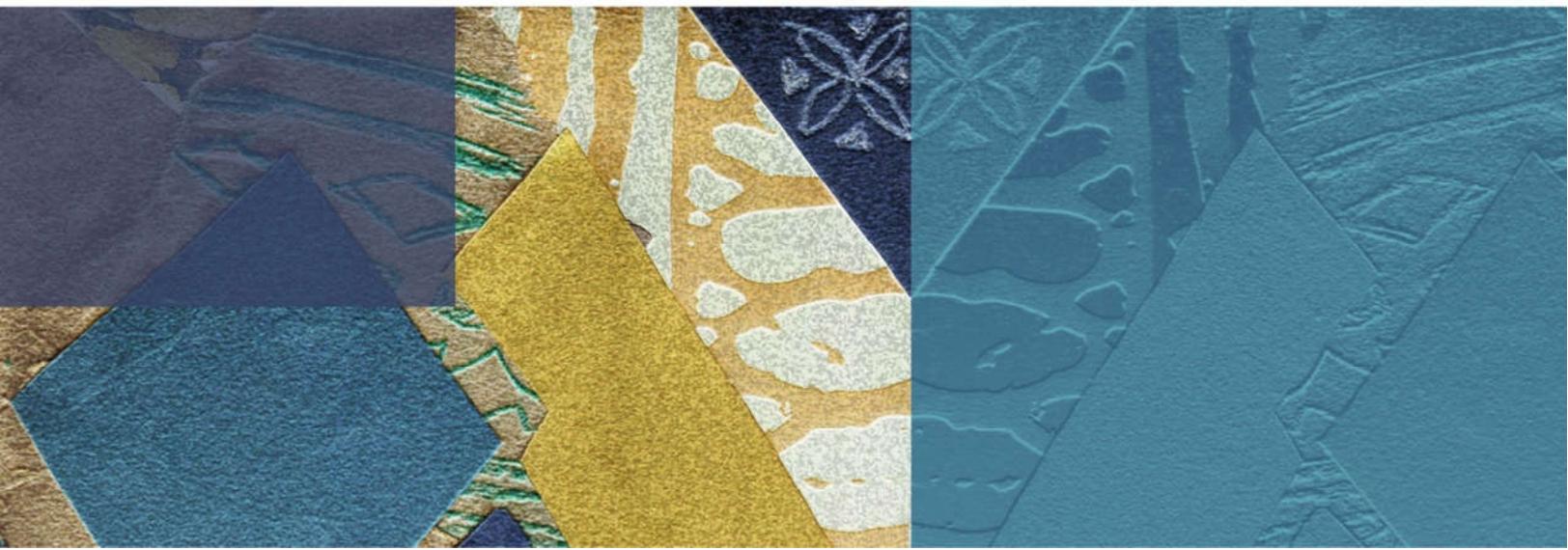


# PACIFIC ISLANDS UNIVERSITY RESEARCH NETWORK

National University of Samoa



Conference proceedings, 2016



# Pacific Islands University Research Network

## 2016

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Pacific Islands University  
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2016

Proceedings



## FOREWORD

The National University of Sāmoa was honoured to host the 2nd Pacific Island University Research Network (PIURN) Conference in Apia, Sāmoa from 19–21 September 2016.

The university warmly welcomed colleagues and students from Papua New Guinea, Australia, Fiji, Solomon Islands, New Caledonia, French Polynesia, New Zealand and Hawai'i.

PIURN is made up of 12 members, and the conference was kindly sponsored by Le Fonds Pacifique, Australia National University, UNESCO and Sāmoa Stationery & Books Ltd.

The conference focused on three key themes; firstly, meeting societal challenges using science, technology and innovation, secondly, Pacific regional co-operation in Indigenous art form and language in the 21st century, and thirdly, the evolving principles and practices in customary land tenure systems in the Pacific in the context of development pressures and climate change.

Before the opening, an 'ava ceremony was held to welcome all participants to Sāmoa. This was followed by an opening prayer by Rev. Opapo Soanai Oeti. Sāmoa's Deputy Prime Minister, the honourable Fiame Mata'afa Mulinu'u II gave the opening address. Each theme was addressed by a keynote speaker, on day one, Professor Chalapan Kaluwin presented on 'Climate change atmosphere and the mining of oceans'. On day two, Dr Cresantia Frances Koya Vaka'uta focused on 'Heritage and sustainability', and for day three, Fiu Mataese Elisara presented on customary land tenure and development pressures. The conference consisted of two parallel sessions, with 42 papers.

The NUS Local Organising Committee was chaired by Professor Meleisea Malama Meleisea and Peseta Dr Desmond Lee Hang. Special thanks to the committee members and helpers for their effort in ensuring a successful conference.

NUS Vice-Chancellor and President Professor Fui Le'apai Tu'ua Ilaoa Asofou So'o gave the closing address. The PIURN Board met during the conference, and it was revealed that Tahiti would host the next conference.

Dr Safua Akeli  
National University of Sāmoa.



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# **CAN STUDYING ETHNOCHEMISTRY AND ETHNOMEDICINE MOTIVATE STUDENTS TO LEARN CHEMISTRY?**

*Basil Marasinghe, Solomon Islands National University*

## **Abstract**

For more than 50,000 years of Papua New Guinea's human history, Papua New Guineans have been making significant contributions to Science, particularly in the fields of Chemistry and Medicine. About 10 years ago, this author was asked by the Department of Education in PNG, to prepare a new syllabus for Grade 11 and 12 Chemistry and he was able to introduce topics covering Ethnochemistry and Ethnomedicine to Upper Secondary Curriculum.

This paper summarizes some of the contributions to medicines and chemistry by ancient Papua New Guineans and a study conducted to find out if learning Ethnomedicine and Ethnochemistry has had any effect in motivating students to learn chemistry.

**Key Words:** Ethnochemistry, Ethnomedicine.

## **Introduction**

Papua New Guinea is characterized by geological, ethnic and biological diversity. It contains approximately 6% of the world's biodiversity in 1% of the world's land area. This allowed people of this country to use its flora and other resources to produce what they wanted. Although not widely documented and appreciated, medicine and chemistry have been associated with Papua New Guineans for thousands of years. They also have been using indigenous plants for treatment of diseases for thousands of years. The first medicinal plants recorded in Papua New Guinea were shown to the Russian botanist and explorer Miklouho-Maclay who lived on the Rai Coast of now Madang Province from 1871 and 1876. Many other traditional plants used as medicines have been since recorded by missionaries, visiting botanists and anthropologists. Several research projects in traditional medicine are currently being conducted at the University of Papua New Guinea, Institute of Medical Research and Wau Ecology Institute of Papua New Guinea.

## Examples of Medicinal Uses of Plants by Ancient Papua New Guineans:

### (a) *Aloe Vera* L.

Local Name: Aloe

Medicinal Uses: Used by ancient people as a treatment for stomach ulcers. Currently is also used to treat X-ray burns.

Chemistry: Aloe vera contains C-glycosylchromone and its aglycon aloesone which absorbs ultraviolet light. (Prem Rai 2009: 15)

### (b) *Alstonia scholaris* (L.) R. Br. (Devils Tree)

Local Names: Budo (Normanby Island), Herina (Central Province), Kambu (Sepik Province), Puto (Milne Bay Province), Sipuel ((Manus Island) and Watsi (East New Britain Province).

Medicinal Uses: In Morobe Province, the dried bark is crushed and mixed with water and given to patients with malaria or stomach ache. Dysentery and diarrhoea are treated in Manus Island using leaves. In Milne Bay Province, tropical ulcers are treated by sap applied externally.

Chemistry: Contains alkaloids, alstonamine, ditamine, echitamine and echitenine (Prem Rai 2009: 19)

### (c) *Barringtonia asiatica* (L.) Kurz (Sea Poison Tree)

Local Names: Mbrut (Manus Province) and mwanumbu (Milne Bay Province).

Medicinal Uses: Sores are treated by scraped fresh nut. Powdered nut is mixed with water and given patients to drink to treat bronchitis and swollen spleen after malaria.

Chemistry: Bartogenic acid, 19-epibartogenic acid, anhydrobartogenic acid, hydrocyanic acid and monosaccharides. (Prem Rai 2009: 35)

### (d) *Euphorbia hirta* L. Euphorbiaceae (Asthma weed and Cat's hair)

Local Names: Gigiogo (Central Province); Tantad, (East New Britain); Wilai (East Sepik Province).

Medicinal Uses: Used in the treatment of Asthma and internal haemorrhaging. Flowers of this plant are taken internally to cure infertility.

Chemistry: Spectral analysis reveals two compounds with molecular formulae of  $C_{31}H_{50}O$  and  $C_{30}H_{50}O$ . The structures of the compounds were 24-methylenecycloartan-3-ol and 9(11)-fernen-3-ol respectively. Preliminary studies on these naturally occurring fernane-type and cycloartane-type have shown that they have anti-HIV activity. (Prem Rai 2009: 115)

### (e) *Euphorbia thymifolia* (L.) (Spurge)

Local Names: Not available

Medicinal Uses: Sore eyes are treated by squeezing sap into eyes.

Chemistry: Contains Alkaloids, bixanin, casuarin, corilagin, 1-degalloyleugeniin, diterpenes, isomallotinic and pedunculagin. (Prem Rai 2009: 117)

**(f) *Flagellaria indica* L. (Whip Vine, Supple Jack)**

Local Names: Guiaiti (Sepik Province), Gwana (Central Province), Mingop (Morobe Province) and Vuvu (West New Britain Province)

Medicinal Uses: Roots are used as a contraceptive.

Chemistry: Contains flavonoids. (Prem Rai 2009: 129)

### **Other Scientific Contributions**

The first inhabitants of Papua New Guinea had arrived at least 40,000 years ago, having travelled through the south-east Asian peninsula. These first inhabitants, from whom the Papuan people are probably descended, adapted to the range of ecologies and in time developed one of the earliest known agricultures. Remains of this agricultural system, in the form of ancient irrigation systems in the highlands of Papua New Guinea, are being studied by archaeologists. Sugar cane was cultivated for the first time in Papua New Guinea around 6000 B.C. Western agronomists still do not understand all practices, and it has been noted that native gardeners are as or more successful than most scientific farmers in raising certain crops. There is evidence that Papua New Guinea gardeners invented crop rotation well before western Europeans.

Papua New Guineans have been chewing betel nuts for tens of thousands of years. Lime is an essential ingredient of betelnut. They produced lime either using limestones or sea shells. Ancient Papua New Guinean knew that the decomposition of limestones was an endothermic reaction and therefore supplied heat to carry out the reaction. They soon discovered that the main product, calcium oxide was too corrosive to eat directly with betelnut and mustard because the reaction of CaO with saliva in the mouth was an exothermic and a corrosive one. Therefore, they carried out the reaction by adding water to calcium oxide in a vat and took the final product  $\text{Ca}(\text{OH})_2$  after allowing it to cool.

Ancient Papua New Guineans have been also known for their salt making skills (Janarthanan Gopalakrishnan 2015: 23–49). Those who were living near sea produced salt by solar evaporation of sea water. Traditional dye making has been a common practice throughout PNG. Most traditional dyes in PNG come from plant sources. Dyes are normally used for painting on traditional costumes and even on human bodies for decoration purposes during special occasions. The methods of preparation and plant species vary. The Mian people of Gumini and the Warea's of Morobe Province amazingly use the same tubers of a native plant for dye making. These plants are grown mostly in old cemeteries and abandoned villages. The tubers are removed, washed properly and are scraped into pieces. The scrapings are rubbed

against traditional woven ropes and other traditional costumes. This gives a bright yellowish colour. From the same tuber the Warea people add lime to the scrapings and make red dye (at higher pH).

Not much information is available on the production of alcohol from traditional raw materials. Gumini is one of the very few places in PNG where beer is still traditionally brewed. The Gumini people make their beer from mushrooms. These are very special mushrooms. The mushrooms are picked and boiled as food. It normally takes half a day to cook the soft mushrooms. When it is properly cooked then the mushroom can be served. It is thought that the presence of some enzymes carbohydrate is converted to alcohol.

### **Mushrooms: (Wasa Sibiya 2015: 7–14) and (John Nema 2016)**

Ancient Papua New Guineans had used mushrooms for several purposes. Apart from use of mushrooms as a source of food, they also used them as medicines and for black magic (Sanguma). Early ancestors had a fair idea that some of the mushroom species had antibiotic properties.

**Some examples of mushrooms species studied by Wasa Sibiya and John Nema are given below:**



**Collection Number:** KUMsp16

**Local Name:** *Aete*

**Scientific Name:** *Polypore sp.*

**GPS Coordinates:** 7.978063 °S and 142.58998 °E

**Description of main feature:** A woody type bracket fungus with a tough woody cap with a very large surface area. The cap is blackish in colour with thin white rings on the edges of the cap.

**Substrate and habitat:** Scattered growing on a live tree called “*Ogale*” (Local name) about 1–2 meters above the ground from the forest floor.

**Season:** Non-seasonal mushroom that occurs all year around.

**Traditional use:** Edible mushroom. Usually cooked on an open fire and consumed as food.

**Biological activity:** Weak activity against test bacteria strain.



**Collection Code Number:** KUMsp12

**Local Name:** *No Local Name*

**Scientific Name:** *Unknown sp.*

**GPS Coordinates:** 7.978063 °S and 142.58998 °E

**Description of main feature:** A bracket fungi with hard cap which is brownish-red with white rings on the edges.

**Substrate and habitat:** This species grows scattered on rotten branches within the pandanus habitat on the forest floor.

**Season:** Non-seasonal mushroom and is abundant all year around.

**Traditional use:** Non-edible and no local use.

**Biological activity:** Moderate activity against test bacteria strain.



**Collection Number:** KUMsp22

**Local Name:** *No Local Name*

**Scientific Name:** *Unknown sp.*

**GPS Coordinates:** 7.978063 °S and 142.58998 °E

**Description of main feature:** A ball-like fungus and purple in colour.

**Substrate and habitat:** Scattered growing on a fallen burnt tree that was cleared for food gardens in the secondary forest.

**Season:** Non-seasonal mushroom that occurs all year around.

**Traditional use:** Non-edible and no local use.

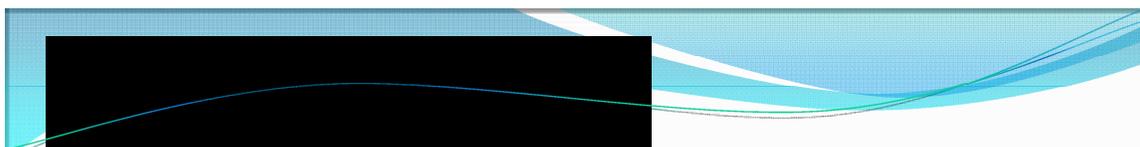
**Biological activity:** Strong activity against test bacteria strain.

### How Studying Ethnochemistry and Ethnomedicine has encouraged School Student and Undergraduates to take up Chemistry.

In order to compare change of motivation of students to learn chemistry, the author used data of Solomon Islands and those of Papua New Guinea. In Solomon Islands School System, Ethnochemistry and ethnomedicine have not been part of the syllabus.

Table 1 shows the numbers of students choose science subjects for Form 6 (Grade 12) Examination from 2007–2015. (Solomon Islands Ministry of Education and Human Resources Development Examination Records: 2007–2015)

**Table 1 Courtesy: Ministry of Education and Human Resources Development, Solomon Islands.**



YEAR	BIOLOGY	CHEMISTRY	PHYSICS	AGRICULTURE	TOTAL	Biology%	Chemistry %	Physics%	Agriculture%
2007	452	484	444	129	1509	30.0	32.1	29.4	8.5
2008	520	537	494	106	1657	31.4	32.4	29.8	6.4
2009	445	483	442	110	1480	30.1	32.6	29.9	7.4
2010	449	506	463	153	1571	28.6	32.2	29.5	9.7
2011	469	500	459	131	1559	30.1	32.1	29.4	8.4
2012	546	573	500	179	1798	30.4	31.9	27.8	10.0
2013	635	671	606	191	2103	30.2	31.9	28.8	9.1
2014	826	858	777	268	2729	30.3	31.4	28.5	9.8
2015	865	897	863	277	2902	29.8	30.9	29.7	9.5

The above table shows that the interest of students in Solomon Islands to learn has not changed significantly from 2007 to 2015 and chemistry does not stand above other science subjects when students' interest is considered.

However, when similar data in Papua New Guinea are considered, a significant difference can be noticed.

**Table 2 Courtesy: Department of Education in Papua New Guinea (PNG Department of Education Examination Records 2007-2015)**

NUMBER OF STUDENTS SAT FOR GRADE 12 EXAMINATION IN SCIENCE SUBJECTS FROM 2007-2015 IN PAPUA NEW GUINEA – COURTESY: DEPT. OF EDUCATION IN PAPUA NEW GUINEA

Year	Biology	Chemistry	Physics	Geology	Total	% Biology	%Chemistry	%Physics	%Geology
2007	3370	3674	2304	0	9348	36.1	39.3	24.6	0
2008	3379	5098	2491	0	10968	30.8	46.5	22.7	0
2009	3523	5590	2730	0	11843	29.7	47.2	23.1	0
2010	3719	6266	2987	0	12972	28.7	48.3	23.0	0
2011	3777	6035	3057	640	13509	28.0	44.7	22.6	4.7
2012	4331	6547	3217	607	14702	29.5	44.5	21.9	4.1
2013	4862	7264	3520	562	16208	30.0	44.8	21.7	3.5
2014	5821	8093	3825	995	18734	31.1	43.2	20.4	5.3
2015	6488	8656	4161	1010	20315	31.9	42.6	20.5	5.0

The author does not attribute this increase in student numbers in Chemistry courses entirely to the introduction of ethnochemistry and ethnomedicine at school and undergraduate levels. There may have been other factors. However, the increase in the percentage of students deciding to study Chemistry at Grade 12 has been remarkable and probably has its basis at least to some extent in students receiving a taste of the chemistry and medicine carried out by their ancestors.

### **Acknowledgements:**

1. Mr. Aruppalan Packiam and Ms Emos Porie – Department of Education, Papua New Guinea for providing data on upper secondary students preference to various science subjects.
2. Ms Doreen Alfred and Mr John Liliu of Ministry of Education and Human Resources Development, Solomon Islands for providing data on upper secondary students preference to various science subjects.

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## FRENCH POLYNESIA AND THE FORUM

*Sémir Al Wardi, Université de la Polynésie française.*

The statement of the Forum's forty-sixth summit in Port Moresby, Papua New Guinea, in 2015, clearly stated about French Polynesia, that a modification of the rules of admission will be necessary.

It was essentially to observe the nature of powers in Polynesia, political power, administrative power, and financial power and the field of defense and international relations.

We have to understand that the Anglo-Saxon rule of law which exists in all the Pacific States is very far from the French law including the acceptance of the words and significance of “self-government” and “autonomy”. An analysis of the French Constitution and the Organic Law (status) was indispensable.

Let us remember that the Pacific Islands Forum is a regional international organization comprising sixteen (now eighteen) independent states or self-governing territories. They are all English speaking and have for most of them the Westminster system.

According to Paul De Deckker all states or territories are under the “influence” of the two regional powers. Since the beginning, the deputy secretary general of FIP is either Australian or New Zealander, and in 2003, Canberra has placed an Australian at the head of FIP.

Nevertheless, Melanesians and Polynesians have created their separate groups (Spearhead or GLP and GPP) in order to avoid the influence of the two regional powers. This is also one reason for the creation in 2013 of the FIP counterpart, the South Pacific Islands Development Forum (PIDF) created by the Fijian Frank Bainimarama to counter the influence of Australians and New Zealanders. Symbolically, since 2015, the secretary general of PIDF is a French speaking named Francis Martel.

### 1. The Pacific Islands Forum against France?

Paul De Deckker explains that these two big states wanted to become true regional powers and weaken France in the region. He asserts: “*France has long been found in Canberra like in Wellington, as an intruder in an Anglo-Saxon world.*”<sup>1</sup>

For this specialist of Oceania, the Pacific Islands Forum, established in 1971, has become “*the spearhead against the presence of France in the Pacific.*”<sup>2</sup> It probably was against French

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<sup>1</sup> Paul de Deckker, « Le Pacifique : à la recherche du développement dans un espace émiété », Revue française d'administration publique 2002/1 (no101), p. 157-168.  
DOI 10.3917/rfap.101.015

<sup>2</sup> Idem

colonial presence as seen in a competition during the eighteenth and nineteenth centuries, and also was against current nuclear testing in Moruroa.

In the first meeting of August 1971 in Wellington, most of the debate showed deep concerns over French nuclear testing. Later, it will be the Caledonian matter that will be a major concern.

Peter Brown described well the crises between Australia and France due to nuclear testing and also described the tensions between communities in New Caledonia<sup>3</sup>. He recalled that Australia is pushing the Pacific Islands Forum in its efforts to re-register the New Caledonia in the list of countries to be decolonized, causing the expulsion of the Australian consul in Noumea. As for New Zealand, it will be the Rainbow Warrior in 1985 and the resumption of nuclear tests in 1995 that will poison relations between New Zealand and France.

## **2. France and his territories are more accepted**

France changed her policy on 1988 with the Matignon - Oudinot Agreements and the nuclear moratorium. The perception of the French presence will gradually evolve. The Secretary General of the Forum, Noël Levi, went to Paris in 1999. The same year, New Caledonia becomes observer in the Forum because it is felt that they are in a process that would lead to independence.

In 2004, Polynesia was granted an observer status at the Forum, without starting a process of decolonization. Nathalie Mrgudovic gives three reasons: “obtaining a status of autonomy in 2004; a French policy, in 2003, to encourage the integration of its Pacific entities in their “natural” environment; and a new policy of openness FIP begun in 2004.”<sup>4</sup>

In 2006, President Oscar Temaru discussed with the French government the possibility to integrate as “associate member” of the Forum, and as a result obtained letters from the Foreign Minister and the Minister of Overseas approving Polynesian request. Then Oscar Temaru discussed with Greg Urwin, Secretary General of the Forum and then formally applies for associate membership. Finally, the Forum accepts French Polynesia as an associated member. The Forum makes a decision that Nathalie Mrgudovic consider as being a political and economic decision and not a legal one<sup>5</sup>.

Peter Brown also notes that despite the “Americanization of Australian foreign policy”, the reconciliation is achieved between the two countries, France and Australia, in order to unite

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<sup>3</sup> Peter Brown, « *La France vue d'Australie, une vieille histoire en mutation* », *Outre-Terre*2012/3, (n° 33-34), p. 391-397. DOI 10.3917/oute.033.0391, p 392.

<sup>4</sup> Nathalie Mrgudovic, *La France dans le Pacifique Sud*, éd. L'Harmattan, coll. Lettres du Pacifique, 2008, p 364.

<sup>5</sup> Idem, p 366.

their views on Pacific affairs<sup>6</sup>. In 2007, the Ambassador of Australia declares that the time of discord is “Gone”. In 2009, Duncan Kerr, Parliamentary Secretary for Pacific Island Affairs, expressed the willingness of Australia to “see the French authorities to play a more significant role in regional affairs”.<sup>7</sup>

In 2014, Gaston Flosse asks to be full member to Tuiloma Neroni Slade and a year later, Edouard Fritch repeats this wish to the Secretary General Dame Meg Taylor of Papua New Guinea. As a result of that request, the Forum sent a delegation in Polynesia.

The New Caledonia, generally less active than French Polynesia, had expressed the same desire in 2007 and received a ministerial delegation in 2015.

In the fourth France-Oceania Summit on November 26<sup>th</sup> 2015, the final statement in the eighth paragraph confirms the agreement between major states in the region:

*“We welcome the commitment by France, Australia and New Zealand to help the region to natural disasters under the FRANZ agreement and we take note of the recent support by island countries and territories Pacific”. But it is the point 23 that addressed the issue of FIP and French territories: “We also welcome the contribution of New Caledonia, and French Polynesia, Wallis and Futuna to the development of the region by their own action and their desire for greater regional integration. We recognize that New Caledonia and French Polynesia aspire to become full members of the Pacific Islands Forum, and members of the Pacific Islands Forum wish to intensify cooperation in this regard.”*

The President of the French Republic clearly stated before members of FIP that he wanted French Polynesia and New Caledonia to become full members of the Forum<sup>8</sup>. At the same time, Australia declare that they “supports the full participation of French communities of the South Pacific in the PIF (DFAT 2010)”.<sup>9</sup>

Finally, French Polynesia and New Caledonia become full members of the Forum in September 2016.

### **3. What international relations? Those of France or those of Polynesians and Caledonians?**

Denise Fisher said that Pacific Islanders fear direct interference of France in the affairs of the region instead of a dialogue between Pacific leaders<sup>10</sup>. They would much prefer a direct dialogue with French Polynesians and New Caledonians than with French officials from Paris. It is, in fact, according to Denise Fischer, France, which is present in various meetings of Pacific

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<sup>6</sup> Peter Brown, op. cit., p 393.

<sup>7</sup> Idem, p 394.

<sup>8</sup> Polynésie 1<sup>er</sup> le 27 novembre 2015.

<sup>9</sup> Denise Fisher, « *Rhétorique et réalité : les collectivités françaises et leurs voisins du Pacifique Sud* », Le Journal de la Société des Océanistes [En ligne], 140 | janvier-juin 2015, mis en ligne le 05 juillet 2015, consulté le 09 juillet 2015. URL : <http://jso.revues.org/7239>, p 45.

<sup>10</sup> Idem, p 44.

organizations, and it is the metropolitan councilors who decide and not the Pacific local officials. Pacific Islanders want to exchange with indigenous alone. This is actually the primary justification for the creation of the Spearhead or GLP or GPP.

France has a comprehensive international policy that includes relations with the Pacific states and it defends his own interests within international organizations but also promotes its oceanity through its South Pacific territories<sup>11</sup>. The situation is more complex since France while having an active diplomacy in the region, wants to allow French territories in Oceania to have a regional policy.

For all presidents of France, Chirac, Sarkozy and Hollande, the regional integration speech is the same. Allow French Pacific Islanders to engage in dialogue in the region can only be beneficial for France. During the France-Oceania Summit in July 2003 in Papeete, the President of the Republic, Jacques Chirac, proposed to allow French territorial communities of the South Pacific to shine in the region, all for the indirect benefit of France<sup>12</sup>.

He said: *“France wishes to contribute to the stability and development of this region of the world... we will revive the dialogue and cooperation with neighboring states. With the enhanced autonomy status it enjoys, Polynesia will have more freedom to get involved in the construction of this new partnership... it is the shining path for Polynesia and thus for France...”*

The French Polynesia and New Caledonia are already full members of the Pacific Community Secretariat, the South Pacific Tourism Organization, the Pacific Islands Development Program, the Environmental Oceania Regional Program (SPREP), the Pacific Electricity Producers Association and the Pacific Customs Organization.

French Polynesia has desired, since the internal autonomy, to exist outside itself. Just remember the PIDP summit in June 1993, held in Papeete by Gaston Flosse who had forgotten to mention the names of “France” and even “French Polynesia” on the badges and programs that mention the only terms of “Tahiti Nui 93” to the great displeasure of the French authorities including the Minister of the Overseas territories. And at the top PIDP 1996 in Fiji, Gaston Flosse played the Polynesian territorial anthem instead of the French anthem.

#### **4. Polynesia is a member of the Oceania family**

Edouard Fritch added that strong desire to integrate the Oceania family: the president of Polynesia Edouard Fritch said the 46<sup>th</sup> Pacific Islands Forum in 2015; *“Like all of you, I am a Pacific Islander and, as such, I am deeply attached to the values of the Pacific, with a strong sense of belonging to the Pacific family. Today, Tahiti is respectfully candidate for full*

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<sup>11</sup> Christian Lechervy, *L'intégration régionale de la France dans le Pacifique océanien, une diplomatie multimodale*, Journal des Océanistes, n° 140, 2015-1, Paris, p 106.

<sup>12</sup> Discours du 26 juillet 2003 du président de la République à Papeete

*membership of the Pacific Islands Forum.” “We share the same DNA and Tahiti has always had an open attitude towards its Pacific neighbors. With our resources, we have always done our best to act in solidarity with our Pacific neighbors, particularly when they have gone through hardships.” “We believe the time has come to open a new era in our relations and we are ready for this challenge, with your support.”<sup>13</sup>*

This is a game with several drawers where differences in the vision of the world, felt by the different actors, can interfere between Polynesian and French diplomacy and vice versa.

## **5. Different legal interpretations to be a full member?**

Historian Sarah Mohamed Gaillard explains, “The Forum is for independent states and territories that will become independent.”<sup>14</sup> So why not accept New Caledonia unconditionally since the Nouméa Accord in 1998? Why not accept French Polynesia that has the right to independence in the French Constitution?

Gaston Flosse was repeatedly amazed at the FIP legal reading as they accept as members countries which are not fully sovereign islands: “*These islands are not independent because they are associated with New Zealand, so why this exception was made for them, not for us as well as New Caledonia?*”<sup>15</sup> The independence movement leader Oscar Temaru has a different reading of course: “*We are not qualify. It's like asking to Polynesia and New Caledonia to be full members of the UN when those two countries are not independent.*”<sup>16</sup>

According to the statement of the Forum on February 1972 to become a member you need simply to be an independent state or in “self-government”, reaffirming “the principle that the Forum's membership should be limited to policy makers of countries which are independent or autonomous.”

However, to receive these two French territories, the Forum has committed to review its admission criteria. How to interpret the rules? For the translation of “self-government” in French it translates to “autonomy”. The two terms are they not synonyms?

According to Ivo D. Duchacek, participation in external affairs is a key element of self-government<sup>17</sup>. Moreover, in 2003, the Deputy Secretary General of the Forum, Iosefa Maiava, explained that the main obstacle to the accession of New Caledonia was the fact that they are not being able to “*freely negotiate international agreements.*”<sup>18</sup>

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<sup>13</sup> Déclaration du président Edouard Fritch au 46<sup>e</sup> Forum des îles du Pacifique (2015)

<sup>14</sup> Sarah Mohamed-Gaillard, *Histoire de l'Océanie, de la fin du XVIII<sup>e</sup> siècle à nos jours*, Armand Colin, Paris, 2015, p 186.

<sup>15</sup> Polynésie 1<sup>er</sup> du 27 novembre 2015.

<sup>16</sup> Idem.

<sup>17</sup> Téléchargé de <http://publius.oxfordjournals.org> à l'Université de la Polynésie française le 4 août 2016.

<sup>18</sup> Nathalie Mrgudovic, op. cit., p 360.

If international relations are one of the self-government principles, it should be noted that in the status of 2004, the French state retains its full competence in the field of foreign policy (Art.14, LOPF). Certainly, French Polynesia can open a representation in a state or an international organization of which France is a member or international agency Pacific (Art.15, LOPF) and only the president of Polynesia may appoint his representative. This possibility has not been used by today Polynesia but New Caledonia started the process. The Constitutional Council had specified that “this right...cannot, without encroaching on a matter within the exclusive jurisdiction of the French state, give these representations a diplomatic nature.”<sup>19</sup> The French State may also entrust the President of Polynesia “the powers to negotiate and sign agreements with one or more states, territories or regional organizations in the Pacific and with dependent regional bodies of the specialized agencies of the United Nations.” So France remains the master of the game.

However, when it comes to French Polynesia's competence, the president can negotiate agreements with states, territories or organizations but with the authorization of the Republic. The President must inform the State that can be, in turn, ask to be integrated in the Polynesian delegation, or refuse any authorization (article 39, LOPF). Even in this case France remains the master of the game. Anyway, the authorizations given by the French state are case by case “and are never a permanent power for a period and for a whole category of agreements”.

And to become a member, associate member or observer from an international organization of the Pacific, Polynesia must obtain the agreement of the French State. This agreement is also required to be associated with the work of the Pacific regional organizations (Art.42, LOPF).

In reality, there is a great diversity in the sharing of international relations between the French state and its three Pacific territories. Ambassador Christian Lechervy notes eight; from France only to the unique presence of overseas territories (Spearhead or GLP). Adds another difficulty for Oceania French territories in the implementation of their regional international policy that is “*not prejudice the policies developed within the framework of the European Union.*”<sup>20</sup>

Now we see a pretty intense regional international activity of Polynesia: active member of the Polynesian Leaders Group (GLP) and founder of the Group of Polynesians Parliaments (GPP), Polynesia seeks to anchor in its Pacific environment. The Heads of State or Government, or their representatives, have signed, for example, the Declaration on the Ocean *Te Moana o Hiva* in June 28, 2016 in Polynesia. The president of Polynesia had already met the Heads of State and Government in July 2015 to prepare the summit COP21. The President went to Fiji

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<sup>19</sup> Conseil constitutionnel, 30 janvier 2004.

<sup>20</sup> Christian Lechervy, op. cit., pp 115 et s.

and then in August 2016, he was in Hawaii for the 10<sup>th</sup> Pacific Islands Conference and the Pacific Ocean Summit.

But is it enough to really exist as a separate entity?

## 6. The effectiveness

The Cook Islands are a free associated state with New Zealand. They have, since April 6<sup>th</sup> 2001, a total competence in international relations and therefore have international personality. Already in 1988, New Zealand had declared to the UN, not to be responsible for international affairs of Cook Islands (and Niue) except at their request and with their approval.<sup>21</sup> In 2001, the “Joint declaration Centenary of the principles of the relationship between the Cook Islands and New Zealand”, says “the Cook Islands can establish relations with the international community and act as a sovereign and independent state.” Jane Mcadam confirms “association between the Cook Islands and New Zealand have equal states independent in the conduct of their own affairs” and adds “that the government of the Cook Islands possesses the capacity to enter into treaties and other international agreements in its own right with governments and regional and international organizations.”<sup>22</sup>

Paradoxically, Cook is not recognized by the United Nations, and does not have the status of non-UN member states and are not even in the list of countries to be decolonized but are recognized as an ACP State within the European Union. In contrast, Cook Islands are members of certain specialized UN organizations such as UNESCO, ICAO, WHO and FAO.

But at the creation of the Forum in 1971, the Cook Islands did not have all these freedoms. It is the fundamental amendment in 1981 that gives the exclusive legislative in Cook Islands and the 2001 one that gives total expertise on international relations. In 1981, membership in the category of ACP countries of the European Communities was denied because the Communities felt that they “do not have a real status of independent countries and are not recognized by the UN as such.”<sup>23</sup> Paradoxically, the Cook Islands are members of the Forum since its creation in 1971.

In reality, effectiveness is essential here. The Encyclopedia of Public International Law states “First, the government must be in a position to legislate and enforce the law within the State; second, it must have enough power to perform its duties under international law.” Referring to the Montevideo Convention of December 22<sup>nd</sup> 1933, a State as an international

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<sup>21</sup> UNGA LE 222 NZ. In Tony Angelo, *A few comparative remarks on the concept of free association in the South Pacific*, RJP, 2004, p 344.

<sup>22</sup> Jane Mcadam, *Climate change, forced migration and international law*, Oxford University Press, 2012, P 155.

<sup>23</sup> <sup>23</sup> Report of the Group ACP/199/81, Rev.I, Brussels, 24 mars 1981. In Yves-Louis Sage, *Remarques sur la représentativité des îles Cook dans les rapports internationaux*, Revue Juridique Polynésienne, vol 1, n° 1, juin 1994, Papeete, p 199.

person must first, have a defined territory, a permanent population and an effective government and secondly, to have the ability to get in relationship with other states.

But French Polynesia has no legislative power, does not control the courts and is subject to the State in its international relations. The Cook Islands have a Constitution that is the source of the legal system. It was discussed at length by the Assembly of the Cook Islands before being adopted by the New Zealand Parliament. It will be amended several times by the Parliament of Cook Islands.

This possibility is not given to French Polynesia that must request for any changes, any new skill, to Paris which controls the entire legislative process. French Polynesia therefore can neither organize itself nor legislate or control its international relations on the contrary to the Cook Islands.

