focused on the partner States which make up the backbone of the study and are opening to an inventory of positive law and an analysis of the degree of implementation of international law. Then follows a synthesis of the general characteristics of the partner States legal systems, of the techniques employed to facilitate MSR and a table of signatures and ratifications of international and regional conventions in force. We attempted to identify the legal gaps and evolution of legal framework needed at national and local levels to meet the international law requirements and interests of the partner States. Finally, to conclude, we proposed solutions to be taken towards a legislative unification and further co-operation for the protection of marine biodiversity within Melanesia.

² www.crisponline.net

II- FINAL REPORT

A- GENERAL CHARACTERISTICS OF THE THREE LEGAL SYSTEMS AND DETERMINATION OF CONVERGENT AND DIVERGENT POINTS

The three partner States have many points in common on a social as well as on a legal level. This is due to several factors. Firstly, there is the geographical situation. The three countries lie in the Indo-Pacific basin, a biogeographical area among the richest on the planet as far as marine biodiversity is concerned. The terrestrial as well as marine environments of these three countries are still very little perturbed and thus represent a great economic potential. The growing interest for the research of active marine substances is perfect evidence of it. Another important factor is the insular characteristic of the partner States. These small States are made of dozens (Vanuatu), even hundreds (Solomon Islands, Fiji) of islands and islets scattered over a huge area and often rather remote from their capital city. This seriously complicates the implementation and enforcement of the rules adopted by central authorities. Thus, local management plays a fundamental part. Secondly, many similarities stem from parallel historical developments. The three countries were colonies belonging to great western powers – the United Kingdom (Fiji, the Solomon Islands, and Vanuatu) and France (Vanuatu). They obtained their independence during the decolonisation movements of the 1970s and 1980s (Fiji in 1970, the Solomon Islands in 1978 and Vanuatu in 1982) going back, to a large extent, to the political and legal system of the colonial powers, British influence being essential, even in Vanuatu. Thirdly, the three countries have a common cultural background, namely Melanesian culture which appears as much ideologically (the way the land is perceived, the settling of disputes, the respect of the intangible property of knowledge and intellectual works etc) as institutionally (the representation of custom chiefs in political organs). Their society abides by the customary rules that must be taken into account whenever an effort is made to improve the existing legislation. Ultimately, the three countries are characterized by a similar economic situation. Although they have a different level of development – comparatively Fiji seems to be ahead from an economic point of view – they all belong to the group of small islands developing States (SIDS)³. Their limited financial means seriously prevent the partner States from being able to meet environmental needs in the establishment of legal rules as well as in their implementation.

In spite of all their similarities, obviously, they also have differences, each of the three countries being unique. Fiji stands out because of an important rate of Indian origin inhabitants in its population (Indo-Fijians account for about 37% of the Fijian population whereas native Fijians, that is of Melanesian origin, account for 55%). Vanuatu stands above the others as far as its cultural diversity is concerned: more than 100 vernacular languages are spoken all over the country and custom as well as artistic expressions vary from place to place. Specific traditions exist: in the Solomon Islands, for example, dolphin teeth are offered as wedding presents that is why dolphins are widely hunted. Differences also exist regarding the legislation of the three partner States about the protection and sustainable use of marine biodiversity. Nevertheless, these are not fundamental differences. Coping with similar problems, logically, the three countries

³ Fiji is the only one among the three partner States which does not belong to the Group of the Least Developed Countries, LDCs). See United States website “Countries in special situation”, available at <http://www.un.org/en/development/progeareas/spneds.html>, consulted in December 2008.

have similar answers, all the more so as they participate in the regional co-operation forums within which appropriate recommendations are prepared. Actually, partner States can be mutually inspired and many proposals can be addressed to all of them.

1- General characteristics

a- The political system

The three partner States are sovereign, unitary and democratic republics based on a parliamentary system. After their independence they all remained linked to the United Kingdom, becoming members of the Commonwealth, Fiji being suspended after the coup d'état in December 2006. The political system of the three States follows the western democratic model with a horizontal as well as a vertical separation of powers. As to the horizontal division, the legislative power is represented by a parliament (bicameral in Fiji and unicameral in the Solomon Islands and Vanuatu), the executive power by a government composed of the Prime Minister and several ministers in charge of different fields. In Vanuatu and Fiji the head of state is a president (nominated by the Great Council of Chiefs in Fiji, elected by a particular body of electors in Vanuatu). In the Solomon Islands the role of head of State is attributed to the British Sovereign who is represented on the spot by a Governor-General. The judicial power is independent in the three countries and comprises a court system very close to the English judicial system with specificities arising from customary law. Regarding the vertical division of powers, it is based on the territorial decentralization. The partner States are divided into several decentralized constituencies (provinces) managed by local governments (councils). The latter are endowed with important powers among which the power of adopting by-laws in particular fields (coastal fisheries management for example)⁴.

Although the partner States have taken up the great principles of western parliamentary republics, their political system (as well as judicial, as we shall see further on) is highly marked by Melanesian culture. Traditional chiefs, as representatives of indigenous populations, play an important part in the management of the country. Their role is acknowledged by the positive law of the three countries and, in practice, it is mainly carried out on a regional and local level. Yet a specific organ exists on a national level in two partner States, Fiji and Vanuatu: a so-called Great (Fiji) or National (Vanuatu) Council of Chiefs. This council whose existence is provided for in both countries on a constitutional level represents the superior authority in the field of custom and tradition. It has an advisory property as it is assigned to submit recommendations for the conservation of the traditional culture and well-being of native peoples. Although it lacks decision-making power, the council nevertheless has a great moral authority.

b- The legal system

The legal system in the three partner States can be qualified as mixed, which means that it links together the characteristics of several legal systems, more precisely of British Common Law and Customary Law. Although Roman law left its mark on the legal system of Vanuatu, its influence has never been as important as that of British law. The reasons of

⁴ One can add that in the Solomon Islands, there also are Provincial Assemblies endowed with limited legislative power.

this mixed characteristic are not hard to find out. The present system lies on two (or three in Vanuatu) legal traditions, namely that of native peoples (custom) and that of settlers (British or French law).

The legal system main features of the three partner States are rooted in their respective constitutions. Customary law is acknowledged as a source of law either *expressis verbis* (Vanuatu⁵, Solomon Islands⁶) or indirectly (Fiji⁷). The sensitive issue of the relationship between (unwritten) customary law and written law is solved in the three countries in favour of the latter: in case of conflict written law prevails. Although this rule cannot be argued in theory, its implementation raises some problems, especially in the villages where custom keeps on playing an essential part.

As to its structure and content, written law in the three countries is rich and complex, which may be surprising as the latter are considered as some of the least developed countries in the world. The hierarchy of norms hardly differs from that of western written law systems: the constitution is the main law followed by national laws (*Acts* or – in the course of the legislative process – *Bills*) completed by ministerial implementing regulations (*regulations, orders*)⁸. Laws deal with a wide range of issues concerning the life of a State. Actually, it is thanks to regional co-operation and international help (mainly from Australia and New Zealand) that South Pacific countries have been endowed with laws in all the important domains of public law, including environmental protection. Although amendments may be desirable, a solid basis of relevant rules exists and the authorities have the will to enforce them. However, they often have to cope with the lack of financial and human capacities.

c- The role of custom in social life

Although we mentioned it before, this question is so important that it needs developing in a specific paragraph. Custom plays an overriding role in all partner States. It manages life in society and it must be taken into account if one wants a legal rule to be efficient (that is to say respected). The influence of custom is particularly conspicuous outside urban centres, in villages where social organization follows the typical model of native Melanesian culture, based on community life led by a respected dignitary (or several of them in the case of collective bodies). Generally speaking, there is a custom chief at the head of each village. Even if he is the “manager” and main representative of the village, his power is not absolute. Mutual interest issues are debated with the whole village and final decisions are taken up by the village council within which the chief is attended by “elders”. Community spirit is very strong in Melanesian culture: consensus is always the privileged solution.

In partner States the role of customary chiefs is reflected in the composition of public institutions: apart from particular customary authorities (councils of chiefs existing at national as well as at lower levels), chiefs are part of consultative as well as executive bodies and they are required to decide in case of disputes involving custom. Even if one

⁵ Art. 95 al. 3 Vanuatu Constitution.

⁶ Art. 76 Solomon Constitution and its Schedule 3, art. 3.

⁷ Art. 43 al. 1, section. 186 Fiji Constitution.

⁸ Provincial council's by-laws must not run counter to the national law and a fortiori counter to the Constitution.

can imagine that a legal rule, even indirectly implying custom, could be adopted without consulting custom chiefs, such a rule would practically remain disregarded. As we underlined it in preliminary reports, the agreement of customary chiefs is also necessary when it is a question of authorizing scientific expeditions dealing with coral reefs adjacent to the terrestrial territory of coastal villages. One should bear in mind that this agreement is independent from the one granted by the State's competent authority, which clearly shows how important it is.

2- Law in force

a- Land ownership

One of the most significant common characteristics of the partner States is their perception of the land. In Melanesian culture, it cannot be the object of individual ownership ; as a matter of fact, land cannot be the object of ownership at all, at least of ownership as it is understood in western legal systems, that is to say as the absolute power of man over a particular thing. The land is considered as the "mother" and the living as its "custodians" in the name of the dead and the people to be born. The links with the land are created at birth and will never disappear. Of course, these links imply the rights to use the land (referring to the land inhabited by a community, most often by a village) but they do not allow damaging it. Obviously, its alienation (sale, donation) is on principle impossible.

In coastal villages, the link with the land highly affects the perception of adjacent marine areas. These are considered by village people as part and parcel of "their" customary territory, generally so, to the outer limit of the fringing reef⁹. Exclusive rights of use stem from this perception of the coastal sea: in fact, villages control living as well as non living resources, which are to be found therein, no exploitation by any outsider being possible without their agreement.

Customary rights dealing with emerged lands as well as marine areas adjacent to the coasts are acknowledged in all partner States. Certain problems arise because of their link with written law. Indeed, the concept of customary land "ownership" does not exist in western law. Yet, it must be included in the partner States' legal order so that the peaceful use of lands (and the exploitation of marine resources) may be allowed not only for native people, but also for people who do not belong to the community (with the agreement of the villages concerned). The solution adopted in the three partner States is an assimilation of customary rights to western concepts. Constitutions and respective laws then refer to "*custom ownership of land*" and "*custom owners*". They also use the phrase "*Custom land*" and make a difference with land belonging to the State¹⁰. Custom ownership differs from ownership as it is understood by western legal systems. Firstly, it is a matter of collective ownership: right holders are not individuals but a community. Secondly, rights are not absolute: the community may use "their" land or even grant a lease on it (under conditions fixed by special laws) but they must not alienate it.

If the rules regarding emerged lands are quite clear in all partner States, and if reality generally complies with written law, it is not quite true for marine areas adjacent to

⁹ Native claims dealing with offshore marine seabed appear with the exploitation of biological resources, but they remain exceptional.

¹⁰ In the three countries, the part of land belonging to the State is less important.

the coasts. Actually, the three States admit that they are part of the customary marine tenure of coastal villages, which implies their right to control the exploitation of resources to be found there. However, taking into account this *de facto* power is rather partial, since the content of customary rights as well as the extent of their geographical field of application are not clear. The situation is different in the three countries. A special concept of customary fishing grounds (*qoliqoli*) is taken into consideration by Fijian law, whereas Vanuatu and Solomon laws are far less precise about this. Anyway, changes are necessary in all partner States in order to avoid uncertainties.

b- Law of the sea

The three partner States ratified the United Nations Convention on the Law of the Sea (UNCLOS) and globally apply its contents. They all took advantage of the possibility of drawing an archipelagic baseline around the group of islands, which enabled them to considerably enlarge the marine spaces under their jurisdiction¹¹. Beyond this line, they all claim a territorial sea of 12 nautical miles and an Exclusive Economic Zone (EEZ) of 200 nautical miles. The three countries also have at their disposal standards concerning the Continental Shelf pursuant to international law, although in Fiji and Solomon Islands (where independent laws were adopted in the 1970s) they are obsolete. Regarding rights in the marine areas that they claim, the respective laws of the three States remain rather general, taking up, to a large extent, the UNCLOS provisions.

What is lacking in the three States is the implementation of regulations dealing with the sea lanes allowing the continuous and expeditious passage of foreign ships in archipelagic waters and the adjacent territorial sea, and also concerning traffic separation devices to secure the passage of ships going through narrow channels within these sea lanes. Even if the partner States' particular laws authorize the Minister in charge to manage, with a set of implementing regulations, these lanes and traffic separation schemes, such regulations have been adopted in none of the three countries. The rule of "routes normally used for international navigation"¹² applies then on a "temporary" basis.

A particular issue concerns Vanuatu. Actually, this archipelago claims the EEZ as well as the Continental Shelf in their utmost breadth provided for by international law. However, the geographical situation of Vanuatu does not allow such a claim, as the distance of the neighbouring countries baselines is inferior to 400 nautical miles. Although the equidistance rule applies in practice, maritime delimitation agreements with neighbouring countries are highly recommended¹³.

¹¹ One may recall that this baseline encloses archipelagic waters wherein the coastal State exerts its sovereignty and that it is used as a basis to measure the breadth of the territorial sea and the EEZ.

¹² Art. 53 para.12 UNCLOS.

¹³ Fijian and Solomon laws provide for the equidistance rule *expressis verbis*, the EEZ outer limit being the median line every point of which is equidistant from the nearest points on the baselines from which the breadth of the EEZ of each of the two neighbouring States is measured.

c- Law of marine fisheries

Given their geographical situation, more precisely the vast marine spaces under their jurisdiction, a complete and high-quality regulation of fisheries is essential for the partner States in order to ensure a rational management of halieutic stocks. The three countries are perfectly aware of it and the authorities concerned are really willing to implement and apply relevant rules. However, as we saw it in individual reports, this willingness has to cope with many problems.

All partner States take part in important international conventions about fisheries, at global as well as at regional level¹⁴. What is lacking is the ratification by Vanuatu of the 1995 fish stocks Agreement and the regional Wellington Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific.

Regarding national law, all partner states possess comprehensive fisheries laws completed by more or less detailed implementing regulations. These regulations deal with access to fisheries resources as well as conservation measures (protected species, forbidden fishing methods, etc.). The main terms definitions, i.e. fishing and fish, are quite similar in the three countries. They cover a large range, including any taking of all marine animals, whatever its aim (either for food, ornament or research). Solomon and Vanuatu laws are quite modern, being relatively recent (they were respectively adopted in 1998 and 2005); recommended amendments more particularly concern a clarification of some specific issues. Fijian law, on the opposite, dates back to 1942. In spite of many amendments and implementation rules bringing necessary improvements, it is only partially in accordance with the demands of a rational management of fish stocks. Moreover, regulations are ill structured and rather erratic¹⁵.

In the three countries, fisheries regulations are primarily focusing on offshore fishing carried out by local or foreign fishing vessels. The degree of attention given to coastal fishing and the protection of coral reef resources differs. The three countries forbid fishing with explosives, poisons or other noxious substances. Regarding other issues (the protection of certain species¹⁶, creation of marine reserves, fishing with self-contained underwater diving equipment, ornamental fishing etc.), most respective laws do nothing but authorize the competent minister to regulate them *via* specific regulations. This opportunity is nevertheless not very much in use.

Customary rights are one of the reasons why central authorities are not in a hurry to adopt specific rules concerning coral reef resources. Actually, the three countries (Fiji and Solomon Islands in written law, Vanuatu as a customary rule) recognize the fishing rights of coastal villages in marine areas adjacent to their terrestrial territories. These rights are closely linked to the concept of “*customary marine tenure*”, which we mentioned before. They imply a *de facto* control over resources: no exploitation by any person who does not belong to the community is possible without the agreement of the community concerned.

¹⁴ See table below.

¹⁵ One may recall that a draft fisheries law exists in Fiji, its preparation was, however, suspended after the coup d'état in December 2006.

¹⁶ A strict protection of marine mammals, with possible exemptions, is provided for in Vanuatu (directly by law) and in Fiji (by an implementation rule); whereas in the Solomons such a provision does not exist; however, the Fisheries Act authorizes the Minister in charge to take regulations on this issue.

The exploitation of resources by members of the community abides by customary rules which, besides, determine the closed zones and periods, as well as the protected species. In this context, it is very difficult to enforce a rule adopted by the authorities, especially if it overlaps the custom. Accepting such a rule needs a long fieldwork and patient explanations to the populations concerned¹⁷.

Another common point characterizes fisheries regulations in the partner States: the role played by provincial councils that have the possibility (provided for in Vanuatu and Solomon Islands *expressis verbis* by respective laws) of regulating, *via* by-laws, coastal fisheries. These by-laws must, of course, respect national regulations¹⁸. However, according to the people we spoke to, this opportunity is not very much exploited, fishing being actually regulated by national rules on the one hand, and custom, on the other hand.

The role of customary communities in the management of reefs resources is essential. However, what is lacking is a precise delimitation of their rights. Fiji is more advanced in that matter; this country is even preparing a special Bill dealing with customary fishing rights (*Qoliqoli Bill*), planning the transfer of the seabed ownership into zones where they can be applied from the State to the communities concerned¹⁹. For the moment, however, the precise standpoint of coastal villages is not clear. A similar statement applies for the Solomon and Vanuatu (where, as it must be reminded, written law is absolutely silent as far as this matter is concerned). The problems which may arise from this are not to be put aside. Let us imagine foreign researchers planning to lead a research expedition on a coral reef. They will certainly have to obtain a permit from the administrative authority in charge as well as from the village concerned. But many questions are pending such as the link between these two permits, the procedure to be followed in the village, seeing if the power of the village is totally discretionary, making sure the leaders of the village give their prior informed consent, etc. Stating precisions about the rights and obligations of native communities would therefore be desirable, not only for the legal security of foreigners wishing to gain access to the resources, but also for the protection of the latter and of the community rights themselves.

A last remark is necessary in this summary dealing with fisheries. All partner States have to face a problem in front of which lawyers are rather powerless. It is the lack of means of control. Actually, the jurisdiction of the three countries extends on a vast marine space for which they have very few patrol appliances such as vessels and airplanes at their disposal. In spite of an important international help, the control carried out is highly insufficient and illegal fishing remains a major issue.

¹⁷ One can bear in mind the example of Vanuatu's community theatre, *Wan Smolbag Theatre*, a non-governmental organisation which considerably helped to the understanding of the importance of turtles protection among native populations thanks to a play performed in villages. For more information, see: <http://www.wan-smolbag-theatre.org/environment.html>.

¹⁸ Art. 20 para. 5 of Vanuatu's Decentralization and Local Government Regions Act of 1994 comprises the largest and most precise provision. The local government councils are empowered to make by-laws containing rules and regulations governing fishing and conditions relating to the issuing of fishing licenses covering six nautical miles from the low tide foreshore of all islands making up the local government region.

¹⁹ One must bear in mind that the legislative procedure as well as the one dealing with the new draft fisheries law were suspended after the coup d'état in December 2006.

d- Environmental law

As we already mentioned it before, the three partner States are characterized by an important terrestrial as well as marine biological wealth. The noxious impacts due to human activities being limited, nature out of urban centres (which are not numerous) is still very little perturbed. However, the economic development leads to increasing risks for nature, either as pollutions or pressures on living resources. An environmental legislation is necessary to cope with them. Although the partner States have been endowed with rules aiming at the environment protection, they all still have a lot to do in this domain.

None of the three partner States completely avoids co-operation within international forums; nevertheless there is a difference of degree in their participation in international conventions in the field of nature protection. All the partner States are bound by three out of five of the most important global conventions, namely the UNESCO Convention (world heritage protection), the CITES (control of international trade in endangered species) and the Convention on Biological Diversity (CBD). On the other hand, none of them adhered to the Bonn Convention (protection of migratory species) the rules of which clashing with certain customary practices. The Ramsar Convention (protection of wetlands) was ratified only by the Fiji Islands. This country is also the only one to participate in all nature protection conventions adopted at regional level: the Agreement establishing the SPREP and the Apia Convention (protection of terrestrial nature), the Noumea Convention (protection of marine environment and resources) as well as the two protocols to the latter (dumping at sea, pollution emergencies). As to the Solomon Islands, they did not sign the Apia Convention whereas Vanuatu, the “worst pupil” from this point of view, limits its formalized regional co-operation in this field to its participation in the SPREP. Although it remains outside many conventions aiming at the protection of nature, Vanuatu is nevertheless very active in the maritime field. In fact, Vanuatu is a State party to a great number of conventions adopted within the International Maritime Organization (IMO), including those intended to limit marine pollution. This can be explained by the existence of the Vanuatu’s flag of convenience and the importance given to its good reputation by the State authorities. As they do not have such an interest, the other two partner States’ participation in this type of conventions is sporadic.

Regarding national law, each of the three States has at its disposal a recently adopted general law on the environment (Solomon Islands 1998, Vanuatu 2002, Fiji Islands 2005) and several texts dealing with specific issues. General laws are similar, being to a large extent framework laws including basic provisions such as definitions and principles as well as those dealing with the administration and the state of environment monitoring. Moreover, the three general laws pay particular attention to the environmental impact assessment (EIA) procedure which in principle all potentially dangerous activities are subjected to. Solomon and Fiji laws also contain sections on pollution prevention, focusing more particularly on waste management. The Vanuatu law does not mention the problem of pollution, but is the only one to deal, even partly, with biodiversity and protected areas. The three laws indeed represent an important basis for environmental protection, but their impact is limited due to the fact that they include very few rules concerning specific environmental issues, such as the protection of the environment components (air, water, fauna and flora, natural spaces) or the regulation of dangerous activities (pollution is only partly or even not at all dealt with). As far as this is concerned one must bear in mind that the Fiji Islands had prepared a very ambitious act dealing with most of the modern

environmental protection issues (the draft law had been introduced under the name of *Sustainable Development Bill* in 1998)²⁰. The bill was finally abandoned, but it could inspire future law developments.

In addition to the general law, the partner States have been endowed with several texts dealing with specific environmental issues. Regarding species protection, it presents many gaps, being mainly focused on the problem of international trade in endangered species (one must bear in mind that all partner States adhered to the CITES). All respective national laws more or less refer to the CITES (in spite of some inaccuracies), the Fijian law being the most elaborate one since it extends the control of trade, i.e. of transboundary movements, to certain indigenous species listed in the Schedules but which do not appear in the CITES Appendices. Vanuatu also applies this approach in practice, however without any appropriate legal support (Vanuatu law only concerns CITES species). As to the Solomon law, it presents some problems of definitions and principles (e.g. the possibility of exempting certain native species used for traditional activities or purposes from the provisions of the law) as well as the inconvenience of listing the species concerned in the Schedules instead of referring to the CITES. Although the competent Minister is authorized to amend the schedules by a simple order published in the official journal, the question of their compliance with the CITES Appendices is still pending. On the other hand, the Solomon law is the only one to adopt a larger attitude: besides the control of international trade in endangered species, its object is also to regulate “*the management of flora and fauna to ensure sustainable uses of these resources for the benefit of Solomon Islands*”²¹. However, the rules promoting this goal are limited to the possibility for the competent Minister of approving management programmes. As there is a lack of specific rules, the space offered by the general character of the law remains largely unexploited. Except for the laws introducing the CITES into national legal order, the protection of marine species in the partner States is limited to the rules aiming at the protection of certain endangered species within the fisheries²².

Just like for the protection of species, the legal protection of spaces in the partner States is partial. Fisheries laws and forest management laws provide for the possibility of creating marine and forest reserves. Even if the former in particular may significantly contribute to the protection of marine biodiversity, the three partner States unequally exploit this opportunity. While Fijian and Solomon texts do not pay much attention to this marine resources management tool²³, the Vanuatu Act applies a section to it, specifying the regime of such reserves and bringing certain elements about the procedure of their designation²⁴. Regarding other types of protected areas, Fijian and Solomon laws do not

²⁰ See the preliminary report of workshop zone n°1: Fiji Republic, p. 55 *and seq.*

²¹ Art. 3 para (e) of the Wildlife Protection and Management Act of 1998.

²² Regarding terrestrial fauna and flora, all partner States pay special attention to wild birds. The rules of the colonial period are still in force and concern mainly hunting.

²³ In Fiji Islands, they do not refer to marine reserves strictly speaking. In fact, the Fisheries Act of 1942 authorizes the competent Minister to set up, by means of regulations, areas within which fishing is forbidden or restricted. In their Schedule 5, the implementing Fisheries regulations of 1965 list “restricted areas” and prohibit within these areas the use of other fishing methods than those expressly provided for. In Solomon Islands, the term “marine reserve” appears in the text of the Fisheries Act of 1998 without however being specified as to its contents. Thus, provincial assemblies can make ordinances providing for areas closed to fishing and for the establishment and protection of marine reserves (art. 10 para. 3 (d) and (h) of Fisheries Act of 1998). The possibility of setting up closed areas as a fisheries management conservation measure is given to the competent Minister as well (art. 59 para. 1 (iv)).

²⁴ One must recall that under section 43 of the Fisheries Act of 2005 any area of Vanuatu waters and the seabed underlying those waters may be declared by the competent Minister a marine reserve subject to

say a word apart from the very general and rather vague possibility, provided for by the Solomon's *Wildlife Protection and Management Act* of 1998, of setting aside or reserving within a management programme certain areas for the protection, management or conservation of plant and/or animal species. In Vanuatu, on the opposite, the legislation is more complex from this point of view, marine and forest reserves being completed by other types of protected areas. On the one hand, "classic" protected areas, namely national parks and nature reserves²⁵, are provided for by a special Act, and, on the other hand, there exists a special concept of "community conservation areas" (provided for in the general *Environmental Management and Conservation Act* of 2002). While the possibility of selecting the former has never been exploited because of their failure to adapt to Melanesian culture and to the customary division of the archipelago, the second concept seems to be full of promises. Indeed, having for objective the protection of sites "having national biodiversity significance" it acknowledges the main role to custom landowners and makes them responsible for "their" conservation area. It is true that this concept is not devoid of problems. Firstly, the appropriate management of designated areas will, to a large extent, depend on the technical and financial support provided for by public authorities to the villages concerned. Secondly, it may be risky to let the protection of sites of national or even international importance only in the hands of custom landowners. The fact remains that, for the countries where central power is limited for traditional as well as geographical reasons, a formalised local management presents undeniable advantages and could become the basis for a coherent protected areas system implying both public authorities and private (customary) actors. The importance and viability of this type of protected areas is confirmed by the Fijian experience where a similar concept of "[Fiji] Locally Managed Marine Areas ((F) LMMAs)" is starting to spread under the auspices of the Institute of Applied Sciences at the USP. For the moment, however, this concept does not have any legal support.

The positive law of the partner States tackles other questions in the environmental field more or less narrowly linked to the subject matter of our study (e.g. exotic species introductions, export of marine organisms, coastal development, etc.). Nevertheless, there are some gaps in the legal rules, and in certain cases the rules are illogical (e.g. the need for a "bioprospecting permit" for importing any foreign organism under the law of Vanuatu). Only the Vanuatu law deals with bioprospecting, but it does it only in a utilitarian way regulating access to resources without taking care of their conservation. From a global point of view, environmental law in general and nature (biodiversity) protection law in particular are partial and not much in accordance with the international commitments of the partner States.

consultation with the owners of any adjoining land and with the appropriate local government council. Certain activities are forbidden within such a marine reserve: fishing, taking and destroying of corals, dredging and taking of sand and gravel, taking and destroying of shipwrecks and, generally, any disturbance of the natural habitat. However, certain questions are not clear, for example the role of coastal communities in the management of marine reserves.

²⁵ National Parks Act of 1993.

B- FACILITATION OF MARINE SCIENTIFIC RESEARCH (MSR) AND PROCEDURES TO OBTAIN THE COASTAL STATE AUTHORIZATION FOR SCIENTIFIC EXPEDITIONS CONDUCTED FROM THE LITTORAL AND AT SEA

1- MSR Public International Law regime: legal and practical aspects

a- An activity regulated by the Law of the Sea

The lack of legal definition for the Marine Scientific Research, i.e. the MSR, in the Law of the Sea is not really surprising. Actually, the United Nations Convention on the Law of the Sea, i.e. the UNCLOS, signed at Montego Bay (Jamaica) on the 10th of December 1982 does not say a word on this point. In its Part XIII referring to the MSR it urges the States to promote and facilitate the development of this activity (section 239) and acknowledges, without defining it, that it plays an essential part. The MSR differs from other legitimate uses of the sea such as fishing and navigation. However, just like them, it relies on a right to regulate, authorize and conduct research granted to coastal States within waters under sovereignty and jurisdiction and a relative freedom of exercise²⁶ in international zones.

The coastal State has a power over the MSR, that is to say a set of personal and territorial powers²⁷ allowing it to supervise this activity. Part XIII details the rights and duties of three groups of International Law subjects: coastal States, researching States and, to a lesser extent, International Organizations²⁸. These rights and duties vary according to marine zones (internal waters, archipelagic waters, the territorial sea, the EEZ and the continental shelf, etc.) and legal rules in force²⁹. The legal regime of the MSR activity is thus dependent on the legal regimes of marine spaces. The legal space framework constitutes the basic outline of the UNCLOS and corresponds to the seas and oceans, a three-dimensional “space” (seabed, subsoil, water column, and surface) in which numerous activities take place. In this framework, the MSR appears as a topic of choice for the States to assess more general situations³⁰. They are issues concerning the EEZ and its regime, the extension of the coastal State sovereign rights beyond 200 nautical miles and the status of the ‘Area’³¹. All are related to the space organization and mainly deal with the States rights.

The Convention contains new rules regarding the MSR which underline an equitable sharing of interests between the States undertaking scientific expeditions and those of the coastal States in their EEZ and on their continental shelf³². This fair sharing is actually the fruit of a compromise between researching States in favour of maintaining certain freedoms³³ and Coastal States attached to their sovereignty. This was materialized

²⁶ Freedom of scientific research is the 6th freedom listed in article 87 of the UNCLOS.

²⁷ Authority and control over persons, property, events, spaces.

²⁸ Art. 238 to 265 UNCLOS.

²⁹ Section III (art. 245 to 247 UNCLOS): Conduct and promotion of Marine Scientific Research.

³⁰ **TREVES (T.)**: Principle of consent and new regime of marine scientific research, in **BARDONNET (D.)**, **VIRALLY (M.)** (ed.): *Le nouveau droit international de la mer*, Pédone ed., 1983, p. 271.

³¹ See Part XI UNCLOS and the 1994 Agreement related to PART XI UNCLOS.

³² **KOH (T.T.B.)**, supra, p. 2.

³³ Freedom of scientific research but above all of navigation.

by recognizing a prior right to consent to any type of research for the benefit of the latter. The obtainment of this right, highly defended by developing States³⁴, offers the possibility to the coastal State of deciding in an almost discretionary way whether the research can take place on its territory or deal with its natural resources.

The ‘Constitution of the Oceans’³⁵ was established with a view to contributing to the implementation of “*a just and equitable economic order which takes into account the interests and needs of mankind as a whole and, in particular, the special interests and needs of developing countries, whether coastal and land-locked*” (preamble). Its main objective is to create an equivalent legal order for the seas and the oceans “[...] *which will facilitate international communication, and will promote the peaceful uses of the seas and oceans*” (preamble). The MSR is favoured insofar as it constitutes a type of peaceful use of the seas and oceans (art. 239) for the same reasons as other marine activities such as fishing, navigation and the laying of cables and pipelines, etc. All these activities as well as the International Order promoted by the legal system being economic, the point is knowing if the MSR itself is a real economic activity³⁶ regarding the Law of the Sea.

It seems that the importance of the MSR has been underestimated in the UNCLOS. As Mrs Annick De MARFFY rightly reminded, the MSR has always been considered as a minor and secondary subject³⁷. The setting up of its legal regime was just a type of bargain during the 3rd United Nations Conference on the Law of the Sea which focused on the compromise between the extension of the coastal State jurisdiction and the preservation of the freedoms of the high seas. Reduced to a potentially profitable activity, because it is liable to have important economic effects, the MSR does not differ from other exploration and exploitation activities apart from the fact that it must be facilitated. Actually, this does not change anything, because this duty, even if it is quite praiseworthy, depends on the will of the States to enforce it.

b- A mixed activity regarding practice

The MSR is composed of one or several elements which make its assimilation to a simple economic activity partially wrong. In fact its main characteristic is multiplicity: the multiplicity of sciences and technologies which it includes, the multiplicity of objectives it aims at, the multiplicity of spaces and territories it concerns, the multiplicity of contributors and the multiplicity of environmental consequences it implies. The activity of the MSR is undoubtedly a mixed activity as far as practice is concerned, that is to say it contains 2 or 3 elements of different kinds³⁸ that can be observed in concrete cases such as component 2C (Marine bioprospection) of the Coral Reef Initiatives for the Pacific (CRISP).

³⁴ Most particularly the Group of 77 whose policy consisted in claiming compensations with a view to make up for their economic inferiority.

³⁵ **KOH (T.T.B.)**: *Une constitution sur les Océans*, notes mentioned by the president of the third conference on the Law of the Sea, December 10, 1982, 6 p., available on-line at: www.un.org/Depts/los/convention_agreements/texts/koh_french.pdf, page consulted in October 2008.

³⁶ An economic activity is a human activity which consists in the production, distribution, exchange and consumption of goods and services.

³⁷ The difficulties arising from the implementation of the new regime of marine scientific research before the UNCLOS enforcement, AFDI, 1989, p. 736

³⁸ Economic, scientific, peaceful purposes in order to increase scientific knowledge of the marine environment for the benefit of mankind see art. 246 UNCLOS.

⇒ Multiplicity of sciences and technologies

Contrary to the UNCLOS which, without even defining it, apprehends it as a selective activity taking place at sea under the control of the coastal State, the MSR actually offers a vast field of studies. It includes all the sciences and technologies concerned by marine environment, let them be “hard” sciences (physics, chemistry, biology, climatology, etc.) but also human sciences (economics, law, anthropology, sociology, history, etc.). As regards technologies (for example, genetic and molecular engineering, measurement and information technologies), they offer essential means to the MSR development which, in turn, improves them³⁹. Sciences and technologies are closely linked within the MSR.

⇒ Multiplicity of research surveys

At the initial stage of research, in practice the MSR always involves the linking of scientists with the different aspects of the marine environment which they study. In most cases, the first marine contact consists in series of observations made in a “place”, understood as a part of or the whole marine zone of survey (a limited geographical zone). It is at this stage that the MSR is taken into account by the Law of the Sea. However, marine science is not limited to the taking of samples and *in situ* data. It deals with and develops these results *ex situ* i.e. in laboratories, thanks to further experimental and theoretical research.

⇒ Multiplicity of objectives

Except for the technological, economic and social context which has changed, the present marine science is similar to the studies already made on marine environment, about 3 centuries ago. Research on new matters is always a great boost, and knowledge remains one of its purposes. But, contrary to its early stages, marine science is not any more only a field of knowledge open to inquisitive people and amateurs but a real activity conducted by professionals. This often involves the production of results that can be usefully applied to men: “research results”. These results do not always lead to genuine and marketable applications. They may just be “intangible effects” which, due to their general and abstract characteristics, cannot anyway be subject to a patent protection⁴⁰.

The theoretical opposition between fundamental and applied research is more and more artificial. It is often difficult to draw a boundary between them, both being linked to the heart of the modern process of research. Numerous recent international⁴¹ research projects on marine environment (for example the CRISP) reflect the increasing correlation between

³⁹ This virtuous circle is the major characteristic of “technoscience” (GOFFI (J.-Y.): *Regards sur les techno sciences*, Pour demain coll., Vrin ed., 2006, 219 p.). It is possible only if the financial means allocated to research are sufficient.

⁴⁰ Only the means of obtaining them are patentable under certain conditions (see *infra*, p 66). Moreover, acknowledging an intellectual property right on “scientific creations” does not mean that its holder is willing to exploit them commercially.

⁴¹ International projects (or programs) that is to say those managed, either within international co-operation, or by one or several States on the territory of one or several States (unilateral).

economic and financial interests with fundamental and experimental interests, brought about by the new nature of marine science.

⇒ Multiplicity of the actors and results of research

Financial contributors as well as responsible authorities are indiscriminately physical persons or legal entities, public or private ones. The implemented means as well as the expected results can indistinctly be scientific, technical *and/or* economic. They can also have a direct or indirect impact on the public policies of researching States, but also and primarily, on the territory of those where the MSR takes place. At times, it will raise internal political and judicial questions dealing, for example, with traditional and customary ownership, with the protection of marine biodiversity, or more generally with the management and protection of the environment and natural resources.

⇒ The MSR: a composite process

Even if the Law does not take a stand on the question, it is admitted that research i.e. research at its initial stage conducted *in situ*, is a scientific activity which in the long term can lead to positive economic results. Henceforth, initial research can be considered as a potential economic activity. Because of the progress of science, correlated with the progress of technology, there is no, whatsoever, clear-cut and watertight boundary between fundamental, theoretical research in favour of humanity and applied, marketable research in favour of profit. This obsolete conception has been replaced by the idea according to which research is a process, a succession of particular activities (in which *in situ* surveys we defined as initial research are part of) each of them leading to results potentially useful to the following stage of the process. The transformation of these results into commercial applications, all along the process, remains subject to increasing aleatory components.

2- The rules applicable to MSR in partner States : Law lagging behind practice

The three partner States are small developing island States which under the terms of the CBD belong to the category of countries providing genetic resources⁴² (art.2). They do not have a long history of scientific research. They show disparities regarding scientific and technological development as well as economic and social development. The present conditions pertaining to research vary despite a common cultural base. The three archipelagos have a relatively insignificant terrestrial territory compared to the area of their maritime territory⁴³. This imbalance is accentuated by the lack of means of control they

⁴² “‘Country providing genetic resources’ means country supplying genetic resources collected from in-situ sources, including populations of both wild and domesticated species, or taken from ex-situ sources which may or may not have originated in that country”. In the absence of modern stocking capacities (banks or collections of ex-situ conservation) for biological and genetic material (DNA, specimens of species), partner states can only be considered as those countries providing genetic resources from in-situ sources.

⁴³ The terrestrial territories of Fiji Islands, Solomon Islands and Vanuatu cover an area of respectively 18 272 sq.km, 27 556 sq. km and 11 880 sq. km whereas their maritime territories cover an area of 1 290 000 sq. km for the first State, 1 340 000 sq.km for the second one and 680 000 sq. km for the third one, that is 48 to 70 times wider. See **KOTOBALAVU (J.): Extended Maritime jurisdiction in the Pacific: Maximizing benefits from marine resources**, in CRAVEN (J.), SCHNEIDER (P.), STIMSON (C.) (ed.): *The international*

have over national maritime zones (EEZ, CS) remote from populated areas and more generally from coasts. Places of maritime activities (fishing or aquaculture zones for example) cannot be supervised as a whole⁴⁴. It is not surprising that MSR activity, considered as secondary, is not always regulated in a way adapted to its practical conditions.

These small developing island States rely heavily on foreign aid for their own economic, scientific and technological development (see table below). In order to regulate activities of MSR, they seem to have chosen a legal position similar to the one adopted by their previous colonial powers (Solomon, Fiji) or the one dictated by existing international law (Vanuatu). Nothing indicates that they have developed their own vision of scientific research. The University of the South Pacific (USP) however plays an important role in the region but its action remains limited by its financial and technological.

Table 2- USP Funds (dollars) in 2004 and 2005

Cash Inflows – Last 2 Years

	2004		2005	
	\$000	%	\$000	%
Govt. Grants	40,642	34.8	41,944	34.4
Student Fees	35,885	30.7	38,918	31.9
Aid & Donations	24,530	21.0	20,331	16.7
Interest	628	0.5	441	0.3
Other Receipts	15,243	13.0	20,417	16.7
TOTAL INFLOW	116,928	100.0	122,051	100.0

Source: DAVIS (K.), Director of Finances, University of South Pacific: *Overview of the University Finances*, 14 November 2006 (www.usp.ac.fj/index.php?id=4034, website consulted in July 2008)

implications of extended maritime jurisdiction in the Pacific, proceedings of the 21 annual conference co-sponsored by the East West Centre and the Hawaii Maritime Centre, 3-6 August 1987, Law of the Sea Institute-W. S. Richardson School of Law ed., Hawaii University, Honolulu, 1989, p. 136.

⁴⁴ Vanuatu has a patrol ship at its disposal with a view to keeping watch on its maritime territory whereas the Solomon Islands possess three of them.