## **7. The refusal to exercise its right to independence**

The Cook Islands and French Polynesia have the right to self-determination. The Cook Islands can unilaterally terminate this association status and the French state can, with more difficulties, based on Article 53–3 of the Constitution, stop their relations with the islands. Difficulties because in the latter case, it is France that decides the organization or not of a referendum, that is to say, the process of emancipation. It is also France that imposes the question and reading of the results. When we see the current refusal of France to sit at the committee of the 24 at the UN for French Polynesia and especially the statement by President Sarkozy in 2010 that independence is an insurmountable red line, we can question the use, Article 53 of the Constitution.

The difference would be noticeable here. But in both cases, it is the people concerned who decide their future. And for now, the people have not wished a full independence. The Cook Islands did not want the integration with New Zealand nor independence but exist as a state.

Similarly, the Cook Islands and French Polynesia have money and nationalities of the motherland or partner State. Both territories do not have their own nationalities and have no control or power over nationality of their citizen that remains entirely in the sovereign hands of France and New Zealand. Indeed, international law leaves to States sovereign right to determine its laws and who are nationals. And the word “nationality” is not neutral but rather symbolically highly charged and “ideologically over-invested.”<sup>24</sup>

Certainly, between the Cook Islands and New Zealand, there is no relationship of subordination but a willingness to share their fate. In French Polynesia, there is also a willingness to consider the two powers to equality *Hau Farani* (French state) and *Hau Fenua*

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<sup>24</sup> Hughes Fulchiron, *La nationalité française*, Que sais-je ?, Paris, 2000, p 3.

(Local government). This is also a feature of the Polynesian political culture. But in the French Republic, the French state remains in control of the game in many areas.

## **8. Different status**

We cannot therefore say that the two statutes are close enough especially as the Polynesian political class has continued to claim a status comparable to that of Cook. The idea of imitating an Associate state of the Cook Islands was suggested successively by Francis Sanford in 1980, Gaston Flosse in 1985 and Oscar Temaru in 2005 (you can add to this list Daniel Millaud, Maco Tevane, Jean Juventin and many others). So it's a common good idea shared in French Polynesia. The confusion is reinforced with the Tahitian language that gives the same word for “autonomy” and “independence”: *Tia'mara*.

Yet the choice of Cook Islands can be confusing as it depends on an “Anglo- Saxon” vision of law. The definition, indeed, associate state differs considerably between French law and the Anglo-Saxon law. For France, this status begins with the transformation of the territory in a truly independent state. This means, in accordance with Article 53 of the Constitution, a consultation with the population that, in the majority, must confirm their desire for independence. It is only once an independent state that this may suggest an association with another State. But for the Cook Islands, it was rather a succession of statutes until Constitutional Act autonomy statutes of 1964 and 1965, making these territories a “state in free association with New Zealand” and without consulting the population despite protests from residents and Penhryn Rakahanga islands.

New Zealand considered that the elections of April 20<sup>th</sup> 1965 sufficed in itself. The developments that followed, especially with the transfer of powers on the international level, will be mainly through exchanges of letters between the Prime Ministers of New Zealand and Cook.

Is that, that seduces some Polynesian politicians: to get an associate status state, and therefore becoming a full state without consulting the autonomist majority of the population? It must be said that the term “State” or “Free State” are used more flexibly in Anglo- Saxon law and do not have quite the same meaning in French law. Hence the formula appeared in New Caledonia and Polynesia “partner country” which is actually statehood associated with the Anglo-Saxon mode.

## **9. What autonomies?**

What autonomy are we speaking about? In France *Jacobin*, the concept of autonomy is little known. Professor Charles Cadoux gave a rather vague definition and explained that we could

not go beyond this approximation.<sup>25</sup> This concept is little or not known in our political culture. Is it, as stated by the independence leader Oscar Temaru, “a trash where you can put anything you want?”<sup>26</sup> But there are clearly several types of autonomy. Spain and France do not share the same definition of autonomy granted in the context of a unitary state. So it is not the autonomy as such that is a problem, but the French definition of autonomy.

For example, the President of the Republic, Jacques Chirac, said that the legislative power could not be given on the outskirts “*a semantic precision on what you call legislative power that would be given to the territorial assembly. I remind you that France is a unitary state, the legislative power belongs to Parliament alone. It is therefore not possible to transfer legislative powers but to allow the assembly of Polynesia to deliberate and adopt regulations in certain matters which normally fall under the law...*” However in unitary states such as Spain or Italy, the Spanish provinces or Italian regions have the power of legislature.

### Conclusion

President Edouard Fritch obtained in May 2016, the assurance that the French Government will support the candidacy of French Polynesia for FIP, because the accession of a non-sovereign territory cannot be realized without the authorization of France. At the same time, Mr. Fritch informed of his intention to travel to New York at the UN to take over the issue of decolonization and not let the Polynesian independence movement to be alone at the maneuver. A fair exchange?

Schotter explained that for economical reason the states or territories have more interest in becoming a member of an organization “*because it gives them advantages which they could benefit only to members and ensures a level of higher well-being.*” (Schotter 1981)<sup>27</sup> Nathalie Mrgudovic added that Oceania, foreign trade and diplomacy are related, “*Foreign trade is also the motto of most Pacific island states.*”<sup>28</sup> Especially since the idea of the Forum is to establish a free trade area. Even if trade is currently weak, there are real opportunities for all States in the region.

Moreover behind the French territories of Oceania, there is France and the European Union. Added to this are the problems of climate change, ocean conservation, fisheries control, digital links etc. It's not clearly a legal decision after thorough analysis of the articles of

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<sup>25</sup> « *En pratique le statut d'autonomie se situe « quelque part » entre le fédéralisme et la décentralisation puisqu'il évoque l'idée de liberté d'administration voire de gouvernement mais toujours sous un certain contrôle du pouvoir central* », in Charles Cadoux, *La conception française de l'Etat unitaire (comparaisons)*, Revue de science administrative de la Méditerranée occidentale, 1er et 2ème trimestre 1990, n° 29/30, I.R.A. de Bastia, p 26.

<sup>26</sup> Oscar Temaru reprend, selon lui, l'appréciation du leader palestinien Yasser Arafat sur l'autonomie interne. Philippe Mazellier, op. cit., p 380.

<sup>27</sup> Jeremy Ellero, Thèse en économie soutenue le 25 mars 2016 à l'Université de la Nouvelle-Calédonie, « *Perspectives de coopération régionale dans le Pacifique : quels modèles d'intégration économique pour les territoires français* ».

<sup>28</sup> Nathalie Mrgudovic, op. cit., p 367.

Polynesia and New Caledonia, the two statutes are already widely different, which allows these French Pacific Island countries to become full members of the Forum but essentially a political decision.

Polynesia and New Caledonia have been accepted as members for several reasons: France is not rejected but supported by the two major regional powers, these three states now have common interests on the international level; Pacific States Island countries need France and its privileged access to the European Union; Pacific States Island countries need to strengthen the links between Pacific Islanders to face the global challenges (climate change, Internet...); autonomist Polynesian and New Caledonian loyalists interest to show they master their international relations, embarrassing the separatists; and finally, all Pacific Islanders want to get together beyond their political differences. This link was stronger than the demands of Polynesian and New Caledonian independent movements to postpone the decision.

President Fritch also obtained membership in the Forum recalling that it was a real oceanian talking to oceanian ending his speech with "*last night, I had a dream and saw all those familiar faces pacific beckoning me ... come home . Suddenly I woke up and ... and a voice Whispered in my ears: this is the time, we can do it. "*



## CULTURE AND BIODIVERSITY IN THE SOUTH PACIFIC

*Arnaud De Raulin, University of French Polynesia*

Over the last few years, the subject of “Culture and biodiversity” has been largely discussed amongst scholars. The originality of this subject comes from the fact that it concerns the south pacific, French Polynesia but also the complex relationship between culture and biodiversity. The latter emphasis on the large panel of patrimories namely: cultural; biological; fishing resources; botanical; and architectural—which have become major issues for most Oceania societies.

Several preliminary remarks can be made:

The concept of biodiversity develops itself within the south pacific.

One can observe the strong will of the Polynesians to respect and manage biodiversity. This concept is very broad and involves also fauna, flora and climate. More recently, the cultural aspect has been brought-up and reinforced the meaning of biodiversity.

Secondly, national and international legal aspects such as Rio and Copenhagen’s convention and COP 21 are the back bone and foundations of my research. The recent key element is the acknowledgment and the involvement of the local populations in the management and protection of biodiversity.

Thirdly, biodiversity embraces a variety of notions namely social, environmental, cultural and economic aspects. This concept is similar to the notion of sustainable development. On a larger scale, it is a matter of development and traditional know-how management.

From a lawyer’s point of view, it raises the problem of the duality between modern law and traditional law.

The outcome of my research highlights the following points:

Biodiversity acknowledged as a central element of international law and also regarded as a mean of managing maritime areas.

### ***I. Biodiversity as a new tool for a new international law of the development***

Over the past decade we’ve seen that environmental issues have drastically changed the political agenda of most nations. Environmental matters are writing a new page of the history of nations.

A new trend of thinking regarding Environment, found in both theoretical and practical ground is arising.

The main frame of this trend of idea is not new, since it is merely a more modern version of the international law of development from the 1960s. Native populations are the roots of a sustainable biodiversity.

Populations are linked with the environmental surrounding in which they live. Which means that biodiversity is not only understood as resources but also as the management of a specific area or territory.

Nowadays, biodiversity is associated with culture. Therefore, more and more maritime and inland sites are protected and ranked as cultural patrimony. Some of them are even ranked as UNESCO's world patrimony.

Scholars consider that the concept of patrimony can be divided in four elements namely: cultural, natural, medical, and economic.

Concerning the cultural aspect: we distinguish two elements, one is material, such as archeological sites and the other one is immaterial such as songs, dances etc.

The medical aspect refers to the traditional medical technics and traditional know-how. Nowadays an issue arises, the one of the equal sharing of biological patrimony between natives and economic actors. We shall bear in mind that this biological asset is to be acknowledged as a heritage of mankind.

Through-out the Polynesian history and philosophy, the concept of unity links mankind, nature and spirits. Some would even speak of the concept of filiation between these elements. Indeed, this very concept of unity is a key notion of environmental right in the South Pacific. Furthermore this notion regroups elements such as Earth, water and humans under the same idea.

We observe cooperation between Polynesian countries aiming at the protection of biological patrimony. On August 29<sup>th</sup> of 2016, the 10<sup>th</sup> conference between heads of Polynesian countries as been held in presence of President Obama and President Fritch. In fact the international community especially UNESCO and the International Union for Conservation of Nature (IUCN) acknowledge Polynesia as a key factor in protecting and managing maritime areas. All the more, the socio-cultural dimension is also an important aspect of this matter.

In the margins of the legal system, Educational Marine Areas (EMA) has been created. The latter constitutes a new cultural regulation of marine spaces and finds its origin in 2012 in the Marquesas archipelago. The AME is organized around a citizen and participatory approach in order to enhance natural and cultural patrimony.

## ***II. Biodiversity as new means of maritime governance.***

In order to clearly understand the evolution of maritime governance, some scientific facts must be displayed regarding the French Polynesian's maritime management.

- According to the IUCN, 70% of biodiversity is found in the oceans.
- The lagoons and coral ecosystems suffer from a fast degradation.
- The ciguatera outbreak in French Polynesia has a great impact on corals and the population since this disease can be transmitted to humans via some fish species which feed on contaminated corals.

### **A set of legal tools have been created to protect coral reef, lagoon and ecosystems:**

- creation of a public establishment with the marine area agency (Papeete). The latter is the principal actor for biodiversity's protection.
- Establishment of PMAs (Protected Marine Areas). These PMAs, for instance the Marquesas islands, have three goals: environmental, economic (fishing industry) and educational (raising children's awareness on the matter). The Marquesas Islands asked to be acknowledged as UNESCO site.
- PGEM (planning code) concerns management plans of maritime areas.
- The ZPR (regulated fishing areas).
- The "Biosphere reserve" monitored by the UNESCO. The site of Fakarava in French Polynesia has been selected by UNESCO

These various legal devices are useful and effective for the protection and exploitation of marine areas.

It should be noted that the creation of marine protected areas are subject to legal regulations.

New Caledonia has created a marine protected area (MPA) of 1, 3 million km<sup>2</sup>, the largest in France and one of the largest in the world. By comparison, the one that was created by President Obama in September 2016 in the northwestern Hawaiian Islands represents a total area of 1.5 million km<sup>2</sup>, Local populations (Rahul), associations and traditional authorities play a key role in the creation and operation of these zones (fishing, aquaculture). However, the state retains a repressive function within these areas.

The common aim of these various PMAs is the protection and valorization of these areas, yet questions remain unanswered such as the limits of PMAs beyond the EEZ; the control of states over the latter; the uncertain regulations... As stated by S. Caillon and P. Desgeorges, these new PMAs play an important role on a social, economic, cultural and political scale and are considered as a key tool in the protection of the environment.

With this concept of biodiversity, one can observe the appropriation of international spaces by States, even beyond the EEZ.

Although the United Nations Convention on the Law of the Sea remains the PMAs guardian (CMB) and is vital for sustainable development, the international law's evolution aims at establishing and creating PMAs in order to protect biodiversity beyond areas under national jurisdiction.

Indeed, the international court of justice has validated the principle in which a costal state could oversee fishing boats beyond the limit of the 200 miles. Under the Regional Fisheries Organization, costal states can take measures—since the New-York convention (august 4<sup>th</sup>, 1995)—concerning the conservation and the management of fish stock beyond the EEZ.

The increase of these PMAs is problematic in terms of maritime surveillance and exploitation of these areas. Such an increase represents a threat for smaller states in regards of the economic and geo political aspect. Major maritime powers are increasing their territories and their power on the basis of biodiversity. Maritime management based on ecosystem and biodiversity can represent a means for some states to reaffirm their might.

### **Conclusion**

- Culture, biodiversity and identity represent the same reality in the South Pacific country. These people have become aware of these issues and show a strong will to meet this challenge regarding environmental, social and economic aspects in the fight against global warning. This thematic highlights the interaction between environmental rights on a large scale and cultural and patrimonial heritage in particular.
- This new type of modern and participative governance should be undertaken in partnership with the State regarding Research and investment.
- We can note the key role played by UNESCO for the acknowledgment of sites and their prestige. UNESCO also assists states in the undertaking of sites management and their protection.

## REFLECTIONS ON THE LEGAL ADAPTATIONS AND SPECIFIC CHARACTERISTICS OF FRENCH POLYNESIA

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Before the French protectorate over Polynesia (1842), customary tenure was not of absolute character and it performed a useful social role in many contexts<sup>29</sup>. This means that in its original customary conception, land was owned collectively. Individuals had only acquired traditional use rights to the land<sup>30</sup>. They could not even hope to gain prescriptive title by occupying customary lands. Rights over land and over natural resources were regarded as the basis of life and activity of *Ma'ohi* inhabiting their territory. The prohibition of selling to outsiders was established to prevent the native families from losing their lands<sup>31</sup>. As the anthropologist Tamatoa Bambridge said, "A landless *Ma'ohi* has no identity"<sup>32</sup>.

However, the new global colonial order has ridden roughshod over customary property rights. Customary tenure has given way to private land titles (*tomite*). Drawing from the Torrens Land Registry System, which served as the basis for implantation of early settlers in Australia<sup>33</sup>, the French colonial power imposed the registration of land (1852<sup>34</sup>). Yet the requirement to register has not been properly implemented. This has benefited the tenure security of a privileged few who were able to privatize land in their name, but it generally resulted in the dispossession of large numbers of inhabitants who previously had access to natural resources such as common land and sea<sup>35</sup>. Unlike many Pacific Island countries<sup>36</sup>, French Polynesian lands

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<sup>29</sup> Bambridge (T.) et Vernaudeau (J.), *Espace, histoire et territoire en Polynésie. Une appropriation foncière de l'espace terrestre et marin*, in Roy (E. le), "La Terre et l'homme, espaces et ressources convoités, entre le local et le global", Karthala, 2013.

<sup>30</sup> Baré (J.-F.), *Tahiti, les temps et les pouvoirs. Pour une anthropologie du Tahiti post-européen*, éd. de l'ORSTOM, 1987, n° 207 et *L'identité au miroir de Tahiti*, L'Homme, 2010/194, pp. 139-195 ; Saura (B.), *Les règles coutumières en Polynésie française*, in Deckker (P.de), "Coutumes autochtones et évolution du droit dans le Pacifique Sud", L'Harmattan, 1995, pp. 95-131 ; Rouland (N.), *Autonomie et autochtonie dans la zone Pacifique Sud*, RFDC, 2015/104.

<sup>31</sup> Robineau (C.), *Du coprah à l'atome*, livre I, ORSTOM, 1984, pp. 196 et suiv.; Pollock (N.-J.) and Crocombe (R.), *French Polynesia*, Institute of Pacific Studies of the Univ. of the South Pacific, 1988.

<sup>32</sup> Bambridge (T.), *L'identité fondée sur la terre en Polynésie*, in Faberon (J.-Y.) et Gautier (Y.), "Identité, nationalité, citoyenneté outre-mer", Centre des hautes études sur l'Afrique et l'Asie modernes, 1999, pp. 73-94.

<sup>33</sup> Arrieta-Sevilla (L.-J.), *A Comparative Approach to the Torrens Title System*, Australian Property Law Journal, June 2012, vol. 20, n° 3, p. 203.

<sup>34</sup> Rapaport (M.), *Between Two Laws: Tenure Regimes in the Pearl Islands*, The Contemporary Pacific, vol. 8 (1), Univ. of Hawai'i Press, Spring 1996, pp. 33-49.

<sup>35</sup> Newbury (C.), *The administration of French Oceania (1842-1906)*, PhD thesis, ANU, 1956 ; Panoff (M.), *Un demi-siècle de contorsions juridiques. Le régime foncier en Polynésie française de 1842 à 1892*, Journal of Pacific History, 1966, pp. 115-128; Ravault (F.), *Le régime foncier en Polynésie française*, ORSTOM, 1979 and *Land Problems in*

became the object of private appropriation (with the exception of Rapa Island<sup>37</sup>). With the gradual introduction of the French Civil Code (1874–1945), a landowning class was created in French Polynesia through its control of the country's wealth<sup>38</sup>. The Civil Code has endorsed the private rights acquired in accordance with the land registry system<sup>39</sup>, even possibly including a part of the lagoon<sup>40</sup>.

However, land privatization has not, so far, led to a distribution of land but to an increase in undivided joint ownership of land (*fenua feti'i*). Extended families provided sufficient security and flexibility to meet livelihoods needs; their members just wanted to be left alone on the land they had lived on for centuries. More often than not, successions are not settled between the parties<sup>41</sup>. Most land transactions have not yet been formalized, due to a lack of funds to pay the expenses related to the property purchase (legal fees, surveying and registration costs, etc.).

If one of the key identifying characteristics of the souls and the minds of the French Polynesians is taken to be an attachment to ancestral land, then the displacement of that attachment due to economic and political developments in many countries in the world has a profound impact on the lives of Polynesian people<sup>42</sup>. We would also note that the Pacific Experimentation Centre (CEP) has profoundly modified the behavior patterns of many natives.

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*French Polynesia*, Pacific Perspective, 1982, vol. 2 (10), p. 31; Colin (J.-P.), Le Meur (P.-Y.) et Léonard (E.), *Les politiques d'enregistrement des droits fonciers : du cadre légal aux pratiques locales*, Karthala, 2009.

<sup>36</sup> Crocombe (R.), *Land Tenure in the Pacific*, Univ. of the South Pacific, Suva, 1987; Gerard Ward (R.) and Kingdon (E.), *Land, Custom and Practice in the South Pacific*, Cambridge Univ. Press, 2009; Hickford (M.), *Lords of the Land-Indigenous Property Rights and the Jurisprudence of Empire*, Oxford Univ. Press, 2011.

<sup>37</sup> Collective ownership of lands has remained the only form of land holding in this island, managed by a Rapa Council of elders. See Hanson (A.), *Rapa, une île polynésienne hier et aujourd'hui*, Publication de la Société des Océanistes, n° 33, Musée de l'Homme, 1973 ; Bambridge (T.) et Ghasarian (C.), *Juridiction française et droit coutumier à Rapa*, Droit et Cultures, 2002 (44-2), pp. 153-181 ; Ghasarian (C.) and Hanson (A.), *The Land Belongs to Everyone. The Unstable Dynamic of Unrestricted Cognatic Descent in Rapa*, Univ. of Auckland, New Zealand, vol. 116, n° 1, 2007 and Ghasarian (C.), *Rapa, une île du Pacifique dans l'histoire (1791-1956)*, Ginkgo ed., 2016.

<sup>38</sup> Calinaud (R.) et Domingo-Neti (C.), *Droit coutumier et coutume dans la jurisprudence en Polynésie*, in Deckker (P.de), "Coutumes autochtones et évolution du droit dans le Pacifique Sud", L'Harmattan, 1995, p. 162 ; Calinaud (R.), *Les principes directeurs du droit foncier polynésien*, Revue juridique Polynésienne, vol. 7, 2001, pp. 743-744 ; Sage (Y.-L.), *Droit foncier en Polynésie française : et si comparaison était (un peu) raison ?* in Angelo (T.), Aimot (O.) et Sage (Y.-L.), "Droit foncier et gouvernance judiciaire dans le Pacifique Sud", Comparative Law Journal of the Pacific, vol. XII, 2011, pp. 59-80.

<sup>39</sup> Roulland (N.), *L'État français et le pluralisme*, Odile Jacob, 1995, pp. 332-333.

<sup>40</sup> Calinaud (R.), *La situation juridique des lagons polynésiens*, Bulletin de la Société des études océaniques, n° 260, t XXII, avr.-oct. 1993, pp. 47-53 (See the judgement of 5 sept. 1979 in case *Füller*, TPI, n° 1454-813 and TA Papeete, 5 nov. 1991, n° 00243-00267, TA Papeete, 24 fev. 2004, *Brotherson*, n° 0300478, CAA Paris 2 March 2012, n° 11PA03468) et Bazile (S.), *La propriété publique en Polynésie française : contribution aux rapports entre propriété publique et autonomie*, PhD thesis, French Polynesia University, 2008.

<sup>41</sup> Sage (Y.-L.), *Le droit foncier polynésien du XVIIIe siècle à juin 1934*, PhD thesis, Univ. Grenoble, 1981.

<sup>42</sup> See Boydell (S.), *South Pacific Land : An Alternative Perspective on Tenure Traditions, Business, and Conflict*, Georgetown Journal of International Affairs, vol. 11, n° 1, 2010, pp. 17-25.

Indeed, the sudden emergence of the logic of profit shook traditional foundations of legal culture.

### **The Persistence of Joint Ownership of Land Holdings**

French Polynesian lands still retain a largely clannish view of the family and of joint ownership of land holdings<sup>43</sup>. This specific situation is largely explained by historical factors stemming from the political context which preceded the effective annexation of that territory (1880). After the Franco-Tahitian war (1844–1847), France concluded that the crisis in Tahiti could only be resolved through a political solution that would contribute to pacify the country and to promote reconciliation and healing. Furthermore, French Authorities had not sufficient leeway to carry out more fully their colonial role. The British Empire government was not willing to give them the space to do so. During that time, the English had settled in the Windward Islands (Anglo-Franco Condominium). In the wake of British colonial expansion in Oceania, France did not seek confrontation, nor did it want anything beyond its new rights. Unlike in Africa or Madagascar<sup>44</sup>, the French Authorities were unable to take a special approach to securing lands traditionally claimed by the natives.

We would also note that under the French protectorate, properties had been claimed by several French Polynesians as part of a land privatization process. Historical, genealogical and analytical research can be a complex and lengthy process. Records from many private sources must be used, and they are often scattered throughout the world. Furthermore, there was no real surname in French Polynesia. The surname could be changed at any time, when a life event appeared to justify it, and according to their migration across the country<sup>45</sup>. The name change implied a change in allegiance, a new affiliation to a family group. One could belong to a family group, including descendants and relations by blood or marriage, or extended family members. It was through the name that the individual became a part of family group<sup>46</sup>. We must acknowledge that most of these changes in name resulted from the reconfiguration of family group. In the early part of the 20<sup>th</sup> Century, the establishment of a civil register was followed by many registrations containing significant error and fraud.

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<sup>43</sup> Grand (A.), *L'indivision foncière et le développement économique et social en Polynésie française. Les districts de Pueu et de Paea à Tahiti*, Journal de la société des Océanistes, vol. 27, n° 30, 1971, pp. 7-29.

<sup>44</sup> Jacob (J.-P.) et Le Meur (P.-Y.), *Politique de la terre et de l'appartenance : droits fonciers et citoyenneté locale dans les sociétés du Sud*, Karthala, 2010.

<sup>45</sup> Bambridge (T.), *Revendications foncières : les temporalités constitutives et leurs dynamiques dans le champ social semi autonome de l'archipel des îles Australes aujourd'hui*, PhD thesis Paris IX Dauphine, 2001 et *La terre dans l'archipel des Australes, étude du pluralisme juridique et culturel en matière foncière*, Au Vent des Iles, 2009.

<sup>46</sup> Bambridge (T.), *L'état civil ou le jeu contemporain sur l'identité*, in "De l'écriture au corps", LARSH, Au Vent des Iles, 2002, pp. 89-100.

Increasing the complexity of these challenges is the situation of the *fa'a'amu* traditional adoption (direct adoption arrangements between extended family members or other family)<sup>47</sup>. Regarding that adoption system (around 6000 *fa'a'amu* children),—exclusively done by oral proceedings—there is a potential risk of confusion in people's minds for it might damage the clarity of the juridical regime. Children were rarely informed about their rights, including their identity. *Fa'a'amu* children reclaiming some of their lost rights in the resolution of land disputes became an important issue.

Furthermore, in the absence of rules on registration and general laxity in the procedures, it was impossible or very difficult to trace the rightholders. The Polynesian land registration system was in approximation. Lands might be claimed by all occupiers or family groupings (*ôpu*). Opening the way to the emergence of private land titles, "*tomite*" have safeguarded pre-European family groups<sup>48</sup>.

Moreover, the problem was exacerbated by the absence of cadasters<sup>49</sup>. In the absence of cadaster, verbal procedure was of use. The cadaster was gradually brought in—since the end of World War II—yet not fully operational until the 2000s<sup>50</sup>. Much of this land has not always been taken into account. In addition, survey records from the 19<sup>th</sup> century, copies of deeds and genealogical records had been destroyed by a tropical cyclone in 1906<sup>51</sup>. Lastly, procedures and conditions for registration of land could vary significantly from archipelago to archipelago. For instance, such conditions could then be binding for the inhabitants of the Marquesas Islands; the people, unable to register their land titles, had no alternative but to acquire the land by virtue of prescription (*usucapione*). As there is still much to be learned about the land registration, some property boundaries are hypothetical.

All in all, we still have to this day a huge backlog in the justice system. By the 1<sup>st</sup> of March 2017, the ongoing caseload amounted to almost 800, despite some improvement over the previous year. But at the same time, there is nevertheless an increase in the number of

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<sup>47</sup> Langevin (C.), *Tahitienne de la tradition à l'intégration culturelle, mère fanau et mère fa'a'amu*, L'Harmattan, 1990, p. 133 ; Charles-Capogna (M.-N.), *De la famille fa'a'amu en Polynésie française à la nécessité d'un statut de la famille nourricière*, in Pousson-Petit (J.), "L'enfant et les familles nourricières en droit comparé", Presses univ. Sc. Sociales de Toulouse, 1997, p. 73; Leblic (I.), *From French Polynesia to France: The Legacy of Fa'a'Amu Traditional Adoption*, in "International Adoption", *Anthropologica*, 2014, 56(2), pp. 449-562.

<sup>48</sup> Copenrath (G.), *La terre à Tahiti et dans les îles, Histoire de la réglementation foncière, Perspectives d'avenir*, Haere Po, 2003.

<sup>49</sup> Roucaute (J.), *La réglementation foncière et les différents domaines dans le territoire des Établissements français d'Océanie ; des origines du protectorat (1842) à nos jours (1951)*, Inspection des Domaines, 30 nov. 1951.

<sup>50</sup> Approximately, 55 square km remain available for land registration (in Tuamotu Islands).

<sup>51</sup> Petit (J.-M.), *Le cadastre en Polynésie française*, *AJPF* 2005/3, n° 1.

referrals (156 in 2016 compared to 85 in 2015). One needs to question the persistence of land disputes. New solutions must therefore be found to resolve land rights issues<sup>52</sup>.

### **Legal Impediments to Setting Land and Claims Issues**

Several sets of difficulties are identified in this study. The first crucial issue is that the French current legislation is ill-adapted to the French Polynesian's distinctive features<sup>53</sup>. According to the French civil code (article 827), all heirs are entitled to a legally defined minimum share of the total inheritance. However, the court has no ability to distribute the estate among all heirs. Due to the large number of small parcels of land and heirs, people may have little to share. Furthermore, since the cases dated back many decades, many inheritors have passed away. They can neither be tried in their presence, nor defend their rights. The Appeals Court of Papeete stated that it had a discretion to decide what would be the appropriate order to make in the circumstances. In this particular case, inheritors and rights-holders were advised that they had the right to be represented by a shareholding representative. In other words, all the lawful heirs are not parties to the proceedings. The problem is as follows: the highest court (French Court of Cassation) reversed the Appeals Court of Papeete decisions, stating that no community of interests can truly represent the interests of each party, including those not legally represented<sup>54</sup>. So we have to find an acceptable new legal framework. An alternative might be to give legislative effect to the case-law of the Appeal Court of Papeete<sup>55</sup>.

Another issue relates to the omission of an heir. Under French law, there is to be room for such a type of third-party proceedings (Civil code, article 887-1). The claimant could apply to end the sharing. Such cancellation causes anomalies relating to the legal certainty derived from the rule of law and to a fair procedure. Indeed, a better approach would recognize that complainant receive due financial compensation as one of the remedies to the omission. After many years of proceedings, it is therefore proposed not to question distribution of the estate, while fully ensuring protection of heirs' rights.

Another difficulty relates to the fact that under French law, survivors eligible for benefit may be the spouse of the deceased person and, by extension, the prior children. This system, established by the rules of the Succession Law Reform Act—December 3<sup>rd</sup>, 2001 and June 23<sup>rd</sup>, 2006—considers the evolutions of the family cell in order to meet expectations from its

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<sup>52</sup> Bambridge (T.) et Neuffer (P.), *Pluralisme culturel et juridique : la question foncière en Polynésie foncière*, Hermès, 2002/1, n° 32/33, pp. 307-315.

<sup>53</sup> Délégation sénatoriale à l'outre-mer, *Une sécurisation du lien à la terre respectueuse des identités foncières*, Rapport n° 721 (2015-2016), Magras (M.), Mohamed Soilihi (T.), Darnaud (M.), Lafoaulu (R.), 23 juin 2016.

<sup>54</sup> Court of cassation, 13<sup>th</sup> Sept. 2007, n° 06-15646.

<sup>55</sup> Vannier (C.), *Les litiges fonciers à Tahiti : examen critique des problèmes*, in Angelo (T.), Aimot (O.) et Sage (Y.-L.), "Droit foncier et gouvernance judiciaire dans le Pacifique Sud", op. cit., pp. 81-85.

members, making these provisions more adapted to social and family lifestyles and to set up landmarks for future developments<sup>56</sup>. French succession laws and property ownership laws have been reformed to guarantee equal rights of succession to women in respect of their deceased spouses without any dangers of dispossession from their spouse's kinsmen. It stems from a vision that the nuclear family is the norm, which in fact is not in French Polynesia, and needs to be strengthened<sup>57</sup>. These legal provisions add new undivided co-owners, affecting the ability of the justice system to conclude swiftly the processing of all outstanding cases. We are all certainly aware that similar developments are taking place in French Polynesia, making way for nuclear families in urban areas, notably in Papeete. But it is clear that the rising number of heirs has a considerable impact on the handling of cases.

### **The Need for the Establishment of a Land Claims Court**

From 2015 (law 2015–177 of the 16<sup>th</sup> of February 2015), Special land property Court was established to resolve many land dispute cases. To this end, the court has the human resources necessary to fulfill these tasks (judges and court clerks, officers, interpreter...). There will have to be a long term commitment to resolve the big issue of the number of cases pending in court. Data from the court file review shows that the average time to reach a judgment stands at 65 months:

- For about half of the land cases (52%), the average length of proceedings was between 3 and 8 years;
- 22% of land disputes have been in progress for more than 20 years.

In accordance with the principle of fair trial within a reasonable time stated by the European Convention on Human Rights, this is clearly too long.

However, it is difficult to oblige parties involved to comply with procedural requirements, due to the increase of case numbers and delays that have been exacerbated by the significant number of litigants appearing before the court without legal representation. This issue was compounded by unqualified and unscrupulous consultants and agents who provided litigants with so-called legal aid. Reducing time of processing each case and increasing the court's productivity must be a key objective.

Mediation and other alternative to formal litigation for resolving the land issues can also be a useful and appropriate tool to resolve disputes by allowing parties to participate in

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<sup>56</sup> French Senate, Report n° 476, *Enforcement Record of the Inheritance Rights of the Surviving Spouse*, 27 April 2011.

<sup>57</sup> Carbonnier (J.) and Catala (P.), Report to the French Minister of Justice and Minister of Solidarity, *Partnerships, Filiation and Relationship Today*, May 1998; Dekeuwer-Défossez (F.), Report to the French Minister of Justice, *Renewing the Family Law*, Sept. 1999.

developing solutions to conflict. As our colleague Yves-Louis Sage was fond of saying<sup>58</sup>: in practice, most countries of the South Pacific have opted for a land dispute resolution mechanism out of the formal court system. This system could be applied, with the necessary adaptations, to reduce the backlog of cases by avoiding lawsuits. However there must be unanimous consent from all parties for mediation to take place. This option may not be available due to the difficulty encountered in trying to identify all parties involved (genealogical researcher...). If mediation is declined or fails, the case is referred to the courts. This is a sobering thought when one considers the cost of mediation.

Another issue comes from the cost associated with expert testimony and the inconvenience associated with in terms of delays. This problem is further compounded by the fact that there is a lack of surveyors in the small remote islands; in those cases, the cost of transport is the responsibility of individuals appearing in courts. All this has made it harder to solve problems. How can the issue be tackled? Firstly, French Polynesian Government decided to assume part of the costs of calling expert witnesses in order to assist litigants. Also, identifying, recruiting and training surveyors will enable land disputes to be settled fairly and promptly.

Lastly, the failure to provide the real property cadaster and register data also makes it impossible to check the information about real property and its legal status in real time. Only a committed reform in this regard would allow the court to deal with a greater number of cases. Certainly the French Polynesian Government seems to be moving in this direction very rapidly.

### Conclusion

As a conclusion, what suggestions can be made for improving the situation further? Everyone has agreed that measures must be taken urgently in order to reduce the backlog of pending cases and identify alternatives to joint ownership of land holdings. Contrary to popular myth, the lack of any settlement of inheritance has never prevented attempts of dispossession of traditional lands<sup>59</sup>. Moreover, land issues are exacerbating tensions in communities and worsening economic environment<sup>60</sup>. In the Report released on January 17<sup>th</sup>, 2017, and

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<sup>58</sup> Sage (Y.-L.), *Droit foncier en Polynésie française, bref examen critique et propositions de réformes*, Comparative Law Journal of the Pacific, coll. 'Ex Professo', vol. I, 2013.

<sup>59</sup> Atem (C.), *Maïao, the Forbidden Island*, Bulletin de la Société des Études Océaniques, n° 336, in "Mythes, école et langues, histoire", s/d Kape (J.), 2015, pp. 70-94: besides acquiring Maïao Island's rights, an adventurer, from 1925 to 1935, went on and deprived a great number of families of their rights over their lands, making them massively sign bills of sale in exchange for the various goods they were unable to pay for. Following the Protestant pastor's advice, the land's rights over those islands were acquired by the Agricultural Society of the Island, which involved the active population.