Table 3- Rules pertaining to Marine Scientific Research (MSR) in the partner States

PARTNER STATES	LAWS	ADMINISTRATIVE PROCEDURE
SOLOMON	<ul style="list-style-type: none"> • Research Act (1982) <ul style="list-style-type: none"> - Definition of research (art. 2) - Research permit issued by the Minister responsible for Research (art. 3 (1)) - Research applications Committee (art. 3 (2)) - Research Officer (art. 3 (3)) • Delimitation of Marine Waters Act (1978): Marine Scientific Research Regulations (1994) <ul style="list-style-type: none"> - Scrupulous respect of Part XIII UNCLOS (1982) - Respect of security standards • Fisheries Act (1998) <ul style="list-style-type: none"> - Setting up of a Fisheries Advisory Council (advise the minister on proposals for fisheries development and research projects to be funded under the Fisheries management and development fund provided for under section 6 - Fisheries research (art. 19 : Fisheries research and survey operations) • Wildlife Protection and Management Act (1998) <ul style="list-style-type: none"> - Mainly targets the trade of endangered species - Import and export permits issued for scientific research purposes (art. 11(1)) - Research relating to threatened species research (art. 35) • Environment Act (1998) <ul style="list-style-type: none"> - Protection and conservation of the environment - Environmental impact assessment (EIA) and control of pollution - Role of the Environment and Conservation Division in the promotion of environmental research (art. 6 (k) et 7 (h)) 	<p><u>Standard form for research (Form RA):</u></p> <ul style="list-style-type: none"> - General form (all types of research) - Information relating to applicant - Subject(s) to be studied - Areas/locality where research work is to be conducted - Funding - Method of research - Uses of the research outcomes and benefits for Solomon Islands - Certification of two referees <p><u>Standard form for MSR (Draft UN standard form A):</u></p> <ul style="list-style-type: none"> - Specific form - Information relating to applicant(s) - Description of project - Methods and means to be used in which the research is to be conducted - Facilities and equipment - Geographical areas in which the project is to be conducted - Port of call - Participation of Coastal State to the research project - Access to data, samples and results

<p style="text-align: center;">FJI ISLANDS</p>	<ul style="list-style-type: none"> • Fisheries Act (1942, revised in 1976 and 1977) <ul style="list-style-type: none"> - Wide definition of fish (art. 2) - Exception to the use of nets for scientific purposes (art. 4B.3: Conditions of offshore licenses) • Continental Shelf Act (1970) <ul style="list-style-type: none"> - Exploitation of natural resources (minerals and other non-living resources of the seabed, subsoil and living organisms belonging to sedentary species) - Marine Scientific Research (MSR) = legitimate use of continental shelf (art. 10 (2) (g)) - Falls within the competence of the Ministry of lands and mineral resources • Marine Spaces Act (1978) <ul style="list-style-type: none"> - Complies with Part XIII UNCLOS (1982) - Falls within the competence of the minister responsible for foreign affairs (art. 11.a)) - Distinction made between MSR and fisheries research, requiring a fishing permit - No definition of these activities • Draft law on sustainable development (Sustainable Development Bill, abandoned in 1996) <ul style="list-style-type: none"> - Umbrella legislation • Title 254 on biodiversity prospecting • Endangered and Protected Species Act (2002) <ul style="list-style-type: none"> - Needs implementing regulations - Targets international and national trade, transit, transshipment and captive breeding and - artificial propagation of specimens of threatened or endemic species - Permits of export, re-export, import, introduction from the sea - Research on endangered, threatened and exploited species (CITES Scientific Council) (art. 7 (4) (e)) • Environment Management Act (2005) <ul style="list-style-type: none"> - Protection and sustainable use of natural resources - Concern of national importance: protection of coastal environment; 	<p><u>No standard form for research application</u> Except in the case of research to be conducted in Fijian schools: not applicable for MSR</p>
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	<ul style="list-style-type: none"> - relation of native Fijians with their ancestral territory - Recognition of the intrinsic values of ecosystems - Payment of research programmes through the Environmental Trust Fund established by the Act (Section 55) - Species : protected, threatened, genetically modified, exotic (in relation to the EIA) • Draft laws on fisheries and customary fishing rights (2005) 	
VANUATU	<ul style="list-style-type: none"> • Maritime Zones Act (1981, revised in 1988) <ul style="list-style-type: none"> - Complies with part XIII UNCLOS - Exclusive jurisdiction of Vanuatu in order to authorize, regulate and conduct MSR in its EEZ and on its continental shelf (art. 10) - MSR in the EEZ and on the CS = restricted activity requiring a licence granted by the responsible minister (art. 11) - The responsible minister may by Order regulate the conduct of MSR within the archipelagic waters, the territorial sea or the EEZ (art. 13) • Environmental Management and Conservation Act (2002) <ul style="list-style-type: none"> - The Director of the Department responsible for the environment must, among other things, undertake environmental research (art. 4 (1) (g)) - EIA (art. 11 and followings) - Bioprospecting (definition, authorization procedure, sharing of benefits, recognition of traditional knowledge) (art. 29 and followings) • Fisheries Act (2005) <ul style="list-style-type: none"> - Non-lethal research permits concerning marine mammals issued by the fisheries director (art. 37) - Authorisations for test fishing or scientific research (art. 43) in national waters issued by the fisheries Director (general conditions, fees) 	<p><u>Application to undertake Research on Vanuatu Flora and Fauna</u></p> <ul style="list-style-type: none"> - Information relating to applicant - Research details (purpose, reasons, benefits, lists of researchers, of equipment and of materials to be used, length of time, island(s) intended to conduct the research on., co-operation arrangements) <p><u>Code of ethics Agreement for foreign researchers undertaking research within the Flora and Fauna of Vanuatu</u></p> <ul style="list-style-type: none"> - Code of ethics for foreign researchers (Institutions, companies). These must, among other things: - arrange to work with local recognised researcher and organisation in Vanuatu; - obtain permission from national and provincial authorities as well as from landowners; - ensure that types of described species are deposited for Vanuatu in the Department of Forest Herbarium/museum - not collect endemic species without an agreement with the Vanuatu Government - Not collect more specimens than necessary <p><u>Research agreement</u> (appendix 1 of the cultural policy of Vanuatu)</p>

a- A partially regulated activity

In none of the partner States there is a homogeneous legal system regulating research activity and more specifically MSR. This is explained by the lack of definition and of recognition of this activity. Only the Research Act of the Solomon Islands (1982) defines research in general as “an endeavour to discover new facts by careful search and inquiry, scientific study or critical investigation of a subject -:

- (a) which will result in the publication of a report thesis, dissertation, academic article, book or manuscript: or;
- (b) with the purpose of making audio-visual recordings for academic or commercial purposes” (art. 2).
- (c)

This definition is limiting. The research field is restricted to academic and cultural sectors, except for the audio-visual one. The Delimitation of Marine Waters Act (1978), as well as the MSR Regulations (1996), deal with research conducted within waters under sovereignty or jurisdiction. It is the partner State which possesses the most advanced regulation in this field, its law being the most scrupulous re-transcription of Part XIII of the UNCLOS.

In the Marine Spaces Act (1978) and in the Continental Shelf Act (1970), Fiji Islands content themselves only with a re-transcription of the UNCLOS rules regarding MSR in the EEZ and on the continental shelf. A distinction between halieutic research and MSR occurs in the law of 1978 without at the same time defining these two types of activity. This distinction is expedient only if bioprospecting is not linked to an activity preliminary to fishing which is not the case in practice in this country. Indeed, the research unit of the Ministry of Fisheries actually assesses research applications, while the Ministry of Foreign Affairs assumes this capacity only for MSR which does not concern biodiversity. On the contrary, the Ministry of Fisheries is competent if the research focuses on marine biological resources even if they are not halieutic resources.

Vanuatu as well regulates MSR according to a space approach which wholly corresponds to Part XIII of the UNCLOS. The Maritime Zones Act (1981, revised in 1988) thus states that MSR in the ZEE and on the continental shelf is a restricted activity subject to a licence (art. 11). The responsible minister to issue such a licence is not specified. It is only stated in broad terms that “where no other provision is for the time being made by any other law for any such purposes, the Minister may by Order [...] regulate the conduct of scientific research within the archipelagic waters, the territorial sea and the economic exclusive zone” (art. 13 d)) No such order exists to our knowledge.

b- Incomplete administrative procedures

No legal disposition of any nature clearly refers to the procedure to be followed regarding MSR in the partner States and this is mainly due to the non designation of a competent ministry.

In Vanuatu however, the Environmental Management and Conservation Act (2002) specifies the procedure to require a bioprospecting permit. The Biodiversity Advisory Council established by the act and headed by a Director, is clearly designated as the responsible authority to approve requests to undertake biological prospecting in Vanuatu.

The biological prospecting includes any activity aimed to harvest or exploit all or any of the following: samples of genetic resources, samples of any derivatives of genetic resources, the knowledge, innovations and customary practices of local communities associated to these genetic resources. Bioprospecting is undertaken for the purposes of research, development of products, conservation, industrial or commercial use, including investigative research and sampling, but does not include customary uses of genetic resources and their derivatives (art. 2). The other partner States could draw inspiration from this act to regulate bioprospecting on their own territories.

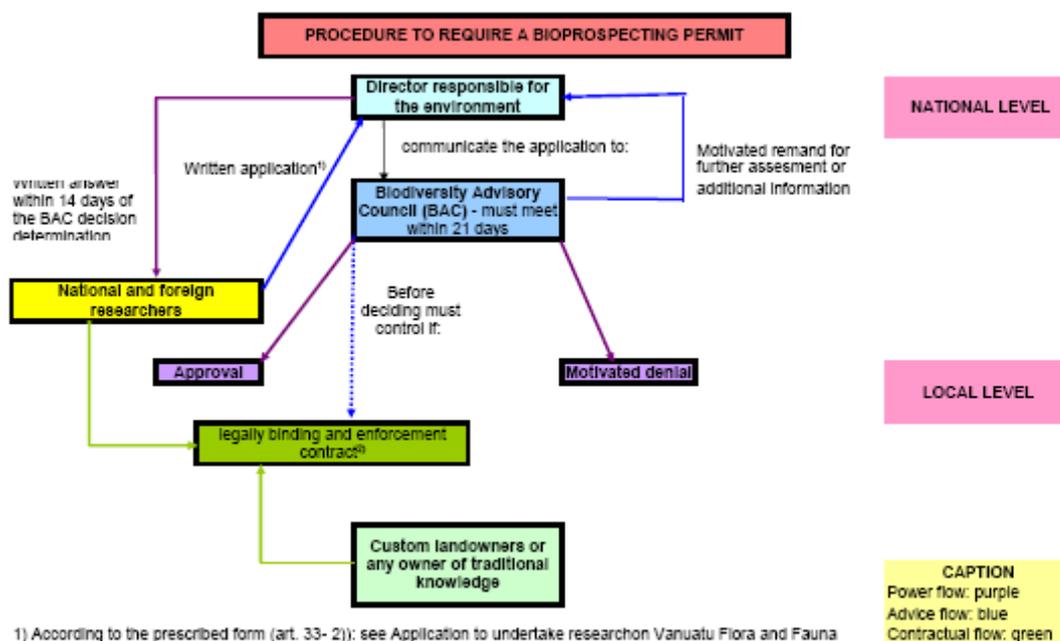


Figure 1: Procedure to require a bioprospecting permit in Vanuatu (Part 4, Division 1, Section 32 Environmental Management and Conservation Act, 2002, commenced in 2003)

In addition, the Environmental Unit supplies on its website⁴⁵ an example of “application form to undertake Research on Vanuatu Flora and Fauna” as well as a “Code of Ethics Agreement for foreign researchers undertaking research within the Flora and Fauna of Vanuatu”. Even if they are only guidelines, i.e. non binding rules of conduct, these documents outline the duties of researchers⁴⁶ and the government of Vanuatu prior to undertake research on Vanuatu territory. They are quite suitable for MSR but we found no evidence of their practical use. Finally, Vanuatu enjoys a solid cultural policy favourable to research with the Cultural Centre being in charge of the facilitation, the coordination, the administration and the benefit sharing of all cultural research projects. It would be possible to be inspired by this policy, notably by its aspect dealing with custom, with the aim of establishing a policy in the field of research on biodiversity in Vanuatu and, why not, in all the partner States.

Besides research for educational purposes, there is neither clear procedure nor typical

⁴⁵ www.biodiversity.com.vu.

⁴⁶ Researchers may mean a foreign individual or company or an academic institution and others. It may also refer to a local researcher or researchers that affiliate with foreign institutions or organizations.

form (except for the United Nations draft standard form A⁴⁷) allowing to determine the correct administrative procedure to be followed when presenting an application for research in Fiji islands. This ambiguity is a problem for the country and can hinder scientific co-operation. It can also create delays and extra costs for researchers as during the first scientific expeditions of component 2-C of CRISP in this country in 2006-2007.

At the present time, administrative procedures necessary to undertake MSR in the partner States are hard to grasp in the sense that there are no consistent rules of conduct and because competent authorities to consent to research applications are not clearly identified. Therefore the conditions necessary to establish a climate of confidence between researchers and national authorities are not gathered together. These communication hurdles are echoed at the local level; native local communities and more generally the whole population might be kept out of research and of the decision-making process.

Generally, one must respect certain formalism before and at the time of the research application and that mostly to encourage courtesy and goodwill. All foreign researchers willing to study the marine environment of the partner States must submit an official written request to national authorities, preferably through diplomatic channels. Faced with the lack of clearer rules, the Minister of Foreign Affairs seems to be the representative to be consulted first. It is then essential to keep him adequately informed of MSR projects that are being prepared or undertaken.

Foreign researchers can also find a contact among national researchers. This person (or welcoming team) will allow them to be rapidly apprised of the procedure to be followed. Melanesians attach a great importance to the spoken word. The handing down of knowledge, communication between members of a community (debate, customary ritual), the respect for others, etc. are verbal. Through networking with national researchers, foreign researchers become aware of the culture of the country where the research is undertaken, which is not necessarily the case when they rely solely on diplomatic channels. By the way, this kind of contact will be advantageous in obtaining favourable answers from the government as researchers will have to visit the villages adjoining the area of research.

A national scientific committee composed of scientists and politicians, of representatives of local communities and authorities (etc.) could act as administrative authority responsible for research carried out in partner States. The Solomon Research Act (1982) provides for the setting up of such a committee but we do not dispose of any information on its effective functioning. The responsibility of such an authority could be adjusted to fit the different sectors of research that the government wants to promote and facilitate. It could mean, regarding biodiversity, to undertake surveys, to give advice, to assent to projects aiming at the study of different elements of national marine, aquatic or terrestrial biological diversity. Furthermore, a regional model of research promotion could be envisaged for the whole Melanesia as the partner States possess common characteristics⁴⁸.

⁴⁷ “Application for consent to conduct marine scientific research in areas under jurisdiction of X State”.

⁴⁸ See supra II- General characteristics of the three legal systems and determination of convergent and divergent points.

TABLE 4- SITUATION OF MSR IN PARTNER STATES: SYNTHESIS AND ASSESSMENT

	CURRENT SITUATION	LEGAL PROBLEMS/GAPS	POSSIBLE SOLUTIONS
FIJI	<ul style="list-style-type: none"> ⇒ Marine spaces Act (1978) ⇒ Sustainable development Bill (abandoned in 1996) ⇒ Positive practice concerning coastal and marine bioprospection (Verata tikina- USP- Strathclyde institute of drug research) ⇒ Political tension due to land tenure ⇒ Lack of capacity 	<ul style="list-style-type: none"> ⇒ Determining the competent minister for MSR and bioprospection ⇒ Field of research activities (MSR, fisheries research, bioprospection) ⇒ Sustainable development Bill implementation ⇒ Legal and initial determining of benefits sharing ⇒ Determining local people rights ⇒ Export permit for alive specimens: CITES model ⇒ Intellectual property rights : obsolescence + lack of capacity + conformity with international law in force (WTO, WIPO) + Implementation of Traditional knowledge and cultural expressions protection Act ⇒ Determining legal rules applicable to <i>ex situ</i> conservation 	<ul style="list-style-type: none"> ⇒ Designation by the competent national authorities of the conditions and means of implementation of the sustainable development Act ⇒ Establishment of research (terrestrial and/or marine bioprospection) guidelines with a model of agreement on benefits sharing ⇒ Establishment of a biodiversity consultative council ⇒ Export standard form for biological samples with cross-reference to CITES ⇒ Scientific, technological and cultural co-operation : Memorandum of understanding between the USP and IRD (education, environmental awareness, advice for the establishment of marine protected areas) ⇒ Establishment of a regional museum of natural history ⇒ GEF/SPREP ⇒ Regional/ Melanesian intellectual property Office
	<ul style="list-style-type: none"> ⇒ Public international law partially or needlessly implemented ⇒ Research Act (1982, revised 1992) : 	<ul style="list-style-type: none"> ⇒ Determining legal rights over marine space adjacent to the shore and holders of those rights 	<ul style="list-style-type: none"> ⇒ Export standard form for biological samples with cross-reference to CITES

<p style="text-align: center;">SOLOMON</p>	<p>classic standard ⇒ standard application form for consent to conduct marine scientific research ⇒ Necessity to obtain a permit for export of biological materials ⇒ Lack of capacity</p>	<p>⇒ appointment of a competent ministry in the fields of MSR and bioprospection ⇒ Intellectual property law : populations and local communities rights + implementation of existing international conventions with an adaptation to local reality ⇒ Scientific co-operation : USP + Observer(s) + <i>ex situ</i> conservation ⇒ legal et <i>ab initio</i> sharing of the expected benefits ⇒ Lack of capacity</p>	<p>⇒ Establishment of a biodiversity consultative council ⇒ Scientific, technological and cultural co-operation : Memorandum of understanding between the USP and IRD (education, environmental awareness, advice for the establishment of marine protected areas) ⇒ GEF/SPREP CITES ⇒ Establishment of a regional museum of natural history ⇒ Regional/ Melanesian intellectual property Office</p>
<p style="text-align: center;">VANUATU</p>	<p>⇒ Maritime zones Act (1981, revised in 1988) ⇒ Fisheries Act (2005) ⇒ Environmental Management and Conservation Act (2002) ⇒ Application to undertake research on vanuatu flora and fauna ⇒ Code of Ethics Agreement for Foreign Researchers undertaking researches within the Flora and Fauna of Vanuatu. ⇒ Lack of capacity ⇒ Positive practice concerning coastal and marine bioprospection (IRD, Espiritu Santo 2006) ⇒ Bioprospecting license/ permit suspended</p>	<p>⇒ Narrowing of MSR legal and practical scope ⇒ Determining the role of the Cultural Centre ⇒ Environmental Management and Conservation Act Implementation and establishment of the Biodiversity Advisory Council ⇒ Determining legal rules applicable to <i>ex situ</i> conservation</p>	<p>⇒ Export standard form for biological samples with cross-reference to CITES ⇒ Establishment of a regional museum of natural history ⇒ Scientific, technological and cultural co-operation : Memorandum of understanding between the USP, IRD and cultural Centre (education, environmental awareness, advice for the establishment of marine protected areas) ⇒ Establishment of a regional museum of natural history ⇒ GEF/ SPREP ⇒ Regional/ Melanesian intellectual property Office</p>

Synthesis of general characteristics and shortcomings of MSR regulation in the partner States

Points of convergence

- ⇒ Lack of legal definition of MSR
- ⇒ Reduction of bioprospecting to a simple activity of collecting living resources
- ⇒ Collective rights of local communities over a part of marine areas and resources collected there: unclear nature of these rights; ownership, use, consent
- ⇒ Experience in the field of MSR
- ⇒ Wealth of coral ecosystems
- ⇒ No designated minister responsible for MSR
- ⇒ Cultural context

Points of divergence

- ⇒ Legal definitions of bioprospecting and bio-genetic resources (presence, absence)
- ⇒ Role of local and customary authorities in the procedure of delivering permits for research or for samples collecting
- ⇒ Procedure- means of law enforcement
- ⇒ Regulation in matters of export of biological material (presence, absence)
- ⇒ Regulation in matters of introduction of exotic or invasive species (presence, absence)
- ⇒ Regulation in matters of *ex situ* conservation
- ⇒ Economic, scientific, technological and political context
- ⇒ Experience in matters of research concerning marine biodiversity

Law in force

- ⇒ MSR
- ⇒ Fisheries/ halieutic research
- ⇒ Bioprospecting
- ⇒ Intellectual property

Shortcomings of the legislation

- ⇒ Consent
 - Terms of obtainment from appropriate national authorities and from local communities and authorities
 - Procedure to be followed (see figure 1 above)
 - Standard form
 - Issuing of permit
 - Means to control the smooth course of research works
- ⇒ Benefit sharing resulting from the exploitation of genetic resources: shortcomings
 - Conditions for obtainment of benefits
 - Types of benefits (monetary, non monetary, scientific, economic, etc.)
 - Benefits for local populations in terms of environmental protection
 - Impact on scientific co-operation and transfer of technologies

Practical shortages

- Mutual knowledge of the needs and practical expectations of partner States and of researchers
- Information regarding the procedures in force in both resource and research home State
- Confidence (impact on delays and costs of MSR)
- Determination of the role, rights and obligations of local and traditional communities as well as of customary owners

C- Table of international conventions to which Fiji Islands, Solomon Islands and Vanuatu are State parties

Convention (English and French title)	Adopted	Entry into force	Fiji	Solomon	Vanuatu
I. Law of the Sea					
Geneva Conventions	29 April 1958				
Convention on the Territorial Sea and Contiguous Zone / <i>Convention sur la mer territoriale et la zone contigue</i>		10 Sept 1964	25 March 1971 (succession)	3 Sept 1981 (succession)	no
Convention on the Continental Shelf / <i>Convention sur le plateau continental</i>		10 June 1964	25 March 1971 (succession)	3 Sept 1981 (succession)	no
Convention on the High Seas / <i>Convention sur la haute mer</i>		30 Sept 1962	25 March 1971 (succession)	3 Sept 1981 (succession)	no
Convention on Fishing and Conservation of the Living Resources of the High Seas / <i>Convention sur la pêche and la conservation des ressources biologiques de la haute mer</i>		20 March 1966	25 March 1971 (succession)	3 Sept 1981 (succession)	no
UNCLOS					
United Nations Convention on the Law of the Sea / <i>Convention des Nations Unies sur le droit de la mer</i>	10 Dec 1982 (Montego Bay)	16 Nov 1994	10 Dec 1982 (ratification)	23 June 1997 (ratification)	10 August 1999 (ratification)
Agreement Implementation of Part XI					
Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 / <i>Accord relatif à l'application de la Partie XI de la Convention des Nations Unies sur le droit de la mer du 10 décembre 1982</i>	28 July 1994 (New York)	28 July 1996	28 July 1995 (ratification)	23 June 1997 (Art. 4 para. 1)	10 August 1999 (Art. 4 para. 1)
II. Nature protection					
1. Global conventions					
Whaling Convention					
International Convention for the Regulation of Whaling / <i>Convention internationale pour la réglementation de la chasse à la baleine</i>	2 Dec 1946 (Washington)	10 Nov 1948	no	10 May 1993 (accession)	no
Plant Protection Convention					
International Plant Protection Convention / <i>Convention internationale pour la protection des végétaux</i>	6 Dec 1951 (Rome)	3 April 1952	10 August 2005 (accession)	18 Oct 1978 (accession)	no

Convention (English and French title)	Adopted	Entry into force	Fiji	Solomon	Vanuatu
RAMSAR Convention on Wetlands Convention on Wetlands of International Importance especially as Waterfowl Habitat / <i>Convention relative aux zones humides d'importance internationale</i>	2 Feb 1971 (Ramsar)	21 Dec 1975	11 August 2006 (entry into force)	no	no
UNESCO World Heritage Convention Convention concerning the Protection of the World Cultural and Natural Heritage / <i>Convention pour la protection du patrimoine mondial, culturel et naturel</i>	16 Nov 1972 (Paris)	17 Dec 1975	21 Nov 1990 (ratification)	10 June 1992 (accession)	13 June 2002 (ratification)
CITES Convention on International Trade in Endangered Species of Wild Fauna and Flora / <i>Convention sur le commerce international des espèces de faune et de flore sauvages menacées d'extinction</i>	3 March 1973 (Washington)	1 July 1975	30 Sept 1997 (accession)	26 March 2007 (accession)	17 July 1989 (accession)
Bonn Convention (CMS) Convention on the Conservation of Migratory Species of Wild Animals / <i>Convention sur la conservation des espèces migratrices appartenant à la faune sauvage</i>	23 Juin 1979 (Bonn)	1 Nov 1983	no	no	no
CBD Convention on biological diversity / <i>Convention sur la diversité biologique</i>	22 May 1992 (Nairobi)	29 Dec 1993	25 Feb 1993 (ratification)	3 Oct 1995 (ratification)	25 March 1993 (ratification)
Cartagena Protocol on Biosafety Cartagena Protocol on Biosafety to the Convention on Biological Diversity / <i>Protocole de Cartagena sur la prévention des risques biotechnologiques relatif à la Convention sur la diversité biologique</i>	29 Jan 2000 (Montreal)	11 Sept 2003	5 June 2001 (ratification)	28 July 2004 (accession)	no
IMO Ballast Water Convention International Convention for the Control and Management of Ships Ballast Water and Sediments / <i>Convention internationale pour le contrôle et la gestion des eaux et sédiments de ballast</i>	13 Feb 2004 (London)	not in force	no	no	no

Convention (English and French title)	Adopted	Entry into force	Fiji	Solomon	Vanuatu
2. Regional conventions					
SPREP Agreement Agreement establishing the South Pacific Regional Environment Programme (SPREP) [as an intergovernmental organisation] / <i>Accord instituant le Programme régional pour l'environnement du Pacifique Sud</i>	16 June 1993 (Apia)	31 August 1995	yes	yes	yes
Apia Convention Convention on Conservation of Nature in the South Pacific / <i>Convention sur la protection de la nature dans le Pacifique Sud</i>	12 June 1976 (Apia)	26 June 1990	8 Sept 1989 (accession)	no	no
Noumea Convention (Art. 14) Convention for the Protection of Natural Resources and Environment of the South Pacific Region / <i>Convention sur la protection des ressources naturelles et de l'environnement de la région du Pacifique Sud</i> + two protocols (see infra)	24 Nov 1986 (Noumea)	22 August 1990	18 Sept 1989 (accession)	10 August 1989 (accession)	no

Convention (English and French title)	Adopted	Entry into force	Fiji	Solomon	Vanuatu
III. Fisheries management					
1. Global conventions					
FAO Compliance Agreement Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas / <i>Accord visant à favoriser le respect par les navires de pêche en haute mer des mesures internationales de conservation et de gestion</i>	24 Nov 1993 (Rome)	24 April 2003	no	no	no
Fish Stocks Agreement UN Agreement for the Implementation of the Provisions of the UNCLOS relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks / <i>Accord aux fins de l'application des dispositions de la Convention des Nations Unies sur le droit de la mer du 10 déc 1982 relatives à la conservation et à la gestion des stocks de poissons dont les déplacements s'effectuent tant à l'intérieur qu'au-delà de zones économiques exclusives (stocks chevauchants) et des stocks de poissons grands migrants</i>	4 Dec 1995 (New York)	11 Dec 2001	12 Dec 1996 (ratification)	13 Feb 1997 (accession)	signature, without ratification (at 1st Oct 2009)
2. Regional conventions					
Wellington Convention Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific / <i>Convention pour l'interdiction de la pêche au filet maillant dérivant de grande dimension dans le Pacifique Sud</i>	24 Nov 1989 (Wellington)	17 May 1991	18 Jan 1994 (ratification)	19 Jan 1998 (ratification)	signature, without ratification
Niue Treaty Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement in the South Pacific Region / <i>Traité de Nioué sur la coopération en matière de surveillance des pêches et d'application des lois dans la région du Pacifique Sud</i>	9 July 1992 (Honiara)	20 May 1993	5 March 1996 (ratification)	27 May 1994 (ratification)	10 Nov 1993 (ratification)

Convention (English and French title)	Adopted	Entry into force	Fiji	Solomon	Vanuatu
Pacific Highly Migratory Fish Stocks Convention Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean / <i>Convention pour la conservation et la gestion des stocks de poissons grand migrateurs dans l'océan Pacifique de l'Ouest et du Centre</i>	5 Sept 2000 (Honolulu)	19 June 2004	13 March 2001 (ratification)	9 June 2003 (ratification)	6 Oct 2005 (ratification)

IV. Protection of the marine environment against pollution

1. Global conventions

IMO Convention on the International Maritime Organization / <i>Convention sur l'Organisation maritime internationale</i>	6 March 1948 (Geneva)	17 March 1958	1983	1988	1986
SOLAS International Convention for the Safety of Life at Sea / <i>Convention internationale pour la sauvegarde de la vie humaine en mer</i>	1st Nov 1974 (London)	25 May 1980	yes	yes	yes
COLREG Convention on the International Regulations for Preventing Collisions at Sea / <i>Convention sur le règlement international pour prévenir les abordages en mer</i>	20 Oct 1972 (London)	15 July 1977	yes	yes	yes
STCW International Convention on Standards of Training, Certification and Watchkeeping for Seafarers / <i>Convention internationale sur les normes de formation des gens de mer, de délivrance des brevets et de veille</i>	7 July 1978 (London)	28 April 1984	yes	yes	yes
MARPOL 73/78 International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto / <i>Convention internationale de 1973 pour la prévention de la pollution par les navires, telle que modifiée par le protocole de 1978 y relatif</i>	2 Nov 1973 / 17 Feb 1978 (London)	2 Oct 1983 (for Annexes I and II)	no	no	yes

Convention (English and French title)	Adopted	Entry into force	Fiji	Solomon	Vanuatu
London Convention Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter / <i>Convention sur la prévention de la pollution des mers résultant de l'immersion de déchets</i> 1996 Protocol	29 Dec 1972 (London, Mexico City, Moscow, Washington) 7 Nov 1996	30 August 1975 24 March 2006	no no	yes no	yes yes
OPRC Convention International Convention on Oil Pollution Preparedness, Response and Co-operation / <i>Convention internationale sur la préparation, la lutte et la coopération en matière de pollution par les hydrocarbures</i>	30 Nov 1990 (London)	13 May 1995	no	no	yes
HNS Protocol Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances / <i>Protocole sur la préparation, la lutte et la coopération en matière d'incidences de pollution par des substances nocives et potentiellement dangereuses</i>	15 March 2000 (London)	14 June 2007	no	no	yes
Anti-Fouling Systems Convention International Convention on the Control of Harmful Anti-Fouling Systems on Ships / <i>Convention internationale sur le contrôle des systèmes antisalissure nuisibles sur les navires</i>	5 Oct 2001 (London)	not in force	no	no	no

Convention (English and French title)	Adopted	Entry into force	Fiji	Solomon	Vanuatu
2. Regional conventions					
Noumea Convention (see supra) Dumping Protocol Protocol for the Prevention of Pollution of the South Pacific Region by Dumping / <i>Protocole sur la prévention de la pollution de la région du Pacifique Sud résultant de l'immersion de déchets</i>	25 Nov 1986 (Noumea)	22 August 1990	18 Sept 1989 (accession)	10 August 1989 (accession)	no
Pollution Emergencies Protocol Protocol Concerning Co-operation in Combating Pollution Emergencies in the South Pacific Region / <i>Protocole de coopération dans les interventions d'urgence contre les incidents générateurs de pollution dans la région du Pacifique Sud</i>	25 Nov 1986 (Noumea)	22 August 1990	18 Sept 1989 (accession)	10 August 1989 (accession)	no
V. Intellectual property					
WIPO Convention Establishing the World Intellectual Property Organization / <i>Convention instituant l'Organisation mondiale de la propriété intellectuelle</i>	14 July 1967 (Stockholm)		11 Dec 1971 (accession)	no	no
VI. International trade law					
WTO Agreement Establishing the World Trade Organization / <i>Accord instituant l'Organisation mondiale du commerce</i>	15 April 1994 (Marrakech)	1st Jan 1995	14 Jan 1996	26 July 1996	no (observer)

D- IDENTIFICATION OF LEGAL GAPS AND NECESSARY EVOLUTION OF THE LEGAL FRAMEWORK

As we noticed in part III of this report, the three partner States have at their disposal a rather sophisticated set of legal rules concerning our subject matter (the protection and sustainable use of marine biodiversity). Indeed, improvements would be desirable, even necessary; however the existing rules offer a satisfying framework. Most of the proposed improvements do not need the adoption of new laws; completing the legislation in force by implementing regulations is sufficient. Our proposals mainly concern the following issues: creation of natural heritage inventories, space protection through marine protected areas, integral protection of certain species and amendments to fisheries laws (protection of deep water corals and ornamental species fishing).

However, there is a subject about which legal specification would be highly recommended and which we shall not deal with because of its customary nature. It is the “customary marine tenure”, i.e. the rights that coastal villages have within marine zones adjacent to “their” land territory. As this sensitive issue is not completely dealt with in partner States, external persons (e.g. foreign researchers) have to face a situation of uncertainty. Specifying the rights and duties of native communities would be useful not only for the legal security of foreigners wishing to gain access to coastal zones resources, but also to ensure both the protection of these resources and the rights of the communities themselves⁴⁹.

⁴⁹ One may recall that a draft law regarding this issue – *Qoliqoli Bill* – was introduced to the Fijian Parliament in 2006. However, the legislative procedure was suspended after the coup d'état of December 5th of the same year and has not been resumed since.

Table 6- Synthesis of legal gaps

Issue	Fiji	Solomon Islands	Vanuatu
1. Law of marine spaces	http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/STATEFILES/FJI.htm	http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/STATEFILES/SOLB.htm	http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/STATEFILES/VANUT.htm
a- Maritime delimitation	In conformity with UNCLOS, except for the obsolete laws on continental shelf.		In conformity with UNCLOS, except for the delimitation of EEZ and continental shelf: claimed maximal breadth impossible, necessity to negotiate delimitation agreements with neighboring countries.
b- Claimed rights			In conformity with UNCLOS.
c- Innocent passage and archipelagic sea lanes passage	Transcription of general rules included in UNCLOS (art. 22, 52 and 53), possibility to designate sea lanes and traffic separation schemes by a ministerial order has not been used in any of the partner States.		A temporary rule applies: "routes normally used for international navigation".
d- Competent authority	Minister of foreign affaires.		Minister, law does not precise which one.

Issue	Fiji	Solomon Islands	Vanuatu
2. Land ownership			
a- Emerged land	Customary "ownership" recognized in the Constitution and individual laws, the majority of land belongs to customary owners (collective ownership), a part to the State.		
b- Submerged land (seabed)	Problematic in all three partner States, customary rights are recognised, but their content and spatial application are not clear; in reality the coastal communities consider themselves to be custodians of marine spaces adjoining to "their" emerged land (generally up to the outer limit of the reef).		
	<p>State ownership (landward limit: high-water mark), but existence of <i>qoliqoli</i> (customary fishing grounds): <i>de facto</i> power exerted by the coastal communities; a bill proposed to the Fijian Parliament in 2006 aiming at unifying the <i>qoliqoli</i> regime (transfer of ownership), legislative procedure suspended after the coup in December 2006).</p> <p>http://www.parliament.gov.fj/legislative/bills.aspx?billID=314&viewtype=status&billnav=bill</p>	<p>Possibility of customary ownership recognised both by the legislation (see <i>Customs Recognition Act</i> of 2000) and the case law under condition that the community in question offers sufficient proofs.</p>	<p>Regarding the question of submerged land ownership the positive law is silent, but rights of coastal communities in adjoining marine spaces are recognised (they are assimilated to the customary land ownership in the <i>Customary Land Tribunal Act</i> of 2001).</p>

Issue	Fiji	Solomon Islands	Vanuatu
2. Law of marine fisheries	The two States have signed and ratified all the important global and regional conventions.		The State has signed the important conventions, but has not yet ratified them all (are lacking: Fisheries Stocks Agreement and the Wellington Convention).
a- Participation in international conventions			Customary fishing rights recognised by the legislation, but the <i>qoliqoli</i> regime needs to be clarified.
b- National law (coastal fisheries)	Rules aiming at the protection of living resources should be amended both from the general point of view and regarding specific species.	Protection of specific species: the Minister is authorised to prescribe special measures, but did he really do it? (Need for regulations/orders on turtles, marine mammals, SCUBA use, etc.)	Role of by-laws adopted by the provincial councils in the field of fisheries should be specified.

Issue	Fiji	Solomon Islands	Vanuatu
	<p>Special regulation advisable (special sections of the <i>Fisheries Act</i> of 1942?) on: 1. fishing for ornamental species, 2. aquaculture, 3. MSR involving taking of marine organisms.</p>	<p>MSR regime is not entirely clear (the term "fisheries research" is not defined).</p>	<p>Need for implementing regulations (concerning the MSR - including the application form, importation and exportation of aquatic species, taking of corals and ornamental species, special protection of certain species, aquaculture, etc.).</p>
	<p>From a global point of view, the legislation should be more ordered and better structured.</p>	<p>From a global point of view: the <i>Fisheries Act</i> of 1998 a modern law that could serve as an example.</p>	<p>From a global point of view: the legislation is mainly intended to regulate the off-shore fishing, it pays only a little attention to the protection of reef resources.</p>
	<p>Comment: A new law on fisheries had been prepared in relation to the one dealing with the <i>qoliqoli</i>, but the legislative procedure has been suspended after the coup in December 2006).</p>		

Issue	Fiji	Solomon Islands	Vanuatu
3. Environmental law			
a- Participation in international conventions	<p>The State is a party to important international conventions, both global and regional ones (including their protocols), in the field of nature protection (except for the Bonn Convention). On the contrary, it does not participate in conventions having for objective the protection of the marine environment against pollution adopted within the IMO (MARPOL, London Convention, OPRC Convention, Harmful Anti-fouling Systems Convention, Ballast Water Management Convention).</p>	<p>The State is a party to a majority of important international conventions, global and regional ones (including their protocols), in the field of nature protection (except for the Bonn, Ramsar and Apia Conventions, accession to CITES in March 2007). Except the London Convention, it does not participate in conventions having for objective the protection of the marine environment against pollution adopted within the IMO (MARPOL, OPRC Convention, Harmful Anti-fouling Systems Convention, Ballast Water Management Convention).</p>	<p>The State is a party to some important international conventions in the field of nature protection (does not participate, at the global level, in the Ramsar and Bonn Conventions and, at the regional level, in the Apia and Noumea Conventions). On the contrary, it participates in the majority of conventions having for objective the protection of the marine environment against pollution adopted within the IMO (are lacking: Harmful Anti-fouling Systems Convention, Ballast Water Management Convention).</p>

Issue	Fiji	Solomon Islands	Vanuatu
<p>b- Environmental protection - general approach</p>	<p>A relatively elaborate general law on the environment exists (<i>Environment Management Act</i> of 2005), but implementing regulations are lacking.</p>	<p>The general law (<i>Environment Act</i> of 1998) is quite elaborate. Some amendments could be proposed.</p>	<p>A general law exists (<i>Environmental Management and Conservation Act</i> of 2002), but general principles are lacking as well as implementing regulations (the latter are maybe being prepared by the State Law Office).</p>
	<p>Comment: A very comprehensive law (<i>Sustainable Development Bill</i>) had been prepared in 1998, but it was finally abandoned. However, the text could serve as an example.</p>		

Issue	Fiji	Solomon Islands	Vanuatu
<p>c- Protection of the marine environment against land-based pollution</p>	<p>The <i>Environment Management Act</i> of 2005 contains rules aiming at the waste management and the protection of the environment against pollution. The main instrument (besides the EIA) is a permit that is necessary for certain dangerous activities (including discharge of pollutants into the environment). Special rules are provided for emergency situations. We advise to complete the regulation with more specific rules dealing with waste management and discharge of pollutants.</p>	<p>The <i>Environment Act</i> of 1998 contains comprehensive rules aiming at pollution prevention (EIA, special licences for "prescribed premises" that are, however, not defined).</p>	<p>The only instrument is the EIA procedure to which all activities that could lead to a pollution of water or land are subjected (art. 11 and seq. <i>Environmental Management and Conservation Act</i> of 2002). More specific rules aiming at pollution prevention and control would be advisable.</p>

Issue	Fiji	Solomon Islands	Vanuatu
<p>d- Trade in endangered species</p>	<p>In principle, the regulation corresponds to the CITES. The major problem being the lack of information on protected species status, it would be imaginable to lay down an obligation for the companies involved in the trade to assess the stock status. (Or rather within the regulation of fishing for ornamental species? See art. 32 para. 2 of the <i>Fisheries Act</i> of 1998 of Solomon Islands).</p>	<p>The regulation is provided for in the <i>Wildlife Protection and Management Act</i> of 1998, some amendments would however be advisable in view of the accession to the CITES in 2007 (ex.: problematic definitions + no reference to the CITES concerning annexes listing protected species - problem of keeping them up to date).</p>	<p>The regulation provided for in the <i>International Trade (Flora and Fauna) Act</i> of 1989 constitutes a satisfying basis (it repeats more or less precisely the CITES), nevertheless its practical application is problematic (the CITES permit is required even for species that are not listed in annexes). Need to give to lists of species of national importance legal value and to amend accordingly the act.</p>
	<p>Export of specimens taken within research: a special procedure should be enacted.</p>		

Issue	Fiji	Solomon Islands	Vanuatu
e- Protected areas	<p>Legal regulation is insufficient. Only the <i>Forest Decree</i> of 1992 contains a possibility to create nature reserves. The minister responsible for fisheries can, via a regulation, prescribe areas within which fishing is prohibited or limited + only enumerated fishing methods are authorised within restricted areas described in the Fifth Schedule of the <i>Fisheries Regulations</i> of 1965. Certain types of protected areas exist <i>de facto</i> (protection forest, locally managed marine areas), but there is a need to provide them with a legal basis.</p>	<p>Legal regulation is insufficient. The <i>Wildlife Protection and Management Act</i> of 1998 contains a possibility to provide within an "Approved Management Programme" for areas set aside for protection, management or conservation. According to the <i>Fisheries Act</i> of 1998, the provincial assemblies can make ordinances providing for the establishment and protection of marine reserves x the minister can prescribe through a regulation "closed areas" as a fisheries management conservation measure - what is the difference between these two instruments?</p>	<p>More types of protected areas are provided for in the law in force. Problem: the concept of national parks is not adapted to the Melanesian culture and the traditional division of the archipelago; new concept (<i>Environmental Management and Conservation Act</i> of 2002) - community conservation areas (weakness - their voluntary nature, the management and the existence itself of such an area are fully in the hands of customary owners). Marine reserves provided for in the <i>Fisheries Act</i> of 2005 - what is the role coastal communities? How are they supervised?</p>

Issue	Fiji	Solomon Islands	Vanuatu
f- Exotic species introductions	<p>The issue is not directly regulated. However, each activity that could result in an introduction of exotic species (or of GMOs) into the environment must be approved by an <i>EIA Administrator</i>. A specialized regulation is advisable. Using the regulation of trade in endangered species would be possible as well (control of exotic species introductions through import permits).</p>	<p>Import of exotic species is controlled: 1. under the <i>Fisheries Act</i> of 1998 (art. 32 para. 2, not a general interdiction, but an import permit is necessary), 2. under the <i>Wildlife Protection and Management Act</i> of 1998 (not a general interdiction, control through management programmes, art. 6 para. 2(d), or import permits, art. 12).</p>	<p>Exotic species introductions are subjected to a "bioprospecting permit" (art. 32 para.(c) of the <i>Environmental Management and Conservation Act</i> of 2002) that is not logic.</p>

Issue	Fiji	Solomon Islands	Vanuatu
g- General nature / biodiversity protection	Rules aiming at nature protection are lacking (general protection + special rules for certain species and areas would be desirable).	Despite the name (<i>Wildlife Protection and Management Act</i>), the positive law is lacunal.	Rules aiming at the general nature protection are lacking (<i>Environmental Management and Conservation Act</i> of 2002 deals only with bioprospecting). Art. 32 para. (d) of the act (sanction for every breach of a law relating to the protection of Vanuatu's native flora and fauna) is insufficient and not well placed (article entitled "Bioprospecting to require permit").