<sup>60</sup> Assemblée nationale (Commission des lois), *Rapport sur la Polynésie française*, n° 2950, Urvoas (J.-J.), 8 juil. 2015.

submitted to the French Minister of Justice<sup>61</sup>, the working group on the question of land ownership made several reform proposals. Many of these suggestions could be implemented into the French Civil Code. Because of the division of powers between the French Parliament and French Polynesia, the local Government could usefully draw on some of these suggestions to reform the Code of Civil Procedure. In the meantime, the court will enable progress to be made on these issues with the means put at its disposal. The increase in the number of referrals testifies to the growing confidence in this court. If these efforts are maintained, the individuals subject to trial should expect a settlement of the land issues.

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<sup>61</sup> Réflexions sur les adaptations normatives aux spécificités foncières de la Polynésie française de la Polynésie française, s/d Pastorel (J.-P.), rapport au Ministre de la Justice, 17 janv. 2017.

# DEVELOPING HUMAN CAPITAL FOR SUSTAINABLE DEVELOPMENT: THE PAPUA NEW GUINEA EXPERIENCE

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## Abstract

*Sustainable Development (SD) is not new to Papua New Guinea. At independence the country adopted it as one of its National Goals and Directive Principles. PNG's participation in many international agreements has since validated the wisdom of this foresight. However, despite these agreements little progress has been made in adopting it in development policies and plans, including human capital development to underpin the shift to sustainable modes of socio-economic growth. This paper discusses latest developments associated with collaboration between Government and the University of PNG in mainstreaming sustainable development in development policy and human resource development.*

**Key words:** Sustainable development, human capital, human resource, development policies, StaRS, growth, paradigm shift, responsible economy, principles, integrate, biodiversity, strategic.

## Major events in the History of Sustainable Development globally

The global environment is believed to have started by the publication of a book by Rachael Carson called 'Silent Spring' in 1962 which documented the destructive effects of pesticides on the environment (Robertson 2014).

In 1968 the United Nations General Assembly (UNGA) recognized the imbalance of natural resources exploitation resulting in both environmental and livelihoods changes. The UNGA passed a resolution to combat the growing global environmental problems. (United Nations 1968).

This resolution paved the way for the 1972 Stockholm Declaration, which created the United Nations Environment Programme (UNEP) and the Right to economic development of States, protection of environment, population control and poverty reduction (United Nations 1972).

In 1980 IUCN, UNEP and WWF developed the First World Conservation Strategy which was later republished in 1991 as the document 'Caring for the Earth'.

In 1982 the South Pacific Regional Environment Programme was established by a decision at the conference on human environment in the Pacific in Rarotonga, Cook Islands (Dahl and Baumgart 1982).

In 1987 the United Nations Report; 'Our Common Future', embracing the *Sustainable Development Concept* was published. The report called on political leaders of all countries for a Global paradigm shift as Sustainable Development was contingent on greater political commitment by leaders of the nations of the world (World Commission on Environment and Development 1987).

In 1990 UNDP published the first Human Development Report, and has seen annual publications since (UNDP 1990).

In 1992 the South Pacific Regional Environment Programme (SPREP) prepared and launched the *Pacific Way*, the Pacific Islands Developing Countries Report to the Rio Summit (SPREP 1992).

The 1992 Rio Summit—UN Conference on Environment and Development (UNCED) in Brazil, agreed on Agenda 21, the Rio Declaration on Environment and Development which laid the foundation for the global institutionalization of sustainable development, as well as the Statement of Principles to guide the sustainable development of forests (United Nations 2010). These developments paved the way for the setup of the UN Commission for Sustainable Development to monitor the overall implementation of the summit agreements by governments, businesses, non-governmental organizations.

1995 saw the publication by Mathias Wackernagel and William Rees of the concept of ‘The Ecological Footprint’ (Robertson 2014).

The 1997 Special Session of the UN General Assembly set the year 2002 as the target for the formulation and elaboration of National Sustainable Development Strategies for all the countries. This is part of the Agenda 21 implementation programme (United Nations 1997).

In 2000 Eight (8) Millennium Development Goals were developed and released by the UN to support SD at national level (Government of Papua New Guinea 2015).

The year 2000 saw the acceptance of the best international statement on “sustainability”, “*The Earth Charter*” (Earth Charter Commission) orchestrated and presented to the international community by Morris Strong (Canada) and Mikhail Gorbachev (Russia). This statement incorporated (1) respect and care for the community of life”, (2) ecological integrity, (3) social and economic justice, (4) democracy, non-violence and peace, and (5) a statement on the way forward.

In 2002 the Rio+10 Johannesburg Declaration on Sustainable Development was adopted at the World Sustainable Development Summit (WSSD), and the Plan for the Implementation of the World Summit on Sustainable Development was also agreed upon. The Johannesburg Declaration built on earlier declarations made at the UN Conference on the Human Environment at Stockholm in 1972, and the Earth Summit in Rio de Janeiro in 1992. While committing the nations of the world to sustainable development, it also included substantial mention of multilateralism as the path forward (United Nations 2001).

In 2007 at the Pacific Islands Forum meeting, the Pacific Plan aimed at strengthening Pacific regional integration and co-operation was endorsed. It adopted four key pillars designed for development progress: economic growth, sustainable development, good governance, and security (Pacific Islands Forum Secretariat 2007).

In 2012, the outcome of the Rio+ 20 UN Sustainable Development Conference in Brazil titled ‘The Future We Want’, advanced six themes; Our common vision; Renewing political

commitment; Green economy in the context of sustainable development and poverty eradication; Institutional framework for sustainable development; Framework for action and follow up; and Means of implementation (United Nations 2012).

In September 2015 the United Nations General Assembly adopted the 17 Sustainable Development Goals from 2014–2030. These goals superseded the Millennium Development Goals.

### History of Sustainable Development in Papua New Guinea

Papua New Guinea has endeavoured to integrate its international commitments and agreements on sustainable development into its development strategies and plans. At independence it adopted Sustainable Development as one of its Five National Goals and Directive Principles. All the country’s macro and micro development plans, since independence, have used them as the underpinning platform for prescribed growth strategies. It enshrined in its National Constitution the Five (5) National Goals and Directive Principles (PNG Constitutional Review Commission 1996).

1	Integrated Human Development	Providing all citizens with the opportunity to achieve their potential. Quality education and a world class health system are key elements of the PNGDSP for human development, helping to develop a highly skilled work force and equipping PNG’s entrepreneurs with the skills they need to grow their businesses.
2	Equality and Participation	All citizens should have equal opportunity to participate in and benefit from the nation’s development. Prosperity in rural areas of the country where the majority of citizens live.
3	National sovereignty and Self-Reliance	To be strengthened by PNG’s economic and political success. Good governance and broad based growth will help build PNG into a prosperous nation including by facilitating PNG investors. Among other things, PNG’s prosperity will alleviate the country’s reliance on aid.
4	Natural Resources and Environment.	PNG is well endowed with a wealth of natural resources. These resources must be managed sustainably to ensure they benefit both future and current generations. In particular, resource revenues need to be focussed on nation building, whilst at the same time protecting the environment.
5	Papua New Guinean Ways	PNG has a rich heritage of traditional wisdom and knowledge, reflecting the greatest cultural diversity of any nation of the world. PNG’s development will be fostered in ways that learn from and build upon PNG’s cultural heritage. Policy measures for law and order, land, education and health, need to draw upon PNG ways to improve the effectiveness of service delivery in these sectors.

The fourth goal in particular sets out the Sustainable Development platform for growth and improvements in quality of life and environment protection. It stated in part; 'We declare our fourth goal to be for PNG's natural resources and environment to be conserved and used for the collective benefit of us all, and to be replenished for the benefit of future generations. We accordingly call for:

- (1) Wise use to be made of our natural resources in and on the land or seabed, in the sea, under the land, and in the air, in the interests of our development and in trust for future generations; and
- (2) The conservation and replenishment, for the benefit of ourselves and posterity, of the environment and its sacred, scenic and historical qualities, and
- (3) All necessary steps to be taken to give adequate protection to our valued birds, animals, fish, plants and trees'(PNG Constitutional Review Commission 1996).

This was a clear statement of sustainability and sustainable development. This Constitutional declaration gave rise in 1976 to the framing of the National Environment Policy, which provided the framework for environmental management in the country. The Environment Policy contained very broad environmental principles such as; intergenerational equity; precautionary principle; integration; participation and good governance. The policy, however, lacked clearly defined strategies for the achievement of these environmental principles. The policy is pro-development. (PNG Government 1976).

According to Dr Eric Kwa following the Rio Summit of 1992 Papua New Guinea responded positively by initiating several workshops and conferences to chart the pathway for the adoption and implementation of sustainable development mode of growth. The 20<sup>th</sup> Waigani Seminar in 1993 titled 'From Rio to Rai: Environment and Development in Papua New Guinea' was PNG's response to its obligations which it signed at Rio Earth conference. The subsequent publication of the booklet was 'Stretim Nau Bilong Tumora'. (KWA 2007)

The document summarized the outcomes of the Waigani Seminar with a set of recommendations to immediately commence and strengthen the process of implementing a *National Sustainable Development Strategy (NSDS)* up to the year 2000 and beyond.

A NSDS Steering Committee was established in the same year. It was headed by the Department of Environment and Conservation, deputized by the Department of National Planning and Rural Development and the Secretariat housed in the Department of Prime Minister.

The United Nations Mission assisted by providing an integrated policy advice on: Integrating environment and development considerations at all levels of the decision making process, integrated approach to the management of renewable and non-renewable natural resources, strengthening mechanisms for effective people's participation in decision-making, and Capacity building for villages and communities, grassroots NGOs and village/community government. (KWA 2007)

The UN Mission assistance began with an audit of the environment and development issues affecting the country with the publication in 1994 of its report titled *Yumi Wankain: Report of the United Nations Joint Inter-Agency Mission to Papua New Guinea on Sustainable Development*. (UNDP 1994)

The report provided a holistic and integrated package of policy advice to the Government on sustainable development. Core message of the report was that there was an urgent need to transform the policy, legal and administrative systems of government to achieve: (1) better governance; (2) stronger and efficient management of the country's natural resources; and (3) stronger community empowerment. The report further recommended six strategies; Enabling Government, Sustaining the benefits from mining, Jobs first: an employment led growth strategy, Viable villages: sustainable development, Empowerment of people; and NSDS: the way ahead.

However, these developments were yet again stalled as PNG experienced the recession of the mid 1990's. The devaluation of the currency and its subsequent floating in 1995 saw the introduction of the World Bank and IMF's Structural Adjustment Programme that shelved long term strategies and instead introduced short term survival austerity measures and programmes aimed at restoring the economy.

As part of the Structural Adjustment Program (SAP) the National Planning Office (NPO) was re-established after ten years. Upon its re-establishment the NPO moved to define a long-term development vision for the country. National vision and long term thinking in development planning was in large measure influenced by developments in other countries such as Singapore and Malaysia, and was seen as essential to bringing coherency and alignment to development policy and planning.

Influenced by this rationale, the government set up the Baloiloi committee, undertook a nationwide consultation process and framed the long-term development vision for the country. The committee's report titled; 'Kumul 2020' recommended a change in development paradigm away from a model that was highly dependent on exports of natural resources and towards a model that pursues sustainable modalities of growth. (Government of Papua New Guinea 1997)

Despite this initiative the Skate Government upon its assumption of government in 1997, saw Kumul 2020 as the Chan/Haiveta Government policy and ignored the recommendations for a shift in development paradigm and shelved it (Baloiloi 2015). Subsequent Medium Term Development Strategies 1997–2002 did not integrate Sustainable development agenda in their framing.

The Skate government was voted out of office in mid-2000 due to gross mismanagement of the economy and the new Morauta Government spent the remainder of the Parliamentary life rebuilding the economy using austerity policies and measures again. With the impending Rio +10 World Summit on Sustainable Development (WSSD) in Johannesburg in August-September 2002 the government found that it had not progressed the sustainable development agenda that it had committed itself to a decade back.

The initiatives of 1994 to put in place a National Sustainable Development Strategy, and the recommendations of the Kumul 2020 in 1997 to shift development paradigm towards a sustainable mode had both been put on the back burner. Even the National Assessment Report (NAR) of the country for presentation to the WSSD had not been prepared.

In the absence of a concrete government action since 1994, the UNDP intervened and persuaded the Department of Planning and Rural Development to establish a project in early 2001 to prepare for the WSSD. The UNDP promised US\$100,000 for the compilation of the NAR within six months. A Secretariat was established within the Department headed by a Project Coordinator with technical advice from a Technical Working Group. The project was supervised by the National Steering Committee, which was chaired also by the Department. (KWA 2007)

By March 2002, as the country prepared to go to the national elections, the United Nations Development Programme (UNDP) and Department of National Planning and Rural Development initiative had not materialized (KWA 2007). The non-implementation of the NSDS and the National Sustainable Development Commission could be attributed in part to the 1995 Structural Adjustment Program (SAP) and the need for rescue packages following the Skate years of 1997–2000.

In an effort to fast track the compilation of the NAR, the National Steering Committee decided to remove the project from the government and transfer it to the University of Papua New Guinea (UPNG). The UPNG consultants primarily from the now School of Natural and Physical Sciences and Centre of Climate Change together with Conservation International framed the NAR in three months. (KWA 2007)

The NAR showed that since 1992, Papua New Guinea had not achieved most of the objectives regarding Sustainable Development, and strongly recommended for the government to establish and institutionalize the National Sustainability Development Strategy (NSDS) in its development plans together with an implementation and monitoring framework to review progress. (PNG Government 2002)

The Somare regime, following the 2002 elections, continued the rescue strategy started by Morauta Government to take the country out of the economic mess left by the Skate Government. Major cost cutting measures were instituted across all state agencies by 8-9%. However, despite the belt tightening measures the government acted on the recommendations of the NARS and by 2003 it directed the Department of National Planning and Rural Development to begin resurrecting the NSDS initiative of 1994.

The Department was tasked to establish an Inter-Agency Working Committee on National Sustainable Development Strategy (NSDS Working Committee) to immediately commence work on the NSDS. The primary terms of reference of the NDS Working Committee was to develop the National Sustainable Development Strategy.

At the first meeting of the NSDS Working Committee, on 7<sup>th</sup> August 2003, the Committee agreed that it would complete a draft NSDS within six months. It was envisioned that the draft

NSDS was to be completed by February 2004. However, yet again, by August 2007, some three years later, the NSDS Working Committee had still not developed a draft NSDS.

In 2005 the School of Geography at UPNG merged with Environmental Science to form the Discipline of Environmental Science and Geography (ESG) within the School of Natural and physical Sciences.

During this period the Office of Climate Change was established as a unit within the Department of Environment and Conservation (now called the Environment Protection Authority). In 2010 it was separated as a stand-alone agency and now called the Conservation and Climate Change and Development Authority (CCDA).

Upon re-election in 2007, the Somare Government confident of its political stability developed and adopted Vision 2050 and the Development Strategic Plan 2010-2030. Vision 2050 set out the long-term development vision and the Development Strategic Plan 2010-2030 (DSP 2030) translated the vision into sector plans woven into a coherent development road map, and the Medium Term Development Plan 1 (MTDP1) set out the five-year intervention programme of government.

The Vision 2050 was launched in September 16<sup>th</sup> 2009 with 7 strategic Pillars: (1) Human Capital, Gender, Youth and people empowerment; (2) Wealth creation; (3) Institutional Development and Service delivery; (4) Security and International Relation; (5) Environment Sustainability and Climate Change; (6) Spiritual, Cultural and Community Development; and (7) Strategic Planning, Integration and Control. (Government of Papua New Guinea 2010)

Development Strategic Plan 2030 launched in January 2010 set out 7 complementary Core objectives; (1) Strategic Planning, (2) Systems and institutions, (3) Human development, (4) Wealth creation, (5) Security and international relations, (6) Environment and climate change, and (7) Partnership with Churches for integral human development. (Government of Papua New Guinea 2015)

Both Vision 2050 and DSP 2030 pronounced sustainable development and climate change adaptation as development goals and the with attention focused on them consideration of the National Sustainable Development Strategy was yet again shelved.

However, despite all these policy prescriptions little actual movement has taken place on the ground in terms of recognizable shift towards sustainable modalities of growth. PNG's economy today is still very dependent on the export of raw materials by the extractive sector. The population is still growing at a faster rate than GDP growth and the country far from achieving domestic food security status and still very much dependent fossil fuel for its energy supply with only 30% of total households having access to formal electricity supply. (Government of Papua New Guinea 2010)

Today PNG is still ranked as the lead nation in the exports of logs and other raw natural resources, one of the leading tuna exporting countries, and has allowed investors such as BHP

Australia and Rio Tinto USA to abdicate environmental damage responsibilities in Fly River in Western Province, and Jaba River in Bougainville.

### **National Strategy for Responsible Sustainable Development (StaRS)**

Cognizant of these realities and the knowledge that global circumstances have changed in terms of consciousness around sustainable development, the O'Neil Government upon taking office in October 2013 approved the adoption and use of the Sustainable Development Paradigm as the guiding philosophy for future development policies and plans. This paved the way for the re-emergence of the sustainable development agenda in policy and planning.

As is normally the case with incoming regimes, the O'Neil Government directed for the review of the DSP 2030 and the MTDP1. The National Executive Council (NEC) Decision (Decision No. NG26/2012) directed that the review assess and report on the performance of both plans, incorporate the priorities of the incoming government in the revised plans and have them costed and aligned to the annual budget cycle. (Government of Papua New Guinea 2014)

An Interdepartmental Committee was set up under the Chairmanship of the Deputy Director of the Vision 2050 Office, and deputized by the Deputy Secretary of the DNPM. However, the committee's approach to the review and in particular the revision of the plans, using the same brown growth driven model, was different to the vision of the Minister, who insisted on shifting to the sustainable green model. Given this difference, the Minister convinced Government and instead of undertaking the review using the traditional brown growth model template, he used the sustainable development paradigm to frame the National Strategy for Responsible Sustainable Development (StaRS).

The Minister replaced the NEC sanctioned review team with a team from within the Department of National Planning and Monitoring and guided the framing and adoption of StaRS.

In his submission to the Government to justify his change in approach he argued that, what the country needed was a paradigm shift, away from the brown consumption driven model and towards a growth model that is responsible and sustainable. In his view, responsible development meant not undertaking activities that compromised the world's biodiversity or putting children's future at risk. Instead sustainability is responsible economic development that is able to provide all the elements for well-being for citizens in a manner that is self-perpetuating. (Government of Papua New Guinea 2014)

In April 2014, THE STRATEGY, the first version of the National Strategy for Responsible Sustainable Development was formally adopted and launched as the guiding sustainable development paradigm for the design of future development policies and plans. In 2015, the second version, now known as StaRS, was published. According to Prime Minister O'Neil, StaRS sets the foundation for the adoption of PNG's new strategic direction for development and post-2015 development agenda. (Government of Papua New Guinea 2015)

By making sustainable development principle as the defining paradigm for future development policies and plans it elevated StaRS to be one of the twin pillars alongside the 5 National Goals and Directive Principles of the National Constitution. This is represented in Diagram 4A.

In terms of the planning framework of the country, both the National Constitution and StaRS provide the philosophical pillars on which all other plans hang in cascading order.

The StaRS revisited and elevated the National Goals and Directive Principles of the Constitution as the foundational philosophical tenets for development policies and plans, and prescribed twenty-one principles to guide development actions going forward. These principles are consistent with the Rio+ Resolutions and endeavours to align all development actions with them. In doing so it establishes essentially a new development paradigm - one that is human development centred and is based on the principles of greater responsibility and prudent stewardship of naturally resources. (Government of Papua New Guinea 2014)

The government recognized that whilst the medium and short term plans would continue to rely heavily on natural resource extraction the country needed to begin a deliberate process of building a truly responsible economy and sustainable society. The country needed to confront and deal with questions such as:

- How to sustain itself in terms of food and energy?
- How to generate the basis of an economy that produces clean and green products that are competitive internationally?
- What the changing world consciousness around climate change resilience means in terms of value of the country's rainforest stock?
- What the real value of its tuna stocks and biodiversity is?
- How it intends to address population growth as an underlying causality? (Government of Papua New Guinea 2014)

StaRS recognizes the unique and growing values of the country's natural capital such as: forests and biodiversity, marine resources and tuna, waters resources, agriculture, eco-cultural tourism, clean air etc, and advocates a shift in investment to develop them as pillars for the architecture of a new responsible and sustainable economy going forward.

In May 2015, the Government adopted the Medium Term Development Plan 2 (MTDP2) as the new development road map predicated on the platform of Sustainable Development. The plan incorporated the government priorities, as directed by the Alotau Accord; whilst at the same time embraced the sustainability principles prescribed by StaRS. It reasserted the goals of Vision 2050 to increase the country's Human Development Index (HDI) ranking to being in the top 50 by 2050; and to achieve it by becoming a world leader in Responsible Sustainable Development. (Government of Papua New Guinea 2015)



Diagram 4A: The Planning Framework

Source: StaRS. 2<sup>nd</sup> Edition (2014, p.20). Department of National Planning and Monitoring.

Underpinned by this new development paradigm advanced by StaRS, other consequent policies such as; National Climate Compatible Development Management Policy, National Population Policy aimed at stabilizing population growth, WaSH policy aimed at the embedding

of sustainable practices in the management of water, sanitation and health practices in the country were also adopted.

These plans are now in place and different agencies of the PNG Government oversee them and are moving to integrate the principles of sustainable development in the growth plans of their sectors.

To realize this paradigm shift in the long term, a Planning Bill has also been enacted by Parliament giving the Department of National Planning and Monitoring the legal mandate to direct the design of annual resource framework of the country to enable the shift away from the current brown growth mode and towards a greener and sustainable mode of growth.

Given the lessons of political and bureaucratic procrastination in the past, the enactment of the enabling law is seen as essential to bringing greater discipline into the process of aligning resource planning - budget framing and fiscal policy with development policies and plans to guide the integration of the principles of Sustainable Development as prescribed in StaRS in all sector plans.

### **Human Capital Development: Degree Programme in Sustainable Development**

According to the National Research Institute one of the shortcomings of past development plans is the problem of lack of resources, which includes human resource (National Research Institute 2010). In the Renewable Energy Conference, Baloiloi (2015) asserts that a major part of the problem of lack of commitment by successive governments is associated with the high level of 'sustainable development illiteracy' among political leaders.

This is indeed the case with past efforts associated with trying to integrate sustainable development principles in development plans and programmes. This was also evident within Department of National Planning and Monitoring who engaged external consultants to develop the policy and the enabling legislation because of lack of capacity within the Department to undertake the task.

According to UNEP a skilled workforce is a prerequisite for shift towards a green economy. Training and skill enhancement programmes will be needed to prepare the workforce for a green economy transition. A joint study between UNEP, ILO and other partners found that the impact on workers from a green economic transition would vary depending on the specific economic sector and country in question. In some cases, the transition could mean loss of jobs, and in other cases, the creation of new green jobs. (UNEP 2011)

In the case of PNG, this may mean focusing education efforts on aligning skills with the needs of the industry as it endeavors to shift from a brown growth mode to a green and sustainable mode. This is particularly necessary in the fields of science, technology, engineering, agriculture, forestry, ecology, and even social science disciplines involving public policy and economic. As green economy modalities of growth begin to pick up jobs are expected to change

to respond to a more energy and resource efficient economy. For instance, engineers and builders will remain in the same employment, but start to provide new, green services.

The UNEP report further suggests, that current shortages in skilled labour could frustrate efforts by governments to transition to a green economy and deliver the expected environmental benefits and economic returns. For instance, almost all energy sub- sectors lack skilled workers with the most pronounced shortages found in the hydro, biogas and biomass sectors. Shortages are also pressing for manufacturing in the renewable energy industry, particularly for engineers, operation and maintenance staff and site management. It is essential that governments work with employers to close the current skills gap and anticipate the future workforce needs for a green economy transition. (UNEP 2011)

In addition to re-skilling workers, there is also the need to ensure managers develop the new perspectives, awareness and capacities required for ensuring a smooth transition. A recent OECD study noted that businesses will need to ensure that their managers are able to learn and understand the new skills needed to respond to the changes taking place within their realms of responsibility; to develop more green-oriented managerial capacities; as well as to make adequate use of the skills their staff has obtained. (Martinez-Fernandez et al. 2010)

Cognizance of this shortcoming the PNG Government through the StaRS programme and in collaboration with the University of Papua New Guinea initiated the development of the Degree in Sustainable Development in 2014. The BSD Programme is aimed at producing the human capital stock required for overseeing the shift towards sustainable modes of growth in the country.

This human resource development programme is part of the platform recommended by StaRS as a necessary prerequisite for the shift towards the development of an inclusive green economy for the country going into the future. (Government of Papua New Guinea 2014)

The programme consisting of a full four-year degree programme, a Bachelor of Sustainable Development (and a postgraduate two year programme) to be coordinated by the Discipline of Environmental Science and Geography (ESG) admitted its first intakes in 2015. It is now in its second year of offering.

The Bachelor of Sustainable Development (BSD) is an interdisciplinary degree utilizing subjects in physical sciences (eg environmental science, marine and tropical biology, chemistry, physics, geology, medicine, ecology), social science, business, economics, law, governance, anthropology and tourism.

The course is broadly grouped into 4 sustainability core themes: (1) ecological (2) social (3) economic and (4) governance, and two pathways or options for students to achieve the BSD Degree.

**Option 1.** The School of Natural and Physical Sciences takes leadership and implement the BSD for the first five years and report back to UPNG Management to consider if other schools can support and join the BSD degree as a whole UPNG degree.

Year 1	Entry for BSD, all students who enter the UPNG through SNPS to complete their foundation year programmes/courses
Year 2	Students interested in the BSD degree streamline and register under the BSD programme. They start by Completing 8 compulsory/prerequisite courses planned and designed undertake the BSD degree.
Year 3 and 4	BSD students are guided and advised to take recommended listed courses appropriate and relevant from all the Schools courses.
Students must complete their normal credits points of 96 to graduate under the 4 years	

**Option 2.** This option is targeted at graduates from other Universities in the country who are currently in the workforce and wish to undertake the course to support their career path. After graduating from their Respective schools, students apply to do an extra 2 years to complete their BSD programme.

Year 1	Students must complete the 8 compulsory courses as designed in option 1. (Projects in Provincial and communities are strongly encouraged)
Year 2	Students must complete another 8 courses from the recommended and listed 3 <sup>rd</sup> and 4 <sup>th</sup> year courses as outlined in Option 1.
Year 3 and 4	BSD students are guided and advised to take recommended listed courses appropriate and relevant from all the Schools courses.

The BSD offered by UPNG is one of the only a few undergraduate degree programs that is sufficiently innovative and multi-disciplinary to give students an employment edge in becoming sustainable development practitioners.

Upon graduation the students are expected to take on a variety of roles associated with sustainable development in both government and private sector. Prospective employers include government, commerce and industry, and a broad range of environmental management related roles such as:

- Policy advisers,
- Development Planners,
- Planning and research officers in national and provincial (Local Level Government and Wards) government,
- Economic sectors (Mining, energy, forestry, fisheries etc),
- Environmental protection agencies,
- Urban and physical planners,
- Business and tourism management,
- Cultural and natural heritage management,
- Land and water management,
- Community development,
- Commerce and industry,
- Environmental consultancies, and
- Research careers with National Agriculture Research Institute, Medical, universities and industries e.g. mining.

The students undertaking the course in sustainable development come from a wide range of academic disciplines. These include Environmental Sciences, Social work, Hospitality and Tourism, Business Management, General Science, hopefully Law as well as Post Graduate studies. There are currently about eighty students undertaking the course and the number is expected to grow in the coming years.

Other programmes currently offered by the Environmental Science and Geography stream which includes mainstream programmes such as; environmental science, geography and GIS and remote sensing, and a Diploma in Comprehensive Hazard and Risk Management (Dip-CHARM), Diploma in Physical Planning, and a Post Graduate Diploma in Conservation Management and Development.

As the demand for the SD course grows so will the scope of the course extended to include other areas that are seen as main causalities for unsustainable growth, environmental degradation and climate change induced disasters. These include fields such as; built environment—urban growth, cities and the need for sustainable services such as waste management, water supply, sustainable transportation, clean and sustainable energy, and climate resilient developments.

For example, developments are currently underway to upgrade the current certificate course in Climate Change and Risk Management (CHARM) offered by the Center for Climate Change in conjunction with the National Disaster Office to a degree level course, a proposed Master degree course in renewable energy to be offered by the School of Science, and a LLB Bachelor of Sustainability Law Degree programme in collaboration with the School of Law.

## Summary and Conclusion

Papua New Guinea like many developing countries embarked on the development and modernization journey on a development model that was put in place by her colonizer. The model was predicated principally on an open market, demand driven, and growth-based paradigm.

This has resulted in a large increase in population and an equivalent huge appetite in terms of resources to sustain it. This has further resulted in permanent and ongoing damage to the country's richly endowed environment.

The rise in sustainable development consciousness and concern globally about the impact of the human footprint on the planet and its consequences on incidences of global warming and climate change has alerted PNG to the growing awareness that the country's unique natural resources is finite and cannot sustain endless growth without causing permanent destruction to the environment and ecosystem.

However, according to Baloiloi (2015), the country has struggled to integrate this consciousness in its development policies and plans and actions over the last four decades because of a number of interrelated problems such as:

- Sustainable development illiteracy among leaders and decision makers,
- Predomination of austerity policies imposed under the Structural Adjustment Programme imposed by WB and IMF designed to bail out the country from its economic woes,
- Prescribing to the philosophy of the environmental Kuznets curve rationale in development strategies, and
- Lack of political will to pursue sustainable development modes of growth. (Baloiloi 2015)

The political leadership shown by the current Minister for National Planning and Monitoring Honourable Charles Abel in pushing the StaRS to be the underpinning policy to guide future development planning and action and the enabling Planning legislation, to pave the way for the shift towards greater sustainability, is seen by many informed observers as a major step forward in the integration of sustainable principles in the design of policy and planning and development action generally.

The response by the University of Papua New Guinea in developing and offering the SD Programme is likewise seen as a strategic move in the development of the enabling human capital to push the agenda beyond just political rhetoric and goodwill commitments by the country to global conventions and agreements.

The importance of these developments in the internalization of sustainable development principles in the country's development vision, culture and practice in all sectors is best summarized by Dr Eric Kwa, the Secretary of PNG's Constitutional and Law Reform Commission

that; *'Sustainability Development is no longer treated within companies as a specialist subject but as an integrated, core business concern.* (KWA 2014)

The partnership between the StaRS programme, driven by Minister Abel and the Department of National Planning and Monitoring and the University of Papua New Guinea, and in particular the Degree programme in Sustainable Development is a major platform for the shift towards greater sustainability in the country's development fortunes going forward.

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Figure 4A, Planning Framework is sourced from MTDP 2, pg.20.

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# THE IMPACT OF INLAND FISH FARMING IN THE EASTERN HIGHLANDS PROVINCE, PAPUA NEW GUINEA

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## Abstract

*A survey of 60 inland pond fish farmers was conducted in the Eastern Highlands Province of Papua New Guinea to assess whether inland fish farming is having a beneficial effect on the health, social circumstances and livelihoods of the farmers. Inland fish farming was introduced in the highlands to improve and sustain nutritional status, especially protein consumption, and to provide a means for smallholder farmers to earn cash income. The survey results show that positive aspects outweigh the negative. The formation of a local Fish Farmers Cooperative Society, an increase in the number of fish ponds owned by individual farmers and an ever increasing number of new farmers showing interest in fish farming indicate sustainability and growth. Having the majority of respondents' ponds close to the farmhouse and main road is a bonus for adequate management of ponds and marketing of fish. This scenario fosters ambition and interest by these farmers to request extension services so far not adequately supplied. It is encouraging that the bulk of customers come from the rural areas and most of the respondents consume some or most of their own fish. They identify and rate fish as the livestock most easy to look after and agree that fish is more nutritious than other kinds of meat. Having most of the farmers realizing and experiencing the nutritional benefits that fish provide is a practical achievement. Unfortunately, these fish farmers have continued to experience obstacles to achieving intended benefits. Lack of financial support and inconsistent cash flow were identified as primary obstacles, followed by theft of fish. Lack of extension visits, inadequacy of fingerling supply, feeding problems, and needs for materials and equipment are just some of the obstacles continuing to hamper the progress of inland fish farming. If these issues can be addressed adequately then fish farmers will definitely experience the benefits that fish farming is intended to provide.*

**Keywords:** Aquaculture, Cooperative, Extension, Livelihoods

## Introduction

A research survey was conducted in the Mimanalo LLG (Local Level Government), Goroka District, Eastern Highlands Province (EHP), Papua New Guinea (PNG). The Mimanalo LLG has a total population of 33,000 people who are subsistence farmers, some of whom have also ventured into inland fish farming. This significant milestone of rural development has been made possible under partnership collaboration with the National Fisheries Authority (NFA).

The survey, conducted from the 24<sup>th</sup> to the 28<sup>th</sup> August 2015, aimed to investigate the impact of inland fish farming in Mimanalo, focusing its findings on whether the principal reasons for introducing aquaculture in the highlands by the NFA and the National Government are being achieved and experienced by rural fish farmers. The principal reason for introducing aquaculture was, and still is, to increase protein consumption in the diet of people in the highlands, which should also help in reducing malnutrition. The secondary reason has been to

provide a means for smallholder farmers to earn cash income and develop a new commercial industry (Smith et al. 2007b).

The Mimanalo LLG was used in this research survey as an indicator of the many efforts that NFA and the Government have contributed toward inland fish farming in the highlands provinces. The Mimanalo LLG is also a good indicator due to having used assistance and, furthermore, farmers within the LLG are members of the newly formed Mimanalo Fish Farmers Cooperative Society. Some of these farmers were also former members of the Eastern Highlands Fish Farmers Cooperative Society. These factors provide substantial weight indicating that Mimanalo rural fish farmers have the potential to provide reliable information on the impact of inland fish farming in their LLG as well as in the EHP overall.

All registered members of the cooperative society were interviewed using a structured questionnaire in a formal face to face strategy so that honest and reliable information could be derived.

### **Aims and Objectives**

The objective is a description of the status and impacts of inland, pond based aquaculture, with particular emphasis on fresh water smallholder farming in the Mimanalo LLG, to discover whether inland fish farming is having an impact on the economies, health, social circumstances and livelihoods of the farmers. The aim is determination as to whether the primary reasons for introducing aquaculture in the highlands by the NFA and national government have been or are being achieved in the Mimanalo LLG. The research hypothesis is that inland fish farming has an impact on livelihoods of fish farmers in the Mimanalo LLG.

### **Background**

Although freshwater fish farming began in PNG in the late 1950s with the introduction of carp and trout species, aquaculture is still a developing industry that has become dominated by new genotypes of tilapia. Because 87 percent of the country's seven million people are smallholder farmers, food security has been the major focus of the government ever since independence in 1975.

Malnutrition due to low protein intake can be a serious problem in the rural areas of PNG. Although there are short-term and long-term total food supply problems in parts of the nation, there are more wide spread problems with access to food of adequate quality, especially high protein and energy dense foods, including oils and fats. Protein-energy malnutrition (PEM) is regarded as the most important form of malnutrition that is widespread and affecting both children and adults in PNG. The introduction of inland fish farming in the highlands of PNG in

the late 1950s was primarily to improve and increase protein consumption in the diet of the people to help minimize malnutrition in the rural areas (Smith et al. 2007b).

The secondary aim has been to provide a means for smallholder farmers to earn cash income through the harvest and sale of their fish. Effort, resources and finance have been injected into inland fish farming by the national government and other extension agencies and donors since the introduction and establishment of this farming practice.

The people of Mimanalo LLG have ventured into inland fish farming for some years now and have gone an extra mile by forming a fish farmer's cooperative society. The location of the LLG next to the Goroka urban Centre, an efficient road network and abundant source of water make this LLG a convenient indicator of the potential of fish farming in the EHP.