1- Scientific approach : natural heritage inventories

Partner States enjoy a great biological wealth, on land as well as in the sea. Yet, to efficiently protect the latter it is first necessary to have a good knowledge of it. That is why the Convention on Biological Diversity demands that each contracting State Party “*shall identify components of biological diversity important for its conservation and sustainable use*”⁵⁰. None of the partner States has inventoried its biological heritage yet although relevant legal rules exist. The Fijian general Environment Management Act is the most elaborate from this point of view by providing for the creation of a natural resources inventory⁵¹. Neither in the environmental legislation of the Solomon Islands, nor in that of Vanuatu, the word “inventory” appears; its setting up can, however, be based on the duty to estimate the state of natural resources within national environmental reports⁵². The aim of inventories should not be to exhaustively register all the elements of biodiversity, but rather to list those presenting a special interest from a scientific, ecological or cultural point of view and, therefore, requiring protection. They could concern species as well as spaces⁵³. In the three countries, the minister responsible for the environment is authorized to adopt application regulations on any necessary issue in order to implement the general environmental law suitable for each State⁵⁴. The creation of natural heritage inventories could be the aim of such regulations.

2- Spaces protection: marine protected areas

Protected areas are considered as the privileged tool of biodiversity conservation as is evidence of it the attention paid to them by the CBD⁵⁵. Their efficiency is testified both on land and at sea: they not only allow the protection of rare or endangered marine species habitats, but also participate in the reasonable management of exploited marine biological resources. Indeed, the setting up of reserves around spawning and feeding sites enables the repopulation of neighbouring zones and therefore the increase of the catch of local fishermen. Partner States’ regulations regarding this type of tool are rather partial. Only fisheries laws provide for regulations allowing the designation of marine reserves (“restricted zones” in the Fiji Islands), that is to say zones within which fishing and, if need be, other activities are

⁵⁰ Art.7a) CBD. Following categories shall be taken into account according to the indicative list set down in CBD Annex I:

“1. *Ecosystems and habitats: containing a high diversity, large numbers of endemic or threatened species, or wildernesses; necessary for migratory species; of social, economic, cultural or scientific importance; or, which are representative, unique or associated with key evolutionary or other biological processes*

2. *Species and communities which are threatened; wild species, related to domesticated or cultivated species ; of medicinal, agricultural or other economic value; of social, scientific or cultural importance; or significant for research on the conservation and sustainable use of biological diversity, such as indicator species;*

3. *Described genomes and genes of social, scientific or economic importance.*”

⁵¹ *Natural Resource Inventory* (art. 25 of the Environment Management Act of 2005). This inventory must be formulated and held by the Department responsible for the environment, more precisely by the Resource Management Unit created therein. The inventory is a condition for the elaboration of the National Resource Management Plan.

⁵² See art. 8 of the Environment Act 1998 of Solomon Islands, art.7of the Environmental Management and Conservation Act 2002 of Vanuatu. It is interesting to note that according to Solomon law only major natural resources should be estimated, whereas Vanuatu law demands an evaluation of the state of all natural resources.

⁵³ The French inventory of NZEFFI (Natural Zones of Ecological, Flora and Fauna Interest) could serve as a model.

⁵⁴ See art. 61 of the Environment Management Act of 2005 (Fiji), art. 55 of the Environment Act of 1998 (Solomon Islands) and art. 45 of the Environmental Management and Conservation Act of 2002 (Vanuatu).

⁵⁵ Art. 8 of the CBD, related to in-situ conservation, requires State parties in the first place to “*establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity*”.

forbidden or limited⁵⁶. The most elaborate ones from this point of view are Vanuatu legal regulations, contrary to Fijian and Solomon regulations which remain very vague. The concept of [*Fiji*] *Locally Managed Marine Areas*, (F)LMMAs, is most interesting although it is not rooted in positive law. The result of the absence of relevant regulations is the limited number of marine reserves existing *de jure* in the partner States.

We propose regulations aiming at two types of marine protected areas: areas that are created and managed by State authorities on the one hand, and by native communities on the other hand as it is the case for the (F)LMMAs. Since there are differences in the respective legal regulations of the partner States, our proposals are adapted, (especially with respect to procedures), to each of them.

a- Fiji Islands

The Fisheries Regulations of 1965 contain only one provision relating to marine reserves (more precisely “restricted zones”) the aim of which being to limit fishing in these areas, some fishing methods being however permitted. Although the country prepares a new fisheries legislation, its achievement remains uncertain⁵⁷. That is why we prefer to propose the setting up of regulations for marine protected areas within the Environment Management Act of 2005 the scope of which being wide enough⁵⁸. Appropriate implementing regulations could be adopted in accordance with art. 61, more precisely with its paragraph 3(e)⁵⁹.

b- Solomon Islands

Although the Fisheries Act of 1998 is very modern it does not pay much attention to the protection of marine habitats. The only relevant provision is the one authorizing provincial assemblies to set up and protect, *via* ordinances, marine reserves. This provision, however, is never specified. That is why, in this particular case too, we tend to favour a regulation within the environmental legislation framework. Besides, the objects of the *Environment Law* of 1998 shall be “*to comply with and give effect to regional and international conventions and obligations relating to the environment*”⁶⁰. The CBD, in which the Solomon Islands are one of the State parties, deal with protected areas as the main tool of the *in situ* biodiversity protection. Appropriate implementing regulations could be adopted in accordance with art. 55 para. 1⁶¹.

⁵⁶ Art. 11 of the Fisheries Regulations of 1965 (Fiji), art. 10 para. 3(h) of the Fisheries Act of 1998 (Solomon Islands) and art. 42 of the Fisheries Act of 2005 (Vanuatu).

⁵⁷ One must recall that a draft law on the fisheries management was submitted for advice to the administrations concerned in 2006. Yet, preliminary studies were suspended in response to the breaking off of the legislative procedure concerning the *Qoliqoli* Bill (customary fishing zones) which the new draft fisheries law was attached to.

⁵⁸ See art. 3 of the Environment Management Act of 2005.

⁵⁹ “*The Minister may, after consulting the relevant Minister responsible for Fijian Affairs, land, mineral resources, agriculture, fisheries, or forestry, make regulations ... (e) to establish guidelines, standards and procedures for the conservation, protection or rehabilitation of any land, river or marine area...*”

⁶⁰ Art. 3 of the Environment Law of 1998.

⁶¹ “*The Minister may make regulations, prescribing all matters that are required or permitted to be prescribed or as the Minister may consider necessary or desirable to be prescribed for generally carrying out or giving effect to this Act.*”

c- Vanuatu

Among the partner States, it is the Vanuatu legislation which is the most elaborate regarding the protection of natural spaces. Apart from the National Parks Act of 1993, rather ill adapted to Melanesian culture and the customary division of the archipelago, marine protected areas can be designated either in accordance with the Fisheries Act of 2005, or in accordance with the Environmental Management and Conservation Act of 2002. The Fisheries Act provides for the setting up of marine reserves within which fishing, taking and destroying of corals, dredging of sand and gravel, destroying of ship wrecks and, generally, every disturbance of natural habitats are forbidden⁶². Given these relatively elaborate regulations, it seems relevant to us to specify the rules concerning marine protected areas set up and managed by the State authorities within its framework. All the more so as the law authorizes *expressis verbis* the competent Minister to adopt implementing regulations related to the creation, management and protection of marine reserves⁶³. However, the regulation of marine protected areas managed by native coastal communities would more logically complete the Environmental Management and Conservation Act. Actually, the latter comprises provisions related to “community conservation areas”, a concept close to Fijian locally managed marine areas, within which native communities play a crucial role. Although the law seems to aim mainly at land sites, by no means does it prevent the setting up of such areas in marine spaces. An application rule based on art. 45 para.1 or 2 (the second paragraph provides for the co-operation of the Minister in charge of the environment with other ministers)⁶⁴ could set its specificities.

3- Integral protection of certain species

The integral protection of certain species belongs to the traditional techniques of nature protection. It is especially important for migratory species or, more generally, for all species that move and for which being solely protected in space (i.e. through the creation of a protected area including their habitat) is not enough. The partner States’ marine waters shelter numerous species for which a strict protection would be desirable because of their rarity or vulnerability. Yet, the legislation of the three countries deals only with two specific threats: fishing and international trade. Fisheries laws – or more precisely the implementing regulations on these questions – forbid killing, taking as well as harming in any ways certain species of marine animals. Laws implementing the CITES (*Convention on International Trade in Endangered Species of Wild Fauna and Flora*) within the national legal order of the partner States have a more limited impact: they only concern the export and import of species listed in the annexes (which take up, except for Fijian regulations, the CITES Appendices)⁶⁵. The strict protection of certain marine species is more complicated as they are often the object of traditional uses by native communities (e.g. dolphins in the Solomon Islands, turtles in Vanuatu). This is a sensitive point which must not be neglected. Any proposal for a strict protection of such species would have to keep with some kind of grass-roots education

⁶² Art. 42 of the Fisheries Act of 2005. The reserve is declared by the Minister responsible for fisheries and he can also allow exemptions from these interdictions.

⁶³ “The Minister may make regulations, not inconsistent with this Act, in relation to the establishment, management and protection of marine reserves.” (art. 42 para. 3 of the Fisheries Act of 2005).

⁶⁴ “(1) The Minister may make regulations to give effect to the purposes and provisions of this Act, including for all or any of the following...(2) The Minister may make regulations with other Ministers, including for the purpose of any or all of the following...”

⁶⁵ To be more precise, they apply, in accordance with the CITES, to the export, re-export, import and extraction from the sea of any specimen (dead or alive) as well as any part or any product obtained from listed species.

amongst native communities. Regarding this particular point, we could underline the initiative of the *Wan Smolbag Theatre*, a Vanuatu theatre company, which, in 1995, prepared a play explaining to the public, in a very simple way, the need to protect sea turtles. Their performance in coastal villages was a success and the taking of turtles for traditional reasons really decreased.

Our proposals are different according to the country:

a- Fiji Islands

The legal regulations of fishing in Fiji Islands contain numerous provisions dealing with a strict protection of certain marine species, such as, for example, the Triton's trumpet (*Charonia tritonis*), porpoises and dolphins, sea turtles or the humphead wrasse. The weak point of these regulations is that they are a little erratic: each species is protected by an independent article or even an independent regulation. Moreover, turtles are only temporarily protected (the regulations of 2004 on turtles expire on December 31st 2008). Other species of marine fish are included in Schedules 1 and 2 of the Endangered and Protected Species Act of 2002. The main goal of the latter is to implement the CITES; it also applies, however, to certain species that are not enumerated in its Appendices. Schedule 1 contains indigenous Fijian species not listed in Appendix I of the CITES, but considered as threatened with extinction. Although international as well as domestic trades in these species are strictly regulated, they are not protected within the fishing framework. It would be desirable to unify regulations to ensure a strict and steady protection of endangered species. The new Fisheries Act, if adopted, could contain a provision forbidding all harm to the listed species by implementing regulations (with a possibility of exemptions for precise reasons). The list of these protected species should take into account the CITES regulations.

b- Solomon Islands

The Fisheries Act of 1998 is based on the modern principles of marine biological resources management (e.g. the precautionary principle or protection of biodiversity). So, it is surprising to see that it does not contain any provision dealing with a strict protection of endangered marine species. Henceforth, we propose to ensure this protection through implementing regulations adopted in accordance with art. 59 para. 1(ii) or (v)⁶⁶. These regulations should list the species concerned and provide for rules guaranteeing their strict protection. Similarly to the proposal for the Fiji Islands, they should take into account the CITES regulation, i.e. the Wildlife Protection and Management Act of 1998.

⁶⁶ “The Minister may make regulations as may seem to him expedient for carrying into effect the provisions of this Act, and, without prejudice to the generality of the forgoing, such regulations may provide for all or any of the following purposes... (ii) the licensing, regulation and management of any fishery and the conservation of particular species of fish or other aquatic organisms ;...(v) prohibiting or regulating fishing for whales and other species of marine mammals...”

c- Vanuatu

The Fisheries Act of 2005 pays little attention to the integral protection of particular species. The only exception is marine mammals. Actually, all Vanuatu waters are declared to be the “*Vanuatu Whale Sanctuary*” and activities harming marine mammals are forbidden⁶⁷. This regulation is relatively detailed, including rules on whale watching and on the export and import of marine mammals for public aquariums. Another group of vulnerable marine species, namely turtles, is protected according to the regulations of 2005 (taking turtles is forbidden except for customary purposes in accordance with an *ad hoc* permit). However, it would be desirable to ensure a strict protection for other species as well. Implementing regulations could be based on art.78 para. 2(w)⁶⁸ and should comply with the appropriate CITES regulation, i.e. the International Trade (Fauna and Flora) Act of 1989. In addition, the Environmental Management and Conservation Act of 2002 equally provides, in its art. 45 para. 2(b) for an explicit possibility of implementing regulations (made by the Minister in charge of the environment together with other competent ministers) concerning the harvesting of marine resources⁶⁹. However, it seems to us more to the point to deal with this issue first within the fisheries framework.

More generally speaking, partner States could be inspired by the French legislation (Book IV, 1st Title, art. L411-1 *and seq.* of the Environmental Code, concerning the protection of fauna and flora⁷⁰) and create lists of strictly protected species of fauna and flora that could include terrestrial as well as marine species. The general laws on the environment in the three countries could allow the adoption of appropriate implementing regulations⁷¹.

⁶⁷ Part VIII, art. 35-40 of the Fisheries Act of 2005. The first article defines “marine mammals” as including all species of whales, dolphins, porpoises and the dugong.

⁶⁸ “(1) *The Minister may make regulations, not inconsistent with this Act for the implementation of its purposes and provisions, and may prescribe anything that may be prescribed under the provisions of this Act...*(2) *Without limiting the generality of subsection (1), regulations made pursuant to this section may provide for all or any of the following : ... (w) prescribing measures for the protection of trochus, turtles and other species...*”

⁶⁹ “(2) *The Minister may make regulations with other Ministers, including for the purpose of any or all of the following: (b) regulating the harvesting of marine resources...*”

⁷⁰ “I. *When a specific scientific interest or the necessity of conserving biological heritage justify the conservation of non-domestic animal species or non-cultivated plant life, the followings are prohibited:*

1° *The destruction or poaching of eggs or nests; mutilation, destruction, capture or poaching, intentional disturbance, the practice of taxidermy on any of these species or, whether dead or alive, their transport, peddling, use, possession, offer for sale, their sale or their purchase,*

2° *The destruction, cutting, mutilation, uprooting, picking or poaching of these plant species, of their flowers or any other form taken by these species during their vegetative cycle, their transport, peddling, use, offer for sale, sale or purchase, the possession of specimens taken from their natural environment,*

3° *The destruction, alteration or degradation of the specific environment of these animal or plant species...*” (art. L 411-1 of the Environmental Code).

⁷¹ Art. 61 of the Environment Management Act of 2005 (Fiji), art. 55 of the Environment Act of 1998 (Solomon Islands) and art. 45 of the Environmental Management and Conservation Act of 2002 (Vanuatu).

4- Amendments to fisheries laws: deep-sea corals and fishing for ornamental species

The three partner States possess laws and regulations governing fishing that are, with the exception of Fiji, elaborate, modern and quite complete. The improvements we are proposing concern two specific issues: the protection of deep-sea corals and fishing for ornamental species.

Deep-sea corals are structures that grow several hundred meters deep along continental fringes. They serve as subsoil, shelter and food for invertebrates and fish, and are at the origin of a rich ecosystem whose diversity and complexity are just beginning to be studied⁷². In spite of their depth, they are threatened by human activities, particularly by trawl fishing. Impacts can be serious: if the structure of the coral reef is damaged, the whole ecosystem is likely to collapse. Its recovery can last several dozens of years, and even be impossible⁷³. There is a lack of data on the layout of deep-sea corals within waters under jurisdiction of the partner States: that is why it would be appropriate (and in accordance with the modern principles of environmental protection, such as the precautionary principle) to provide for their protection through a regulation on bottom trawling.

Unlike deep-sea corals which, for the moment, only run potential risks in our survey area, fishing for ornamental species is a topical issue in partner States. It is an activity with substantial economic opportunities provided that it is carried out in a responsible way. Even if the partner States' authorities are aware of it, the regulations are nevertheless rather partial. Regarding this issue Fijian law is the most up to date, although it mainly focuses its attention on the second phase of the exploitation, that is to say the export of specimens out of the country⁷⁴. It would be desirable to set the rules for the exploitation phase itself, allowing an access limit to the activity and providing for necessary conservation measures (quotas, fishing methods, treatment of living specimens, etc.).

We are proposing to regulate these two issues through implementing regulations complying with the respective fisheries laws, more precisely with art. 9 of the Fisheries Act of 1942 (Fiji), art. 59 of the Fisheries Act of 1998 (Solomon Islands) and art. 78 of the Fisheries Act of 2005 (Vanuatu)⁷⁵.

⁷² **OLU-LE ROY (K.)**: *Les coraux profonds : une biodiversité à évaluer et à préserver*, *Vertigo – La revue en sciences de l'environnement*, Vol. 5 No. 3, December 2004, available on the web: <http://www.ifremer.fr/docelec/doc/2004/publication-2364.pdf> (site consulted in November 2008).

⁷³ **GIANNI (M.)**: *High Seas Bottom Trawl Fisheries and their Impacts on the Biodiversity of Vulnerable Deep-Sea Ecosystems: Options for International Action*, IUCN, 2004, p. 12 and seq.

⁷⁴ One must bear in mind that fishing for ornamental species was the main cause of adoption of an elaborate legal regulation concerning the trade in endangered species (the CITES implementation) in 2002 and 2003. See the preliminary Report of partner zone 1: The Republic of Fiji, p. 65 and seq.

⁷⁵ The Fisheries Act of Vanuatu of 2005 contains a special authorization for the Minister responsible for fisheries to implement regulations concerning the taking of coral, shellfish and aquarium fish (art. 78 para. 2(v) (i) and (iii)).