The survey was designed to answer the following:

1. Whether the government policies and concepts in rural development and food security relating to inland fish farming are achieved.
2. Whether or not the rural farmers in the Mimanalo LLG are receiving any of the intended tangible benefits from fish farming.

Many of the problems faced by these farmers are existing ones that have evolved in the community for some time now but the information gathered by the survey should allow room for extension officers to adjust and find adequate long lasting solutions in addressing these challenges.

Inland fish farming is the foremost choice for addressing this malnutrition due to fish being recognized as a source of high quality protein and source of financial benefits. Therefore, efforts by the NFA with the help of international organizations have continued to fund domestic programs to see that the overall aims are achieved and rural farmers acquire the intended benefits.

There are several beneficial reasons for raising fish. These may include the high nutritional value of fish and the potentially high economic value with fresh fish selling well at good prices in the highlands of PNG. The animal husbandry in fish farming is efficient with three dimensional use of space and productive use of available resources such as land unsuitable for agricultural purposes and available unused water.

Eastern Highlands is one of the key provinces that have a substantial associated history with fresh water fish farming in PNG. With the establishment of the Highlands Aquaculture Development Centre (HAQDEC) at Aiyura (EHP) and the subsequent transfer of the functions of HAQDEC by NFA to the Eastern Highlands Provincial Government, a privilege and an opportunity was provided for rural farmers in the province to venture into and have a taste of the intended benefits that inland fish farming has in store for them (HAQDEC, 1996).

Rural farmers in Mimanalo LLG are some of the many farmers in the province who have shown a great deal of interest in aquaculture. Some years back, a group of interested rural farmers at five mile built a 6m x 8m pond and experimented by looking after carp species. Many more farmers have ventured into the industry on their own, while some have received funding from NGOs and the NFA to go into fish farming.

Inland fresh water fish farming has been practiced in the Mimanalo LLG for some years now. Much effort in terms of resources, time, and labour have been invested into the aquaculture industry by the rural farmers themselves, NFA, NGOs and the provincial and local government. The present survey was primarily conducted to investigate the impact of inland fish farming on the rural farmers, focusing the findings on whether the intended purpose for introducing aquaculture into the highlands by the NFA and the National Government are being achieved.

This research survey was intended partly to augment and update the review and survey carried out by ACIAR from 2001–2006 in five major fish farming provinces of PNG, including Eastern Highlands Province. The ACIAR survey was to identify the impediments and implement strategies to improve substantially the opportunities for fish farmers in PNG. The research was also aimed at determining the status of inland aquaculture in PNG and prioritizes the key researchable aquaculture issues. The resulting ACIAR publication (Smith 2007) provides a comprehensive account of the history of aquaculture in PNG.

The low amount of protein in the diet has for long been a nutritional concern in PNG, causing problems such as inhibited child growth rates and PEM affecting both adults and children. Therefore it is nutritionally important to increase access to fish.

In PNG canned fish has been a particular import supplement to more perishable local fish products. It has become vital for urban nutrition in PNG, especially among poorer socio-economic groups (Bourke et al. 2009).

A number of points can be made about access to markets and services in PNG (Allen and Bourke 2009). A measure of how easy it is to travel from a village in PNG to a service centre or market is defined here as 'accessibility'. It is measured by how long it takes to travel from a village to the nearest service centre or market, and by the level of services available at the service centre. In some provinces, large numbers of people in one part of the province can have very poor or poor accessibility and in other parts large numbers can have good or very good accessibility. Accessibility to some areas has deteriorated over the last 30 years, with lack of road maintenance and increases in the price of imported fuel for vehicles. Poor accessibility can be shown to be associated with low incomes and poor levels of health and education.

## Materials and Methods

A questionnaire was prepared containing forty-nine formally constructed questions purposely aimed at collecting relevant information from specific fish farmers in the Mimanalo LLG. The questions were primarily constructed to find out whether inland fish farming has had or have an impact on the economic and social wellbeing and health of the people of Mimanalo. The data were collected by the principal investigator assisted by a hired local fish farmer. All 60 fish farmers who are members of the Mimanalo Fish Farmers Cooperative Society were selected to participate in the survey. Questions 1–7 of the survey questionnaire capture farmers’ personnel identity, seven further questions were open ended and 35 questions offering choices of answers as provided. There were a total of 49 questions altogether. The data were collected over one week (24<sup>th</sup>–28<sup>th</sup> August 2015). Answers to questions were coded using Microsoft Office excel and analyzed in frequency tables.

## Results and Discussion

The main results obtained from the survey have been grouped into 16 logical topics for presentation and discussion. Hence for each topic, the statistical results are presented in relevant tables followed by a discussion on the significance or meaning of the results. A summary discussion, the conclusions drawn and some general recommendations then follow.

### *Respondent’s gender, age, marital status and educational level.*

**Table 1: Gender participation**

Gender	Frequency	Percentage (%)
Male	57	95
Female	3	5
<b>TOTAL</b>	<b>60</b>	<b>100</b>

**Table 3: Age range**

Age	Frequency	Percentage (%)
20-23	23	38.33
31-40	14	23.33
41-50	15	25
51 and above	8	13.34
<b>TOTAL</b>	<b>60</b>	<b>100</b>

**Table 2: Education level of respondent**

Education Level	Frequency	Percentage (%)
Primary	28	46.67
High school	14	23.33
Tertiary	4	6.67
No formal education	14	23.33
<b>TOTAL</b>	<b>60</b>	<b>100</b>

**Table 4: Marital status of respondent**

Marital Status	Frequency	Percentage (%)
Married	48	80
Single	12	20
<b>TOTAL</b>	<b>60</b>	<b>100</b>

The Mimanalo Fish Farmers Cooperative Society comprises a total of sixty registered fish farmers, fifty-seven males and three females who own fish ponds. The range of age is encouraging indicating that both young (38%) and older persons (62%) are interested and actively involved in inland fish farming. Having young people involved in fish farming has created interest among their peers. When verbally interviewing some of the young fish farmers, they confirmed that their young friends were the ones who have given them motivation to venture into fish farming. However, the older farmers were not so cooperative and were reluctant to provide needed information. This may be the effect of past experiences of researchers getting information from farmers which has not resulted in any positive feedback or development being experienced. Understanding and acceptance of new knowledge and technology towards development has proven to work faster with young people compared to the older folks. In Mimanalo LLG, fish farming is a family activity where parents and children, with relatives, work together and where experienced members pass on the knowledge and skills to other family members. The age range results also provide positive indications of sustainability and future development toward fish farming in the Mimanalo LLG.

Of the sixty respondents, 80 percent are married. Among the respondents who are not married, three are male high school students who have ventured into fish farming with the hope that profit gained from fish sales will assist in paying for their future school fees. These students can be identified and their knowledge and skills in fish farming can be utilized in agricultural practical classes within the schools they are attending. Participation of married couples and families in aquaculture promotes an increase in fish protein consumption.

Unfortunately, 70 percent of the respondents have not gone beyond the sixth grade or have no formal education so as to be classified as under-educated or illiterate. Extension agencies must look for adequate and appropriate teaching and learning alternatives to be provided to these farmers. Generally those fish farmers who are educated and are earning an income from fish sales are the ones who are better off in managing this money. A primary school female teacher is a good example of an educated fish farmer who used the profit made from fish sales to build a family house and a canteen. Furthermore, the educated farmers have been the ones who have read and understood information and have also gone to the extent of writing letters and proposals purposely to seek assistance from potential sources.

**Sources from which farmers have become aware of Fish Farming and the number of years involvement in Fish Farming.**

**Table 5: Means of awareness**

Source	Frequency	Percentage
NFA & PDAL	21	35
NGO's	0	0
Other fish farmers	39	65
<b>Total</b>	<b>60</b>	<b>100</b>

**Table 6: Number of years in Fish farming**

# of Years	Frequency	Percentage (%)
1-5	34	56.67
6-8	12	20
10-15	14	23.33
<b>Total</b>	<b>60</b>	<b>100</b>

Having the LLG situated close to the urban capital of the province, one would think that all farmers may have become aware of fish farming through the NFA or Provincial Government. But the data show that 65 percent of the fish farmers have become aware of fish farming through having contact with other existing local fish farmers. Many of the farmers had already ventured into fish farming before the formation of the Mimanalo Fish Farmers Cooperative Society. However, it is advantageous to acquire training in policy, management and skills from recognized agencies and institutions.

Apart from the sixty farmers who have registered under the Mimanalo Fish Farmers Cooperative Society there are hundreds of others who have practiced fish farming for many years but are still yet to be registered with the Society. This is a common scenario in PNG where interest in fish farming by rural people has escalated but attention is centered only on registered farmers (Smith et al., 2007b). While 57 percent of the respondents said that they have looked after fish for one to five years, another 20 percent have been involved in fish farming for six to eight years and the final 23 percent have a lot more experience and have practiced fish farming for 10 to 15 years. However, there is not much evidence to make any comparison of the effects of fish farming on the livelihoods of the three groups.

**The major supplier of Fingerling and the number of Fish pond owned by an individual farmer.**

**Table 7: Number of Fish ponds**

# of Fishponds	Frequency	Percentage (%)
1 pond	03	5
2 ponds	05	8.33
3-4 ponds	21	35
5 or more ponds	31	51.67
<b>TOTAL</b>	<b>60</b>	<b>100</b>

**Table 8: Major supplier of Fingerlings**

Supplier	Frequency	Percentage (%)
NFA & PDAL	1	1.67
Other local farmers	59	98.33
<b>TOTAL</b>	<b>60</b>	<b>100</b>

Over 98 percent of the farmers confirmed having received fingerlings from other local fish farmers while less than two percent of the respondents claimed to have received fingerlings from NFA or government. It can be assumed that extension work is lacking in the area and there is also poor supply and distribution of fingerlings by the responsible institutions. The problem of fingerling distribution has not improved and continues to hamper the progress and development of the pond fish industry. The few local fish farmers who are the major suppliers in the area have learnt the skills of fish breeding through formal training with NFA. These skilled fish breeders are charging high fees when hired by other fish farmers to do the breeding and they make a good income from breeding alone compared to profit gained from fish sales. Hence they can be very reluctant to train other fish farmers in the skills of fish breeding and lose customers.

A farmer needs to have special knowledge and skills when it comes to building and construction of fish ponds. A farmer can own many ponds but at the end of the day it is the pond management and success that counts. Only 13 percent of farmers own one to two fish ponds, 35 percent own three to four and 52 percent own five or more fish ponds. Of these 52 percent, six farmers own more than 10 fish ponds. This shows a significant level of interest towards inland fish farming and is a significant increase in the number of ponds owned by farmers compared to the 2007 ACIAR survey which identified most respondents having only two fish ponds (Smith et al. 2007a).

***Distance from Fishpond to Owners house and the nearest Public road and Urban market.***

**Table 9: Distance from Fish pond to house**

Distance	Frequency	Percentage (%)
10 – 20 m	52	86.67
21 – 30 m	3	5.00
1 or more Km	5	8.33
<b>TOTAL</b>	<b>60</b>	<b>100</b>

**Table 10: Distance from Fish pond to nearest Public road**

Distance	Frequency	Percentage (%)
20 – 50 m	54	90
1km – 3km	2	3.33
5km – 10km	3	5.00
11km or more	1	1.67
<b>TOTAL</b>	<b>60</b>	<b>100</b>

Most ponds are located between 10 to 20 meters from the owner’s house, while five percent of ponds are situated in a range of 21 to 30 meters distance and eight percent of the ponds are situated 1km or more from the owner’s house. Of these farmers who have their ponds 1km or more kilometers away from home, two of them own fish ponds in the village but are working and residing in town while three farmers own ponds on their customary land but are living in their wife’s village. Having most ponds located 10 to 20 meters from the house provides confirmation of the results of the ACIAR 2007 survey which indicated the average distance

from pond to farmhouse was 70 meters (Smith et al. 2007a). The problem of stealing has been one of the main reasons for farmers building and establishing fish ponds close to their homes. But looking at the distance from an economic perspective it allows the farmer to have quicker and easier access to his pond. It is also economical for the farmer to construct and establish ponds close to the public roads to access services. For this reason, 90 percent of the ponds are located between 20 to 50 meters from a public road. Generally all respondents have access to a reliable road network. All fish ponds are located between 11 and 12km from the main urban market. Accessibility to some areas has deteriorated over the last 30 years due to lack of road maintenance and increases in the price of fuel for vehicles. Poor accessibility can be shown nationally to be associated with low incomes and poor levels of health and education (Allen and Bourke, 2009). But generally a good road network makes it possible for fish farmers to have access to marketing opportunities (Anderson 2015)

***Availability of animal manure and Pond fertilization.***

**Table 11: Animal manure which is more plenteous and can be easily obtained from the local area**

<b>Manure</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Chicken	12	20.00
Pig	26	43.33
Goat	13	21.67
Other	9	15.00
<b>TOTAL</b>	<b>60</b>	<b>100</b>

Before fingerlings are placed into the pond, it is important that the pond water is fertilized for growth of plankton. Animal manure is of high quality for the buildup of plankton and farmers need to apply animal manure or other organic materials to the fish pond. Hence, respondents were asked to identify which animal manure is plenteous and easily obtained. For 43 percent of the respondents pigs are plenteous and they normally use this manure while 22 percent of respondents identified goats as the main source of animal manure. Chicken manure had 20 percent of the respondents saying that this particular animal manure is used to fertilize fish ponds. The last 15 percent of respondents mix manure with kitchen waste and other organic ingredients. It was revealed that farmers who belong to the Adventist faith do not use pig manure as it is against their religious belief. Their faith has also caused them to be reluctant in buying fish from farmers who use pig manure as a source of fish pond fertilizer. Hence, it is advisable for farmers living in communities with a high Adventist population to use another acceptable source of animal manure as fertilizer instead of pig manure.

***Fish farmers Training and the Influence of assistance from Agencies and Institutions.***

**Table 12: Attendance at any formal training on fish farming**

Answer	Frequency	Percentage (%)
Yes	36	60
No	24	40
<b>TOTAL</b>	<b>60</b>	<b>100</b>

**Table 13: The rate of influence and assistance received from agencies & institutions**

Rating Criteria	Frequency	Percentage (%)
Excellent	0	0
Very good	0	0
Good	3	5
Poor	57	95
<b>TOTAL</b>	<b>60</b>	<b>100</b>

Despite the number of years these farmers have been involved in fish farming, 40 percent have had no formal fish husbandry training. These farmers have acquired most of their aquaculture skills and knowledge by themselves or from other experienced local farmers. The other 60 percent of farmers have attended fish farming training conducted through arrangements with the NFA and the LLG management. There is little difference to show between those that have not attended any formal training compared to those that have. However, one difference that is most outstanding is the experience and benefit for those who have attended formal training and acquired the skills of fish breeding. They are making a good income by being hired by those who have not attended any formal training. But despite 60 percent of respondents having attended formal training, 95 percent of respondents indicated a poor level of assistance and influence from extension agencies. Lack of extension visits is a prioritized issue to be addressed.

***Ratings as to which animal is easiest to look after.***

**Table 14: Ratings as to which animal is easiest to look after**

Animal	Frequency	Percentage (%)
Fish	59	98.33
Chicken	0	0
Goat	1	1.67
Pig	0	0
<b>TOTAL</b>	<b>60</b>	<b>100</b>

Results from the survey have also identified that the fish farmers are engaged or have had experience in looking after other livestock species apart from fish. In relation to their experience, these particular farmers were asked to indicate which livestock is easiest to look after and 98 percent identified fish while only two percent of respondents think that the goat is the easiest animal to look after.

***Agriculture activity that provides most income for the family.***

**Table 15: Agriculture activity that provides most income for the family**

<b>Agric. Activity</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Fish	3	5
Coffee	50	83.33
Vegetable	4	6.67
Other livestock	1	1.67
Other business	2	3.33
<b>TOTAL</b>	<b>60</b>	<b>100</b>

Although this research was fish farming oriented, fish farmers are also involved in other agricultural activities. Hence they were asked which agricultural activity provides most income for the family and 83 percent of the respondents identified coffee, the most substantial cash crop for farmers in the highlands region. Sales of vegetables was ranked second with seven percent of respondents and third was fish with five percent. The remaining two respondents identified their involvement in small business or the sales of other livestock.

Fish farming has the potential to provide a sustainable income for families in Mimanalo LLG but this has not yet occurred. Therefore, farmers need to work on other agricultural commodities to support the family financially. Coffee is a major cash crop that has and will always provide most of the income for the farmers in the highlands, including the concerned fish farmers, and fish in this case is an additional agricultural commodity on top of coffee. The three fish farmers who identified fish as the agricultural activity that provides most income for the family are those who possess the knowledge and skills in fish breeding that have enabled them to receive a good income from breeding fish for other farmers.

But generally considering the location of the LLG and its economic prospects, flavored by the vast interest that people have shown, it is clear that fish farming has the potential to provide and generate good income for the fish farming families in the Mimanalo LLG.

**Help and assistance needed from extension agents.**

**Table 16: Welcoming of regular visits from extension officers**

Answers	Frequency	Percentage (%)
Yes	59	98.33
No	1	1.67
<b>TOTAL</b>	<b>60</b>	<b>100</b>

**Table 17: Frequency of expected extension visits**

Answers	Frequency	Percentage (%)
End of month	3	5
End of every 2month	1	1.67
Twice every year	2	3.33
Quarterly	54	90
<b>TOTAL</b>	<b>60</b>	<b>100</b>

**Table 18: Specific kinds of help and assistance needed from extension agents**

Type Of Assistance	Frequency	Percentage (%)
Materials	45	75
Training	6	10
Proposal writing	6	10
Financial assistance	3	5
<b>Total</b>	<b>60</b>	<b>100</b>

In spite of the record of poor assistance, 98 percent of farmers said they would welcome regular visits from extension agents while only one respondent, who almost lost his trust and interest in extension visits, said that he will not say anything because for years now he had not received any visit from extension agencies. But this particular fish farmer is a businessman who ventured into fish farming but normally receives much of his income from other businesses. When further asked how often they would expect extension visits, 90 percent of farmers would prefer quarterly visits.

The specific kinds of help and assistance that a fish farmer would need can only be made known to the agency through extension visits. However as a guide, 75 percent of respondents said that they would need materials such as PVC pipes, cement, fencing wires and wire baskets and 10 percent who had attended some formal training said that they would need some more training in specific areas of fish husbandry including simple book keeping, fish breeding or processing and marketing. Another 10 percent of respondents desperately need training in proposal writing and even asked this researcher to help them while the final five percent need financial assistance to implement much needed work on their fish ponds. Extension officers may not be able to provide the needed materials and financial assistance to fish farmers, but the extension officer can always act as a medium of information for development.

***Help and assistance needed from extension agents.***

**Table 19: How much of the Harvested crop is usually sold and how much is provided to the family for consumption**

<b>Answers</b>	<b>Frequency</b>	<b>Percentage (%)</b>
More sales less consumption	12	20
Less sales more consumption	5	8.33
½ sales ½ consumption	19	31.67
Consumption only	13	21.67
Sales only	1	1.67
No harvest as yet	10	16.67
<b>TOTAL</b>	<b>60</b>	<b>100</b>

The primary objectives of the NFA to encourage rural subsistence farmers to engage in fish farming are firstly to increase protein consumption in the diets of rural people, especially children and mothers, and secondly for fish to provide a means for smallholder farmers to earn cash income. In relation to the income objective, 32 percent of the respondents said that they normally sell half of their harvest for income and the other half is for family meals, 22 percent said that they grow and harvest their fish for consumption only, 20 percent sell most of their harvest and only a small portion of the harvested fish is being provided to the family for consumption while eight percent of fish farmers said that they do fewer sales and consume more of the fish they produce. The remaining 17 percent of farmers had yet to harvest any crop. The above percentages are comparable with that of the ACIAR 2006 survey which showed 44 percent of fish farmers consuming some of their own fish, accounting for 39 percent of their harvest (Smith et al. 2007a). The number of ponds owned by an individual farmer directly influences the proportion of fish sales, influenced by land ownership. However, it is encouraging to see that, regardless of poor assistance and support, rural fish farmers are able to implement the NFA primary objectives in their respective households.

***Major fish farmers.***

**Table 20: The major customers for fish**

<b>Major Customers</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Relatives and villagers	27	45
People from other village within LLG	2	3.33
Restaurants, shops, institutions	10	16.67
No sales	21	35
<b>TOTAL</b>	<b>60</b>	<b>100</b>

Farmers who have already started harvesting their fish and have gone into selling their produce were asked about their major customers. In response, 45 percent said that their main customers are their relatives and other villagers while 17 percent of the fish farmers sell their harvest to restaurants, shops and even educational institutions. These latter farmers are those that are educated and have the potential to write and make formal arrangements with available buyers in town and elsewhere. Overall it is the level and status of the local economy that should provide for potential customers and, for rural fish farmers to benefit financially from the fish industry, accessibility to marketing and adequate services is a paramount requirement (Allen and Bourke 2009; Kia et al. 2007). There are plans for the Cooperative, with the assistance of the LLG administration, to set up a business arm to take responsibility for fish marketing and also for the LLG to set up a fish restaurant.

***Number of times within a week that the family eats animal protein and the source of animal protein the family most often has in their meals.***

**Table 22: Source of meat most eaten in family meal**

**Table 21: How many times in a week is meat eaten by the family**

<b>Number of times</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Once	14	23.33
Twice	25	41.67
3 times or more	21	35
<b>TOTAL</b>	<b>60</b>	<b>100</b>

<b>Source of meat</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Processed meat in tins	48	80
Fish	12	20
Chicken	0	0
Goat and other meat	0	0
<b>TOTAL</b>	<b>60</b>	<b>100</b>

Whether or not rural families have enough protein intake and the type of meat that is affordable and often available for family meals are important concerns that need to be considered. Since one of the primary objectives of introducing inland fish farming to smallholder rural farmers was to increase family protein consumption, a question was asked to find out the number of times within a week that a fish farmer and his family normally have animal protein in their meals. Over one third of the families eat meat, including fish, three or more times in a week and 77 percent eat meat at least twice a week. However, it is clear that those who make more sales of their fish will eventually eat less or will have no fish in the family meals.

Regardless of frequency of consumption, 80 percent of families usually eat processed meat or fish from tins and the most common processed protein in tins is canned fish. The 20 percent of respondents usually having fresh fish in their meals are fish farmers who own more fish ponds and make little or no sales of their harvested fish. Nearly all respondents, 98 percent, said that they normally do not pay for what the family consumes while the others pay for the fish that the family eats but at a lower price compared to the normal market price. These fish farmers that pay for the fish the family consumes are the ones who have the desire and intention to make fish farming a business. The popularity of tinned fish is primarily because it is readily available and affordable (Bourke et al. 2009). Fresh, locally grown, tilapia and trout are much more expensive than tinned fish and hence rural people cannot afford to buy fresh fish or can only afford to buy enough for the family on rare occasions.

***Rating of fish as more nutritious compared to other kinds of meat.***

**Table 23: Are fish thought to be more nutritious than other kinds of meat?**

<b>Answer</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	60	100
No	0	0
<b>TOTAL</b>	<b>60</b>	<b>100</b>

The nutritional contributions of fish can play a very important role towards human health. Fish meat is an introduced source of protein in the highlands but all respondents agreed that fish is more nutritious compared to other animal protein sources. A further sixty respondents within the LLG who are not fish farmers were questioned and 80 percent of these respondents also agreed that fish meat is more nutritious compared to other meat. These results are overwhelming and give positive indications of a huge number of potential fish customers. But the issue of the higher prices of fresh fish is an important economic factor that needs to be considered and addressed.

***Ratings of the starch food which the family normally eats with fish.***

**Table 24: Which starch food the family normally eats with fish?**

<b>Starch food</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Rice	54	90
Sweet potato	4	6.67
Potato	2	3.33
Taro	0	0
<b>TOTAL</b>	<b>60</b>	<b>100</b>

When asked which starch or energy food they normally have with fish, 90 percent of respondents claimed that it is more nutritious to have rice (white rice) with fish. This choice puts a lot of pressure on food security and the sustainability of locally grown garden food. The farmers were also asked what type of energy food they would normally like to have with other common sources of animal protein. The results clearly indicate that rice is still a favorite energy food that fish farmers prefer to have with any animal protein. This is a nutritional issue that needs urgent awareness since despite sweet potato dominating food production in the highlands (Bourke and Harwood 2009); rice is becoming popular with records of high consumption rates when cash is available.

***Major obstacles faced by respondents in respect to looking after fish and finding any adverse effect.***

**Table 25: The one major obstacle faced in the village in respect to looking after fish**

<b>Obstacle faced</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Theft	25	41.67
Inconsistent flow of income (finance)	33	55
Jealousy	0	0
Vandalism	0	0
Other (landslide)	2	3.33
<b>TOTAL</b>	<b>60</b>	<b>100</b>

**Description of any adverse effects.**

**Table 26: Description of any adverse effects**

Effects	Frequency	Percentage (%)
Reduced income	0	0
Reduced custom participation	0	0
Reduced standing in community	2	3.33
Neglect of food gardens	14	23.33
Other ( no adverse effect)	44	73.33
<b>TOTAL</b>	<b>60</b>	<b>100</b>

Unfortunately, looking after fish has given farmers problems and they were asked about the major obstacles faced. Inconsistent flow of income within the communities was the primary obstacle that 55 percent of respondents claimed to experience with respect to selling fish while 42 percent of respondents said that theft of fish is the major obstacle faced. Theft of fish is much easier compared to other livestock because fish are confined within the area of the fish pond and easily stolen using a spear or bait. When asked if fish farming has caused any adverse effects on the farmers, 73 percent of respondents said that since engaging in inland fish farming they have not experienced any adverse effect, but 24 percent of respondents said that when working in their fish pond they tend to neglect the family gardens. This is the direct effect of farmers having more fish ponds and getting an income from looking after fish. The remaining three percent said that their involvements in fish farming have reduced their standing in the community. These problems faced by fish farmers are ongoing issues that have existed since fish farming was introduced and need to be addressed (Smith et al. 2007b).

**Overall benefits provided through fish farming and future intensions in respects to fish farming.**

**Table 27: Overall benefits of fish farming to the farmers and family**

Benefits	Frequency	Percentage (%)
Improve nutrition	19	31.67
Family health	35	58.33
Income	3	5
Quality of living	3	5
Prestige	0	0
<b>TOTAL</b>	<b>60</b>	<b>100</b>

**Table 28: Future intention with respect to fish farming**

<b>Future plan</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Stay the same	2	3.33
Go out of business	3	5
Expand	54	90
Undecided	1	1.67
<b>TOTAL</b>	<b>60</b>	<b>100</b>

In regard to the overall benefits that fish farmers have received by participation in aquaculture, 58 percent of fish farmers said that having fish in their family meals has contributed extremely to the overall health of the family while 32 percent of respondents said that fish has contributed towards improving the family's nutrition. Only five percent said that fish provided income for the family while the remaining five percent said that fish helped in elevating the family's standard of living.

Finally, a question was asked to respondents regarding their future intentions or plans with respect to fish farming. The result shows that 90 percent of the respondents have an intention to expand in terms of area and production. However, five percent of the respondents have the intention of going out of businesses because they only ventured into fish farming with the intention of using financial benefits gained from fish to help them venture into other businesses. Two farmers have no intention of expanding due to limited available land and other contributing factors while one farmer is undecided. This particular farmer had no aim to prosper but ventured into fish farming just by seeing his friends doing it and he decided to do the same.

### **Discussion in Summary**

Generally, members of the Mimanalo Fish Farmers Cooperative Society and the people of Mimanalo are destined to benefit from inland fish farming. With 98 percent of experienced livestock farmers rating fish as the easiest livestock to look after and all fish farmers agreeing that fish is more nutritious compared to other animal proteins there is reliable information indicating the ambition and interest that the people have toward fish farming. The location of the Mimanalo LLG with good road networks providing potential for economic development and service delivery, good natural sources of water, a favorable climate and fertile land, provides an ideal haven for fish farming. The participation and contribution of both young and old people in fish farming demonstrates a high degree of interest among all members of the family. Since 83 percent of respondents have regular customers coming from within the LLG there is evidence that rural people have experienced and come to realize the nutritious value of fish. The desire

for regular extension visits and training shows the respondents ambition to acquire new knowledge and technical skills to develop fish farming to a level at which fish farmers can experience and enjoy the benefits that fish farming can provide.

Apart from the 60 registered fish farmers there are also hundreds of other farmers who are engaged in fish farming but are not registered members of the Fish Farmers Cooperative Society and many more that have shown interest in aquaculture. The data showing 52 percent of registered farmers owning five or more fish ponds and 90 percent having the intention to expand in terms of area and production shows a great deal of interest toward inland fish farming and it is very encouraging when 74 percent of the respondents denied any adverse effect relating to fish farming.

Extension visits and training from fish farming agencies and institutions are poor or non-existent. Requests for financial and material assistance are pending, leaving local fish farmers losing trust and confidence in their mandated leaders and service providers. Only 17 percent of the respondents are privileged and able to make arrangements with business houses for the sale of their fish while 83 percent do not have external markets for their produce. Marketing is an important issue that needs to be addressed at all levels.

Despite the efforts and financial assistance provided by the NFA towards fish farming in the Province, there is limited or no evidence to show any impact of these efforts, most of the developments having been executed purely by the fish farmers themselves. The Mimanalo LLG needs honest people who have the heart and capacity to bring services and development of inland fish farming in the area.

### **Conclusions**

Review of the overall results from this survey portrays many positive pictures and much potential for further development of inland fish farming in the area. The positives outweigh the negatives, and the latter can be identified and corrected to bring change to the rural community.

It is important that channels of communication are created so that everyone can share common goals and objectives relating to the progress and sustainability of inland fish farming in the rural areas. There should be mutual understanding and cooperation to create good working relationships among all the stakeholders and achieve designated goals. Rural agricultural extension work in the area needs to be resuscitated, supported and recognized as an essential mechanism for service delivery and development. Positive impacts can be achieved if the interest of rural farmers towards inland fish farming is used to guide goal setting, program formulation and implementation of field work.

Development and improvement of inland fish farming in the rural areas is in line with PNG policies and strategic plans but requires cooperation and some coordination between various government and non-government agencies. Greater emphasis needs to be put on the development of systematic collection, analysis and reporting of data related to food security and nutrition, as well as the cash earning capacity of rural fish farmers so that policy and decision making can be more informed, relevant and effective.

As the results have indicated, the people of Mimanalo have shown interest and initiative to venture into inland fish farming. However, the farmers need useful information, appropriate technology and sound technical advice, not only to increase their productivity and income but also to make farming and rural life richer and more sustainable. In spite of all the policies and objectives, plus the efforts and resources injected into fish farming in the Mimanalo LLG, it is regrettable to conclude that the majority of the fish farmers are yet to experience the full potential impacts of improved diets and increased income from inland fish farming in their livelihoods.

### **Recommendations**

These recommendations are addressed to the relevant national, provincial and local level agencies mandated to promote and assist farmers engaged or wishing to engage in pond aquaculture.

- a. Practical implementation of intended programs and activities and delivery of basic services to rural fish farmers.
- b. Evaluate existing fish farming programs and activities and adjust as necessary to meet rural needs.
- c. Conduct training and education on benefits of animal protein, good health and nutrition.
- d. Explore better arrangements and organisation of markets for rural fish farmers.
- e. Facilitate similar research surveys in other Districts so that reliable data and information in regard to inland fish farming can be accumulated and updated.

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# THE ROLE FOR ENGAGED ANTHROPOLOGY IN AGRICULTURAL EXTENSION AND RURAL DEVELOPMENT

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## Abstract

*A case is made for an extended role for applied anthropology to enhance the utility of agricultural extension in fostering rural development in multi-cultural Melanesia. Clearly the continued health of smallholder agriculture and wise land use are critical in any concept of rural and hence national development in these countries. But the role and efficacy of agricultural extension as conventionally understood has come under severe criticism to the extent that it is said to have failed since the mid-1980s. There are a number of suggested reasons as to why this should be so but it is argued that a primary factor underlying this perception is a deficiency in understanding of the acculturation and change processes which have been taking place for millennia and continue in Melanesian society. There is a dichotomy between those in leadership positions promoting change, characterized as development, and the range of stakeholders, villagers, women, some NGOs, especially in remoter areas, expected to participate but seem unwilling or unable to do so according to expectations. It is a suggested function of anthropologists, trained and experienced in ways not found in agricultural scientists and technicians, to understand this dichotomy and suggest resolutions or simply patience, not to take sides but to educate service providers, especially extension agents. Sound agricultural evolution is a slow process and, unless forced in ways anathema to social democracy, it is necessary to proceed in holistic harmony. While rural sociology is taught in tertiary agricultural education it is argued here that this is inadequate training to deal with the problem and that it is necessary to engage anthropologists willing to undertake the required research and educational roles.*

**Key Words:** Melanesia, Rural Development, Engaged Anthropology

## Introductory Background

The initial part of this paper is a personal story of discovery of understanding, or rather lack of understanding, as to why in multi-cultural Melanesia the rural development related activities of government, government agencies and authorised institutions so often fail to meet the stated objectives, and this has been a long history of failure. I have taken the liberty to present it in the active voice. My discovery began in Zambia in the early 1970s when doing research on the husbandry of local goats by the Gwembe Tonga people in the low altitude reaches of the Zambezi River on the north side of Lake Kariba (Quartermain 1975). It became clear that any technical or social changes that might be suggested to enhance the livelihoods of the villagers could not be undertaken without corresponding adjustments across the whole agricultural, ecological and social environment. It became necessary to take what became known as a holistic view, in contrast to the education and experience I had received up until then in mono-cultural agricultural production systems, mainly in New Zealand. I was able to work with a German rural sociologist, Professor Joachim Ziche, who introduced me to the field of attitudinal studies, trying to understand why people might accept or reject suggested changes. I carried these ideas to Papua New Guinea (PNG) in 1994.

My first self-imposed task in PNG was to learn all that I could about the traditional husbandry of the village pig in contrast to the Zambian goat and I put my findings into my Pigs, Goats and People paper (Quartermain 1977). I was helped greatly in my understanding of pig husbandry by the ethnography of the pioneer American ecological anthropologist Roy Rappaport who had done his field work with the mid-altitude Tsembaga Maring people and published his findings in Pigs for the Ancestors, Ritual in the Ecology of a New Guinea People (Rappaport 1968). Professor Rappaport went on to extend his ideas from ecological theory and method to ritual, the sacred, and adaptation; then maladaptation, trouble, and engaged anthropology; and finally religion, science and humanities future (Messer and Lambek 2001). Rappaport was concerned initially with theories on the role of ritual in stabilizing and sustaining ecosystems involving human communities. He went on to become a primary advocate and practitioner of engaged anthropology, applied anthropology involved in helping to solve contemporary human communal problems of adjustment or adaptation (Messer 2001).

I had subsequently concentrated on technologies or production systems within my spheres of responsibility in agriculture but slowly came to the realization that changes that appeared to be obviously beneficial were not being adopted to anything like the expected extent. Clearly the continued health of smallholder agriculture and wise land use are critical in any concept of rural and hence national development in PNG. But the role and efficacy of agricultural extension as conventionally understood has come under severe criticism to the extent that it is said to have failed since the mid-1980s. There are a number of suggested reasons as to why this should be so but it is argued that a primary factor underlying this perception is a deficiency in understanding of the acculturation and change processes which have been taking place for millennia and continue in Melanesian society. What concerns us in Melanesian agriculture and rural development today is how can understanding of culture as broadly defined enable understanding of what is happening in attempts to impose neo-liberal economic concepts of the market on people struggling to maintain traditional knowledge and beliefs.

### **Addressing Land Use Problems**

I continued to grow concerned about smallholder food production, essentially village based gardening, and whether or not research and development efforts were addressing the needs of the more than one million families subsisting in this sector with greater or lesser opportunities to gain a cash income as well. I was influenced by a report arguing that privatizing land tenure would not solve Pacific economic development problems (Fingleton 2005). I discussed these problems at length in a 2010 paper (Quartermain 2015) which drew upon my having had the opportunity to contribute to a Global Consultation on Agricultural Research and Development, GCARD 2010. My main concern was that agricultural policies were increasingly directed towards commercialization at great risk of leaving the bulk of smallholder farmers behind as an impoverished underclass. In my PIURN Noumea paper (Quartermain 2014) I indicated that I had

begun to uncover the lack of understanding of the socio-cultural determinants of land use for gardening and food security and the continuing role that applied anthropology might play in the search for solutions to the problems. Then finally I had the opportunity to address the PNG Update on Agriculture to Facilitate Broad Economic Development (Quartermain 2015) and bluntly told the audience that we were headed for disaster if we did not prioritise addressing the land use problems and counter the alienation of land and the liberal-economic oriented emphasis on producing crops for the market.

### **Historical background**

There are three histories of interest, the first being that of PNG agriculture. As a subset of this is the history of agricultural extension efforts from first European contact until today. Thirdly there is the history of the discipline of anthropology which indicates where the discipline is at today and hence how we might use it to assist in understanding current agricultural change.

Settled agriculture has a 10,000 year history in PNG. Some of this might be labelled pre-history although I am not sure when one becomes the other. Over this time scale there has been much change, some changes more dramatic than others such as the introduction of sweet potato (Ballard et al. 2005), the domestication or introduction of pigs and the introduction of chickens. Many crops have been either domesticated or introduced (Bourke and Harwood 2009) and a short yet comprehensive account of the history of agriculture in PNG is given by Bourke (2009). Earlier, Denoon and Snowden (1981) had edited a volume of papers covering the several sequential phases in the history of agriculture in PNG.

A brief history of agricultural extension in PNG from 1873 up until independence (Dick and McKillop 1976) highlights the hard and enthusiastic work put in by large numbers of dedicated didimen (extension officers) to introduce villagers to the benefits of modern agricultural practices and then to support the extension of the tree crop plantation industry. The relative success of the latter is acknowledged but failure of the former could not be attributed to lack of effort up until about a decade post-independence when the colonial institutions and concepts had finally unraveled. However, even the expansion of tree crop production which became smallholder dominant was at the expense of garden land and hence subsistence, as discovered and reported for example by Grossman (1979). The point to be made here is that even pre-colonial and from the beginning there has been constant farmer initiated change through innovation and introduction, but changes cannot be forced and agricultural evolution might always be expected to be slow.

Anthropology is defined as the science of man and culture with important components of specific ethnography and more general or comparative ethnology. The study of humankind dates back to the beginnings of literacy or beyond but anthropology has only been recognized as an academic discipline since the beginning of the 19<sup>th</sup> century. This history, along with detailed descriptions of anthropology's theories, methods and divisions, is well described in Collier's Encyclopedia (1990). The development of an applied anthropology (Bastide 1974) came about when anthropologists began to realise that description of structures and functions

of societies in a static way was not enough but that they needed to be anticipatory of likely problems and develop a science of understanding man in nature and uncovering covert culture affecting social transition and acculturation mechanisms. A definition of applied anthropology is “The study of man acting on reality in order to change it”. It should be anticipatory in its research on social transition and acculturation mechanisms.

### **Need for a Holistic view**

Rappaport had said that anthropologists should be active in framing the problems and explicitly add a values dimension to public policy and that the discipline should orient towards social action and away from strictly academic humanism (Messer 2001). Rappaport opposed the notion that the most important social impacts could be measured quantitatively and that value refers to concepts such as truth, honour, integrity and trustworthiness that cannot be subject to specific measurement. Justice, equity, property rights, duties, aesthetic values, the quality of life, understanding of nature and the place of humans in it, proper behavior and the nature of reality are all components of a holistic view of what it means to be human living in society. Johnston (2001) gives examples of the ongoing need and various aids used for engagement, to combat exclusively economic formulations of the environmental and social impacts of change.

So how can we motivate the applied anthropologists to become engaged in helping us to solve our problems related to community development? If an individual only exists as a member of an extended family networked with a wider group, then changing the individual is impossible without alienation (Bastide 1974). So we need ethnography before action, understanding of communities that can be made known by anthropological methods. Note that customs endure that have latent functions and things social have reasons not clearly obvious. We are not necessarily dealing with systems that need to be changed but with understanding changing systems. In applied anthropology the interests of the user of the knowledge is dominant over the scientific interests of the anthropologist. These user interests can be preventative, before attempted implementation of change, or curative to fix the problems caused by the change. Ethnographic and participatory studies precede action but engaged anthropology tends to deal with situations when things have not gone according to plan. It does not take sides but understanding can lead to “best” solutions as to how to proceed.

### **Traditional Knowledge and Practice (TKP)**

There is a wealth of information concerning the diversity of pre-colonial crop plants, traditional agricultural practices and well-established farming systems of PNG (Bourke and Harwood 2009; Quartermain 1999). PNG is fortunate to have the most comprehensive data-base possible on traditional farming systems (Bourke et al. 1996) and an even more comprehensive compendium on food and agriculture (Bourke and Harwood 2009). Nevertheless there is much less knowledge and understanding concerning the diversity and how best to use it in agricultural development.

We are concerned here with a century of acculturation which takes place when two cultures are closely intertwined and borrow from each other to a greater or lesser degree and not necessarily equally. Of course in the Melanesian situation there has been ongoing acculturation between and among the multitude of indigenous cultures, 850 or so language groups, as long as these have existed. In so far as there was and is a commonality of culture within Melanesia or, at least, within PNG, this would be a function of the length of time for acculturation. This leads to a complexity when dealing with innovation or development, especially if the change agent is working across tribal or linguistic boundaries. However, the main interest now is in the major changes that have taken place within PNG culture since European contact and colonialism. The history of agricultural extension efforts documents this acculturation process with respect to the attitudes towards rural development. The process is clearly incomplete with continuing major ideological conflict in areas such as land tenure, technology uptake and the embracing of neo-liberal market oriented economics. We must understand that conceptually and according to local ontologies, the so-called landowners are not really owners at all but simply guardians with user rights. Linda Tuhiwai Smith (Smith 2012) talks about the colonization of knowledge. This can be applied to the issues of land use, rights and obligations. Do we in the South Pacific have exclusion from our lands or enclosure on what remains to us? Land has been lost through purchase, theft or re-definition as to what land is actually in use. In PNG there is no land that is not used by someone for something so that calls for mobilization of un-used or under-used land for agricultural development, usually meaning corporate development, are meaningless.

### **Culture and Custom**

It is not easy to discern the extent of the acculturation that has taken place since colonialism and has continued since independence in 1995. Examples of cultural differences that persist are attitudes to savings, gifting, reciprocity and exchange, truthfulness and interpersonal distances but these are only minor elements of systems. The extent of acculturation and cultural conflict is often unrecognized and this is important in an assessment of the success or failure of the efforts, especially in agricultural extension, expended by the colonial administration in PNG up until at least the mid-1980s.

Hence we need to capture insights and expertise available in the anthropology discipline. Melanesians constantly lay claim to the continuance and importance of their cultures or customary ways of organizing and doing things. But we would be forgiven for thinking that culture is only defined as the arts, artifacts and exotica that can be used to attract tourists. Here we are concerned about beliefs, justified or not, the origins and maintenance of these beliefs and the roles they play in community organization and activities. A necessary theoretical concept of culture, how it arises, how it is transmitted, how it changes can only be supplied by anthropologists. We struggle to reconcile TKP with current demands by the new elite who have, in effect, taken over the role of neo-colonial power brokers, the holders of wisdom. Clearly there is now a division between this so-called elite, largely educated in a school and university

system rooted in European values, and the masses of people back home in the villages who may be literate but yet still operating in customary ways backed by cultural beliefs, values and aspirations. While the former elite leaders, politicians, bureaucrats, business executives and academics, have internalized the political and economic ideologies of Western Europe and the neo-liberal ideologies of globalisation and the market, and these are what are driving development policies, they have left the masses of their brothers and sisters, the ways of their ancestors, behind in the scramble for wealth and individual power.

Yet many or even most of the new elite seem to have kept their feet in both the modern and the traditional camps and feel they must continually reference custom while busy undermining it. It is clear that the rulers of empires have changed but imperialism still exists, known as corporate imperialism. As Linda Tuhiwai Smith puts it (Smith 2012) “A new generation of indigenous elites also walk across the landscape with their cell phones, briefcases and assets”. In the South Pacific the ruling classes have become or are becoming increasingly homogeneous culturally with a common language, common ideals and common material lifestyles. The changes that do occur or the resistances to change are not necessarily rational from the point of view of the change agent.

The talk is all about entrepreneurialism, business and the management of money. We even have a new word “agripreneurship” used by GFRAS, the Global Forum for Rural Advisory Services. I had been thinking earlier in relation to the commercialization of pig production that the only way for this to be successful would be for farmers to opt out of traditional life or at least not aspire to traditional power or leadership. It is not easy to be a successful businessman (or perhaps more so a businesswoman) and continue to fulfil all cultural obligations and participate in traditional exchange activities to an expected extent. The same applies to anyone with means to accumulate wealth and wants to keep it. This is impossible with traditional tangible wealth items but money is not tangible and can be hidden, undisclosed, even invested off-shore. So a calculated proportion of wealth can be redistributed and a proportion kept hidden. Politicians come and go but we now have a new kind of “bigman” called a “businessman” who can exercise power while simultaneously feathering his own nest. These are my own observations and need research investigation by those more qualified but it is very clear to me in general terms that the accumulation and hoarding of excessive wealth for whatever purpose is counter-productive and this is leading in PNG and globally to the increasing division within societies and increasing poverty. Cost-benefit analyses for the establishment of new businesses or adoption of technologies are not helpful if the costs are too high and the benefits not clear to those who must bear much of the cost which is not included in the analyses – the hidden costs. These businessmen so often refuse to understand or see the consequences of their actions and end up in conflict with themselves with respect to values or beliefs. Is this a cause of inaction by designated extension agents?

### **Is culture then an obstacle?**

Our interest is in populations rather than cultures as usually defined in terms of beliefs, knowledge and activities. A population can be a village or a group of families linked together in a clan belonging to a wider cultural grouping. Cultures need to be considered as means of adaptation, serving to preserve the population. If they fail in this we have maladaptation. The cultures of interest focus on group behavior rather than the individual as someone trying to maximize advantage or privatize advantage. A holistic viewpoint of this type prevents valuing everything in economic or monetary terms. As mentioned earlier, fundamental cultural values such as truth, honour, integrity, liberty, happiness and trust cannot be metricated and tend by nature to be low in specificity. However, cultural phenomena as commonly considered are seen mostly as hindrances or obstacles to be overcome. Ideas or concepts of communal ownership and exchange, community rather than individualism, equality rather than upward mobility are the hindrances to development as usually defined. Concepts of time and space are important (Smith 2012). We subconsciously think contrary to TKP, even when dealing with mundane matters regarding new cultivars or technologies. Our extension systems are built on overcoming these hindrances and we battle to overcome problems that we ourselves have created. The excluded are implicated in their own oppression. The search for alternative ways is imperative and perhaps applied anthropologists can help us to see where we are going wrong. Is it possible to find methods to reconcile customary obligations with modern market requirements? We must consider also that the boundaries of TKP are not fixed. As Hiatt (2007) in his foreword to Weiner and Glaskin (2007) puts it “Any society that treats its traditions as sacrosanct and not subject to inquiry, criticism, revision, or rejection must sooner or later confront the consequences of stasis” whatever these might turn out to be.

Neither are the boundaries of custom at all fixed. With urbanization or re-settlement, communities develop that may be seen to have opted out of TKP but elements of culture remain and can be disruptive. Land settlement schemes would appear to offer a means of withdrawal from custom but it is clear that this is not generally so. Martin (2007) illustrates this with an account of resettlement of Matupit people at Sikut following the Rabaul volcanic eruptions in 1994. The people were moved from customary land to a situation of individual nuclear family ownership, but allocation and use of the new land were affected by custom in several ways. Individual title does not eliminate the demands of kin and customary obligations. There are several ways in which obligations can be enforced either subtly or blatantly and the tenure can in time revert to customary ways of inheritance of rights. Filer (2007) draws a useful distinction between agriculture and natural resource exploitation with respect to land tenure considerations with legislation for the latter being simply a means to facilitate development whereas changing the use and effective ownership of agricultural land has much more fundamental long-term consequences. Land use legislation changes the way decisions are made at the community level and can be seen as more to enable management by the state than to assist rational land use locally. The question is always present—whose interests are being served? Re-grouping and formalization of land “ownership”, alienation of land, seems to have

little to do with what actually happens on the land but everything to do with how benefits are or can be distributed.

### **Research and Development**

PNG extension or change agents may believe they know the cultures they are dealing with but do not realise that their internalized cultural thinking will not apply to all. No development system is universally valid. Social institutions cannot exist without participating individuals and changing one does not change them all. A culture is an amalgam of individual personalities but with cohesive core values and a core structure around which individuals can interplay and maneuver, rise or fall (Bastide 1974). So getting a few essentially to opt out (voluntary marginalization) does not change the population towards your ends which may not be their ends.

In early activities and consultations re prioritization of research and development, the PNG National Agricultural Research Institute (NARI) used a methodology that assessed each of 61 identified Research Areas in terms of Potential Benefits, Adoption Likelihood, Scientific Potential and Research Capacity. The Likelihood of Adoption criterion assessed the likelihood of successful research being adopted and used to achieve desired outcomes; a measure of how widely the results might be expected to be used after completion of the research (National Agricultural Research Institute 2004). The problem with the methodology, apart from its subjectivity, was in the definition of success which was given as “Maximum return to PNG through R&D—livelihood—food security—environment” without further elaboration. How was adoption to be quantified?

### **Wealth and Development**

There are problems of definition as to what is meant by prosperity, wealth and even development, especially rural development. We concur on generalized ends but have a variable conception of progress or prosperity. However, do our clients and communities have the same general concept? The words are used freely in visions and strategic plans with differing assumptions as to meaning. The definitions may be narrow or broad depending on intent and ideology. The vision of NARI is “Prosperous PNG Agricultural Communities” clearly focusing on agriculture for rural development. The iconic PNG Vision 2050 (published 2010) in which all subsequent strategies have been grounded does not refer specifically to wealth but envisions that “We will be a Smart, Wise, Fair, Healthy and Happy Society by 2050” and refers specifically to the United Nations Human Development Index in its Mission. However, wealth does get a mention as a component of happiness and the second of the seven pillars of strategic implementation of the Vision is labelled Wealth Creation. The objective of this pillar is to pursue a broad based economic growth strategy and the development of an indigenous entrepreneurial class in PNG. A subsequent document tempered this conventional market economic focus by setting out a “National Strategy for Responsible Sustainable Development for Papua New Guinea”, 2014, with an emphasis on social equity and environmental awareness.

Nevertheless we need to challenge the very idea of development because of the implication that past and present ways of doing things have little or no value. Since where we are at is no good we must travel or progress elsewhere, but to where and what does this say about TKD? Full commercialization of society is incompatible with traditional social organization but it would seem impossible to replace one with the other. Hence we need to be searching for compromise tactics or strategies.

So what is meant by development if the emphasis is on economic components such as balance of trade or GDP? It is generally agreed that free trade is good. After all, that is what we do all the time in our personal relationships. What is not made clear nor given sufficient weight is that not everyone is guaranteed to benefit. There are always winners and losers and generally it is the low paid workers or subsistence farmers who lose. There is plenty of evidence for this and the assumption that the winners will compensate the losers does not hold. So in the Pacific, how do we effect this compensation if the emphasis is on export crops? The division of benefits within countries can be clearly seen as the divide between rich and poor grows steadily wider causing headaches for governments that care and perils for all others. Even the basic benefits in health care and education are becoming more and more user pays, a policy that forces people into individual commercialization at the expense of community. We must not continue to assume that since the decision makers, politicians and bureaucrats, in the Pacific are almost exclusively indigenous that the givers and receivers are of the same cultures.

### **A Problem of Numbers**

In PNG there is a problem of numbers of people. The population has been doubling every thirty years or less and while estimates of population are not too reliable it is clear that in spite of increasing urbanization it is still necessary for the nation to deal with over one million smallholder farm families and that the nation's food security depends and will continue to depend on the productivity of these smallholders or traditional gardeners. But as I indicated in my PNG Update paper (Quartermain 2015), government policies are almost exclusively directed at farming activities that take land out of basic or traditional food production and planned agricultural development projects will only employ limited numbers of people. In my earlier papers I stressed the need to direct research and development towards sustainable intensification of food production on the available good land to try to compensate.

Innovation Systems studies have been used to look for ways to strengthen production systems towards ends in terms of progress as understood by the proponents of the innovations or change whether farmers or other stakeholders. However, how inclusive will be the benefits? We can work with those individuals or communities that share our general concepts of progress in the hope that others will follow. We wonder why we make so little progress when this does not happen and may be required simply to write off the majority.

### **What we are doing**

Our current work such as that of Togabalaguguwa and Quartermain (2016: this conference) suggests that smallholder villagers cannot earn enough from cash cropping on their garden land to compensate for loss of garden food and there are dietary implications. This extensive farmer survey work is underway because we identified a gap in knowledge and understanding between ethnographic descriptions of a number of the PNG cultures or communities and the application of agricultural and land management technologies discovered, validated and disseminated by NARI and other organisations or institutions. The research questions are clustered around the reasons as to why these communities with a range of pressures on garden land use are not adopting technologies as might be expected. There have been some noteworthy adoptions, for example the African yam (*Dioscorea rotundata*) of evident benefit and no extra work and small-scale broiler chicken and pond aquaculture enterprises (Aite and Quartermain 2016: this conference) grafted onto the gardening systems without much disruption. The adoption of coffee as a cash crop in the PNG highlands is seen in part as a means to secure the longer term land use entitlement. Introductions may be successful if low or flexible in labour requirement and investment or production costs. Cash crops may have dual functions such as peanuts for soil fertility or, in Zambia, cotton leaves post-harvest for goat feeding. Our work is currently focused on identification of the pressures on land use, the continuing relevance of traditional knowledge and practices (TKP) and the value of several pre-colonial green leafy vegetables. Parallel work on ethno-biology, ethno-mycology, ethno-taxonomy and current or potential utilization of under-appreciated traditional edible plants is also being carried out at the University of Goroka. It is necessary for us agricultural scientists to increase focus on the interlinked, interdependent components of the use of land and eco-resources, adaptation and stability of social organization regardless of believed causes of custom. Linda Tuhiwai Smith (Smith 2012) puts it this way that “I believe that our survival as people has come from our knowledge of our contexts, our environment, not from some active beneficence of our Earth Mother... We had to know how to survive. We had to work out ways of knowing, we had to predict, to learn and reflect, we had to preserve and protect, we had to defend and attack, we had to be mobile, we had to have social systems which enabled us to do these things. We still have to do these things”.

There is a growing emphasis now on participatory and visual methods such as mapping for research to find entry points for engagement with communities for sustainable development and ensuring social acceptance of interventions or innovation. The concept is to try to ensure shared ownership of decision making and action. There is likely to be a progression of engagement depending on the identification of problems and opportunities and means to address these. Addressing problems of land use can make good use of these approaches.

### **So how to engage Anthropologists**

Can anthropologists take up the challenge of helping us to understand the epistemology and ontology behind the causes and operations of current social problems and obstacles to rural

development, and suggest appropriate corrective action? Can anthropological theory and methods assist? We need trained social scientists such as rural sociologists and anthropologists who know the science of how to engage with people and communities to build consensus, support and change human behavior. But I contend that only applied anthropologists can assure us that the contemplated changes are compatible with the ontology, the beliefs, of the cultures being targeted for change. The discipline of rural sociology is taught as a subject in undergraduate agriculture degree programs at all three universities with agriculture faculties in PNG but this does not mean that graduates from these programs are sufficiently trained to undertake the interpretative and social engagement roles required to ensure equity and inclusion. These courses are taught by agriculturists who might be considered as non-professional sociologists. Hence the focus is on practices and structures that affect the effectiveness of standard agricultural extension methods. For example an emphasis on working with apparent leaders or quick adopters of technologies may miss the people with real influence in a community who may not be recognized and who more than likely belong to a middle strata of the society. The traditional leadership may be too entrenched and the bottom strata too weak. Adaptation and social change are slow and uncertain and agricultural scientists are not attuned to this type of situation. Agricultural change is evolutionary, slow and steady with occasional breakthroughs. We can set goals such as food security, health and literacy but we may never achieve the development that we dream about.

To conclude, it is necessary to occupy a research and advocacy space between applied anthropology on the one side and the activities of the research and extension service providers on the other. This we will continue to attempt to do as long as is necessary. However, it is clear that colonialism did not finish, become post-colonial, with the formal process of the handing over of the instruments of governance and this has entrenched the attitudes of national elites and change agents. Who am I to say that we should not walk down this persistent colonial path and there is probably little that we can do about the problems caused by globalisation, the new imperialism and neo-colonial concepts, attitudes and concepts of development. But in walking this path we must not leave people behind, excluded or rejected, and we can try to ensure that priority is given to:

1. Cessation or even reversal of alienation of garden land for any purpose other than addressing food security.
2. Research and extension focused on enabling smallholders and family gardeners to sustain or increase food production within the restrictions of an already reduced land availability, declining soil fertility, availability of labour and socio-cultural obligations.
3. Understanding TKP to determine the value of on-going utility and farmer initiated innovation.

We need to motivate anthropologists to be engaged in helping us address these priorities.

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## **PROTECTED MARINE AREAS (PMAS) IN FRENCH POLYNESIA**

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Over the last few years, protecting ecosystems and combating biodiversity loss has become a global issue. These concerns explain the growing interest in adopting Protected Marine Areas (PMA) as a tool.

The 1992 biodiversity convention urgently recommends to protect marine areas especially by establishing protected marine areas (PMA).

The International Union for Conservation of Nature (IUCN) defines a marine area as being clearly delimited, acknowledged and managed by legal means or other efficient means in order to maintain the long-term conservation of its biodiversity, its ecosystem and the cultural values associated with the latter.

The International Union for Conservation of Nature (IUCN) recognises six different PMAs categories, each associated with conservation plans. These categories can be combined. Within PMAs, the environment's protection is a priority, yet under certain conditions and certain zones, the latter can be compatible with economic activities such as industrial fishing, providing its management is regulated.

Last month, President Obama created the world's largest protected area on the planet when he expanded a national marine monument in his native Hawaii to encompass more than half a million square miles.

This challenge is obviously crucial for France.

Due to its overseas territories scattered on all oceans of the planet, France possesses the second largest EEZ in the world. The latter covering 11.035.000 square kilometers, just behind the USA EEZ (11.351.000 square kilometers), but ahead of the Australian EEZ (8.148.250 square kilometers).

In fact the French's EEZ is mainly located in the Pacific ocean in French Polynesia (47.14%) as well as New-Caledonia (13.38%).

These two territories have particular status.

French Polynesia beneficiates from an autonomous status. The latter is mainly self-governed and the French government only has limited involvement in internal affairs.

In 2003, the 74<sup>th</sup> article of the French constitution was updated. Afterwards, French Polynesia became an overseas collectivity (the English for: "collectivité d'outre-mer", or C.O.M)

under the statutory law of February the 27<sup>th</sup> of 2004 (Loi organique n°2004-192 du 27 février 2004 *regarding the autonomous status of French Polynesia*).

As a result French Polynesia holds broad powers defined in its statute of autonomy. Pursuant to rule 13 of this statute: "Notwithstanding any provisions to the contrary, the authorities of French Polynesia exercises power over all matters that do not vest in the statute under article 14 subject to those vested in or exercised by the communes pursuant to this organic law."

French Polynesia and the communes exercise their respective powers up to the outer boundary of their territorial sea."

French Polynesia is especially competent in the field of environmental rights as well as maritime area management. This being said, we observe that in practice, both the French government and French Polynesia manage maritime areas (I).

Such a cooperation led to the establishment of numerous PMA, nevertheless regulations regarding PMAs are scarce (II).

#### **I. Common practice regarding maritime area management in French Polynesia.**

In a nutshell, it is possible to summarise the repartition of skills in maritime management as followed:

French Polynesia is competent in every aspect yet unable to undertake EEZ surveillance and related international convention's negotiations. The French government has given to French Polynesia all rights and means to exploit resources within its EEZ.

According to the article 47 of the statutory law:

*" French Polynesia regulates and exercises the right of exploration and the right of exploitation of the living and non-living natural resources of internal waters. Particularly roadsteads and lagoons, and soil, subsoil and overlying waters of the territorial sea and of the EEZ, in compliance with international commitments".*

Even though French Polynesia is officially fully in charge, the matter is managed in cooperation with the French government.

Such cooperation is explained as so:

- French Polynesia doesn't have the particular means to undertake surveillance over its own EEZ (The French navy is in charge of it).
- French Polynesia has made the choice to integrate the national agency for PMA (French government's public establishment).

Such cooperation between PMAA and French Polynesia is officialised through a renewable convention signed for a duration of 3 years. By this covenant, the agency, which is a new establishment dedicated to maritime protection, will assist the French Government in the developing of PMA's network.

## **II. Regulation scarcity concerning PMA in French Polynesia.**

Generally speaking, one can define a PMA as a protected area under regulations applied over a limited area in order to protect habitats and resources. Such a definition is commonly acknowledged by both Polynesian natives and their governments. It exists many types of PMA in French Polynesia.

The two main regulations fall under the environment Code (A) and the urbanism code (B). Incidentally there are regulations related to the fishing code (C).

### **A. The environment code.**

The article D. 111-1 from the French Polynesian environment code ranks protected natural areas in 6 categories according to their objectives. These areas do not only concern maritime areas.

1. Strict natural reserves. Wild areas Ib: A strict natural reserve is a protected area mainly managed for scientific purpose. A wild area is a protected area mainly managed in order to maintain wild resources.
2. Territorial park: an area in which the ecosystem is protected for leisure.
3. Natural monument: an area in which particular natural elements are protected.
4. Management area: habitats or species: an area in which habitats and species are protected.
5. Protected landscape: an area in which landscapes are protected for leisure purpose.
6. Managed natural resources area: protected area in order to manage the sustainable use of ecosystem.

The ranking can be based on properties owned by the French Polynesian government or also public and private owners.

When the property belongs to the French Polynesian government, the decision and ranking is made by ordinance in council of ministers after notifying the owners, consulting various city councils and the natural monuments sites committee.

Numerous areas have been ranked: the Scilly and Bellinghausen reserves, the Fakarava lagoon, some Nuku-Hiva and Marquesas islands, etc.

A consultation phase has been launched for the establishment of a maritime area in the Marquesas. The surface of protected maritime areas in the Marquesas corresponds to the

inland waters and territorial waters as well as the EEZ which corresponds to an approximate total of 7000.000 square kilometers.

### ***B. The urbanism code***

The urbanism (article D. 133-1 and following) includes a tool named “Maritime area’s management plan” (M.A.M.P).

As its name indicates, it is a marine areas’ management tool.

It concerns a maritime area which starts from the littoral and ends beyond the coral reef. The extent may vary according to the island. It also includes the outer reef slope, which is the coral growth area. M.A.M.P doesn’t include large ocean areas.

The M.A.M.P’s general objective is to manage maritime space regarding both resources extraction and the regulation of human activities within the area. The M.A.M.P’s objective also includes:

- Rational use and development of resources and space.
- Managing conflicts of use.
- Control of marine pollution and degradation.
- The protection of ecosystem and threatened marine species. The M.A.M.P is in fact a space management document which defines terms of use, development, protection and enhancement of both lagoon and coastline.

M.A.M.Ps are developed as urban plans. Their implementation is subject to wide public consultations. They are approved by the Council of Ministers.

Two maritime areas management plans have been made enforceable.

Two M.A.M.Ps have been established: one on Moorea and the second one on Fakarava.

### ***C. Regulations in matters of fishing.***

Two decisions from 1988 (n°88.183 and 88-184 AT from December the 8<sup>th</sup> 1988) regulate the fishing industry within French Polynesia, ensuring the protection of some marine and fresh water species of the natural Polynesian patrimony.

These additional measures were established following requests from various associations, city halls, or upon proposal from the ministry of Fisheries regarding designated areas.

New regulations are often made to resolve recurrent conflicts regarding designated areas. There are also “breeding reserves” or “regulated fishing areas”.

### **To conclude**

As for most surrounding countries, there is a strong will to establish PMAs.

The environment code alongside with the urbanism code offer several tools allowing the creation of PMAs.

Even though French Polynesia is competent, the latter needs to build upon the French government's experience through partnership with the PMA's agency.

Tools used in this matter are nonetheless scares in the legal sphere. There are regulations mix, linked with urbanism and regulations linked with the environment.

There exists a stacking of tools whose scope is different and therefore the normative criterion is relatively uncertain.



# INFLUENCE OF VILLAGE OIL PALM PLANTINGS ON SMALLHOLDER FARMER LAND USE AND LIVELIHOODS

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## Abstract

*An interview survey was conducted in West New Britain, Papua New Guinea, with 55 participants both male and female and with ages ranging from 15-69 years. After the introduction of oil palm in plantation and land settlement schemes in 1969, smallholders were given the opportunity to plant palms on up to 4 ha of their traditional land. However, most farmers planted only 2 ha. Survey results show that nearly all the smallholders retained food gardens to provide for their livelihoods but attendance by farmers to their gardens is irregular with only one third attending to their gardens 1-3 times in a week. Instead of working in their food crop gardens, farmers devote substantial effort to harvesting, pruning and ring weeding of their oil palm. Among identified disadvantages, oil palm has caused a reduction in the availability of garden land, an increase in family disputes, a decline in food crop yields and a trend to move gardens closer to the village because of stealing being experienced by 84 percent of respondents from gardens close to oil palm blocks or further away. Farmers also mentioned increased social problems such as an increased incidence of HIV/AIDS and it was identified that a high proportion of both sexes spend time gambling and of males spending oil palm income on drinking. Identified benefits of growing oil palm, apart from income, is that farmers use fertilizers given by the company for their oil palm blocks to apply to their food crops to counter yield decline. During paydays, a proportion of the money obtained from oil palm is used to pay for labour to work in the gardens, a positive benefit for females. Male farmers were far more positive than females about the benefits from growing oil palm with 68 percent of males identified income as the major benefit. Apart from going to oil palm blocks and gardens, 30 percent of the males sell food crops in the market as well as fishing and attending to cocoa. The results clearly show that the bad things about involvement in oil palm out-weigh the good things in relation to the effects on food crop gardening.*

## Introduction

Oil palm is grown in five project areas in Papua New Guinea (PNG). These are Hoskins and Bialla in West New Britain (WNB), Popondetta, Milne Bay and New Ireland. Commercial plantings were established in 1967 following a World Bank recommendation to Papua New Guinea Government that oil palm in a nucleus estate system be introduced in New Britain or Bougainville to diversify the agricultural economy and increase export income (IRBD 1965; Grieve 1986). The initial plantings accorded at the time with the colonial administration's programme to open up alienated land for the voluntary resettlement of rural people from over-populated areas to under-populated regions of PNG. Oil palm planting on customary land was considered by both parties as a pilot project (Jonas 1972), later to become a model for other oil palm nucleus estate - smallholder schemes in PNG (Hulme 1984). All project areas operate on a nucleus estate - smallholder model whereby smallholders supply oil palm fruit to mills operated

by the nucleus estate company. Presently there are over 100,000 hectares of oil palm, of which 43,000 ha are smallholder plantings (ADS (PNG) 2001).

The Village Oil Palm (VOP) project encouraged local villagers to plant 24 hectare blocks of oil palm on customary land, but most have planted only 2 hectares. Villagers were provided with PNGDB loans but development was slow (Leach and Benjamin 1984) although further expansion was stimulated in 1986 following assistance from the Asian Development Bank (Christensen 1986). Presently, there are over 4413 VOP blocks in the Hoskins scheme (Kaniovisi 2014) covering 10,979.76 ha. These smallholder growers supply 403,951 tonnes of fresh fruit bunches (FFB) to the four nucleus estate mills annually. In the Hoskins area, K80 million or K6.67 million per month enters the economy through the smallholder growers.

An earlier study, carried out at Hoskins to identify socio-economic factors associated with block productivity, concluded that variation in productivity was mainly attributable to incomplete harvesting, post-harvest losses and poor agronomic practices. Explanatory factors included labour shortages, conflicts over land, disputed inheritance, off-block residence and employment, illness and aging among the original owners, and time management between customary obligations, community commitments and oil palm production. Subsequently, a 1999 Australian Centre for International Agricultural Research funded project investigated socio-economic constraints affecting productivity among smallholders. The primary aim of this research was to help improve smallholder oil palm productivity but neither of these studies focused on the effects of these production activities on the smallholder families, their land use, farming systems and livelihoods.

### **The Present Project**

The current project was designed to assess the influence of VOP plantings in six unstudied villages in the Hoskins area—Vavua, Karapi, Valoka, Porapora, Galewale and Banaule villages. The objective of the survey was to determine the influence of oil palm plantings on the village farmers' land use systems, farming systems and livelihoods, including the income obtained from oil palm.

### **Materials and Methods**

The research design was based on a combination of methodologies involving semi-structured interviews, a questionnaire survey and a review of relevant reports and published literature. The survey method relied on in-depth qualitative interviews with smallholder farmers. The multi-method approach enabled a comprehensive understanding of the influence of the oil palm crop from the smallholder grower's perspective. This approach provided a means for cross checking and validating information from a range of smallholders as well as providing leads into areas of inquiry.

Key stakeholder groups that participated in the research included:

1. Smallholders (men and women).
2. The West New Britain Provincial Oil Palm Development Technical Advisor.
3. Customary land owners.

Most data were collected from December 2014 to mid-January 2015 by two in-service University of Goroka students and two Department of Agriculture and Livestock Extension Officers.

A total of 10 households from each of the six villages were selected initially for survey/interview and in the event there were a total of 55 individual samples, 34 males and 21 females. Samples were restricted in size and confined to single villages for several reasons:

- A small sample size is more suitable for analysis using repeat interviews based largely on qualitative research methods. Such surveys generally take between one and two hours allowing for three smallholder interviews per day.
- Logistically, it was more appropriate to confine the study to a small geographical area as distances between villages were too great to allow for more than six village sites for data collection.
- There were time and weather constraints.

## Results

The survey responses were tabulated by gender and age group of respondent and are presented in Tables 1–9.

The profile of the interviewed farmers with respect to sex, age group and area planted to oil palm is given in Table 1. The survey results show that nearly all the smallholders retained food gardens to provide for their livelihoods but attendance by farmers to their gardens is irregular with only one third attending to their gardens 1–3 times in a week. Instead of working in their food crop gardens, farmers devote substantial effort to harvesting, pruning, fertilisation and weeding of their oil palm.

**Table 1. Areas of land planted with oil palm by smallholder families (% of respondents)**

Hectares	Males (%)	Females (%)
2 hectares	58	33
3 hectares	3	4
4 hectares	0	2
5+hectares	0	0

The major crops planted in the food gardens are listed in Tables 2 and 3.

**Table 2. Major food crops planted by females (% of respondents)**

AGE GROUPS	CASSAVA	SINGPORE	BANANA	KAUKAU	TARO	VEGETABLES	YAM
15-25 yrs	5	10	0	10	5	5	10
26-36 yrs	14	0	0		10	5	0
37-47 yrs	5	0	5	24	14	5	0
48-58 yrs	5	0	0	19	19	0	0
59-69 yrs	0	0	5		4	0	0

**Table 3. Major food crops planted by males (% of respondents)**

AGE GROUPS	CASSAVA	SINGPORE	BANANA	KAUKAU	TARO	VEGETABLES	YAM
15-25 yrs	0	0	0	0		0	0
26-36 yrs	18	21	29	12		0	0
37-47 yrs	38	24	9	29	15	0	0
48-58 yrs	12	12	9	3	12	0	0
59-69 yrs	9	9	3	9	9	0	0

Activities that females get involved in apart from going to the oil palm blocks and food gardens include significantly fishing and gambling (cards) with small numbers involved in the upkeep and harvesting of cocoa, coconut and betel pepper, church activities (older women), and road-side marketing (younger women). Men pay the same attention to fishing, gambling and food crop marketing, with smaller numbers involved in cocoa harvesting, sports, custom related activities and school activities.