Summary of legal framework improvements proposed to each of the partner States

The proposed amendments to the legal framework are, with a few exceptions, similar for all partner States. They can be summarized in the following way:

→ Fiji Islands

⇒ Environmental protection

We propose the adoption of implementing regulations in accordance with article 61 of the *Environment Management Act* of 2005 concerning:

- setting up a natural heritage inventory,
- marine protected areas set up and managed by State authorities,
- marine protected areas set up and managed by indigenous communities,
- integral protection of enumerated species of wild fauna and flora (both terrestrial and marine) as well as of their habitats.

⇒ Fisheries management

We propose the adoption of implementing regulations complying with article 9 of the *Fisheries Act* of 1942 concerning:

- protection of deep-sea corals,
- fishing for ornamental species.

If the preliminary surveys concerning the new fisheries Act that were suspended in 2006 are taken up, we propose these issues to be dealt with therein. This new law should also contain provisions concerning a strict protection of enumerated marine species (completed, if need be, by one or some relevant implementing regulations).

→ Solomon Islands

⇒ Environmental protection

We propose the adoption of implementing regulations in accordance with article 55 of the *Environment Act* of 1998 concerning:

- setting up a natural heritage inventory,
- marine protected areas created and managed by the State,
- marine protected areas created and managed by indigenous communities,
- integral protection of enumerated species of wild fauna and flora (both terrestrial and marine) as well as of their habitats.

⇒ Fisheries management

We propose the adoption of implementing regulations in accordance with article 59 para. 1 of the *Fisheries Act* of 1998 concerning:

- integral protection within fisheries of enumerated marine species,
- protection of deep-sea corals,
- fishing for ornamental species.

➔ Vanuatu

⇒ Environmental protection

We propose the adoption of implementing regulations in accordance with article 45 of the *Environmental Management and Conservation Act* of 2002 concerning:

- setting up a natural heritage inventory,
- marine protected areas set up and managed by native communities,
- integral protection of enumerated species of wild fauna and flora (both terrestrial and marine) as well as of their habitats.

⇒ Fisheries management

We propose the adoption of implementing regulations in accordance with the *Fisheries Act* of 2005:

- marine protected areas set up and managed by the State (pursuant to article 42 para. 3),
- integral protection, within fisheries, of enumerated marine species (pursuant to article 78 para. 2(w)),
- protection of deep-sea corals (pursuant to article 78 para. 2(c)),
- fishing for ornamental species (pursuant to article 78 para. 2(v)).

Legal framework improvements suggested to partner States
Comparative table

Issue	Means of implementation		
	Fiji	Solomon Islands	Vanuatu
Creation of national heritage inventories	implementing regulations under art. 61 EMA	implementing regulations under art. 55 EA	implementing regulations under art. 45 EMCA
Creation and management of marine protected areas (under responsibility of either the State or the native communities)	implementing regulations under art. 61 para. 3(e) EMA	implementing regulations under art. 55 EA	implementing regulations under art. 42 para. 3 FA (State)
			implementing regulations under art. 45 EMCA (native communities)
Strict protection of certain species			
a/ general approach	implementing regulations under art. 61 EMA	implementing regulations under art. 55 EA	implementing regulations under art. 45 EMCA
b/ within the fisheries laws	unification of existing rules / a special article and implementing regulations if a new law is passed	implementing regulations under art. 59 para. 1(ii) or (v) FA	implementing regulations under art. 78 para. 2(w) FA
Protection of deep water corals	implementing regulations under art. 9 FA or under a new law if it is passed	implementing regulations under art. 59 para. 1(iv) FA	implementing regulations under art. 78 para. 2(c) FA
Fishing for ornamental species			implementing regulations under art. 78 para. 2(v) FA

Fiji: EMA = Environment Management Act 2005
FA = Fisheries Act 1942

Solomon Islands:
EA = Environment Act 1998
FA = Fisheries Act 1998

Vanuatu:
EMCA = Environmental Management and Conservation Act 2002
FA = Fisheries Act 2005

5- Regulation of marine bioprospection

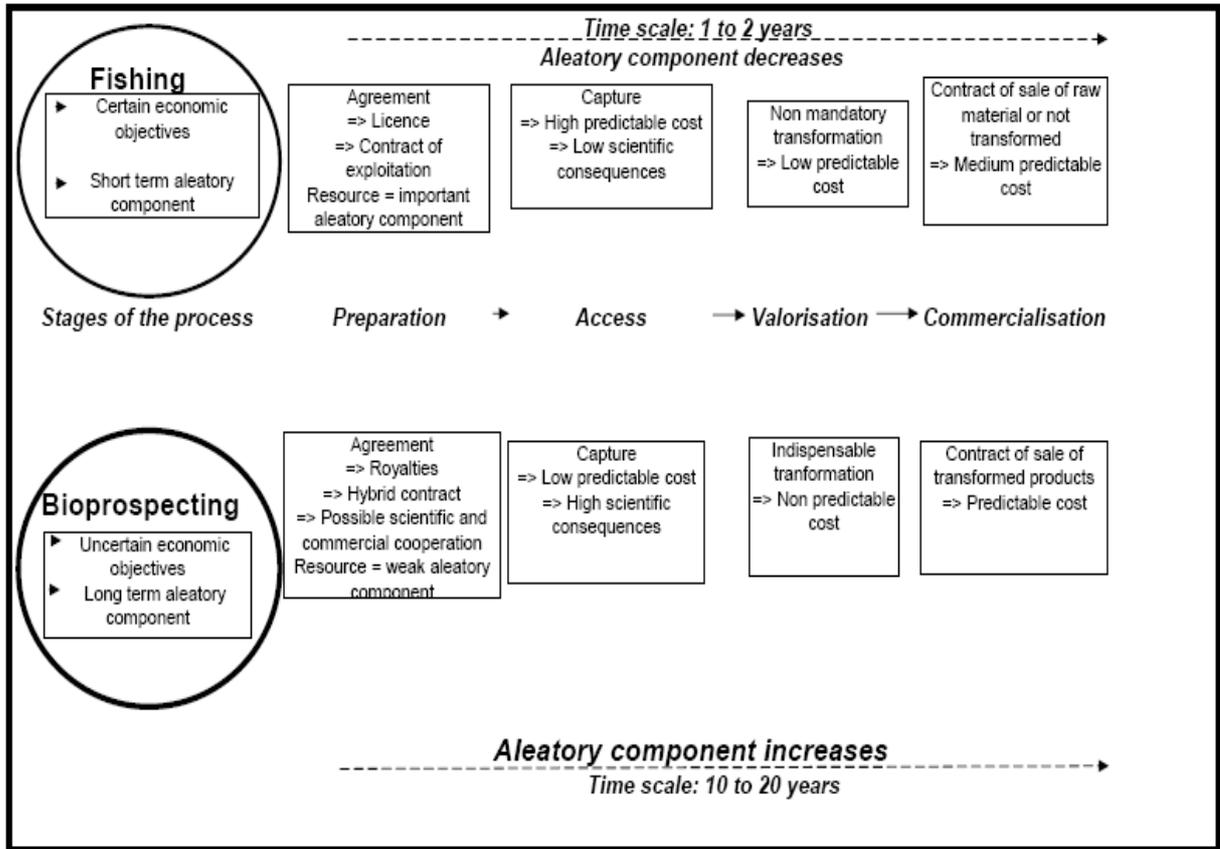
Except for Vanuatu, none of the partner States has a precise legal framework aiming at regulating bioprospection and even less specifically marine bioprospection. Due to a certain inappropriateness of legal and procedural rules for scientific practice⁷⁶, marine bioprospection in partner States risks being reduced to either a branch of the fishing industry, an economic activity of biological prospecting (e.g. looking for fish stocks), or else left bereft of its full specificity or theoretical dimension. However, marine bioprospection is distinguishable from the preparatory phase of fishing (fisheries research) and from the fishing activity itself. Bioprospection can be characterized as a composite activity, both economic and theoretical. It is simultaneously a form of MSR and the first step in a line of studies which can potentially lead to the development of a marketable product or bio-technological process. We are advising the partner States to make a clearer distinction in their legislation between fishing and bioprospecting. To this end, the following figure and comments can provide them some guidance.

a- Identification and qualification of marine bioprospection

The commercial activity of fishing revolves around the catching of fish intended for human consumption or industrial processes. Biological resources are not always transformed, and if any transformation is involved, it is in the form of processing or storage. The aim of fishing is purely commercial. Bioprospection is both a form of MSR and the first step in a line of studies potentially leading to the development of a product or marketable biotechnological process. Catch signifies the harvesting of substances or biological components (alive or dead) destined for treatment. The utilization of the resource leads to a veritable modification in substance. Bioprospection is characterized by possible commercial opportunities in the form of biotechnological applications (pharmaceutical products for example.) Contrary to fishing, the quantities taken are negligible, a few kilograms for example. Bioprospection can be characterized as a composite activity, both economic and theoretical.

⁷⁶ Inappropriateness exacerbated by the lack of human, financial and technical capacities.

Figure 2- Evolution of aleatory component in activities involving marine biological resources



According to the figure above, the aleatory component is less present at the beginning of the activity than it is at the end; the time frame and the cost are much more consequential⁷⁷; social implications are more consequential; the financial risk is higher; the environmental impact is lower and scientific gains are much higher.

In consequence, bioprospection management cannot be subject to the same rules as access management for fisheries resources, even if the act of capturing specimens is technically similar⁷⁸ and the final objective is almost or even completely identical. The same management rules could lead to legal uncertainty and become a restraint to the valorization of results of marine bioprospection profiting partner States. At present, these States can take example from Vanuatu EMCA to manage marine bioprospection.

⁷⁷ The aleatory component (1 specimen out of 10, 000 is viable), accessibility (equipment, specialized staff), time frame (between 5 and 19 years for the development of a marketable product) and finally the cost (from 100 to 300 millions US dollars) of the studies which follow the bioprospection add a greatly increased value to the prospected biological resources. These estimations are valid primarily for research performed in medical sector. See: **Mac LAUGHLIN (R.):** *Foreign access to shared marine genetic materials: management options for a quasi-fugacious resource*, *Ocean Development and International Law*, No 34, 2003, p. 297- 348.

⁷⁸ With a few exceptions, the material and techniques are similar. It must be noted, however, that certain actions are tolerated in the context of the MSR (for example the use of scuba diving among the means of collecting) whereas they are forbidden in the domain of fishing. The size of the equipment also differs from one activity to another (nets, trawlers, etc.).

b- Ways to improve MSR Law

**Table 8- Criteria of distinction between fishing
(Fisheries research included)
and bioprospecting**

Distinction criteria	Fishing	Bioprospecting
<u>Nature of resources</u>		
- quantitative	+++	+/-
- qualitative	+/-	+++
<u>Nature of taking</u>		
- catch	+++	+
- sample	---	+++
<u>Type of equipment</u>		
- size	++	-
- variety	++	+++
- selectivity	+/-	++
<u>Length of time of activity</u>		
- limited	---	+++
- regular	+++	-
- periodic	++	-
<u>Type of activity</u>		
- traditional	+++	-
- new	+	+++
<u>Outcomes</u>		
- alimentary	+++	---
- industrial	++	+
- intellectual	-	++
- unpredictable	---	+++
- certain	++	---
<u>Impact on the environment</u>		
- negative	+++	+/-
- immediate	++	+/-
- differed	+	+/-

**Instructions: gradation depending on the importance of the select criterion, shown by + or –
(+; ++; +++; +/-; - ; --; ---)

⇒ Propositions:

- Survey or questionnaire to determine the interests of the different parties concerned (States of the resources, researchers);
- Regional standardization (on the scale of Melanesia for example) of administrative procedures for research applications;
- Dissemination of legal information among the parties concerned;
- To establish a code of conduct for (marine) bioprospecting at regional level (Melanesia or South Pacific) containing rights and duties of researchers and the partner States;
- Creation of a national or regional body to serve as an interface between governments and researchers (national focal point for the CBD, as is the Environment Unit in Vanuatu).

6- Protection of bio-technological inventions in partner States⁷⁹

a- Intellectual property law

Table 9- Intellectual property law of Partner States

PARTNER STATES	PATENTS ACTS	COPYRIGHTS AND ASSOCIATED RIGHTS
SOLOMON	<ul style="list-style-type: none"> • Draft Law on Industrial Property (2002) 	<ul style="list-style-type: none"> • Copyright Act (1996) www.pacii.org/sb/legis/consol_act/ca133/
FIJI	<ul style="list-style-type: none"> • Patents Act (1978) www.pacii.org/fj/legis/consol_act/pa109/ 	<ul style="list-style-type: none"> • Copyright Act (1999) www.pacii.org/fj/legis/num_act/ca1999133/ + Copyright Regulations (border protection), 2003 Copyright Regulations (prescribed countries), 2003 Copyright rules (Tribunal rules of procedures), 2003
VANUATU	<ul style="list-style-type: none"> • Patents Act (2003) www.pacii.org/vu/legis/num_act/pa2003109/ www.pacii.org/vu/legis/num_act/roukpa2008484/ 	<ul style="list-style-type: none"> • Copyright and Related Rights Act (2003) www.pacii.org/vu/legis/num_act/pa2003109/

Fiji and Solomon Islands have been members of the World Trade Organization (WTO) since 1996. On this account, these States are bound by the *Agreement on Trade-related Aspects of Intellectual Property Rights* (TRIPS Agreement)⁸⁰. The article 27⁸¹ of this

⁷⁹ For more information, see Partner States' reports

⁸⁰ Annex 1C of the Agreement establishing the WTO signed in Marrakech (Morocco) on the 15th April 1994 and which came into force on the 1st of January 1995.

⁸¹ Art. 27 (*Patentable subject matter*): "1. Subject to the provisions of paragraphs 2 and 3, patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application. Subject to paragraph 4 of Article 65, paragraph 8 of Article 70 and paragraph 3 of this Article, patents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced.

2. Members may exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which it is necessary to protect ordre public or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law.

3. Members may also exclude from patentability:

(a) diagnostic, therapeutic and surgical methods for the treatment of humans or animals;

(b) Plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof. The provisions of this subparagraph shall be reviewed four years after the date of entry into force of the WTO Agreement".

agreement deals with patentable subject matters. Whatever the field of technology, an invention is patentable on three conditions; it must be new, involve an inventive step and be capable of industrial application. With the TRIPS Agreement, Member States who find it necessary, may exclude from patentability inventions preventing their commercial exploitation on their territory in order to protect *ordre public* or morality, to protect human, animal or plant life and health or to avoid serious prejudice to the environment. Plants, animals and inventions from essentially biological processes for the production of plants or animals (e.g. natural phenomena like crossbreed or selection) are also excluded from patentability inventions, contrary to micro-organisms and non-biological and microbiological processes.

The Solomon draft law of the 15th of November 2002 is the exact copy of the TRIPS Agreement, especially concerning the field of patentability. Actually, the patentability of plants and animals, as well as that of essentially biological processes of obtainment, are excluded. As to the patentability of micro-organisms, it is permitted. Similarly, the principle of non-patentability of inventions in order to preserve the environment is taken up. The vote of this law by Parliament and its implementation would be highly recommended.

The Fiji Islands have also been a member of the World Intellectual Property Organization (WIPO)⁸² since 1971. In spite of their participation in international conventions in the field of intellectual property, national law remains remote from WTO standards. Patentable protection lasts only 14 years, while the minimum protection prescribed by the TRIPS Agreement lasts 20 years. Besides, the article concerning the conditions of patentability does not specify what living patentable subject matters really are and does not take up the conditions and principles enumerated in article 27 of the TRIPS Agreement. What is missing is the condition of involving an inventive step (or of obvious subject matter in *Common Law* countries). The real scope of the amendment of 2002 must also be specified.

The Vanuatu State is not a party to the WTO Agreements. Actually, the Vanuatu delegation refused to sign the Treaty of Adhesion to WTO following the 4th WTO Ministerial Conference held in Doha (Qatar) from the 9th to the 14th of November 2001. The State has nevertheless prepared laws complying with the demands of the TRIPS Agreement and enjoys an observer status in the WTO.

In Melanesian culture, the way intellectual property is perceived differs from that of western countries, the latter having been taken from international law. Physical nature has no importance insofar as this culture establishes no clear distinction between corporeal and incorporeal ownership, between the created item and the rights of its owner. Moreover, ownership is principally collective. Within the group, transmission of knowledge is hereditary and immemorial. If a third party wants to gain access to knowledge, they must attain a social position in the community. In most cases, knowledge is protected through secret. Anyway, the establishment of protection rights for (biotechnological) inventions, adapted to the cultural, scientific and social specificities of partner States, could become a means for them to guarantee a fair and equitable sharing of benefits resulting from the exploitation of their genetic resources and establish a climate of confidence between users and providers of bio-

⁸² The WIPO is an intergovernmental institution with a universal mission established by the WIPO convention of 1967 that counts amongst the specialized agencies of the United Nations. Its chief missions are, on the one hand, to promote the protection of intellectual property all over the world through co-operation among states and in collaboration with other international organizations, and, on the other hand, to ensure administrative co-operation between intellectual property unions created by the treaties it coordinates.

genetic resources. Presently, these countries suffer from a lack of financial and technical capacities in the domain of intellectual property. To compensate this lack, a Melanesian or Oceanian office for intellectual property could be an option.

b- Proposals for improvement

- Make the Fijian law conform to the current international law (and in particular to the TRIPS Agreement)
- Accession of Vanuatu to the World Trade Organization (WTO)
- Adoption by the Parliament of the Solomon Islands' draft law on patents
- Setting up of an intellectual property regional office⁸³

⁸³ See: WIPO- australia- Forum Secretariat of the Pacific Community work regarding this option, available at: www.wipo.int/meetings/en/details.jsp?meeting_id=4752.

E- OUTLINE OF THE PRINCIPLES FOR THE LEGAL QUALIFICATION OF MARINE LIVING ORGANISMS: ABSENCE OF A UNIQUE STATUS⁸⁴ FOR MARINE LIVING ORGANISMS IN MELANESIA

The adjective “living” usually refers to “what is living, what is alive”⁸⁵. Life, contrary to death, corresponds to a variable lapse of time according to individuals but shared by all of them and spreads from birth to death, and even beyond. The notion of life is, all things considered, a relative notion which varies according to places, periods of time and cultures. In addition to this subjective dimension there is an objective dimension which encompasses life in a time- space frame shared by all living organisms.

The diversity of living organisms or biodiversity is defined by the CBD as “the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes which they are part of; this includes diversity within species, between species and within ecosystems” (article 2). Living organisms are thus considered as a comprehensive and complex whole, characterized by its variability. The intrinsic value of this “complex system” is referred to by the States in the preamble to the convention. It is not necessarily protected by law. It is above all a moral rule⁸⁶. So, there are two visions of living organisms in the CBD: a scientific vision and an economic one. In Melanesia, we can see this dichotomy in written law (B), to which we must join a cultural vision having the Custom (A) as its institutional medium.

1- The Melanesian conception of the Cosmos

Melanesia is a biogeographical zone which corresponds to a part of Oceania. It includes Papua New Guinea, Bismarck Archipelago, the Solomon Islands, New Caledonia, Vanuatu and the Fiji Islands. Although it apparently looks like a kaleidoscope of societies⁸⁷ with their own⁸⁸ culture and language, Melanesia undoubtedly forms a proper ethno-cultural region. Melanesians have a cosmogonic conception of the world, a world within which custom, the land and the sacred play a fundamental part. Even if it is at times at odds with modernity, this conception is the traditional vision of the indigenous⁸⁹ peoples of the “black islands”.

⁸⁴ The word status usually refers to the rules applying to a whole. Regarding law, the term status generally refers to the rights applying to people (personal status) on the one hand, and to property (real status) on the other hand. These definitions recall the idea that the status is unique insofar as it is proper to a whole which, even if it is plural, is acknowledged as one: people, property. It concerns a mainly legal notion based on the acknowledgement by law of particular rules in favour of a unique category of people, property or any other whole having a reality concerning a given legal system.

⁸⁵ **Vivant** in *Le nouveau Petit Robert de la langue française*, Robert ed., Paris, 2008, p. 2726.

⁸⁶ As the States are aware of it (there is nothing legally restricting about it), the preamble to the CBD begins with the recognition of the intrinsic value of biodiversity. It is formulated for the same reasons as “*the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components*” (§1).

⁸⁷ What one means by society is actually the lineage community living on a territory.

⁸⁸ There are notable differences between partner States and, within them, between the different provinces and villages. Melanesian culture is not a culture open to other cultures either. Long before the arrival of the first settlers in the 18th century, Melanesia was the cradle of wars between chiefdoms and invasions from outside (e.g. Polynesians). Then, colonizing countries left their print, as is evidence of it the place granted to Christian religion and the centralized political and administrative organization.

⁸⁹ In the sense they do want to give to the terms “indigenous peoples” and not to the one given by international law (see preliminary report on Fiji Islands).