There are some identified benefits to food crop gardening from oil palm planting and these are listed in Table 4. Significantly many males did not identify any benefits while many women use money earned from oil palm to hire labour to help them in their food gardens. Identified disadvantages are listed in Table 5. Many men did not identify any disadvantages or complained about the time taken up in looking after their oil palm. Many women on the other hand complained that oil palm resulted in people becoming too lazy to work in their food gardens, with consequences on food security and quality of diet.

**Table 4. Gender responses on benefits of oil palm to food crop gardening (%)**

<b>FARMERS RESPONSES</b>	<b>MALE</b>	<b>FEMALE</b>
NO BENEFIT	38	
HELPED TO BUY TOOLS	53	0
HELPED TO BUY FETILIZERS	15	0
HELPED TO BUY CHEMICALS	32	24
OIL PALM TOTTEN BUNCH USED AS FERTILIZER	9	0
HELPED TO MAINATAIN ROADS TO ACCESS GARDENS	12	14
USED WHEEL BARROW FOR EASE TRANSPORTATION OF PLANTING MATERIALS AND HARVESTS	12	43
USING OF OIL PALM FERTILIZER FOR FOOD CROP GARDENS	38	71
MONEY EARNED FROM OIL PALM USED TO PAY FOR LABOURERS TO WORK IN GARDENS	6	62

**Table 5. Gender responses on disadvantages of oil palm to food crop gardens (%)**

<b>IDENTIFIED DISADVANTAGES OF OIL PALM</b>	<b>MALE</b>	<b>FEMALE</b>
DEPLETION OF SOIL NUTRIENTS	32	33
LAND SHORTAGE FOR GARDENING AND PLANTING OF OTHER CASH CROPS	35	38
REDUCED THE SIZE OF GARDENS	24	52
DECREASED FOOD CROP YIELDS COMPARED TO BEFORE INTRODUCTION OF OIL PALM	15	67
MORE TIME CONCENTRATED TO OIL PALM THAN TO OTHER CASH CROPS AND FOOD GARDENS	41	0
NO DISADVATAGE OF OIL PALM	18	0
INTRODUCTION OF PESTS AND DISEASES AFFECTING FOOD CROPS EG: FRUIT FLIES	6	57
PEOPLE BECOME VERY LAZY TO WORK IN GARDENS	0	52
FERTILIZER APPLIED TO OIL PALM AFFECTING FOOD CROPS . EG. EARLY MATURITY	32	3

Among identified disadvantages, oil palm has caused a reduction in the availability of garden land, an increase in family disputes, a decline in food crop yields and a trend to move gardens closer to the village because of stealing being experienced by 84 percent of respondents from gardens close to oil palm bocks or further away from the village (Table 6).

**Table 6. Gender response to stealing in food gardens (% of respondents)**

<b>FARMER RESPONSES</b>	<b>MALE</b>	<b>FEMALE</b>	<b>TOTAL</b>	<b>PERCENTAGE</b>
STEALING IN FOOD GARDENS	29	17	46	84
NO STEALING IN FOOD GARDENS	5	4	9	16

Benefits from planting oil palm not specifically related to food gardening are listed in Tables 7a and 7b by gender. For males the major benefits were from the income earned, the ability to meet customary obligations. Some males also saw advantages in change of diet, presumably to store bought food, housing, self-employment and business opportunities. However, females in general saw no benefits whatsoever except for a few identifying housing and increased income.

The problems caused by planting oil palm are identified in Tables 8 and 9. Males are concerned with reduced land availability and declining soil fertility, whether for food production for family use or marketing. They also identified youth problems with drugs. Females were mainly concerned with social problems, not necessarily specific to their own oil palm activities but to the environment associated with the oil palm industry. Many expressed dissatisfaction with the nucleus estate company and with an identification of disparity between the labour needed to maintain the oil palm and the income received.

**Table 7a. Good things about oil palm male's (%)**

<b>AGE GROUPS</b>	<b>FAMILY INCOME</b>	<b>CHANGE OF DIET</b>	<b>FARMER'S VENTURING INTO OTHER BUSINESS</b>	<b>CHANGE OF LIVING (PERMANENT HOUSES)</b>	<b>SELF EMPLOYMENT</b>	<b>NOTHING</b>	<b>INFRASTRUCTURE DEVELOPMENT</b>	<b>CUSTOMARY OBLIGATIONS</b>
15-25 yrs	0	0	0	0	0	0	0	0
26-36 yrs	15	0	0	6	3	0	0	6
37-47 yrs	33	6	3	3	6	0	3	3
48-58 yrs	12	3	3	9	6	0	6	9
59-69 yrs	9	0	6	0	0	6	0	0

**Table 7b. Good things about oil palm female's response (%)**

AGE GROUPS	FAMILY INCOME	CHANGE OF DIET	FARMER'S VENTURING INTO OTHER BUSINESS	CHANGE OF LIVING (PERMANENT HOUSES)	SELF EMPLOYMENT	NOTHING	INFRASTRUCTURE DEVELOPMENT	CUSTOMARY OBLIGATIONS
15-25 yrs	0	0	0	0	0	10	0	0
26-36 yrs	0	0	0	5	0	38	0	0
37-47 yrs	10	0	0	5	0	5	0	0
48-58 yrs	5	0	0	5	0	10	0	0
59-69 yrs	5	0	0	5	0	5	0	0

**Table 8. BAD THINGS ABOUT OIL PALM (% of males)**

AGE GROUPS	DESTRUCTION OF SOIL TEXTURE AND OTHER SOIL PROPERTIES	DECLINE IN SOIL FERTILITY	FAMILY DISPUTE ON ONE OIL PALM BLOCK	LAND SHORTAGE	GROWERS FACE ACCIDENTS AND SOMETIMES DEATH	THE COMPANY IS CONTROLLING THE GROWERS	DISRUPTING CHILDRENS LEARNING
15-25 yrs	0	0	0	0	0	0	0
26-36 yrs	15	6	6	3	0	0	0
37-47 yrs	18	9	3	6	0	0	0
48-58 yrs	6	3	6	24	0	0	0
59-69 yrs	3	6	3	9	0	0	6

AGE GROUPS	SOCIAL PROBLEMS WHEN PEOPLE GET DRUNK DURING PAYDAY	LAND BOUNDARY DISPUTES WITH NEIGHBOURING VILLAGES	YOUTHS INVOLVED IN ILLEGAL DRUGS	FOOD CROPS CANNOT BE PLANTED WITHIN THE OIL PALM BLOCKS	MORE LABOUR INVOLVED AND LESS INCOME PAYED TO GROWERS	FFB PRICE FLUCTUATION EVERY MONTH	HIV RATE INCREASED
15-25 yrs	0	0	0	0	0	0	0
26-36 yrs	0	0	6	6	6	0	0
37-47 yrs	0	6	6	15	9	0	0
48-58 yrs	0	3	12	12	0	0	0
59-69 yrs	0	9	6	6	0	6	3

**Table 9. BAD THINGS ABOUT OIL PALM (% of FEMALES)**

AGE GROUPS	DESTRUCTION OF SOIL TEXTURE AND OTHER SOIL PROPERTIES	DECLINE IN SOIL FERTILITY	FAMILY DISPUTE ON ONE OIL PALM BLOCK	LAND SHORTAGE	GROWERS FACE ACCIDENTS AND SOMETIMES DEATH	THE COMPANY IS CONTROLLING THE GROWERS	DISRUPTING CHILDRENS LEARNING
15-25 yrs	0	0	0	0	0	0	5
26-36 yrs	0	0	0	0	0	10	5
37-47 yrs	0	0	0	5	10	10	10
48-58 yrs	0	0	0	10	0	5	19
59-69 yrs	0	0	0	5	0	0	5
AGE GROUPS	SOCIAL PROBLEMS WHEN PEOPLE GET DRUNK DURING PAYDAY	LAND BOUNDARY DISPUTES WITH NEIGHBOURING VILLAGES	YOUTHS INVOLVED IN ILLEGAL DRUGS	FOOD CROPS CANNOT BE PLANTED WITHIN THE OIL PALM BLOCKS	MORE LABOUR INVOLVED AND LESS INCOME PAID TO GROWERS	FFB PRICE FLUCTUATION EVERY MONTH	HIV RATE INCREASED
15-25 yrs	0	0	0	0	10	0	0
26-36 yrs	0	0	10	0	24	0	10
37-47 yrs	10	0	14	0	10	10	14
48-58 yrs	10	0	5	5	5	0	24
59-69 yrs	0	0	0	5	5	0	5

### Discussion and Conclusions

An interview survey was conducted in West New Britain, Papua New Guinea, with **55** participants; 34 males and 21 females with ages ranging from 15-69 years. The Village Oil Palm (VOP) project encouraged local villagers to plant 2-4 hectare blocks of oil palm on customary land, but most have planted only two hectares. Over the years, some farmers have increased plantings from 2 ha to up to 4 ha due to an increase in family members and conflicts over block ownership among family members.

Major staple food crops cultivated by smallholder farmers include cassava (*Manihot esculenta*), Chinese taro (*Xanthosoma sagittifolium*), sweet potato (*Ipomoea batatas*), banana (*Musa* various cultivars) and Taro (*Colocasia esculenta*). Survey results show that nearly all the

smallholders retained food gardens to provide for their livelihoods but attendance by farmers to their gardens is irregular with only one third attending to their gardens 1-3 times in a week. Instead of working in their food crop gardens, farmers devote substantial effort to harvesting, pruning, fertilizer application and ring weeding of their oil palm. As a result of less time being spent in food crop gardens and with other cash cropping, or because many people are unable or unwilling to produce enough garden food for themselves, stealing was a problem for 84 percent of the respondents. This has resulted in a trend to move gardens onto land closer to the village with resultant overuse of such land.

The introduction of oil palm as a village enterprise has brought some benefits to farmers such as:

- Fertilisers meant for oil palm used in food gardens.
- Money obtained from oil palm used to pay casual labourers to work in gardens.
- Purchase of tools and agricultural chemicals.

However, disadvantages included:

- Land shortage and reduced garden sizes as a result of oil palm block expansion.
- Hence depletion of soil nutrients due to over-cropping in gardens.
- Smallholder subsistence gardeners experiencing poor or low yields of food crops.

During paydays, a proportion of the money obtained from oil palm is used to pay for labour to work in the gardens, a positive benefit for females. Male farmers were far more positive than females about the benefits from growing oil palm with 68 percent of males identifying income as the major benefit. Apart from these benefits, 94 percent of male respondents indicated drinking as a major expense compared to less expenses on food and family savings.

The main advantage brought about by oil palm planting is the income earned, but this at the expense of other activities and increased social problems such as the drinking, gambling and increased incidence of HIV/AIDS. Income earned is used to purchase food that was previously obtained from subsistence gardening and this has resulted in poorer diets and the ready cash payouts used for activities such as gambling. Apart from going to oil palm blocks and gardens, 30 percent of the males sell food crops in the market as well as fishing and attending to cocoa.

The results clearly show that the bad things about involvement in oil palm out-weigh the good things in relation to the effects on food crop gardening and life in general.

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# GIFT, MANA AND TAPU IN ANCIENT EASTERN POLYNESIAN SOCIETY

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## Introduction

In Oceania, before the sudden appearance of Westerners, the idea of power, particularly political power, was not distinguished from the idea of the sacred. The power of the Polynesian chief (*ari'i*, *ali'i*, *ariki*, *'eiki*), came from *mana*; that is, it was founded on the ancestrality of the bond with a particular land (*fenua*). The practice of *rahui* was and is an effect of these structural representations of Oceanian societies, in that it is the expression of a power for which the modality is the sacred, and the stakes of which are primarily political.

The Polynesian *ari'i* are sacred, not as delegated representatives of a divine entity but as affiliated to the divine,<sup>62</sup> by way of genealogical networks. Vertical continuity with the gods implies a hierarchy, and that hierarchy is merely the social expression of the primacy of genealogy from which the sacred power and temporal authority of *tahu'a* and *ari'i* originate. This 'ideology of consanguinity'<sup>63</sup>—'ideology of the blood'<sup>64</sup>—structures Polynesian society. Ancestrality is nothing other than the assertion that anteriority confers value: gods and ancestors initiate the relationship, and the principle of primogeniture defines, at least theoretically, the class of *ari'i nui*, leaders of the highest rank.

## Political power and Sacrality

The prestige of different social classes is proportional to their degree of genealogical proximity in relation to the elder lineage. This genealogical distribution, which confers functions—first born / *ari 'i* / political power; younger / *tahu' a* / religious power—and distinguishes social groups (*ari'i*, *ra'atira*, *manahune*) at the same time constructs a clan network that includes the tutelary deities. There is no dividing line between the divine and that which is not divine, as with the distinction between feminine and masculine: the chiefs are equally as sacred as gods, and they are sacred in fact and not symbolically. The extensive ethnographic literature of the early European observers described the effects in Tahiti of this divine power: for instance the customs of *amo* and *pi'i*, which were not the least spectacular. The person of the chief was so

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<sup>62</sup> de Bovis, E., 1978. *Etat de la société tahitienne à l'arrivée des européens*. Publication no 4. Tahiti: Société des Etudes Océaniques, , p 51; Ellis, W., 1972. *A la recherche de la Polynésie d'autrefois*. Paris: Publication de la Société des océanistes, p 91; Ellis, W., 1829. *Polynesian Researches, During a Residence of Nearly Six Years in the South Sea Islands*. Vols 1 & 2. Fisher, Son & Jackson

<sup>63</sup> Oliver, D., 1974. *Ancient Tahitian Society*. 3 vols. Honolulu: The University Press of Hawai'i, p 636

<sup>64</sup> Testart, A., 1986. *Essai sur les fondements de la division du travail chez les chasseurs-cueilleurs*. Paris: EHESS

sacred that everything that touched him became *tapu*, including the ground he trod on<sup>65</sup> or syllables contained in his name.<sup>66</sup> That a chief had to move on the backs of men as soon he left his sacred territory, and the entire community had to reform its vocabulary, under threat of having eyes gouged out, demonstrates the rather exorbitant powers linked to the *ari'i*.

It must be stressed that this power was not ceremonial or symbolic, but a practical reality. As one must not meet the eye of a god, commoners must bow before the *ari'i*, or risk losing their lives for not doing so.<sup>67</sup> *Ari'i* were perceived as gods and lived as such,<sup>68</sup> which placed them at the top of the social hierarchy but did not cut them off from the community; quite to the contrary. The leader was not the concentration of *mana* or the divine, but rather diffused it through his network of social and political associations. This means that every man was more or less sacred according to his genealogical distance from the leader. Under this logic of the clan based on blood, the head of the chief was not exclusively sacred, just more sacred. And it is in this sense, at least theoretically, that the *mana* of each individual just like the *mana* of the community is directly dependent on that of the chief.<sup>69</sup> A genealogical system has a network-based logic, and there is no network without this idea of a permanent circulation which assumes continuity of circulation: from top to bottom, from the tutelary gods to the *manahune*, something must circulate—*mana, mauri* (sacred, prestige)<sup>70</sup>—like a sap that comes up from the roots (*tumu*) and irrigates the slenderest twigs.

Staying with the social aspect, the chief was the one who, through his alliances, his wars, his successes and his failures, gave both form and subsistence methods to the community. He was at once a warrior chief and also a religious leader: through him passes the tutelary god's *mana* (Ta'aroa, Tane, Oro, whichever). Thanks to this *mana* abundance and fertility were provided for all men. In the domain of the chieftom, the *ari'i* activated both natural and human resources. Different anthropologists have understood that the majesty of the chief is linked to his power to stimulate and redistribute wealth. The prestige belonged to he who could create an abundant circulation system within his network. The various ceremonies and rituals were ways of boosting the network to enable circulation of goods; sacrifices were accompanied by feasts: each time was an opportunity to circulate goods and people, to share and spend, under the aegis of *ari'i* and his *atua* (deity in the old system of belief). Morrison was not mistaken when he noted: 'The first fruits of all kinds are offered to the god, then the chief and lord of the

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<sup>65</sup> Ellis, 1972, p 533–36

<sup>66</sup> *Bulletin de la Société d'Etudes Océaniques (BSEO)* March–June 1994, 261–62: 14–34

<sup>67</sup> Sahlins, M., 1989. *Des îles dans l'histoire*. Paris: Gallimard/Le Seuil, p 76 (1985. *Islands of History*, The University of Chicago, pp 35, 143)

<sup>68</sup> Oliver, 1974, p 1047–48

<sup>69</sup> See Handy, E.S.C., 1930. *History and Culture in the Society Islands*. Bulletin no 79. Honolulu: Bernice P. Bishop Museum, p 46

<sup>70</sup> Conte, E., 2000. *L'archéologie*. Tahiti : Au vent des îles, p 233

place before being consumed and it is the same for fish ...'.<sup>71</sup> Everything is an opportunity for a ceremony: 'If a man has a new net to use for fishing or a new canoe to launch, he organises a celebration on the *marae* (lithic platform where the old worships were held) for the priests ...'<sup>72</sup>

This is because it took the help of the gods and their representatives for the net to be filled up and for the *va'a* (dugout, canoe) to be efficient in the waves.

### Networks and Mobilities

When one considers the considerable number of sacred sites in Polynesia, it seems that social space is covered by a dense network of places of worship: *marae tupuna* (dedicated to the ancestries), specialist *marae* (fishermen, boatmen, healers), *marae ra'atira* (minor local chiefs), *ari'i marae*, *marae mata'eina'a va'a* (members of a chiefdom), inter-island *marae*, not to mention the ocean itself (considered to be the first *marae*).<sup>73</sup> Every aspect of social life was affected by a sacred circulation, whose steady rhythm accompanies all of the important moments of everyday life and marks all levels of the hierarchy, and all aspects of human activity.

So the Polynesian leader, his guardian gods and his ancestors have a precarious status defined by their effective capacity to bring wealth, and their ability to redistribute it to their community of descendants and affiliates. In this, the leader is dependent on the members of his network. If the leader fails, the goods will no longer come back to him, the circulation will continue without him. It will travel elsewhere and he will literally be bypassed, losing *mana*; that is, to be socially eliminated. It is clear that this double movement constructs, on the one hand, the network in its maximum extension: from the earth and its products to the invisible entities, to whom the leader is genealogically the closest; and, on the other hand, the network in its hierarchical structure: upstream, the direction of the convergence of wealth indicates the axis of power and, downstream, redistribution, subject to formal and strategic preoccupations, designates the place and function of each member of the community.

It was precisely for this reason that chiefs, as chiefs, could die, that is to say, they could be deposed. The same applied to gods: '*Gods can and do die, when there are no priestly mediums to keep them alive*'<sup>74</sup>.

The superior, whatever form it took, depended on the inferior because an ascending circulation must necessarily happen and legitimise the chief or god by converging towards him.

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<sup>71</sup> Morrison, J., 1981. 'Journal'. Paris: Société des Etudes Océaniques, p 151

<sup>72</sup> *Ibid*

<sup>73</sup> Henry, T., 1988. *Tahiti aux temps anciens*. Paris: Publication de la Société des océanistes, p 365

<sup>74</sup> Te Rangi Hiroa (Sir Peter Buck), 1987. *The Coming of the Maori*. Wellington: Maori Purposes Fund Board; Whicoulls Limited, p 473

It is in this sense that the imperative of redistribution imposed at all levels of the hierarchy must be understood. Only the one who has received can give. The great chief or the great god was certainly a being that redistributed a great deal, but he was only great because he had received—or taken—a great deal.

It is not surprising that, if the Polynesians have always preferred to give rather than to receive<sup>75</sup>, it is not in the hope of receiving a significant gift in return, nor is it just to implement in the medium term, a desire for power, it is first and foremost the perfect and immediate expression of a hierarchical valorisation: the power to give is *the* power.

It is immediately experienced in terms of prestige. Socio-political circulation involves receiving goods (dependence) in order to give (*mana*), and providing—notably for prestige—in order to receive—especially loyalty. In this respect, the hierarchy of the gods was not determined by the intrinsic ontological qualities of a particular deity but rather their unequal power for (re)distribution.

Since the gods were part of a network, and sought to grow by increasing their network, they needed chiefs and active ‘priests’. Thus, it can be understood that the great chief, even if he received more material goods than he redistributed, first distributed prestige to his network. The bad chief was one who did not redistribute enough material goods: he held back or failed in his political or military undertakings. Of each, it can be said that ‘he does not descend very well from the gods’<sup>76</sup>, or that his god lacks power. In both cases, ‘it causes shame’ (*‘e mea haama’*) because it is the whole community that is deprived of *mana*.

### Sacred Circulation

Prohibition always reflects a power or an authority. This means that there are two types of prohibition, because there are two types of danger—danger related to something that is dangerous *per se*, and danger related to an authority that is in a position to use dangerous powers.

In the first instance, prohibition is perennial, just like the nature of the substance involved—women’s blood, dead people’s skulls as well as the *fugu’s* liver are dangerous in themselves in Polynesia. This does not keep people from preparing the *fugu’s* meat, which is a delicacy, or from having children by women or setting up rituals for the dead; what matters is taking precautions to be safe from direct and clearly identified dangerous things. Everybody has to submit to these precautions, especially the *ari’i*.

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<sup>75</sup> See Morrison, J., 1981, p 174 and Crook, W.P., quoted by Oliver, 1974, p 848: ‘none of them know what it is to possess property in our sense of the word. If a native possesses many articles of property, he must distribute and cannot withhold; all his friends have a kind of positive claim, and to refuse to give would be shocking. He would be a *taata hamani ino*, literally a man that works evil.’

<sup>76</sup> Morrison, *op. cit.*, p 171

In the second instance, the prohibition is determined by an authority rather than by the nature of things. While the path is not in itself dangerous; the penalties that are likely to be meted out for trespassing on private property may be. The nature of the penalty may be provided for in the civil code or in ancestral sacredness; it is a matter of culture and societal organisation of power.

Private *tapu* can also be imposed by any individual and, in this way, he can, even for a trivial motive, such as access to his hut or to his enclosure, prohibit the use of some things belonging to him, or isolate another person from himself. For that purpose, it is enough to wrap the object in a bond made of a braided coconut leaf, a grass bouquet or *tapa* scraps. Such private *tapu* can be encountered regularly, especially on coconut trees and breadfruit trees whose fruits are forbidden to the general public.

Nowadays in Polynesia, a path leading down to the sea or a space on a piece of land may bear a sign that says *tapu*. It is interesting to note Davin's remark: 'The origin of property is to be found in the taboo'<sup>77</sup>. Still, we have to add in closing, the move from an exclusive right of use based upon a sacred filiation to a property right which is not dependent on use signals a recent history marked by evangelisation and market economy. The issue here, with the *tapu* sign at the entrance to a plot of land, is the problematic relation to the land. This modern usage of an ancient Polynesian concept is not a diversion of a lost notion; the word is used because it is relevant for contemporary society.

The early European observers of Pacific societies were struck by the diversity of prohibitions that ruled human behavior and which could be accounted for by the notion of *tapu*. All things considered, it is right to preserve the specific character of this Polynesian concept, which cannot be reduced to the Western notion of 'prohibition', as the core idea in *tapu* was always shot through with sacredness.

In Polynesia, as in many cultures, power was both political and religious. Yet, it is important to distinguish between what is in the nature of *tapu*, which has to be obeyed by all components of society as the laws of nature must be obeyed by mankind, and what is the result of decisions made by those in whom sacred power is vested and who subject others to provisional prohibitions that, to their minds, seem to be required by a political, weather-related or environmental situation. In times of food shortage, drought, in anticipation of sumptuary ceremonies, for prestige reasons or in order to save resources, Tahitian *ari'i*, Marquesan *ariki* (*haka'iki*) are empowered to impose *rahui* /*kahui*.

The notion of *rahui* must, therefore, be associated with the economy of a human network defined by a sacred circulation, whose extension marks the limits of a *fenua*. The *rahui* is an act set by an authority. The prerogative of the *rahui* should, therefore, be understood in two ways:

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<sup>77</sup> Davin A., 1886, *50 000 miles dans l'Océan Pacifique*. Paris, Plon, Nourrit & Cie.

first, it is the implementation of the sacred power of the person who sets it; second, it is part of a logic which seeks to strengthen the entire network in terms of both its extension as well as in its hierarchy. It could be thought that segmentation and increasing hierarchy in certain Oceanian societies has diverted, for the benefit of a more centralised power, what was perhaps originally the implementation of social cohesion in order to manage resources. If the *tapu* is structural, the *rahui* is occasional: it adapts to the occasional demands of the natural world or of political power.

All the events that affect the network: the death of an important person, alliances, the birth of a chief's son, and so on, are opportunities for important ceremonies. In these great moments of the community's life the strength of the network is asserted by making its sacred modality into spectacle: the movement of goods... Hence, substantiated facts all over Oceania can be easily understood: the sumptuous feast, as a demonstration of power, is a constituent part of any exchange custom. If we cannot speak of potlatch for Oceanian societies, we can talk about agonistic logics: whether it is a question of traditional offerings on sacred *marae*, or gifts of contemporary parishioners in the Evangelical church during the 'me' (Collection which takes place each year in May in the Evangelical church and which causes special ceremonies) in French Polynesia, or the generosity of the Wallisians towards their Catholic parish on the occasion of communions, it is always human networks that are reaffirmed and which appear in their plurality.

We understand that the traditional ban provisionally set on products of land or sea is a necessity, less an ecological concern to maintain a resource than a religious and political calculation: one must provide oneself with the means to make available, when the time comes, the necessary abundance for the representation of the reality and the vitality of the network. This representation is in fact a necessary demonstration both for the members of the community itself and for all the others. Somehow, the *rahui* boosts the circulation and renders human networks competitive. One also grasps the dynamic ambiguity contained in the universal game of any political power involving sacredness: the *rahui* emanates from the recognised authority of a person; when used efficiently, it reinforces this authority considerably. Fortunately, Oceanian societies were, and still are, sufficiently fluid to deter chiefs from the excessive use of this power. In these societies, displays of wealth or status that are not grounded in reality are not forgiven. Abusive *rahui* that demand too many sacrifices of the population will result in the diversion of all circulation away from imprudent *ari'i*.

### Conclusion

Yet, vested with the ancestral network's *mana*, the chiefs and the sacred officiating priests are empowered to prohibit things that are dangerous for others only because these things run counter to their will. The practice of *rahui* provides an accurate definition of the scope of their

power of coercion and initiative. Not heeding the prohibitions set by the chiefs and priests is tantamount to offending and arousing, through them, the wrath of the network's ancestors. There is always an extreme disproportion between the nature of the transgression—such as eating a forbidden fruit, for instance—and the harshness of the penalty, which is often lethal. In this instance, it is less about punishing an individual fault than demonstrating the ancestral power of the network.

The history of the chiefdoms revolves around the distribution of hallowed domains, a relatively stable distribution, and on the indirect use of the sacred powers through *rahui*, provisional prohibitions that can be used as tools by an arbitrary power.

Polynesia does not comprise monotheistic societies, and an ancestral network is not safe from another network nor is it an invisible entity that is safe from the power of another entity. One chief's *mana* can always be counterbalanced by the growing power of another chief. This accounts for the fact that the temptation to behave outrageously was great in the Marquesas, Hawai'i, in Rapa Nui or in Tahiti, which was expressed through those provisional *tapu* that are first and foremost the *kahui/rahui*. They also allowed the expression of a wise power, careful to act as the best manager of limited resources on behalf of the community.

The abundance of the circulation is the strength and extension of the human network. Just as strength is not a potential assertion, but an exercise actually demonstrated, the staging of circulation assumes a sacred economy of conservation for the purpose of sumptuous expenditure.

The forbidden, just like a dam used to raise the level of the water, which will be released spectacularly, works to strengthen the sacred circulation and, hence, also to strengthen a religious and political social structure. This is not to say that the *rahui* had no ecological effects—the *ari'i* or the *tahu'a* had no interest in exhausting a natural resource (especially if it is dedicated exclusively for their consumption as, for example, the turtle).

In this sense, we can understand how local governments nowadays wish to use this notion to promote sustainable development.

Rather, the *rahui's* primary logic was economical, political and religious all at once: the renewed need for an abundant and prestigious circulation imposed temporary restrictions which simultaneously showed and demonstrated the reality of a power and of a human network.

Thus the practice of temporary prohibitions, *rahui*, doubly reaffirms the hierarchy: within the network and in relation to other chiefdoms. Its logic is not that of economy but that of expense, or more precisely, it participates in an economy of expense whose aim, to be demonstrative, must be reasonably excessive.

The power of gift is the *mana*, the aim of the *tapu* is to protect the less mana entities from the more *mana* entities, the economy of *mana* implies temporary sacred prohibitions: the *rahui*.

# GIFT-GIVING IN WESTERN POLYNESIA: LIFTING THE CONTRADICTION BETWEEN SAMOA AND TONGA

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## Introduction

Polynesia, more than Micronesia and certainly much more than the so-called “Melanesia”, is a cultural area: a young one (less than 2000 years of diversification between languages) and still unitary enough. Everyone acknowledges how closely related are all Polynesian languages. Thus, it is legitimate to systematically attempt comparisons between socio-cultural contexts from different Polynesian societies: world-views, kinship systems, relationship to land, etc. and, why not, categories of ceremonial gifts and exchange patterns. But at this point a difficulty arises. It has been asserted, repeatedly, that on that latter topic, comparison is not possible, even if we start with one sub region of the whole Polynesia, such as Western Polynesia: the Samoan and the Tongan case are too different and even contradictory.

The case in point turns around two words that occur in various Polynesian languages in closely related phonetic (but variously transcribed) forms: *toonga*, *to’onga*, *taonga*, etc. and *oloa*, *koloa*, *koroa*, etc. I have listed the Samoan form first: *toonga* and *oloa*. In Samoan official spelling, which ignores the diacritic signs, it is *toga*, but *tōga* in academic writing as the -o- is long. In this paper, I will write “*toonga*”, to remind that the first -o- is long, that the -g- is in fact a velar-nasal -ng-, and to make more easily visible for the reader that the word is closely related to the other words in the region, such as the well-known maori word for sacred gifts: *taonga*. In the different citations that I will do from 19<sup>th</sup> century or more recent ethnography and dictionaries, I will ignore the spelling used by the different authors (which has been variable) and I will keep throughout the text the form *toonga*. For the second word, I will keep the academic form *’oloa*, as the glottal stop in Samoan is useful to remind of the correspondence with the words *koloa*, *koroa* found in the other neighbouring languages.

Where is the contradiction between Samoa and Tonga? The Samoan *’oloa*, consisting in pigs, baskets of food and various objects, are the counterpart to the main gift of fine mats *toonga*, but the Tongan *koloa* are the main gift—first inversion—and are ceremonial cloth (“native cloth” or “tapa” as the Western literature calls it, *siapo* in Samoa) and not pigs, foods objects—second inversion. Françoise Douaire-Marsaudon, a long time researcher on Tonga and Uvea, has in her Ph.D and in her subsequent book (Douaire-Marsauson 1993: 407–8; 1998) that in Tonga and Uvea (Wallis), gifts are generally clearly distinguished into two categories: food (*kai* and other words, she says) on the one hand, and tapa-s and fine mats on the other hand, called *koloa*, *koroa*.

Comparison with Samoa is thus stopped at the start. Where Samoan *'oloo* include food and are presented (by anthropological literature) as clearly different from fine mats and tapa, in Tonga and Uvea, the same word designates ceremonial cloth, tapa and fine mats. Jocelyn Linnekin wrote: “[in Samoa] the normative structure of exchange events, the archetype of which is marriage exchange, is that toonga are exchanged for 'oloo.” (Linnekin 1991: 3), adding that in Samoa [I translate from my notes in French, did not go back to the exact text] “the female productions, tapa, coconut oil, ceremonial mats are called toonga while the male productions—canoes, tools, etc.—are called 'oloo” and that there is a “terminological inversion”, since in Tonga the *koloo* are the cloth and are the female production. Thus, in addition to the terminological inversion, we are faced with a gender qualification issue, which seems to put again the Samoan case aside from the region. Drawing on Linnekin’s distinction between female/male productions, Douaire-Marsaudon added that this Samoan type of exchange “where female goods are exchanged against male goods could be entirely unique [in Polynesia]” (1993: 408 et note 26; the author referred in her later publications to my work then in progress and stated that this contradiction may reveal to be only apparent; I quote her 1993 work only to show what was the state of the art view on this issue among Polynesianists of the time).

I will leave aside here the gender dimension, where the usual confusion leads into conflating (a) the observation of who makes the goods (yes women weave the mats or prepare the *siapo*) and (b) any gendered qualification of the goods in the ceremonial circuit: samoan *toonga* are not “female” per se (for a recent discussion on gender in Samoa, see Tcherkezoff 2017).

## **2. Back to the field:**

### **2.1 The word toonga**

I heard in the 1980s, from aged Samoans, that one could say “*toonga*” when fine mats and *siapo* (tapa) are/were given together: “*here are my toonga.*” (It has been quite some time that *siapo* are no more presented in family ceremonial gifts—last time I saw it on a grand scale was when Samoa hosted the Pacific Arts Festival 1996 and presented gifts to the host delegations). I soon realised that what I heard then from some elders is well attested in the literature. All 19<sup>th</sup> century sources confirm: Krämer, G. Brown in the 1860s, Marist dictionaries, LMS dictionaries from 1st edition. All of them wrote (I retain here Brown’s words): “*The name for the fine mat is 'ie, and for the native cloth [tapa] siapo, but when property is interchanged the covering name for both these is toonga.*”

Details of sources: Krämer : the word “*toonga*” designates “*the gifts of fine mats and siapo*” (1995 : II, 125 note 186); Missionary Brown (in Samoa in the 1860s-1870s): “*The name for the fine mat is 'ie, and for the native cloth [tapa] siapo, but when property is interchanged the covering name for both these is toonga*” (Brown 1910: 304) ; Missionary Stair (1897 : 74),

who was there in the 1840s : “*orators give to sacred chiefs ali’i gifts of food and receive from them native property which payment is called Toonga and consists of mats, siapo, or canoes*” (the mention of “canoes” is surprising). LMS dictionaries: “*toonga: native property consisting of fine mats and siapo*” (Pratt, identical entry in the four successive editions from 1862 to 1911). Marist dictionary: “*Toonga : richesses du pays consistant en nattes fines et en siapo. Sy. ‘ie. ‘ie toonga*” (Violette 1879), which translates as: “*Toonga : valuables of the country consisting in fine mats and siapo ; synonymous : ‘ie. ‘ie toonga.*”

## 2.2 The notion of *fai-toonga*

A great source of knowledge are the Samoan narratives of gift exchanges recorded by Krämer. One *ali’i*, head of an *aiga*, must gather gifts for the *tufuga* (carpenter in this case) who made his new ceremonial house *fale tele*. The narrative (in Samoan) is in Krämer (1995, II: 276). I discard his German translation and translate from the Samoan text:

The *ali’i* spoke in this way :

*“we are going to make-toonga (faitoonga), we’ll start in the morning [...] and at the end of the day we will gather in my house to count our toonga. [when time came, the alii said] : spread out your toonga. One matai [head of a household within the large aiga: still the old meaning of “matai”] said: “here are my toonga, I have ten siapo and five ‘ie.” Another said: “we have four all together, in ‘ie toonga and in siapo.”*

(Samoan text:)

*Ona fa'apea atu lea 'o le ali'i: 'O le a tatou faitoonga a taeao e 'amata i le taeao / 'a e a o'o i le afiafi ona fa'apotopoto mai lea i lo'u fale 'o lo tatou 'āiga e aotele ai a tatou toonga / folafola mai 'o outou toonga / a matou toonga nei e sefulu siapo ma 'ie e lima / o a matou fo'i nei 'ie toonga ma siapo e fā /*

In the end, we learn from the narrative that some 50 *‘ie toonga* and 200 *siapo* were gathered. When all are presented to the *tufuga*, being deployed, the *ali’i* says to the *tufuga*: “here are your sacra (sa)”: *‘o le ‘ie lenei 'o sã 'o 'oe, le tufuga, ma lea ma lea fo'i*. And, at the beginning, the *ali’i* designates the *toonga* brought by his group as “*mea sina*” (ibid).