They conceive the world as a “whole,” the Cosmos. “The conceptualization of the whole Cosmos including the spiritual world is part of people’s concrete life experience, and this takes place on and through the land”⁹⁰. Spirituality is part and parcel of the life of Melanesians⁹¹. Through it, spirits being merged with living organisms, the world is given an immaterial and unintelligible aspect. The land shelters all these organisms. It feeds and supplies communities with its natural resources. It is a symbol of fertility. A particular conception of life stems from this vision of the universe and mother earth. Life is not definable *per se*. It merges with the “whole”. Yet, it seems to be a specific and relatively important component of Melanesian culture. Infinite and absolute, life gives its rhythm to time. Past, present and future intertwine, hence forming daily life. “For Melanesians, the world around them has two aspects, a real one and a mythic one, which are interlinked without being able to be separated from each other. For them life can be represented in two ways: one being visible, the other one invisible⁹². So, we shall see that in Melanesian conception, life is both a dimension of reality and of the sacred (b)⁹³.

a- A dimension of reality

Life is generally perceived by man as a dimension of reality. It is not the fruit of human thought. In Melanesian culture, life means the land, the people and the spirits of their ancestors. Just like with the Cosmos, life is a whole, the visible or invisible elements of which are imperceptible. Any way, we shall try to distinguish them from a theoretical point of view in order to understand better why life is a dimension of reality. Reality, attainable through experience, is partly visible, partly hidden⁹⁴.

Among the invisible elements which characterize life, there is time. Past, present and future belong to a unique and same reality, an experience of life here and now⁹⁵. Time is related to the cycle of seasons⁹⁶ and natural phenomena (cyclones, rains). It is marked out by custom and all the social events (birth, marriage, death) that custom acknowledges and manages in daily life. Melanesians seem to have an instant perception of time: the past, present and future merge in the instant. This vision is different from that of Westerners who consider time as a period, with a beginning and an end. As beings exist outside their bodies, the world of spirits and ancestors also counts among the invisible elements that characterize life. This shows that, according to the Melanesian conception, the distinction between reality and spirituality does not exist. They merge within the Cosmos. We shall see this aspect in more details in the paragraph on spiritual dimension (b) to point out here the visible elements of the real world.

Among the visible elements related to life, there is the (*land*) that is to say the territory of a blood community. It symbolizes eternity and man through time⁹⁷. It is also a physical

⁹⁰ **PAROI (H.)**: *Melanesian spirituality of land*, in RYNKIEWICH (M.) (zd.): *Land and Churches in Melanesia: Issues and Contexts*, Goroka: Melanesian Institute ed., 2001, p.168.

⁹¹ Christian religion has, besides custom, a great importance.

⁹² **RALUY (A.)** : *La Nouvelle Calédonie*, Karthala ed., Paris, 1990, p. 54.

⁹³ This division is artificial and was done to clarify things. It is important to note that, in reality, the Melanesian conception is holistic, which means it considers the Cosmos as a whole into which the elements merge.

⁹⁴ That may explain why secrets are so important in Melanesian culture.

⁹⁵ **PAROI (H.)**, supra, p.178.

⁹⁶ There is, for example, in Kanak culture a “yam calendar”: **RALUY (A.)**, supra, p. 57 and seq.

⁹⁷ For example, for the inhabitants of Longona island in Vanuatu, being *longonan* means having land rights. The individual and collective identity is linked to the place, which justifies that the land is, on principle, inalienable :

representation of time. Its reality is therefore both material (a physical thing) and immaterial (a representation)⁹⁸. “Strictly, it is the water as much as the land above which, and the bank by which the water flows, that is owned”⁹⁹. The land is the link between the earth and the sky, the sea and the clouds, the past and the future. In Melanesian culture, the notion of world refers to water, animals, fish, plants, minerals and generally, everything that is known¹⁰⁰. In short, the planet encompasses all the natural elements recognized for their use or their symbolic value. It is important to bear in mind that according to this vision of the world, there is confusion between reality and the sacred: the land, animals, plants, trees, tropical forests, coral reefs, indiscriminately have a secular dimension and a sacred dimension.

This conception of the world has consequences in law. Ownership¹⁰¹ as it exists in Melanesia does not cover the same reality as in the west¹⁰². The main reason is that Melanesians do not conceive their relationship to the world as domination or control power relationship. According to the New Caledonian anthropologist Yves Béalo GONI, if [...] the notion of wealth accumulation really exists, it is not as a notion of owning things, becoming rich and building up a fortune, but rather of enrichment in the group and for the well-being of the group. There is a certain redistribution of wealth in which the notion of “social wealth” in the cultural sense prevails, over the notion of being “personally rich” in the economic sense¹⁰³.

RODMAN (M.): *Breathing Spaces : customary land tenure in Vanuatu*, p. 88.

⁹⁸ The spiritual or sacred dimension of the world is inseparable from this representation of reality (see infra).

⁹⁹ **NAROKOBI (B.):** *Papua New Guinea: The Concept of ownership in Melanesia* in OLELA (H.) (ed.): *The Melanesian way*, Institute of Papua New Guinea ed., 1980, p. 84.

¹⁰⁰ **NAROKOBI (B.)**, supra, p. 85.

¹⁰¹ It is often described as customary and mainly refers to (*Land tenure*). It can be defined by law in a regular way, as it is the case in Fiji, or rest on a variety of principles making its definition difficult, as it is the case in Vanuatu. In most cases, land tenure rests on different accession rules (purchase, heritage, marriage, etc.): **RODMAN (M.):** supra, p. 69.

¹⁰² In *Common Law*, property is understood as the relationship existing between an owner and a possessed thing, the owner having the possibility of transferring his possession to someone else. In French law, “Ownership is the right to enjoy and dispose of things in the most absolute manner, provided they are not used in a way prohibited by statutes or regulations” (art. 544 of the Civil Code).

¹⁰³ **GONY (Y. B.) :** *La monnaie kanak en Nouvelle Calédonie*, Expressions ed., Noumea, 2006, p. 85.

Table 10- Qualifications and customary rights regarding the environmental elements¹⁰⁴

ENVIRONMENTAL ELEMENTS	LEGAL NATURE	LEGAL REGIME
<p>LAND (SOIL AND SUBSOIL INCLUDED)</p>	<p>Things : - eternal (time criterion) - material/ immaterial (cultural criterion) static Goods: - “immovable” (fixedness criterion) - collective</p>	<p>Ownership: - absolute/ permanent - general/ collective Relative right of use linked to the ownership of perishable goods</p>
<p>WATER</p>	<p>Things : - corporeal Goods : - “movable” (mobility criterion) - collective</p>	<p>Ownership: - absolute/ permanent - general and collective Relative right of use linked to the ownership of perishable goods</p>
<p>CORAL REEFS</p>	<p>Things : - corporeal - static Goods: - “immovable” (fixedness criterion) - collective</p>	<p>Ownership: - absolute and permanent - general et collective Relative right of use linked to the ownership of perishable goods</p>
<p>PETS</p>	<p>Things : - corporeal Goods : - perishable (utility criterion) - individual/collective</p>	<p>Ownership: - temporary - total and exclusive - individual Right of use linked to the land or water ownership</p>
<p>PLANTS AND TREES</p>	<p>Things: - corporeal - static Goods: - perishable (utility criterion)</p>	<p>If they have been planted, they belong to the land owner (authorization of the land owner)</p>
<p>WILD ANIMALS (FISHES INCLUDED)</p>	<p>Things : - corporeal goods : - perishable (utility criterion)</p>	<p>They do not belong to the land or water owner (authorization)</p>

¹⁰⁴ Table drafted from the interesting study of Bernard **NAROKOBI** in its article *Papua New Guinea: The Concept of ownership in Melanesia*, p. 80- 112.

MINERALS	Things : - corporeal - static Goods : - “immovable” (fixedness criterion) - collective	Ownership : - absolute and permanent - general and collective Right of use linked to the land or water ownership (authorization of the land owner)
CULT OBJECTS (SEA SHELLS, ANIMALS, PLANTS, MINERALS, ARTEFACTS)	Things : - corporeal Goods : - ceremonial - individual (most of the time)	Ownership: Individual (in general) Collective

The legal status of the land is particular, contrary to the other elements of the environment which do not have their own status (apart from land)¹⁰⁵. The land being sacred, no one can destroy or alienate it. It is subject to perpetual customary tenure¹⁰⁶. In practise, the owner only enjoys a right of use (*usus* and *fructus* that is the right of use and gather its fruits). This right is relative insofar as it depends on the rights of third parties, community members or outsiders¹⁰⁷. Ownership is either individual or collective. Land ownership is collective whereas that of other elements of the environment is either individual or collective. The ownership of water and coral reefs is generally collective. The rights of ownership over the land prevail over those that may exist regarding corporeal things attached to this land and which are designated by the concept of planet or world¹⁰⁸.

The land prevails over things thereon because of its sacred nature and physical immensity. Access to natural resources, animals, fish and plants, consequently depends on access to the territory. It is subject to an authorization from custom owners. According to Margaret Rodman, “A land holder can be defined as a person who controls other people’s access to a piece of land”¹⁰⁹. Thus, customary owners of a reef, the status of which depends on that of the land, are the only ones who may authorize fishing on their reef. Without this authorization, no one can have access to this zone. Customary ownership on waters and reefs to the outer limit of the coral barrier may be in conflict with national law and the legal regime of the sea soil and subsoil established by the State. Even if this ownership is recognized, as it is the case in partner States, it can cause management problems regarding customary lands and resources, the State being sovereign on these particular areas.

Corporeal things (domestic and wild animals, plants, minerals), provided they have a

¹⁰⁵ This is the reason why we have separated these elements in the table above.

¹⁰⁶ Land tenure has dynamic characteristics. It is never completely synchronized or desynchronized from the rest of social life. According to Margaret Rodman it is a process under negotiations between different interests and a language so as to express degrees of exclusivity and mutual obligations.

¹⁰⁷ It may be about land rights on certain plots of land or real rights on corporeal things (domestic animals, plants, trees, brooks located on the community territory): **RODMAN (M.)**, supra, p. 106.

¹⁰⁸ Actually, land rights of customary owners are absolute and general. They prevail over real rights (rights about things) that an individual or a group can hold on natural resources, these rights being temporary and having a relative value

¹⁰⁹ **RODMAN (M.)**, supra, p. 87.

social use,¹¹⁰ fit in the category of goods “ that are used by man and enable him to satisfy his needs, either directly by using them, gathering their fruits, even destroying them, or indirectly by exchanging them for other things, and that are more appropriate to satisfy his aspirations “¹¹¹. These goods can be seen, either as the patrimony (universality of goods) of a person or a group, or as part of this universality. The land is, in some way, the symbol and materialization of patrimony in the social and cultural sense of the word. We previously saw that the relationship which links the community to the land is fundamental in Melanesia. From a legal point of view, this implies that property rights on the land prevail over those likely to exist on corporeal things (animals, plants, etc) hereto attached. However, it remains possible to hold particular and temporary rights over these things. The degree of control power over corporeal things depends on their social use, their influence on other property and people, social relationships between owners and users, and ultimately, on circumstances, that is on the moment of their utilization, place, nature or occasion of their use. The fishing right counts among the particular and temporary rights subject to the authorization of the land owner.¹¹² Fish are considered as wild animals, just like other marine “creatures “used for food.¹¹³ They do not belong to anyone before being caught. Their possessor *de facto* becomes their owner if he has previously had the authorization of the owner of the stretch of water or reef where the former has fished. For civility reasons, custom enforces a general rule of sharing the catch between users and customary owners¹¹⁴. “Beyond the specific expressions of regulations (authorization for access to territories, taboos), there is a code of good behaviour which, actually, establishes a first type of regulations over the access to resources”¹¹⁵.

The Melanesian conception of the Cosmos brings interesting arguments in favour of the protection of nature¹¹⁶. Thus, the land is usually considered as a sacred *trust* established by living beings for their own sake and for that of future generations. Everything being merged, the living, the dead and future living beings belong to the land, which itself belongs to them. This belief justifies the fact that in Melanesia the land is traditionally conceived as an inalienable property¹¹⁷. It constitutes in some way the patrimony for collective use of the lineage whose descendants are the trustees and custodians. It remains, however, possible to transfer a right held on the land, without necessarily alienating it. If such is the case, a part of the person who previously held this right is symbolically transferred with it to the person who currently holds it¹¹⁸.

In addition to the land, the other recognized natural elements have an important symbolical value. This value can indirectly participate in their protection, or at least, show us that, according to the Melanesian conception, Life has a spiritual value for the same reasons as the World.

¹¹⁰ A simple knowledge is not sufficient.

¹¹¹ **TERRÉ (F.), SIMLER (P.)** : *Droit civil : les biens*, coll. Droit privé, 5th ed, Dalloz ed., Paris, p. 3.

¹¹² There are other rights such as the right to cultivate a plot of land, the right to pick up the fruits of a tree.

¹¹³ **NAROKOBI (B.)**, supra, p. 90 and followings. According to the author, fish are not traditionally domesticated.

¹¹⁴ If there are several fishermen, they equitably share their catch. If they are aliens, that is they are not members of the community on whose territory they have fished, giving a part of their catch to customary owners is compulsory..

¹¹⁵ **DAVID (G.)**: *Rarity and abundance in Melanesia, from yesterday until today*, in **HERVÉ (D.), LANGLOIS (M.)** (dir.) : *Pression sur les ressources et raretés*, ORSTOM ed., 1998, p. 108.

¹¹⁶ However, one cannot say that life in itself is really taken into account.

¹¹⁷ **PAROI (H.)**, supra, p. 183.

¹¹⁸ **PAROI (H.)**, supra, p. 180.

b- A dimension of the sacred

Unlike Western culture, Melanesian culture gives a great importance to the spiritual and immaterial dimension of the World. Spiritual experience cannot be isolated from the complexity of life. The latter belongs to the Cosmos. Thus, spiritual reality does not exist isolated from human beings and the World around them. It is linked to the concrete experience of men. Spirits, the land, trees, forests, stones, fish, etc., are all part of the spiritual experience¹¹⁹. They are respected because they symbolize ancestors or beliefs. In the ecosystem, each thing (whether dead, alive or lifeless) has a value and a meaning as far as life is concerned. This moral rule arises from custom. It aims at framing and limiting access to certain places or certain species. Access to a particular reef is temporarily or indefinitely forbidden because it is considered as taboo. Consequently, no one can come there to fish or gather shell fish¹²⁰. “At the seaside, the reef can also play the role of reserves, and in such a case its access is limited in normal periods to preserve the productivity of the environment “¹²¹. Certain plants and animals are eaten because they symbolize the relationship linking the living to the past and their ancestors¹²². Melanesians also worship totems. These living beings have particular powers, most often over natural elements¹²³. It can be any kind of animal or plant: “animals familiar to natives’ life (lizards, sea snakes, eels, fish, crabs, worms...), nobler animals (sharks, pigeons, dogfish...) or common plants (banana trees, reeds, herbs...)”¹²⁴. Moreover, certain animals and plants or some of their parts (shells, teeth, etc.) can be used for worship and devotion towards spirits and ancestors. They belong to a type of items that can be qualified as ceremonial. Their ownership is generally individual. They are linked to the prestige and social rank of the person who owns them. When they are exchanged, they represent the social link¹²⁵. Even if they are sacred, they are overused as it is shown by traditional dolphin fishing in the Solomon and turtle fishing in Fiji and Vanuatu. Minerals can also have a sacred dimension¹²⁶. All these behaviour rules towards natural elements are based on beliefs connected to the sacred nature of the land and Cosmos. They are not rules that give an intrinsic value to life.

As a conclusion, it is interesting to note that death does not exist in traditional Melanesian culture. “[...] It does not correspond to nothingness, but to a change of state, and a being is the same when it is visible within his body, or invisible far from his decayed body. Ancestors are not dead, but forebears as regards the invisible”¹²⁷. They ensure the protection of the living. The living, in turn, protect their descendants. There is a kind of empathy between the material and immaterial world, a communion in addition to that between beings

¹¹⁹ **PAROI (H.)**, supra, p.176.

¹²⁰ **PAROI (H.)**, supra, p. 184 et 185.

¹²¹ **DAVID (G.)**, supra, p. 108.

¹²² On Lifou Island in New Caledonia, the snake is the totem of the Kejënyi community because this animal is capable of surviving a long time without eating. According to Emile Wazizi, a son of the community customary chieftain (met in July 2004), ancestors would have used snakes as guards on board the canoes that brought them to this land.

¹²³ In New Caledonia for example, the essential quality of the worm consists in maintaining humidity and green vegetation. (**RALUY (A.)**, supra, p.56).

¹²⁴ **RALUY (A.)**, p. 56.

¹²⁵ **PILLON (P.)**: *Écosystèmes, échanges, production et reproduction sociale: exemples mélanésiens*, in **HERVÉ (D.)**, **LANGLOIS (M.)** (ed.) : *Pression sur les ressources et raretés*, ORSTOM ed., 1998, p. 101.

¹²⁶ On Esperitu Santo island in Vanuatu, the law is rooted in stones: **HUFFMAN (K.)**: *Le droit coutumier et le copyright coutumier au Vanuatu (Océanie)*, workshop organized by the Law Faculty, Nantes University, March 27, 2007.

¹²⁷ **RALUY (A.)**, supra, p. 56.

and things. This seems to point out that there is no frontier between body and spirit in Melanesian culture. Life is simultaneously real and spiritual. It exists within any being, any thing and any spirit in the absolute infinite.

“Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development” (Principle 22 of the Rio Declaration on Environment and Development).

2- The utilitarian approach to written law

Is it necessary to recall that animals, plants and other living beings, in all periods of time and all societies, have provided for the indispensable conditions for Man’s life? Actually, living organisms constitute an immense wealth, the value of which transcends cultures. Being represented either as elements of Nature¹²⁸ or as a dimension of the Cosmos, living organisms are useful to humans in everyday life. This utilitarian approach of living organisms includes marine living resources. For example in Vanuatu, coral reefs are considered as the gardens of the sea¹²⁹. Written law perfectly fulfils this utilitarian logic that in some way anticipates human needs (everything is potentially useful) by recognizing the current value of living resources as a bundle of items and rights. As the definition given to biological diversity (or life’s diversity) in the convention of the same name points out, living organisms are a reservoir of things (objects such as animals, plants, etc.) so vast and unknown as they may be. They appear as an economic reservoir made of really and potentially useful items, which *de facto* are assimilated to prospective goods. If before, only certain categories of biological resources were subject to legal regulations, nowadays, genetic resources, and more generally living organisms as a whole, are potentially matters of law. The assertion of the biodiversity scientific concept in the field of international environmental law resulted in widening the scope of possibilities.

Western and Melanesian conceptions meet on the fact that natural resources constitute for Man, alone or in a group, a reservoir of riches useful for his subsistence. In both systems of thought, this reservoir is located on a land or a bounded area. It contains riches the value of which is important for the community.

Nevertheless, both conceptions diverge as regards the factors that justify the utility, and therefore, the value of natural riches. As nature provides for the needs of Man in a limited way, Westerners see an economic and social justification in the exploitation of biological and mineral resources. Melanesians prefer a cosmogenic and spiritual vision of a world characterized by abundance, except in exceptional periods (natural catastrophes, transition phase between two crops). The shortage of natural resources, when it exists, is developed by Man. The western conception is the current prevailing vision in international public law. Due to colonization, this conception has gradually pervaded the partner States’ written law. In Melanesia and numerous countries known as developing countries, natural riches tend to be more and more perceived as economic resources. This would not as such be an obnoxious phenomenon if it did not cause a desacralization of the land, therefore, a demystification of life.

¹²⁸ Western conception.

¹²⁹ HUFFMAN (K.), *supra*, 27 March 2007.

Table 11- Legal definitions of environmental elements in Partner States

ENVIRONMENTAL ELEMENTS	FIJI	INTERNET LINKS
ENVIRONMENT	<p><u>Environment management Act (2005, art. 2)</u> “Environment” means: (a) air, land or water; (b) all layers of the atmosphere; (c) all organic or inorganic matter or living organisms; or (d) the interacting natural or human system that include components referred to in paragraphs (a) to (c).</p>	<p>www.paclii.org/fj/legis/num_act/ema2005242/</p>
LAND	<p>“Land” includes messuages, tenements or hereditaments, corporeal and incorporeal, buildings and other fixtures, paths, passageways, watercourses, easements, plantations, gardens, mines, minerals and quarries, the foreshore and seabed or anything resting on the seabed.</p>	
SPECIES (SPÉCIMEN)	<p><u>Endangered and protected species Act (2002, art. 2)</u> “Species” means any species or subspecies whether or not geographically separated population from the species or subspecies “Endangered species” means any species mentioned in section 3 which can no longer be relied upon to reproduce itself in number to ensure its survival. “Indigenous species” means any species originated naturally in or that are endemic or common only to the Fiji Islands. “Specimen” means- (a) any specimens of a species (whether alive or dead) mentioned in section 3; (b) any part or derivative of any species mentioned in section 3 unless the part or derivative is exempted under the CITES</p>	<p>www.paclii.org/fj/legis/num_act/eapsa2002270/</p>
FISH	<p><u>Fisheries Act (1942, art. 2)</u> “Fish” means any aquatic animal whether ‘in aquarium’ (piscine) or not, and includes shellfish, sponges, holothurians (bêche-de-mer), sea-urchins, crustaceans and turtles and their eggs.</p>	<p>www.paclii.org/fj/legis/consol_act/fa110/</p>
SOLOMON		
ENVIRONMENT	<p><u>Environment Act (1998, art. 2)</u> “Environment” includes all natural and social systems and their constituent parts, and the interactions of their constituent parts, including people, communities and economic, aesthetic, culture and social factors.</p>	<p>www.paclii.org/sb/legis/num_act/ea1998159/</p>

LAND	<p>“Land” includes land covered by water including the territorial sea, all things growing on land, and buildings and other things permanently fixed to land, but does not include minerals (including oils and gases) or any substances in or under land which are of a kind ordinarily removed by underground or surface working.</p>	
WILD LIFE	<p><u>Wildlife protection and management Act (1998, art. 2)</u> “Wildlife” means terrestrial or marine flora and fauna.</p>	www.paclii.org/sb/legis/num_act/wpama1998317/
SPECIES (INDIVIDUAL- SPECIMEN)	<p>“Specimen” means an animal specimen or plant specimen “Animal” means any vertebrate or invertebrate animal and includes a bird, fish or reptile. “Animal productive material” means an embryo, an egg or sperm or any other part of an animal from which another animal of the same species could be produced. “Animal specimen” means - (a) a dead or live animal; (b) animal productive material; (c) the skin, feathers, horns, shell or any part of an animal; or (d) any article wholly produced by or from, or otherwise wholly derived from, a single animal. “Live animal” includes animal reproductive material. “Plant specimen” means a live or dead member of the plant kingdom. “Plant specimen” means - (a) a plant or part thereof; or (b) a plant reproductive material. “Native Solomon Islands animal” means - (a) an animal of a species that is indigenous to Solomon Islands; or (b) a migrating animal of a species that periodically or occasionally visits Solomon Islands or any part thereof; (c) and includes a genetically modified species. “Native Solomon Islands plant” means a plant of a species that is indigenous to Solomon Islands and includes any genetically modified species. “Live plant” includes plant reproductive material.</p>	
FISH	<p><u>Fisheries Act (1998, art. 2)</u> “Fish” includes any aquatic animal, whether piscine or not and the eggs thereof and includes shell fish.</p>	

	VANUATU	
ENVIRONMENT	Environmental management and conservation Act (2002, art. 2) “Environment” means the components of the earth and includes all or any of the following: (a) land and water; (b) layers of the atmosphere; (c) all organic and inorganic matter and living organisms; (d) the interacting natural, cultural and human systems that include components referred to in paragraphs (a) to (c).	www.paclii.org/vu/legis/num_act/emaca2002412/index.html
LAND	“Land” includes land covered by water.	
BIODIVERSITY	“Biological diversity” means the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part, including diversity within species, between species and of ecosystems. “Biological resources” includes genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity.	
SPECIES	“Foreign organism” includes all stages of any life form not endemic or normally found in Vanuatu.	
GÈNES	“Genetic material” means any material of plant, animal, microbial or other origin containing functional units of heredity. “Genetic resources” means genetic material of actual or potential value.	
FISH	Fisheries Act (2005) “Fish” means any aquatic plant or animal whether piscine or not, and includes any mollusc, crustacean, coral, sponge, holothurian (bêche-de-mer) or other echinoderm, reptile or coconut crab, and includes their eggs and all juvenile stages.	www.paclii.org/vu/legis/num_act/fa2005110/

From the table above, we shall make a few general comments about the legal definitions selected to describe and qualify some elements of the environment in the written law of the various partner States. We shall try to see to what extent these definitions have an impact on the legal status given to living organisms. First and foremost, we must note that legal definitions enable to determine *ratione materiae*, i.e. on account of the object, the range of application of a law or any legal act. It is the starting point of legal reasoning.

1- Biodiversity

Only Vanuatu law takes biodiversity into account as a subject matter of management and protection. In spite of its general title, the Environmental Management and Conservation Act (EMCA, 2002) actually mainly rests on biodiversity which it defines exactly in the same terms as the CBD¹³⁰.

Since the signature of this convention in 1992, biodiversity as well as all its components (genes, species, ecosystems and their interrelations) have belonged to the category of natural resources also known as biological resources. This transition was made possible by the boom of second generation biotechnologies based on chemical, genetic and biomolecular engineering on the one hand, and by the evolution of patent law on the other hand (opening the field of patentability on living resources). The multiplication of patents dealing with microorganisms, DNA fragments, cells, and genetically modified plants and animals shows that biodiversity has really become a reservoir of new resources.

2- Biological and genetic resources

Biological and genetic resources belong to the larger category of natural resources, a category which is meaningful in law because of its economic value. .

a- Economic concepts

The terms “natural resources” indicate various mineral or biological resources necessary to humans’ life, henceforth to all the economic activities related to industrial civilization¹³¹. These words connect two apparently opposite concepts, the concepts of resource and nature. Resource is an economic concept that refers to “a potential use and exchange value and to its estimate”¹³². As to Nature, it is currently defined as the physical world, a gift, made of things the existence of which is independent from human actions. Linked to the concept of resource, Nature is definitely nothing else but raw material turned into goods¹³³. Economists set apart two subcategories within natural resources, exhaustible resources and renewable resources¹³⁴. Exhaustible resources are those which have a limited

¹³⁰ Similarly, the Fiji’s draft sustainable development bill, which comprised a part on biodiversity (*Part XI: Biodiversity, national parks conservation and management*), also gave this element a definition similar to that of the CBD (*art. 5: definitions*): *sustainable development bill*, submitted for public review, 20th November 1996, non published version.

¹³¹ RAMADE (F.): *Dictionnaire encyclopédique de l’écologie*, 1993.

¹³² WEIGEL (J.-Y.): *Grandes manœuvres autour des ressources naturelles renouvelables : présentation*, in WEIGEL (J.Y.): *Les ressources naturelles renouvelables : pratiques et représentations*, Cahiers des sciences humaines, 32(1), 1996, p. 6.

¹³³ DUPRÉ (G.): *Y-a-t-il des ressources naturelles?*, in WEIGEL (J.Y.): *Les ressources naturelles renouvelables : pratiques et représentations*, Cahiers des sciences humaines, 32(1), 1996, p. 22.

¹³⁴ It is usually considered that exhaustible resources are extracted, whereas renewable resources are harvested both being exploited and then transformed.

amount of stock or a limited offer¹³⁵. It is the case of mineral resources such as coal, gas, and oil. On the opposite, renewable resources are those capable of regenerating in time. According to the classic economic theory, they are composed of a stock fed by a continuous flow. Biological resources like halieutic resources are usually classified as renewable resources. However, we can also consider that they are also exhaustible resources insofar as they can be threatened if their rate of renewal is inferior to their rate¹³⁶ of utilization.

Traditionally conceived as renewing stocks (livestock, cultivated fields, fish stocks), biological resources are now also assimilated to genetic resources, that is to say to organisms whose origin is a plant, animal, microbes or anything else, containing functional hereditary units and having a real or potential economic value (art. 2 CBD : biological resources). Thus, a biogenetic resource is all or a part of a dead or living organism¹³⁷. If we stick to a still larger definition of biological resources (which is made possible through the CBD), we can even consider that any biotic element of terrestrial, marine, aquatic or other ecosystems (biological processes) is a potential biological resource.

From an economic point of view, the Pacific micro States are thought to be poor in terrestrial resources. Paradoxically, they have traditionally given a great importance to these very resources to satisfy their essential needs¹³⁸. However, the independence of certain territories (Fiji, Vanuatu) in the 1970s- 80s, as well as the extension of marine areas under jurisdiction, enabled Melanesian States to measure the immensity of their living marine resources (fish, marine plants, black and precious corals, shellfish, etc.) and non living ones (hydrocarbons, gold, other minerals, layers of phosphorite, sand, gravel and coral aggregates, etc.)¹³⁹. They now use them as a “bargaining chips”¹⁴⁰ to hold commercial activities with other States.

b- Fish

The word fish does not correspond to a unique taxonomic group but to a paraphyletic whole made of species with at times very far-off genetic characteristics. The word “fish” is defined in Fiji (1942), the Solomon Islands (1998) and Vanuatu (2005) fisheries laws. The definition given to it is extensive and includes all the really exploited commercial biological resources and not only fish in the common sense of the word. Caught specimens are

¹³⁵ FAUCHEUX (S.), NOËL (J.-F.): *Économie des ressources naturelles et de l'environnement*, Économie coll., A. Colin ed., Paris, 1999, 370 p.

¹³⁶ What varies between mineral resources and biological resources is the difference of the lapse of time taken for the reconstitution of their stocks. The former are subject to geological time whereas the latter depend on evolution time.

¹³⁷ As it is testified by the CBD, individuation is not only carried out at species level (or subspecies or populations) but also at the level of the specimen with its organs, its cells, its genes and the molecules it is made of.

¹³⁸ HERR (R. A.): *Small Island States of the south Pacific: Regional seas and global responsibilities*, in Order for the Oceans at the turn of the century, Kluwer ed., 1999, p. 203 and s.

¹³⁹ KOTOBAVALU (J.): *Extended maritime jurisdiction in the Pacific: maximizing benefits from marine resources*, in CRAVEN (J.), SCHNEIDER (P.), STIMSON (C.) (ed.): *The international implications of extended maritime jurisdiction in the Pacific*, proceedings of the 21st annual conference co-sponsored by the East West Centre and the Hawaii Maritime Centre, 3-6 August 1987, Law of the Sea Institute-W. S. Richardson School of Law ed., Hawaii University, Honolulu, 1989, p. 133.

¹⁴⁰ Some marine resources such as shellfish, sharks teeth or turtles, are traditionally used as bargaining chips. Beyond their simple economic and social value, these bargaining chips have a spiritual and cultural value.

considered as individuals within a more or less well identified and delimited taxonomic group (shellfish, holothurians, sponges, etc.). Certain commercial species are even sometimes clearly defined as it is the case for coconut crabs in Vanuatu law. It would be desirable to add to this vision by individuals a more comprehensive understanding of the word fish. To do so, it is possible to be inspired by the definition of the FAO glossary: “Used as collective term, [Fish] includes, molluscs, crustaceans and any aquatic animal which is harvested”¹⁴¹.

c- Genetically modified organisms

Asserting genetically modified organisms in the definition of plants and animals native to the Solomon Islands in the Wildlife Protection and Management Act (1998), may seem surprising. Actually, we can question the value of such an assertion in a law mainly aiming at the protection of threatened wild life which is the object of a trade (CITES). Besides, no definition of genetically modified organisms is given in Solomon law and there is no text specifically dealing with this issue. The Fiji Islands and Vanuatu do not have a law directly dealing with this issue. However, the provisions of the Fiji’s draft sustainable Bill ¹⁴² as well as the provisions regarding the exotic species in exotic species in the Vanuatu EMCA (2002) may indirectly apply to it.

The partner States’ written law understands natural resources in a utilitarian point of view which reminds us of the western conception of Nature. It is a new recent phenomenon completely in line with international environmental conventions. This conception diverges from the Melanesian traditional conception. The difficult problem of traditional and customary ownership insofar as it is linked to the status of the environment and living organisms shows how hard it is to reconcile two *a priori* remote conceptions. This explains why legally, written law and custom are sometimes not adapted to each other, and even poles apart. The conciliation of these two systems of thought comes under the law of the partner States.

¹⁴¹ *Fisheries Glossary*, www.fao.org/fi/glossary/default.asp, page consulted in November 2008.

¹⁴² Part WVII: *Biodiversity, conservation and management of national parks*, art. 264: Monitoring the import of animals, plants, insects and exotic organisms.

III- Models of texts

A- METHODS FOR A LAW ON MARINE BIOPROSPECTION

Structure and contents¹⁴³

→ Preamble

- Principles
- Objectives

→ Definitions of terms in use:

- Access to marine genetic resources: with physical characteristics: “*Access to genetic resources may be defined as obtaining samples of genetic resources for purposes of research, conservation, commercial or industrial applications*”.
- Bioprospection or biodiscovery
- Genetic resources (CBD)
- Samples of genetic resources: “*This implies obtaining a discreet amount of biological material or a limited number of specimens for subsequent use*”.

→ Legal scope

- Terrestrial, marine, aquatic or other (included/excluded) genetic resources
- Origins of (*in* and *ex situ*) genetic resources
- Customary uses
- Non-retroactivity

→ Conditions and obtainment procedure of prior informed consent

→ Control measures and implementation

- Bioprospection license/permit
- Bioprospection agreement duration
- Public consultation
- Participation in research activities
- Consent of local communities
- Payment of license-fees¹⁴⁴
- Information confidentiality
- Disclosure of results
- Ethics code
- Export conditions of bio-genetic material

→ Measures regarding the sharing of benefits

- Scientific Co-operation
- Transfer of technologies (among which biotechnologies)

¹⁴³ MUGHABE (J.), VICTOR BARBER (C.), HENNE (G.), GLOWKA (L.), LA VIÑA (A.) (ed.): Managing access to genetic resources, in *Access to genetic resources: Strategies for sharing benefits*, Acts Press ed., Nairobi (Kenya), 1997, p. 21.

¹⁴⁴ It is possible to notify different types of fees and a priority order of payment with regard to the objectives of allowances (fundamental research, education, protection of the environment, fishing, etc.).

→ Penalties and sanctions

Subject to the assessment of the Resource State

→ Mutually agreed terms

These conditions include¹⁴⁵ :

- The type and quantity of genetic material asked for
- Knowledge, innovations and practises of local and indigenous communities taken into consideration ⇒ Prior informed consent ⇒ Sharing of benefits
- The access agreement must provide for a fair and equitable sharing of benefits arising out of the exploitation of genetic resources
- Participation (conditions) of supplier State to the R&D
- Does the agreement take into account the scientific research in which the Supplier State takes part (art. 18 CBD)?

¹⁴⁵ HENNE (G.): 'Mutually agreed terms' in the CBD: Requirements under public international law, in supra, p. 88-89.

B- METHODS FOR A LAW ON MARINE PROTECTED AREAS

→ Structure and contents

→ Preamble and legal sources

- Principles
- Objectives

→ Definitions of terms in use

Different categories of protected areas:

- Natural Reserves
- Confinements
- Natural monuments
- Parks
- Access to nature

→ Field of application

- Geographical and legal areas
- Notifications of prohibitions

→ Content of protection measures

- Authorized activities
- Scientific research
- Combating pollutions

→ Control measures and implementation

- Role of local communities
- Issue of authorizations
- Code of good conduct

C- METHODS FOR A LAW ON THE PROTECTION OF DEEP- SEA CORAL REEFS

→ Structure and contents

→ Preamble and legal sources

→ Principles

→ Objectives

→ Definition of terms in use

- Coastal and deep reefs
- Fishing activities
- Scientific activity
- Pollution

→ Field of application

- Geographical and legal areas
- Notifications of prohibitions

→ Content of protection measures

- Distinction between coastal trawling and deep-sea trawling
- Areas with particularly sensitive ecosystems
- Setting up specific natural reserves in zones under sovereignty and economic zones under jurisdiction
- Combating telluric pollution

→ Control measures and implementation

- Role of local communities
- Control by fisheries authorities
- Administrative and penal sanctions

D- METHOD FOR THE SHARING OF BENEFITS AND (POTENTIAL) SETTING UP OF JOINT VENTURES

→ Structure and contents

→ Preamble and legal sources

→ Principles

→ Objectives

→ Definition of terms in use

- Natural resources
- Genetic resources
- In and ex situ conservation
- Prospection authorizations
- Partnership agreements

→ Field of application

- Implementation of the convention on the protection of biological diversity
- Areas under jurisdiction

→ Content of co-operation agreements

- Mutual commitments
- Notifications of shared obligations
- Legal structure of joint ventures
- Protection of financial or non monetary investments
- Sharing of risks and benefits
- Common but differentiated responsibilities

→ Control measures and implementation

- Criteria for the choice of partners
- Procedures for the setting up and follow up of companies
- Financial Controls
- Protection for exports of capital
- Investments incentives in joint ventures
- Ownership of commercial brands

IV- CONCLUSION

1- FORMULATION OF THE PROBLEM

The major difficulty in the relation between national and international research institutions and State administrations in areas of high biodiversity lies in the uncertainty pertaining to the use of possible outcomes and in the lack of confidence between associated parties, the reason being the existence of an aleatory dimension or random variable involved in research for active substances. The aleatory dimension in a contract covers two ideas:

- That is: the asymmetry of information that brings imbalance in the relationship between the parties;
- Or: the parties are faced with the situation of an unpredictable future.

In the first case, one deals with an intentional withholding which could be qualified fraudulent by a court and which does not pose any problem from the legal qualification point of view; in the second case, the two parties face one or several unknowns. The analysis of this second case allows us to find two concepts:

- Contingency, because it cannot be affirmed whether something will or will not happen;
- The aleatory dimension, because outcomes are impossible to predict.

Consequently, one must estimate the probability of a satisfactory outcome. In these conditions, the contract must integrate an aleatory component. An aleatory contract, well known to civil law practitioners, can be qualified as a commutative bilateral contract (modelled on article 1104 of the French Civil Code). The activation of this type of contract depends on the occurrence of an uncertain event (according to the terms of article 1964 of the French Civil Code)¹⁴⁶. As an example one could mention the bottomry loan in maritime law; the insurance premium is to be paid if the event does not occur (ship arrives safe), if it does (ship is lost by perils of the sea) the indemnity payment from the insurance policy is activated.

2- FORMULATION OF A SOLUTION LEGE FERENDA

Let us apply this type of contract to the economic valorization of bioprospection outcomes: the researching State and the State of origin of raw biological material for research (Country of origin of bio-genetic resources within the meaning of art. 2 CBD) contract to facilitate samples collecting. The two-party agreement binds the partners to set up a joint company with headquarters in the State of origin of bio-genetic resources. This company is dormant (no funds, no staff, no taxes) during the research that is subject to an authorization for biological prospecting (ABP) in zones under jurisdiction issued by the State of origin of bio-genetic resources for a precise expedition of a given length of time. If the research results in the development of a marketable product, the joint company is activated. It becomes the entity applying for (a) patent(s) and will ensure the commercialization (make, sale and import) of the product(s) as well. The benefits will be shared according to the terms of the

¹⁴⁶ **BENCHABANE (H.):** *L'aléa dans le droit des contrats*, thèse Rennes I, 1989.

GRUA (F.): *Les effets de l'aléa et la distinction des contrats aléatoires et des contrats cumulatifs*, Revue trimestrielle de Droit Commercial, 1983, p. 263.

JANIN (C.): *Droit et économie des contrats*, LGDJ, 2008, p. 47.

PONSARD (C.): *Aléa et flou*, Dalloz Sirey ed., 1977.

agreement. The dormant joint company is constituted in the form of a limited liability company or a venture capital company.

According to this schema, the act of collecting will be qualified by a potentially economic stochastic agreement. Its legal nature does not belong to fishing (i.e. the taking of a specific quantity of biological resources for food purposes); it is then not subject to the issue of a fishing licence, or to the obligation to unload products in regard to taxes or to customs duty in the case of export of samples. However, two reference samples are identified, one to be deposited in the researching State, the other in a specialised institution of the State of origin of bio-genetic resources or in a gene bank of its choice. The raw products of the collection are non commercial goods which, like museum artefacts, are part of the heritage of the country that keeps them or has them kept elsewhere on its behalf. It is their potential applications intended for sale which will be qualified as commercial goods.

These new legal qualifications would eliminate the main sources of disagreement between research institutions or biotechnology companies and the administration of the State of origin of bio-genetic resources. While still allowing a maximum freedom of research, they would provide a necessary framework for it and allow a potential economic development to the benefit of both parties.

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Journal of Coastal Research – An International Forum for the Littoral Sciences

Journal of Experimental Marine Biology and Ecology

Journal of Marine Research (Yale University)

Journal of Natural Products

Marine Biology. International Journal of Life in Oceans and Coastal Waters

Marine Ecology

Marine & Freshwater Research

Pacific Science (A Quarterly Devoted to the Biological and Physical Sciences of the Pacific Region)

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