## 2.3 Conclusion on linguistic usage

1. The word for “fine mat” was *‘ie* or *‘ie toonga*, while *toonga* alone designated a larger category of gifts; other narratives show that it included ointments (body oil, with fragrances), finely weaved fans, combs. Today, as *siapo* is nearly no more given as a gift, the word *toonga* can of course designate just a fine mat, but then we must understand it is a shortened expression for “*‘ie toonga.*”
2. In the old narratives (many to be found in the German literature), the word was used only in a context of a gift, and not as a material designation. *Toonga* never meant “cloth” or “fine mat” as an object. A demonstration a contrario: neither yesterday nor today could you

designate a piece of *siapo* in itself as “a *toonga*.” The idea of “cloth” is carried by *‘ie*, yesterday and today. A fine mat *‘ie toonga* is a *‘ie* which is fit for the gift *fai-toonga*. And when one needs to mention or announce one specific fine mat, at the beginning of a gift ceremony, a mat which will may be designated as “the mat of the authority”, it will always be said *o le ‘ie o le malo*, and not *\*o le toonga of le malo* (not understandable).

In conclusion: the word *toonga* would designate only a context of gift where people, as it was said during last century, were “doing *toonga*” (*fai toonga*).

### **3. What is a Samoan toonga gift ?**

All 19<sup>th</sup> century descriptions of gift giving show that the gift of *toonga* (fine mats and *siapo* and...) always came as a counter gift to food, instruments, etc. and was said to cover, wrap-in the initial gift. Let us look at another narrative recorded by Krämer.

One *ali’i* from Tutuila is leading a *malaga*, a ceremonial visit to his wife’s family (in Upolu). His group has prepared and is bringing, to be given to the wife’s family, many pigs (*pua’a*), rolls of materials (*ta’aiga ‘ie*), lines of red feathers *‘ie ula* (rare, very precious as it was and still is the necessary item to be attached onto fine mats on the edges). Every time that the chief is mentioning the whole lot, he says only words like “things” *mea*; he says: “how many things [for gift] [should we plan] per orator *tulafale*?: *pe ta’ifia ni mea a tulafale?*” Or he uses the word *‘oloo* : “*fa’apotopoto maia ‘o ‘oloo a lo tatou ‘āiga ma tulafale?*”. Or even not any word, just saying “we have all together 200: *ona fa’apotopoto ai lea ai ‘ua ‘atoa le lua o selau pe tolu selau.*” Thus, just “things”, and never do we see the word *toonga* or the expression *fai-toonga* for those gifts brought in by the *malaga* party.

When the visiting party *malaga* arrives and presents the gifts, the wife’s family “takes the valuables of the visiting party: *ave ‘oloo o le Malaga*”. There are two days of banqueting. Then it is time for the presentation of the gifts given by the wife’s family: “Then comes the day to make the big presentation (*faisua tele*), it is done with *toonga* (*fai ai ma toonga*) which pay for the *‘oloo* (*faatatau i ‘oloo*); and it is brought (*na aumai*) by doing the covering (*fai ai ma le afu*).” Again it is said: then “they deploy, spread out (*folo mai*) the *toonga* which have paid (*taui*) the valuables (*‘oloo*), they deploy by doing a covering (*afu*): *ona folo mai lea ‘o toonga le taui o ‘oloo, folo mai ma le ‘afu.*” Other similar narratives, with the same words, can be quoted (Tcherkezoff 2016: 288–312; French written book but, in foot notes, Samoan texts are fully transcribed in Samoan language).

### **4. Polynesian Comparisons on toonga**

#### **4.1 PPN base**

“It is done with covering”: the gift of *toonga* is (with) a covering. We are led to think that the base *toonga* refers to this aspect of “covering” the initial gift. One linguistic hypothesis is

possible in that direction: the proto-polynesian base \*taqo-ga “covering”, “pressing down” (that gave in Samoan the word *tao* for cooking the earth oven food: *tao le umu*, in reference to the covering of the food required for this mode of cooking). I raised that hypothesis at the ESFO conference in 1998, and pursued a dialogue with the linguist Jeff Marck (who expands on that in his publication, see Marck 2000: Annexes).

Another very specialised discussion is then to be raised by linguists (again I quote from personal discussions with Jeff Marck). In short: if indeed the origin of the Samoan word *toonga* were to be the PPN Base \*taqo-ga, it could not have become the Samoan *toonga* without having been through an intermediary stage such as *to'onga*, with a glottal stop in between. Well, where do we have such word? In Tonga: the precious old fine mats were and are called *vala to'onga*.

We have here one more piece to add to the puzzle: the very ancient exchanges between Tonga and Samoa, the circulation of the Samoan fine mats in Tonga. Actually Samoan myths of “origin” of the fine mat are stories that happened in Tonga, where a mat, but which was previously just a “*fala*”, a “*mat*”, was brought by one girl (made prisoner with her friends by a Tongan party). When she deployed this mat, extraordinary things happened, and the mat saved their life (hence the words “*pulou o le ola*”, one famous name for fine mat: literally: covering their life) and that *fala* which saved the life of the prisoners became known as the first Samoan “*ie toonga*.” Later, those links with the kingdom of Tonga were misunderstood: an apparently rather old belief among Samoans, and taken up by missionaries and visitors—or perhaps propagated (invented?) by missionaries and visitors—was that the word *toonga* in the Samoan “*ie toonga*” refers to the Kingdom of Tonga (which is impossible: long o / short o).

#### **4.2 Opening the comparison: Samoa-Maori: *tooga-taonga***

The Samoan *toonga* would be the idea of an encompassing gift, the idea of covering and thus incorporating sacredness. The fine mats given are the *mea sina*, they are (said the Chief to the *tufuga*) “your sacra” (*ou sa*). Thus, not any material definition (cloth, mats etc.), but a wide cosmological notion of life-giving. If we were now to look into the wide body of myths, legends, ancient rituals for burials, it becomes very evident that the *toonga* is a life giving gift (and also for after life: wrapping the dead body in old times, wrapping the coffin today, etc.).

Then we realize how close the Samoan cosmological concept of *toonga* is to the Maori *taonga*, which is (no doubt the linguists tell us) it’s cognate. It is enough to read Paul Tapsell:

*“The traditionally accepted role of taonga is to represent the myriad ancestor-land connections, reinforcing the kin group’s complex identity and authority over their estates. [...] To reiterate, all items deemed taonga within the traditional Maori universe are directly associated with both ancestors and customary tribal lands. According to tradition, a taonga can be any item which recognisably represents a kin group’s genealogical identity, or whakapapa, in relation to their estates and tribal resources. Taonga can be tangible, like a greenstone pendant, a geothermal hot*

*pool, or a fishing ground, or they can be intangible like the knowledge to weave, or to recite genealogy, and even the briefest of proverbs » (Tapsell 1997 : 327, 331). The Maori taonga are not at all a category of object that could be materially defined : any item can become a taonga if it receives the mana through a proper ritual : « The elders decide the kaupapa (charter) of each item and under whose mana it will be controlled. Through the more public recitation of karakia [ritual formulae], the tohunga-ahurewa (spiritual specialists, priests) then empower the items with the wairua [soul] of certain ancestors, which transforms them into taonga” (ibid. 363).*

### **4.3 Beyond Samoa-Tonga-Maori**

The word is found (I skip the various references to the dictionaries used) also in Rennell-Bellona (ceremonial mat or *tapa* “offered to the gods”), Niue, but also in Tahiti, Hawaii, Cook etc., with, it seems, an interesting contrast between contexts:

- Tuamotu : in paumotu : “*tâo.a* or *tâo.nga*, to possess riches ; possessions, riches, items dear to their owner’s heart, in contrast with *tavênga* which are acquired goods; any valuable ; a dear child, a dear parent.”
- In Tahiti, since the first dictionaries: *tao’a*: “good, item, possession, riches, to be rich, gift” (in contrast, can we note to the Tahitian *tauha’a* which are “utensils, usual objects, furniture).”
- In Mangareva, the word *toonga* designated the *tapa* that could be ceremonially used to wrap a corpse at death.

There are other discussions worth pursuing: in Marquesian, the word *tona* “(add the idea of) dear, precious.” In Hawaiian, the word *kaona* applies to “the hidden meaning in a traditional chant.”

## **5. Turning to ‘*oloa* ?**

### **5.1 Samoan ‘*oloa* as riches in general**

The word ‘*oloa* in Samoa meant (and still can mean sometimes) a very general idea of riches, valuables, which did not predefine the content of that category. My notes of the 1980s: “ yes, I can say that the ‘*oloa* I have in my house, in case of a *faalavelave*, are my pile of fine mats ‘*ie toonga* and my boxes of tin food, money etc.”

### **5.2 The confusion with the new shops *faleoloa***

The 19<sup>th</sup> century western ethnography became confused and wrote so many times that ‘*oloa* are “foreign goods” (in contrast to “native goods *toonga*”) because of the expression *faleoloa* (shop), “the house of valuables”, which of course came to designate the early shops established by the settlers. These latter sold foreign imported goods, especially tools, and then tin food, and gave the same kind of items when they themselves entered into marriage within a Samoan

family. This would be the origin of what is now mistakenly called “the ‘*oloa* side of a gift giving” exchange in Samoa.

In fact, in a Samoan gift giving, ‘*oloa* as “riches” are given on all sides. Just that the side giving the “wrapping-in valuables” (fine mats, *siapo*, body oil) became understood, restrictively, by the foreign observers, as the side of the “native cloth” and—another mistake— a “female” side. It became the side of “*toonga* =fine mats”, because in the gifts included in the old encompassing notion *toonga* (the 19<sup>th</sup> century *fai-toonga*), soon only fine mats remained, while *siapo* gradually disappeared. On the other side, all the numerous “things” given, which did not have any common specific designation (as our narratives show) but were just “things” *mea*, or indeed collectively designated as riches “‘*oloa*”, became “the side of the ‘*oloa*” as if it were a specific counter category to the gift of fine mats, and a “male” category opposed to the other one, “female”.

### **5.3 Polynesian comparisons: ‘*oloa koloa koroa***

The word ‘*oloa koloa koroa* can be found in Futuna, Uvea, Tokelau, Rennel et Bellona , Tonga, Tikopia, Cook, Tahiti, Tuamotu, Aotearoa, Hawaii, every time with an accent on quantity, often with the precision that those valuables are distinct from food. For sure, the word goes back also to PPN, most probably with this general meaning of riches, valuables (of all sorts) and with a connotation of quantity, while *toonga*, *taonga* etc. are “sacra”, sacred gifts, sacred because incorporating *mana*, and covering wrapping-in as life-giving gifts.

As ‘*oloa* is just riches in general, and not specifically defined, it needs sometimes to be precised: for example, in Tikopia, one could talk of the « *koroa* of the chiefs »: *koroa nga ariki*. This connotation of quantity explains why it is this word that became used for the first shops opened by the foreigners: *fale ‘oloa*. Then gradually ‘*oloa* became restrictively understood as the things that are in the *fale ‘oloa*, the “foreign things” (the end of the 19th century literature abounds with that mistake).

### **6. Back to *toonga* : Polynesian cosmological scheme : encompassing, covering, incorporating**

One certainty: if ‘*oloa*, *koroa* etc. designated, in the precontact Polynesian area, a very general notion of riches, we have to think that the Samoa, Maori, Tahitians etc., words such as *toonga*, *taonga*, *taoa*, etc., when they qualified some specific ‘*oloa*, were adding some specialised meaning. This is a certainty. Which meaning? At this point, we can only have hypotheses: that this valuable ‘*oloa*, when given out, had the capacity of encompassing the initial gifts, the capacity of covering and incorporating the other (the other gift, the other group facing in the exchange).

Encompassing, covering, incorporating... Let us just remember how, everywhere when Europeans appeared, from Tokelau to Tahiti, the inhabitants tried to wrap them in (in fine mats

or *siapo*), hoping to be able to incorporate-domesticate some of the terrifying powers that these new comers obviously had, and also covering (incorporating) the gifts of foods and goods that these new comers were usually immediately presenting when coming on shore (Tcherkezoff 2003; 2009).

One last Samoan narrative can be quoted. It describes exchanges of gifts at birth:

*“The father’s family prepares (fai) the things-to-be-presented (si’isi’i) [like baskets of food, etc....] and the well-fed pigs (popo). They bring the whole to the mother’s family, who gets ready to make-toonga (fai ai toonga) that are paying (totogi) the things (mea) of the father’s family. They [those gifts] are the toonga for the food cooked (suavai), **the toonga which covers (ufi) the things brought in (si’isi’i)**, the toonga for the well-fed pigs (popo), the toonga for the baby’s bedding (ulumoega), the laufau [reference to the lot of fine mats that had accompanied the bride in her marriage ceremony], the ‘ie [from now on the word is constantly ‘ie] of the evaeva [refers to the mother’s leaving her birth place], the ‘ie for the child to grow (faatupu), the ‘ie for the cutting of the umbilical cord, the ‘ie for the [cosmological] Po, the ‘ie for the vaisalo [the baby’s first food], the ‘ie for the separation with the parents of the mother and of the father, the ‘ie for the sacred ground of the village (malae).”*

*“Ona ô ai lea 'o le 'âiga o le tane, 'ua fai si'isi'i ma le popo. Ona 'aumai ai lea i le 'âiga o le fafine, 'a 'o le 'âiga o le teine, 'ua fa'asaga e fai ia toonga e totogi ai mea a le tane. 'O mea nei 'o le a 'ave 'o le toonga o le suavai, **'o le toonga e ufi a'i si'isi'i**, 'o le toonga o le popo, 'o le toonga o le ulumoega, 'o le laufau, 'o le 'ie evaeva, 'o le 'ie fa'atupu, 'o le 'ie o le tââga o le uso, 'o le 'ie o le pô, 'o le 'ie o le vaisalo, 'o le 'ie o le mavaega a le matua o le teine ma le matua o le tane, 'o le 'ie o le malae.” [words highlighted by me]*

As we can see, on the father’s side, the gifts are designated just with the word “things” *mea*, or “presents”, things “to be presented” or that “are presented” *si’isi’i* and even one must add: “and the pigs...” (*ma le popo*) But on the mother’s side there is a very specific word to refer the whole: *toonga, fai-toonga*. And we have again the notion that the *tooga* are “paying” *totogi* the initial gift. Of course we must understand it is a non-monetary transactional way: they are “paying” also for the body itself of the baby, for the umbilical cord, for the cosmological world where the baby comes from (the *Po*), paying for the social relationship to the families, the relationship to the sacred ground of the village.

And, again, the *tooga* are “covering” the fathers’ side gifts: *'o le toonga e ufi a'i si'isi'i*.

I am tempted to add one point: the very fact that different common words are used in the narratives to express the idea that the *toonga* covers the initial gift (one can find : *afu, ufi, pulou*) shows that this idea of covering is not an esoteric notion, buried in the far away beginnings of the Polynesian civilisation, and was quite explicit in the minds of the 19<sup>th</sup> century actors (as it was in their 18<sup>th</sup> century forefathers when *Papalagi* appeared on Polynesian shores and the initial move was to quickly wrap them in). Of course they did not realize that, perhaps (I would say: certainly) their very word *tooga* carried this etymology of covering, but that truly happened long ago and that indeed became buried in the past.

Let us conclude with one image that tells it all, about this cosmological representation of life, of the total persona. In Samoa, not so long ago, when making an *ifoga*, the members of the party asking for forgiveness were coming in front of the house of the offended party, then they sat outside, holding stones of the type used for the earth oven *umu*, thus presenting themselves as food to be cooked, but wrapping themselves, covering the head and the whole body, into a finemat as a sacred shield and a hope for life (and indeed we have no narrative of spears or stones thrown through the fine mats covering the *ifoga* party). I would suggest that this Samoan image of the fine mat wrapping the body, a body ready to become food but which will gain life because it is wrapped in a fine mat, is how we should understand the duality *'oloa-toonga* in the Samoan gift giving and indeed in the ceremonial gift system of the whole of Polynesia.

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## THE LIFE GIVING GIFT IN HYEHEEN

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In a very recent book about the place of Samoa in the sociology of the gift by Marcel Mauss, Serge Tcherkézoff writes :

*The fine mat symbolizes the life-giving powers which are potentially sealed in the young women's (tamaitai) blood. These are women who have not yet given birth and who have entirely kept the sacredness that defines their role as intermediaries between gods and humans, between the cosmological principle of life and the fragility of human reproduction. They then bear a heavy "responsibility", which is said with a word (tausala) evoking at the same time a great sacredness and the risk of heavy punishment. Both the "gift" of these women's body (in circumstances that could be dramatic, according to some legends, and be a real sacrifice) and the gift of the fine mats had the cosmological efficiency of a "gift of life", a "life-giving gift".*

The aim of this communication is to describe and analyse some similar ideas in two kanak communities of the north-eastern coast of New Caledonia, the Houses of Tnedo and Hyeehen in the Hienghène area. The kanak people of Hienghène say that "exchanges—we must understand "exchanges of gifts"—are the breath of the custom". I want to show how true this phrase is. In Hienghène like in many other places of the Pacific Ocean, ceremonial exchanges are life giving exchanges. I will also analyse the place of women and here a difference with Samoa. At Hienghène, the sacredness of women is based on maternity and the gift of children to the clans of their husbands. This is as mothers that women are traditionally viewed as intermediaries between the world of the Living and the world of the Dead. But the gift of children by women and their clans cannot be separated from the other social and ceremonial exchanges, more especially of social properties like mats which make up the basis of the piles of wealth which are given during the feasts of birth, marriage or funerals. Nevertheless at the end of this communication, I shall briefly mention the role of the elder daughters of chiefs for the foundation of chiefdoms. Their blood, like the young women's (*tamaita'i*) blood in Samoa, seals the life-giving powers of the great primordial ancestors of the chiefs' clans because this is by their marriage with ancient Conquerors that chiefs became the major intermediaries between gods and humans at Hienghène. And there we will not be so far from Samoa.

### **The Social Representation of the Life**

In a first time, some words about the hyeehen conception of life. About this topic, Jean-Marie Tjibaou—who was a very clever anthropologist before to be an outstanding political leader in New Caledonia—has written a good summary of the social representation of the person at Hienghène.

*The principle of life, we say that is the mother who gives the life. The father gave the figure, the social status, the land. Read Leenhardt [a French anthropologist who was also a protestant*

minister]... *I don't know if you have read it. I believe that he has understood many things. Fortunately for us, he has written... The life is given by the blood. And the blood it's the mother who gives it. And the owner of the blood, it's her, her brothers, her fathers. So, I am always **dual**. I am never an **individual**. I can't be an individual. The body is not a principle of individuation. The body is always the **relation**. The body, it's the blood. And the blood, it's the mother. And the owners of this part of me are my uncles [i.e. my mother's brothers]. So, when a child is born, we give some presents to the mother, to honour her, to bless her because she is fertile, because she gives the life and increases our clan. My children wear my name. They have the social status which is given by my name. In our clans, we four or five names. They are like reference numbers whose correspond to social places. These aren't all-purpose names. There is no public names. Names belong to clans. if you take a name I give... there will be war! Or my ancestors will send you a malediction, you will be ill, you will die. Well. The children receive the name, receive the paternal status. Except if the mother takes them back as a compensation. My mother came from your house, so she can take one of her sons back for her. Because she keeps her own status, her rank in her family and she keeps her name. I'am Tjibaou. In the modern society, my wife is named Tjibaou, but according to custom she is a member of her own group. She isn't a member of my group. She is authorized to take on of my children back as a compensation. Or later her clan will come to get a girl from my clan and marry her for restoring harmony [balance] between us [the bold characters are from Jean-Marie Tjibaou himself].*

In this quotation, the main features of the hyeehen representation of the person are stated:

- the relational conception of the person, which always a *dual* conception. The blood, and through blood, the life is given to a child by his (or her) mother's clan, the name, and through name, the social status and the link to land are given by the father and his group.
- the importance of the exchanges of gifts for the circulation of life and for the person's identity. At a child's birth, some presents are given to the mother, her customary brother and their clan to thank them for their work of vital importance. But we have to keep in mind that every life which is given must be reciprocated. For a wife and her birth giving powers, one of her children will be given in return to be adopted by her brother. Or a girl will be given to marry a man of her mother's clan. Reciprocity is the rule. And if a person is always *dual*, as Jean-Marie Tjibaou wrote, this is because it literally embodies the relation of exchange between the two social groups of its parents.

## The Social Frame of the Ceremonial Exchanges

The social organization of ceremonial exchanges clearly reflects the dual identity of the person. In every feast, you can see a division of the participants into two moieties: for the two first occasions, the father's family who are the organizer of the ceremonial event and the mother's one who are the guest; for marriages, the division is between the groom's family and the bride's family, but the hyeehen names of the moieties are the same: *kaavue-aman*, "masters of the exchange" for the father's or the groom's side and *hwan-hiri*, "house of the sacred or of the taboos" for the mother's or the bride's side. During the exchange, the *kaavue-aman* stand at the upper level of the ceremonial ground and they are described as forming a house gathering all the paternal kin – agnates and affines – of the child or of the groom. They are also the "autochthons" (*kavuena*), the "masters of the land" (*kaavue-guc*) because the feast takes place in their village. The *hwan-hiri* are the "foreigners" (*kaya*), they are ideally standing at the "doorstep of the road" (*pmanook o cneedan*) and practically stand at the lower level of the ceremonial and, for the birth and the funerals, they are said to be only composed by the mother and her brother. The other members of their family are called *daye hwan-hiri*, "those who are behind the *hwan-hiri*". For the marriage, we can observe a notable difference because the *hwan-hiri* include all the father's and the mother's families of the bride. In all the occasions, their social and spatial position seems subordinated. But it is not actually the case. If the *kaavue-aman* are at home, the *hwan-hiri*, with the mother or the bride, are the life givers. During the ceremony, they give wealth which are called "the gift" and receive more wealth called the "return". The difference between the "gift" and the "return" is said *maric* which means "Life".

It's the same scenario in all the ceremonies which mark the different steps of the life of a person. *Kaavue-aman* pay the life they take to the *hwan-hiri*.

## The Objects

In all these social events, Life is to understood in its full meaning. Three kinds of things are given in the hyeehen ceremonial exchanges:

1. traditional and non-traditional wealth like pearl currency, mats, clothes, fabrics, money.
2. traditional and non-traditional food like yams, taros, chickens, rice, and so on.
3. Words, speeches which must be associated with the given wealth and food.

If traditional, the first and second things have very ancient origins narrated by oral stories (*jama*), called myths by anthropologists. The origin of traditional wealth are always presented as gifts of the primordial ancestors, sometimes described as totemic beings because their polymorphic appearance. They can be men with great powers and strange physical characteristics, but also sharks, thunders, lizards, stones, trees, snakes, etc. For example, my

late lamented colleague, Françoise Ozanne-Rivierre who has worked in Hienghène as a linguist, collected thirty years ago a well-known myth about the origin of pearl currency at Hienghène. This is the story of an “old man” (*vain kac*)—by “old man” we have to understand here the chief of a founding clan of the chiefdom. While pushing the central pole of a new round house into the ground of the little island of Ye-Xavaac, where he is the master of the land, he picks the sharp end of the pole into the back of a sperm whale who was sleeping there. So the animal cries: “Poowe”. That’s a very important passage of the story, the first to indicate the real importance from a social point of view. The sperm whale is the primordial ancestor of the chief clan of the house of Hienghène – the Hyeehen say its *nawen*, literally its “soul”. And “Poowe” is one of the most sacred names of the paramount chief of this house. The hyeehen myth of the origin of pearl currency locates this event in the network of the status relations whose are at the foundation of the chiefdom. The following day, while the old man wakes up, he sees an odd carving which is suspended on the lintel of the house he has began to built. This is the head of a currency. Tied to this head, there is a long string of black pearls, so long that it crosses the beach of the little island and penetrates into the sea. The old man plunges into the water and at the bottom of the sea he finds the foot of the currency in the mouth of the sperm whale. He takes it slowly and get it back on the island. At the end of the story, the old man brings the currency to the paramount chief who cuts it as many parts as there are clans in his House.

The pearl money is an “image” of the ancestors; it has a head, a vertebral column and a foot. The Hyeehen say that it is also the “soul” and the “bone” or “vertebral column” of the customary gift.

The Hyeehen have also narratives for the origin of the traditional food. I can’t analyse here all the cosmological connections between food and blood, but they are always very significant today. A hyeehen saying claim that the blood of dead feeds the earth and plants which grow in the earth feed the men. The cultural calendar is of nine months like the gestation of a woman, etc. In fact, we can say that vegetable food is a transformation of human blood. If we add that the human word is identified with the breath, we are able to understand that customary gifts are also forms of life. In the hyeehen feasts, life is given in exchange for life.

### **The Chieftainship and Circulation of Life.**

Now a last point. At the origin of the chiefdom or House, we find at Hienghène, like in many other places in Oceania a conquest and an alliance. And like in all the World, we have no alliance without a woman. The alliance is concluded between a defeated paramount chief et a foreign conqueror vainqueur in exchange of peace. The defeated paramount chief gives his elder daughter or sister to marry with the Victor. At the same time he gives the authority on the land et its signs signes (one of the more prestigious name of his clan, the mound where to build his ceremonial great house, le the ritual basket of his chiefdom with all his magical powers in it ,

etc.). This pact is sealed by a cérémonial investiture (*parui ven daama*) where the ancient chief has the double rôle of father and maternal uncle of the new paramount chief. As maternal uncle, he literally “gives” (*na*) the victorious chief to his subjects (*yabwec*) as at birth the mother and the maternal uncle “give” the child to his father and his clan. From conqueror, the new Paramount chief become the “child chief” (*naye-daama*), the “grand son and son” (*paguun men nain*) of his People. His subjects give names (*yat*) of their clans. This gift engenders a real relation of descent between them. The subjects give also others signs of authority like the mask, prestigious wealth (a club of jade, shell armbands, turtles, dugongs...). Before the investiture, the subjects of the defeated chief and those of the victorious chief got together for a long time to decide the social organization of the new House. The result of their debates de leurs débats was sealed by different exchanges to establish new alliances between them and consecutively new statutory relations. Priest (*ka-po-hiri*) accomplished in a secret place the ritual (*waya*) to definitively “tie” the given word and, through the making of a taboo, to prevent its public breaking on of war and death. This ritual link men to land, and to all the beings living on earth, below and above. Last but not least, the unity of the chiefdom is materialized by the building collective of a house for the new paramount chief, the “great house” (*nga hun*), the Framework of which symbolizing the social structure of the community.

The new Paramount chief because he embodies the life powers and the ritual powers of the ancient chief’s clan is like a living ancestor and as such an intermediary between gods, dead spirits and humans, between the cosmological principle of life and the efficiency of rituals made by men.

Just a word to conclude. Today like yesterday, it’s impossible at Hienghène to separate the cosmological meaning of the given “things” and the social principles of their circulation. This is very easy to verify for the past, but it’s also true for the present. Maybe at another PIURN conference, or in my paper for the acts of these conference, I shall able to show you how the Hyeehen give, share, distribute, or exchange new things as money or goods to give them new cosmological meanings.



## CASH PAYMENTS – IS IT CONTRIBUTING TO SOCIAL JUSTICE?

*Sasae Fualautoalasi Walter, National University of Samoa*

### Abstract

*Traditional wisdom suggests that if you give a man a fish, he'll be fed for a day. Teach him to fish, and he'll be able to eat for a lifetime. But what if we tried giving a man money, so that he can buy what he needs most? Today policymakers are opting for this radical option as a solution to poverty, and as an alternative to the welfare state. CPs can be defined as the provision of assistance in the form of cash to the poor or to those who face a probable risk, in the absence of the payout, of falling into poverty. There are few statutory cash assistance schemes in developing countries and those that do exist tend to convey a small entitlement. CPs do not have to be very large to offer effective protection. If low income households already derive some of their earnings from informal sector activities or private payouts, then a CPs can be used to partly close the poverty gap rather than to provide a full replacement of income. The objective of this research is whether CPs being given to the poor on either mandatory, voluntary basis, with conditions or no conditions DO prevent the right recipients from Poverty. An important finding reveals that Populations receiving cash payouts show a high propensity to invest in food. Social Justice is promoting a just society by challenging injustice and valuing diversity." It exists when "all people share a common humanity and therefore have a right to equitable treatment, support for their human rights, and a fair allocation of community resources." Matthew Robinson 2014. When I think of social justice, I think of the ongoing fight against inequality between various groups of people, in terms of gender, economic situation, culture and ethnicity, education and knowledge, opportunities and privilege.*

**Key words:** CPs, Social protection, Social Justice, poverty, diversity, program beneficiaries

### Introduction

Historically, policymakers have tackled poverty by providing people with specific goods and services, so-called "in-kind" benefits, or through attempts to improve their skills. For many years, economists have made the case of giving money to those in need. Such schemes go by different names, but the most well-known might be the "basic income", which would see governments give a fixed amount of money to every person, regardless of earnings.

A well-known programme Give Directly co-founder, Michael Faye, says that "there is often an implicit assumption that the poor can't be trusted to make decisions for themselves". As a result, governments have relied on large, bureaucratic systems to help those in need.

Social Justice is an underlying principle for peaceful and prosperous coexistence within and among nations. The principles of social justice promote gender equality or the rights of indigenous peoples and minorities. We advance social justice when we remove barriers that people face because of gender, age, race, ethnicity, religion, culture or disability, NOT WALLS. Pope Francis Pope of the Roman Catholic Church once commented that "a person, who thinks only about building walls, wherever they may be, and not building bridges, is not Christian."

Cash Payments "Circumstances such as where a person is born, where they live or their gender and ethnicity should never determine their income or their opportunities for quality education, basic healthcare, decent work, adequate shelter, access to drinking water, political

participation or living free from threatened, or actual, physical violence. Perhaps the cause can best be described by the UN Secretary-General, Ban Ki-moon, in his message for the 2014 World Day of Social Justice. The fight for social justice is hard, never-ending, and often seems a little hopeless, given that it is such a broad and obscure issue. (Ban Ki-moon 2015)

All these uncertainties, and the drive for opportunities, and the upholding of human rights, CP have been one strategy that remained and continued to be recommended within the donor community to curb and prevent the most vulnerable for falling into poverty.

Experience in middle-income countries suggests that adverse labor market and incentive effects arising from statutory CPs problems can reduce aggregate program benefits, but these effects can be overcome by building in incentives for recipients to rejoin the labor force. CPs programs can also be used to combat gender discrimination. Family allowances, social pensions, and CPs linked to school attendance all tend to have positive gender effects.

CPs is one modality among a range of social protection interventions. CPs can take a variety of forms, including pensions, child benefits, poverty-targeted payouts and seasonal payouts. Most CPs are given without conditions. However, there are some Social Protection Programmes with conditions given to beneficiaries before qualifying to receiving the payouts. Conditional payouts require some qualifying or ongoing action by recipients such as full time school attendance by school-age children.

There has been a significant expansion in the number and coverage of CPs programmes in developing countries, including in Africa, where their impact or lack of impact is being established. What the recipients choose to spend the cash on is the object of research and policy attention and of this research. (UNICEF 2014)

Social protection interventions, including CPs, are government led. International agencies such as UNICEF support advocacy to national policy development, technical aid in designing payouts and other social protection programmes, strengthening linkages between social protection programmes and services, capacity building, implementation assistance in some geographic areas, and monitoring, research and evaluation support.

### **Social Protection**

Social protection is a key step in ADB's battle to have Asia and the Pacific region "free of poverty."

Developing countries across Asia and the Pacific are giving greater attention to social protection. Investments in social protection reduce vulnerability, mitigate chronic poverty, and nurture inclusive growth.

The region's governments increasingly recognize the need to improve the design and delivery of social protection to better target disadvantaged and marginalized groups. Innovations in social assistance, social insurance, and labor programs are emerging but budget support is lacking.

To provide governments with policy-relevant information on social protection, the Asian Development Bank (ADB) and its partners developed the Social Protection Index (SPI) in 2005. It was the first comprehensive, quantitative measure of social protection systems in Asia and the Pacific.

The three major categories of social protection are Social Insurance, Social Assistance, and Labor Market Programs. The scope of social protection and commitment of the ADB to develop priority interventions in 3 major elements. They are;

- a. social insurance programs to cushion the risks associated with unemployment, ill health, disability, work-related injury and old age;
- b. social assistance and welfare service programs for the vulnerable groups with inadequate means of support, including single mothers, the homeless, or physically or mentally challenged people, and
- c. labor market policies and programs designed to generate employment, improve working conditions and promote the efficient operations.

It's been proven and widely appraised that the following categories of CPs have been recommended as a strategy to further assist the most vulnerable.

### **Social Assistance**

Social assistance provides unrequited (unanswered, one-sided) CPs to groups, such as the poor, who cannot qualify for insurance or would receive inadequate benefits. The major components of social assistance are cash or in-kind payouts, Cash allocations, cash disbursements, child welfare, assistance to the elderly, health assistance, disability benefits, and disaster relief.

### ***Rich and Poor Projects***

CPs are used by many countries of the world regardless of their economic capability. Even the most developed countries have considered opting for these strategies and are still warming up to the CP philosophy.

For Iran's CP list of recipients, the government recently scrapped the wealthiest citizens off the list of people receiving monthly cash handouts in a small step toward easing the burden on the budget and freeing up more government funds. The move freed up about \$3 million a month of government money, is the latest in Tehran's efforts to juggle cash and wean the nation off subsidies in an oil-dependent economy suffering from a steep drop in global oil prices.

On the other hand, the Japan Prime Minister Taro Aso announced the distribution of around ¥2 trillion in cash benefits to all Japanese citizens. The purpose of these handouts remains unclear, though, and the argument is tangled over whether to set income limits for eligibility for the recipients.

For Great Britain, there is the Helicopter Money Policy. According to a group of progressive economists, the offering of direct cash handouts to households would be a better way of boosting Britain's flagging economy than the interest-rate cuts.

### ***Statutory cash assistance***

Statutory cash assistance are more common in middle and third world income states and in the OECD nations, CPs are the main type of social safety net protection. Cash payments programs are less likely to distort prices than in-kind payouts programs, and they provide the recipient with much more choice.

For Developing countries, a few have CPs programs to assist households that are not covered by social insurance schemes. These include social pensions, family allowances, and support for disabled people, orphans, and widows, conditional benefits, minimum income allowances, and temporary assistance to the unemployed.

### ***Conditional CPs (CCTs)***

The biggest and best known of all the CPs schemes in the developing world is the Bolsa Familia Programme in Brazil. Since 2003, twelve million families have joined the scheme and receive small amounts of money (around \$12 a month). Inequality has been cut by 17% in just five years, which is perhaps one of the most dramatic achievements in welfare ever recorded. The poverty rate has fallen from 42.7% to 28.8%.<sup>78</sup>

Such is the fascination in this "social technology" that Brazil is now being sought for advice on CPs programmes by countries across Africa (Ghana, Angola, Mozambique), the Middle East (Egypt, Turkey) and Asia (including India). Even New York City has implemented a version of the programme.<sup>79</sup>

For Egypt, their CCT become a very popular method of offering state support to very poor families. They are designed to break the cycle of inter-generational poverty, with the idea that families are active participants in a scheme that has developmental objectives, rather than a 'band aid' mentality. (Sholkamy Hania 2012)

The Egyptian CCTs programme works with low-income families, especially mothers and female heads of household, with school-aged children. The families are given monetary payouts from the Egyptian government on certain conditions (minimum school attendance, regular visits to health clinics, nutrition).

### ***Mandatory Programs***

Mandatory programs are those programmes that are either administered by or regulated by the state. The CPs programs that are mandatory can also be categorized to those that are provided on a voluntary basis. That is the government is the ultimate guarantor for mandatory programs and has a mixture of implementation, supervision, and oversight responsibilities. However, not all CPs are mandated by the state. Voluntary and informal CPs play an important role in the social safety nets of developing nations.

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<sup>78</sup> <https://www.theguardian.com/global-development/poverty-matters/2010/nov/19/brazil-cash-transfer-scheme>

<sup>79</sup> <http://www.guardian.co.uk/global-development/poverty-matters/2010/nov/19/brazil-cash-transfer-scheme>

### ***Voluntary and informal CPs***

However, not all CPs are mandated by the state. Voluntary and informal CPs play an important role in the social safety nets of developing nations. Voluntary CPs programs include benefits provided by employers to employees to maintain their income (such as cash benefit payments after an unexpected work interruption) and payouts provided by private charities, informal CPs are payouts made within family, community, and household groups that are not mandated by law.

From an economic efficiency perspective, CPs are generally deemed to be superior to in-kind payouts because they do not directly influence market prices. Economic efficiency is enhanced to the extent that the marginal benefit of goods and services sold in an economy is equivalent to their marginal social cost. When policymakers intervene to set prices that are different from the marginal social benefit or marginal social cost, as occurs in the case of in-kind payouts schemes, resources will be used inefficiently (Blackorby and Donaldson 1988).

### ***Administrative Considerations***

CPs systems require a larger and more sophisticated institutional structure. However, once that administrative system is in place, the costs of operating a CPs system are likely to be lower than that of an equivalent in-kind payouts system, such as a food stamp, public works, or commodity subsidy scheme (Grosh 1994). Unlike food stamp or voucher programs, CPs programs do not need to incur the costs of printing, securing, collecting, or processing quasi-cash claims. Unlike public works programs, there is little need for site-specific design or technical supervision services.

Also, the logistics of moving cash from one point to another are fairly straightforward compared with moving large quantities of a subsidized commodity. From an administrative point of view, "cash" is less costly to the recipient because it is universally accepted.

### ***Political Consideration***

Despite the economic and administrative advantages of CPs programs, it is often difficult to mobilize sustained political support for CPs. To the extent that cash assistance is associated in the minds of the voters with consumption of "demerit" goods, this may weaken the appeal of cash assistance programs to a broad electorate. There are other reasons why politicians may favor in-kind payouts rather than cash assistance. Providing in-kind assistance is a more visible way for politicians to assure their electorate that the basic needs of the poor have been provided for.

### ***Design Considerations***

How CPs programs are designed matters as much, if not more, than the choice between a CPs and an in-kind payouts program. While a well-designed CPs program can significantly alleviate poverty, a badly designed program can do more harm than good. The Benefits of a well-designed program are Greater safety, Security and Peace, along with reduced crime and better criminal justice and rehabilitation) and a more harmonious, cohesive and smoother-running society.

The disadvantages of Cash Handouts are Structural problems, Education problems, Transport problems, Housing problems and a few Jobs.

But several things make people uneasy with GiveDirectly's approach. One is the widespread belief that the poor are not simply different because they have less money. They have less money because they are different. (Rosenberg 2013)

Those on the left tend to believe that the differences come from giant structural problems: bad or no education, health, transport, housing, few jobs. Giving cash to the poor, while helpful, solves one of these problems: credit constraints. It's a big problem. But once it's solved, another problem is likely to get in the way. The right-wing argument is that the poor are poor because of the culture of poverty: people make bad choices, lack discipline, look for short-term gratification. This argument holds that giving cash to the poor doesn't help much—and many people will misspend it in ways that make things worse (Rosenberg 2013).

### **Findings**

The most recent Samoa National Provident Fund payment of annual dividends to contributors is a similar programme to other countries CP systems. The only difference is that for Samoa, the recipients are the NPF registered members. The survey interviewed members, 40 Working women and 40 working men with ages ranging between 27–62.

The results were that, monies obtained from these payments were spent on the following items.

- 34% on Food
- 24% on Others - Petrol, Flowers for Church & funerals, Entertainment,
- 22% on Education
- 8% on Utility bills
- 4% on Medicine
- 3% on Clothing
- 3% Church Obligations
- 2% Payoff other loans

It was very clear that the respondents did spend their monies on necessities and needs that could have been paid for from their normal wages and salaries. It's also an indication that within our own Samoan community, whether we were classified in a structure of either we were in the lower end of the salary scale or of the middle and upper end of the scale, we were no different, in terms of the priorities of purchases.

There were basic needs that needed addressing and it was met by the once a year CP from NPF. Food scored very highly, research indicates that if you spend more than 20% of your single

salary on food, it's an indication that the average number of people you are feeding exceeds 3–4, and that, assistance and supplements are required either in the form of another working person in the household or food stamps be made available, and if all fails, CPs are desired and seen as worthy in these situations. (Pinola 2012)

Despite the fact that Samoa now has compulsory education system, an average 22% was spent on school fees. This is an indication of the respondents having older children attending years 9 up to university level, and their school fees were funded by the CPs. The question we will then ask is, what happened if there was no CP. Would they have opted for another source, and what source will that be?

In the research there were other outstanding findings that were discovered amongst the preference of usage of the CPs. And this was on the prioritizing of spending by the women, especially at a certain salary bracket.

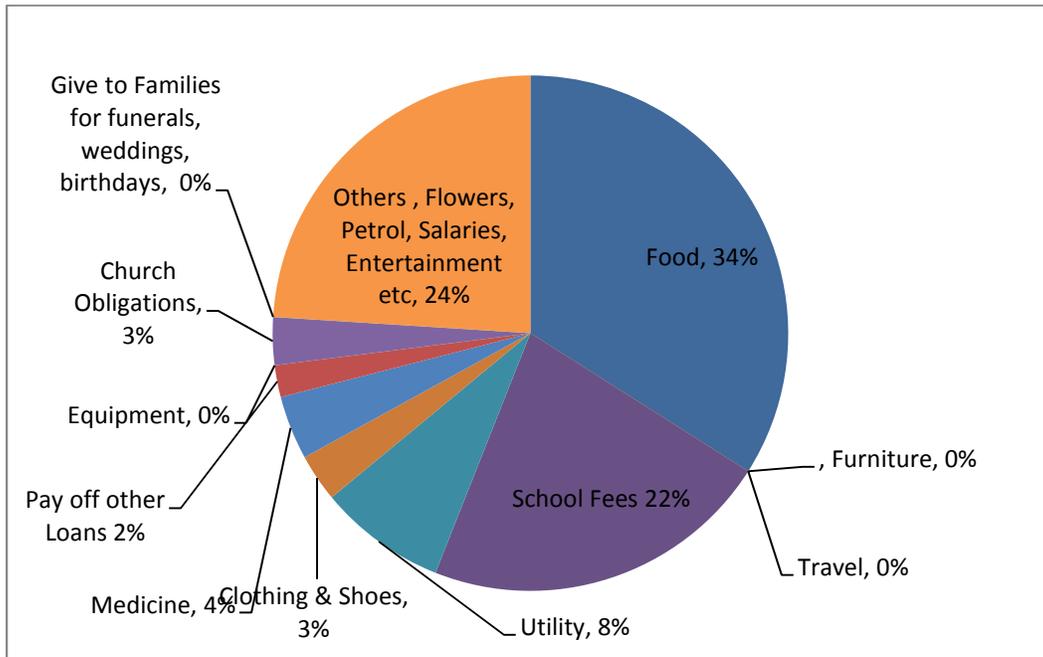
Another notable finding was the impact of our culture amongst the spending of our people. We had money spent for funerals and churches, etc. this is very unique, because amongst all the literature review conducted for CPs, there's no community that includes the church obligation as a priority expense. That will be another research all together. If added together, there were more monies paid out to these cultural obligations than medicine and clothing. (Wayne 2016). To Payoff other loans, CPs to pay off other loans is also very unique in this research. What we found out here was that amongst the less than 10k bracket, there was a tendency to use CPs to pay off one loan so they can take out another loan.

### Summary of Spending Priority

Table 1. Summary of Expenses

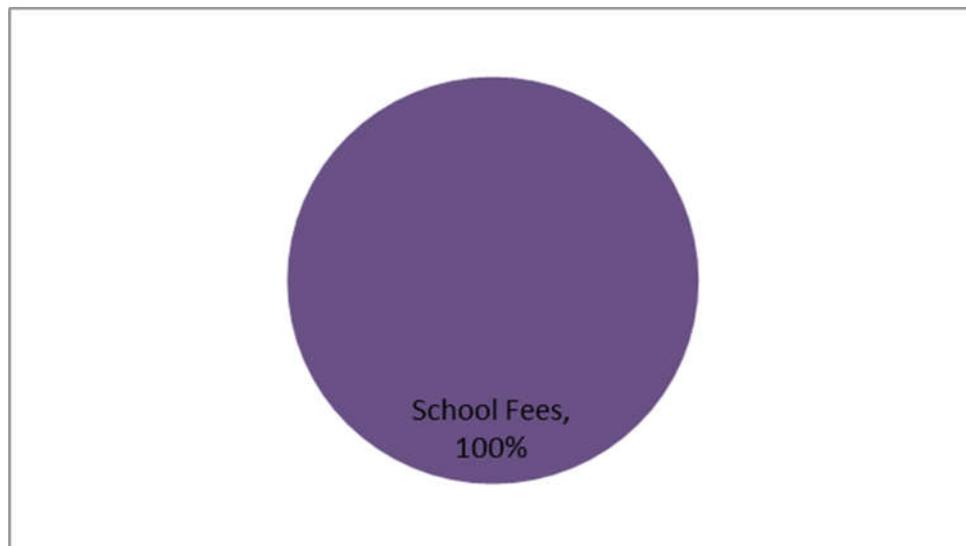
EXPENSES	R1	R2	R3	R4	R5	R6	R7	R8	Tally	%
1 Food	50	v80	v20	v	v30	v50		v40	190	34
2 Furniture										
3 Travel	v	v	v	v		v				
4 School Fees	v26	v				v	v100		126	22
5 Utility	v		v50	v		v			50	8
6 Clothing & Shoes	v10	v5	v						15	3
7 Medicine	v	v		v		v		v20	20	4
8 Payoff other Loans				v		10			10	2
9 Equipent	v	v		v				v		
10 Church Obligations	v	v5		v		v10			15	3
11 Give to Families for funerals, weddings, birthdays	v	v	v			v				
12 Others , Flowers, Petrol, Salaries, Entertainment etc	v	v	v30		v70			v40	140	24
13									566	100
14										
1st priority										
2nd priority										
3rd priority										

**Tables 2.Summary of Spending Priorities**

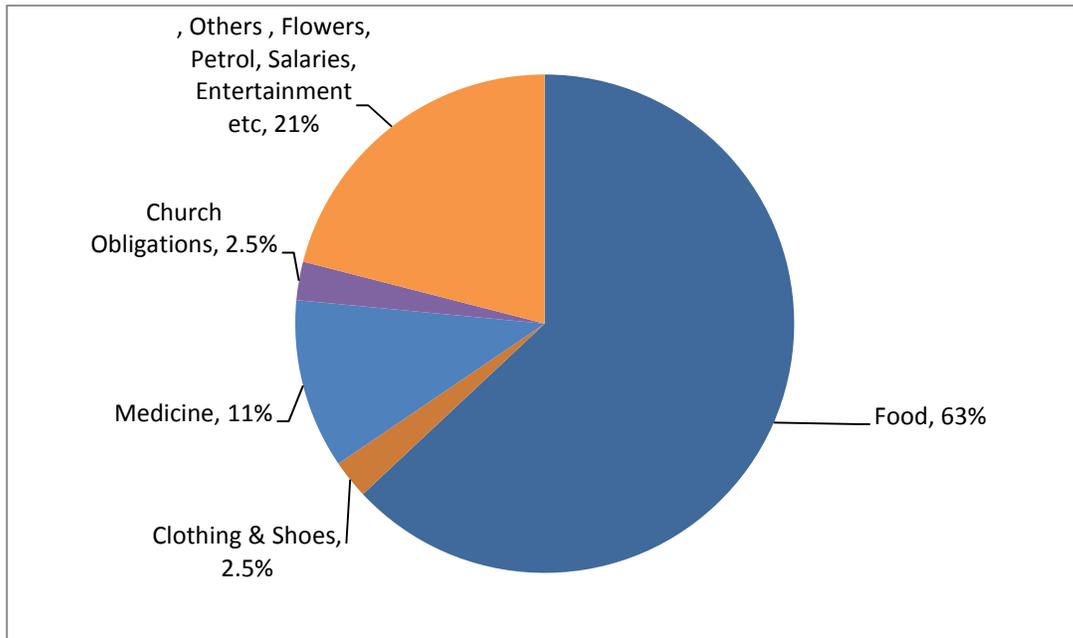


Spending of those earning less than ST\$10,000 (or US\$4,166 per annum or US\$11.45 per day) on education was very significant in this research. The average salary of a working Samoan is ST\$6,240.00 or US\$2,600 per annum.

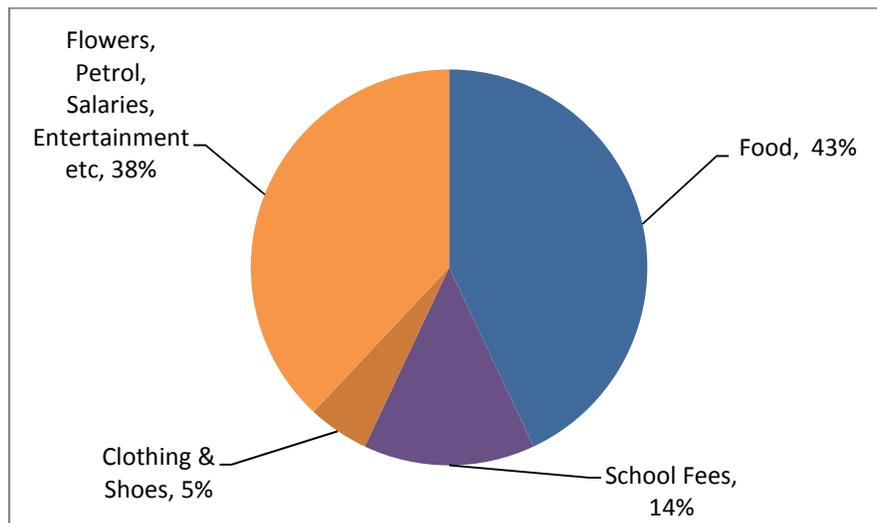
**Table 3: Salaries < 10,000tala**



**Table 4: Earnings between >10k<25k**



**Table 5: earnings of more than 50k**



***Did the CPs reach the right recipients?***

The cash made from the NPF entitlement reached those recipients who prioritized basic needs such as food, education, utility bills, medicine and others such as church obligations, entertainment and flowers.

The question is, did it reach the right recipients, the answer here is, yes it DID, because only those registered as NPF contributors received these cash payouts. However, the spending of those surveyed varied and the more payouts received, the more expendable income available to the members. The trend on spending was interesting and significant, because there was a

group of members who earn less than 10k who uses all their payouts on payments of school fees.

### ***Is CPs contributing to Social Justice?***

The success of CPs in poor countries means they have even been emulated in rich countries. No one denies these schemes deliver positive outcomes, poor women everywhere welcome the cash they entrust into their hands. But while they work through women, CPs rarely priorities women's empowerment. In these many CP programmes it sought women as beneficiaries because women are considered 'less likely to waste the money' and more likely to use the payouts to meet the needs of their children. The success of these programmes such as the NPF Cash payments put resources directly into the hands of poor women, and as a result from the research. It went directly to access food, health and education and other services needed for their families.

CPs as a form of Social protection give the recipients the right to survive. It is the right to a basic income, shelter, health, food and information, all of which enables people to survive, support their dependents and find a way out of need and destitution. The right to social protection exists for all people, regardless of age, sex or ethnicity. The existence of this right should give people a sense of security even when they are not claiming it.

CPs is the assistance in the form of cash to the poor or to those who face a probable risk, in the absence of the payout, of falling into poverty.

### ***Probable – possible or likely***

According to World Bank and ADB data, about one fourth (1/4 or 25 percentage) of the 180,000 people in Samoa survive below the national poverty line. A most recent survey revealed that we were about 27 percentage below the poverty line. So if roughly about five thousand (5,000) people are employed by government and another three thousand five hundred (3,500) by the established private sector, then only five (5) percentage of the whole population receive some kind of income.

About 35 percentage of the population are under 15, (Bureau of Statistics, 2015), we can assume that this is the population that are at school and do not earn living. About 59.4 %percentage of population are between 15 and 64 years old. This is the group that can work and earn a living.

So if only 5% out of 59.4% are earning a salary, what is the remaining 54.4% doing. Add another 5.2% percentage of population 65+, that means 59.6% of the population of Samoa, do not earn a living from paid work. We can assume that they are living on sustainable farms and relying on remittances for their upkeep. This is where we can say that CPs is one strategy we can recommend to bridge this gap.

The saying is, "Give a Man a Fish, and You Feed Him for a Day. Teach a Man To Fish, and You Feed Him for a Lifetime."

The general principle of alleviating poverty by facilitating self-sufficiency has a long history. Our problem is that we need action NOW.

### Conclusion

This review of CPs in relation to poverty and inequality suggests that payouts which are universal and unconditional have a certain appeal in terms of their inherent 'inclusiveness'. However, in practice payouts are never really universal and where they involve identifying and targeting specific groups of people they can be relatively simple to administer to clearly definable segments of the population—the elderly, widows, orphans and vulnerable children and so on. However, targeting based on social categories is likely to involve major errors of inclusion and exclusion—for example including elderly people who are not poor, or excluding prime-age adults that are poor. We saw in our research, how monies were spent by those above the 50k salary range on entertainment and flowers as compared to those of the lower salary bracket.

As mentioned earlier, it is evident from the incredible diversity in participants' responses that social justice is still an ambiguous concept. However, in spite of this ambiguity and, in some cases, contradictory representations, it has been possible to discover within this data a typology of social justice forms and associated beliefs. If it was necessary to reduce this typology to its most basic principles then, according to this research, social justice would be principally concerned with equality, tolerance, compassion, fairness and participation. As long as opportunities are available and strategies like Cash Payments are in place and remain, then the hope of these ideals will endure.

CPs in the hands of the poor populations will generate multiple positive outcomes. These outcomes will be balanced among meeting immediate needs, investing in long-term solutions to poverty, risk reduction and resilience, and social-psychological rewards. The investments integrate families into communities and strengthen both.

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## **“MY SAMOAN LANGUAGE SPEAKS TO MY MIND!” E TAUTALA MAI LE GAGANA SAMOA IA TE A’U!”**

*Fonomaaitu Tuvalu Fuimaono.*

“E tautala mai le gagana Samoa ia te a’u e faaosofia ai ou lagona, e oa ai a’u faiga filifiliga.”

Which literally translates to “My Samoan language speaks to my mind and soul and nourishes my thought-processes and decision making.”

As a Samoan born man, living in New Zealand, I find myself asking the question what is the relevance of my Samoan language to me? What is the relevance of the Samoan language to my peers and future generations of New Zealand born Samoans?

I am bilingual and can speak fluently in both English and Samoan. I believe being bilingual allows me to view the world from different perspectives, I can see the world through two different pairs of lenses.

The answer could also lie with the views of his Highness Tui Atua Tupua Tamasese Efi (Tamasese, 2016, para.14).

*“As a Samoan I am not an individual; I am an integral part of the cosmos. I share my divinity with my ancestors, the land, the seas and the skies. I am not an individual, because I share a ‘tofi’ (an inheritance) with my family, my village and my nation. I belong to my family and my family belongs to me. I belong to my village and my village belongs to me. I belong to my nation and my nation belongs to me. This is the essence of my sense of belonging.”*

This view is also supported by (Anae, 1997, p.132) where she suggests that the Samoan identity is created from experiences with your aiga, church, matai and faalupega systems, gagana Samoa and all associated values such as tautua (service), faaloalo (respect), feagaiga (sacred connection between siblings and others).

The bible also captures the importance of the connection between the language and a person’s identity, as Psalm 137: 5 & 6 states.

“If I forget you, O Jerusalem, May my right hand forget her skill. May my tongue cling to the roof of my mouth if I do not remember you, if I do not exalt Jerusalem above my chief joy?”

“Ieruselema e, afai e galo oe iā te a’u,, la galo lava i lo’u lima taumatau.la pipii a’e lo’u laulaufaiva i lo’u gutu,Pe afai ou te lē manatuaina oe,Pe afai fo’i ou te lē faasili Ieruselema.I mea uma ou te matuā fiafia i ai.”

King Solomon has highlighted the connection between culture, language and the environment of an Israelite. One could say that the connection between identity and one’s culture and language, is a personal one. As King Solomon states “If I forget you, O Jerusalem, May my right hand forget her skill.” This could be interpreted as saying that for a person to exist, one must have a connection to his/her culture, and language to identify themselves.

I can strongly identify with the words of King Solomon, Tui Atua and Anae, in that I feel a connection to my ancestors, the land and the environment. I feel a sense of belonging as I am part of a family line that stretches many generations. I am at ease in knowing I can speak my language both in everyday conversation and at formal cultural gatherings.

### **The threat of extinction of the Samoa language in New Zealand.**

According to the New Zealand 2013 census (Statistic New Zealand, 2014, para.5) the Samoan language is the third most spoken language in New Zealand. In the three main cities: Samoan language is the second highest spoken language in Auckland, third highest in Wellington and fifth most spoken language in Christchurch.

The findings from the census (Statistic New Zealand, 2014, para.6) stated 8/10 Samoans with one ethnicity spoke their language, compared with around 1/10 Samoans with three or more ethnicities. Meaning Samoans in New Zealand who have inter-married into other ethnic groups children are highly unlikely to be able to speak Samoan.

However when dissecting the Samoan population into age groups, you will find that people aged 0–24, 50% of them are able to hold an everyday conversation in Samoan. There is however a downturn based on the findings of the New Zealand census in 2013, 56% of people of Samoan ethnicity could speak Samoan (down from 64% in 2001), although only about 40% were born in Samoa. Meaning that nearly 2/3 of people identified as speaking Samoan fluently in New Zealand were born outside of Samoa.

### **What is currently been done in New Zealand to support Samoan language and the achievement of Samoan students?**

Samoan language is being taught in most schools and it has been accepted as a subject with NZQA accreditation towards an NCEA level 1, 2 and 3 secondary qualification. The polytechnics and universities also deliver Samoan language courses which is encouraging.

According to Education Counts New Zealand (Ministry of Education, 2016a, p.1) there are 89 registered Early Childhood education providers who teach Samoan language. Out of this, 54 of them are located in Auckland and 5 are located in Christchurch. They also confirm that nation wide there are 35 schools delivering curriculum in Samoan language, and out of 52 schools enrolled to teach a Pasifika language as a separate subject, 46 of them are teaching Samoan language as a separate subject (Ministry of Education, 2016a, para. 2). This work is having a positive effect on our younger generation in engaging in the language as (Statistic New Zealand, 2014) stated in the 2013 census that 60% of the people that can speak Samoan fluently in New Zealand were born outside of Samoa, meaning a huge number of New Zealand born Samoans are within that 60%.

In the case of Ara institute of Canterbury where I am currently employed. Samoan language is being taught as an introductory course at Level 1 and they also offer a Certificate in Samoan

language Level 5. This is all really good avenues to support the sustainability of the Samoan language. Although there is a strong push from the schools and tertiary institution to positively support the Samoan language; I believe the relevance and importance of the language begins at home.

Apart from educational institutions, Samoan churches are another entity leading the preservation of Samoan language in New Zealand. In Canterbury alone there are well over 20 Samoan churches who hold their church services in the Samoan language. This is supported by (Tagoilelagi 1995: 87) as she argues the importance of the role of *fa'asamoa* in the development of literacy skills of Samoan children in New Zealand, she highlights the work of the church through “matua tauloto” (bible memory verses for White Sunday) and storybook. The findings from her thesis confirms that role of the Church through the Aoga faifeau (Pastor’s school) and Aoga Aso Sa (Sunday School) plays a vital role in preserving our Samoan language in New Zealand. The Aoga faifeau is where children are taught their Samoan alphabet and how to write in Samoan. The Sunday Schools are where children are taught to recite bible verses and sing hymns in the Samoan language. This view is also supported by (Hendrikse 1995: 38) who states “The church is a centre that maintains and retains Samoan culture and language, particularly for the New Zealand born generation”. Hence the church provides an opportunity for Samoan children to experience and learn their language. I am in agreement with Tagoilelagi and Hendrikse, as I too have gone through the Sunday school system both in Samoa and New Zealand; and I believe it has indeed contributed to my fluency in Samoan language; in fact my handwriting is a product of the lessons I learnt from our faifeau (Rev. Reupena) in my village of Moata’a in the 1990’s.

As a point of interest, the churches who run Aoga Aso Sa (Sunday school) and Aoga faifeau (Pastor’s school) could be classified as traditionalist churches; these are the Congregational Christian Churches of Samoa (CCCS or EFKS Ekalesia Fa’apopotoga Kerisiano Samoa), Ekalesia Metotisi Samoa, Ekalesia Katoliko Samoa, Aso Fitu o le Toe Afio mai and a few others. However there is strong movement of Samoan young people to contemporary churches such as AOG; where Aoga Faifeau (Pastors school) are not practiced and some do not have Sunday schools. Although people’s personal beliefs are not of my concern, however this may impact the role of Samoan churches in preserving the Samoan language in the future.

### **My views of ways to support the preservation of Samoan language in New Zealand and Samoan student achievement.**

I grew up with my grandmother, the norm in our household was morning devotion that began at 5.30am in the morning. My grandmother and an aunt would sing a Samoan hymn and if you were not up by the time the prayer was finished; then you were given a physical reminder. At the time, I hated waking up in the morning; but when I became a parent; I found myself singing the same hymns to my own son to put him to sleep. These early encounters I had with the language was through my grandmother; she instilled in me the love for the language, through reciting myths and legends of ancient Samoa and biblical stories to support her views. Hence I

believe the preservation of the language, culture and fa'asamoa begins at home, if the foundation of the Samoan young person's life is the fa'asamoa, then they are more likely to practice the values derived from fa'asamoa and this will support the young person to be successful in their journey in life.

I recently attended the launch of the "Change Strategies to Enhance Pasifika Student Success at Canterbury Tertiary Institutions" in Canterbury. This was a collaborative project between the three major tertiary institutions in Canterbury, the University of Canterbury, Lincoln University and Ara Institute of Canterbury. The Fausiga o le Fale-Tele frame introduced by Luafutu-Simpson within the Change Strategies to Enhance Pasifika Student Success at Canterbury Institutions (Luafutu-Simpson, et al, 2015, p.11-13) is a framework I believe can aid us in supporting the sustainability of the Samoan language.

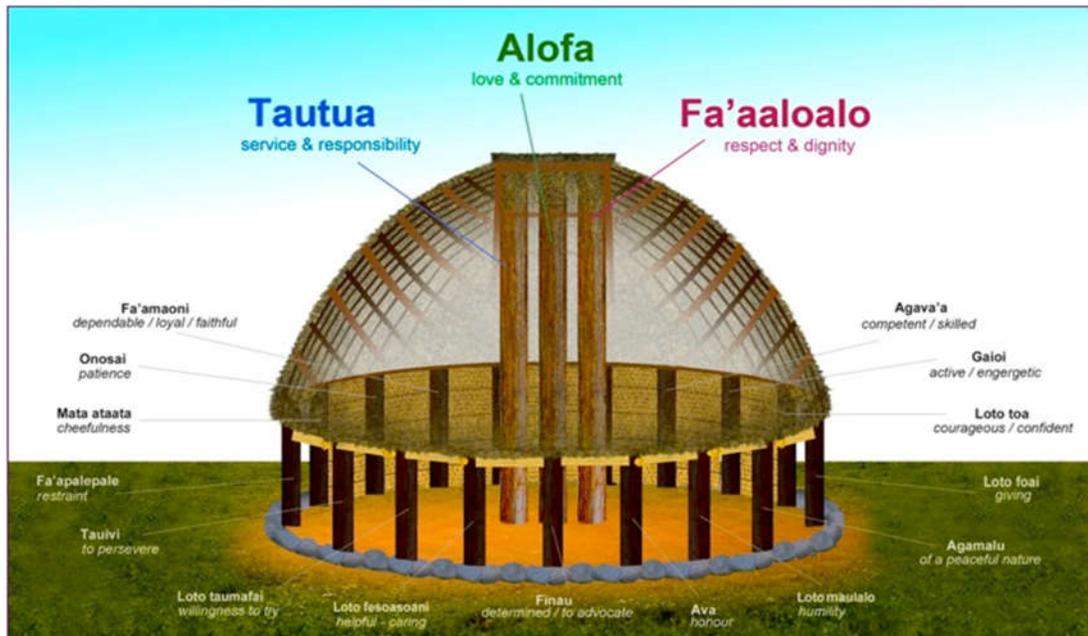
The Fausiga o le Fale-Tele framework suggests that three Poutu (central posts) of the faletele.

1. Alofa (love and commitment)
2. Tautua (service and responsibility)
3. Faaaloalo (respect and dignity)

Then there are also 15 pou lalo (supporting posts), they are:

1. Fa'amaoni (dependable/loyal/faithful)
2. Onosai (patience)
3. Mata fiafia (cheerfulness)
4. Fa'apalepale (restraint)
5. Tauivi (to persevere)
6. Loto taumafai (willingness to try)
7. Loto fesoasoani (helpful- caring)
8. Finau (determined/to advocate)
9. Ava (honour)
10. Lotomaulalo (humility)
11. Agamalu (of a peaceful nature)
12. Agava'a (competent, skilled)
13. Gaioi (active/energetic)
14. Loto toa (courageous/confident)
15. Loto foai (giving)

**Figure 1: Fausiga o le Faletete**



(Luafutu-Simpson, 2015)

The values identified by conceptual model of Fausiga o le Faletete is called aga- nu’u faasamoa. As described by (Tamasese, 2016, para.5) “Knowledge is power but it is also core to our tu ma aga (our customary values and practices), our faasinomaga (our true identities as Samoans), our aganuu and agaifanua (our custom laws and values).”

The values described by the conceptual model is the aga (practices) that are brought forth because of the fa’asamoa (Samoan way of life). The question is then asked how these values are communicated within the Samoan society. My answer is, it is through the Aiga (family) the Aiga has a role to play in teaching and preserving the culture through Samoan aga (practices). The Aiga should also be the place where the Samoan language should thrive, as the practices cannot go without the language. An example of this is from a young age I quickly learnt, with the staunch reminder from my grandmother, that if I was to walk in front of people I must show faaaloalo (respect) by lowering my back when walking in front of a person and I must say “Tulou”. Hence there is a relationship between the aga (practices) and language; they go hand in hand.

I would like to suggest two improvements to the existing Fausiga o le Faletete conceptual framework.

1. **Faava’e/Foundation (Aganu’u Fa’asamoa):** I believe in order for the poutu and pou lalo to stand strong, they need to have a solid foundation. My personal view is the foundation of a Samoan person’s life should be based on their Aganu’u Fa’asamoa because the Agan’uu Fa’asamoa brings forth the values that have been identified with the standing of the 15 supporting posts of the Faletete.

2. **Roof/ Atoga o le Fale:** I believe if the foundation is the Aganu'u Fa'asamoa then the poutu and poulalo will stand strong, however to ensure that all these values work together you need to have the support of the Aiga. Hence the Roof of the Samoan Fale is your Aiga. Just as the Tamaitai (Samoan Woman) is the feagaiga (sacred side of a Samoan family) and she is tattooed with the Malu to ignite in her the feeling that she is the malu (shading the family from the hot rays of the Sun/ or the strong winds and storms of life) for the Aiga Samoa, so is the standing of the Aiga as the roof of the conceptual framework of Fausiga o le Faletete. As the family brings together the values of the Fa'asamoa and ensures the student and future generation of young Samoan people is secure within the Faletete, which will support their achievement and future aspirations.

**The importance of seeking knowledge from our elders, how this knowledge has prepared me to be a matai.**

I was made a matai by my family last year, since becoming a matai I have been fortunate to participate and lead family events such as weddings, bestowments, land and titles court cases and recently a funeral.

In the traditional Samoa way, the honour of representing the family at a wedding, bestowments or funeral is placed with the matai of the family. Recently I experienced one of the greatest challenges in my journey as a matai.

The highest ranking matai in my family was my dear uncle (Laulusamanaia Fuimaono Ativalu), he was my maternal grandfather's brother. Before he passed away in June this year, he made his wishes known to his two living sisters and the two remaining matai's of the family, my older cousin (whom succeed one of the ali'i titles that our uncle once held) and myself. His final wishes was that my cousin (whom held the ali'i title) and I (tulafale/orator) are in charge of his funeral.

Let me just elaborate the scale of my uncle's funeral, the Head of State of Samoa his Highness Tuiatua Tupua Tamasese Efi and his masiofo, attended the funeral in Wellington because of our genealogical connection. Hence the occasion was not small in the scale of things.

One of my cousin's said to "o le mea lea na fau ai oe e le Atua!" which translates to mean "this is what God has built you for!" Although my cousin's words are hard to comprehend however I found peace in tackling this great challenge because of the knowledge passed down by my uncle; he poured out to me, all of what he knew of Samoan language and culture. He prepared me and gave me the tools, by sharing his knowledge and experiences in his journey as a matai. Through this, I was able to overcome the enormous challenge of being an orator (chief with designated speaking rights) at a high ranking chief funeral.

## Conclusion

I am going to conclude with my wishes as a Samoan parent for our children living overseas.

Recently I became a father to a wonderful baby boy, his mother is palagi with Scottish/English and German ancestry. Based on the statistics, he is highly unlikely to be able to speak Samoan. However I am determined that I will do everything possible for him not to be part of this statistic. As I want him to experience the same positive connection to the Samoan language and culture as I have. My worries for the next generation is that he might not be able to experience the sense of belonging to ancestors, the land and the environment; and have an appreciation of the Samoan language as I have.

Ativalu (Aleczander) is now attending a Samoan language preschool at my local Samoan church, as a parent must pave the way for our children to positively experience the Samoan language.

I leave with you the younger generation my wishes for our language, just as the Samoan language has enriched my life and influenced my decisions, may you also find it as nourishing in your lives as I have!

“E tautala mai le gagana Samoa ia te a’u e faaosofia ai ou lagona, e oa ai a’u faiga filifiliga.”

Mo’omo’oga mo oe le tama tane ma le tamaitai Samoa, ia asoa i lou ua lau gagana ma e me’eme’e i lau gagana e fai ma ou a’o, e te tuiga ai i le vasaloloa!

Faafetai

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## **FROM TRADITION TO CONTEMPORARY ART REBIRTH OF ARTISTIC HERITAGE IN A CHANGING PACIFIC**

*Leua Latai, National University of Samoa*

### **Curatorial Statement**

Samoa has a population of 187,000, 46% of the population are 18 years of age and 16.4% of our young people are unemployed (2011 Samoa Housing Bureau Census).

There is a need to dare to envision a new approach that combines creativity and allows for interaction between education and employment and innovation that address social issues our future generation grapple with daily. They live with daunting challenges which constitutes of persistent unemployment, climate change, resource depletion and cultural degradation. What educational strategies successfully combine economic vitality, cultural erosion, social inclusiveness and environmental sustainability?

The exhibition frames an argument that is bordered on young artists and art educators caught between tensions of being and nothingness. It is gathered around a dichotomy of self and the other.

Within the space the exhibit sets to invite a wider reading of selected works in their social context, inspired by the awareness that traditional arrangements no longer work in a fast pace world, of new technologies bombarding our shores at a rapid pace. It requires ingenuity and clever use of traditional and inventive approaches to recreate a fresh language and visual commentary on how the old and new is sustained through contemporary art.

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