IPBES-JBF Sub-regional Dialogue Workshop Report on Indigenous and Local Knowledge (ILK) for Pacific sub-region

(1-4 Nov. 2016 in Whangarei, New Zealand)

March 2017

Institute for Global Environmental Strategies (IGES)

Tokyo Office, Institute for Global Environmental Strategies (IGES)
Shinbashi SY Bldg. 4F, 1-14-2, Nishi-shinbashi, Minato-ku, Tokyo, 105-0003, Japan
TEL: +81-3-3595-1081 FAX: +81-3-3595-1084
Email: cbdjf@iges.or.jp
URL: http://www.iges.or.jp

IGES is an international research institute conducting practical and innovative research for realizing sustainable development in the Asia-Pacific region.

Cover photo credits; IGES, Te Kāpehu Whetū (left)

Editors:
Rosemary Hill, Henry Scheyvens, Tui Shortland

Editorial support:

Ikuko Matsumoto, Wataru Suzuki, Yoichi Sakurai, Tomoshi Ichikawa, Emma Fushimi

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Acknowledgements

The IPBES-JBF Sub-regional Dialogue Workshop on Indigenous and Local Knowledge (ILK) for Pacific sub-region was implemented by IGES as a part of the Capacity Building Project for the implementation of IPBES Asia-Pacific Regional Assessment of the IPBES. This project is supported by the Japan Biodiversity Fund (JBF) funded by the Ministry of the Environment of Japan (MOEJ) through the Secretariat of the Convention on Biological Diversity (SCBD). IGES would like to thank He Puna Marama Trust, New Zealand for their cooperation and support in conducting the workshop.

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1. Background, outline and programme of the workshop

1.1 Background:

In June 2016, the IPBES ILK Dialogue Workshop for Asia-Pacific Region was held in Chiang Mai, and to follow up the outcome of that workshop, the IPBES ILK Sub-regional Dialogue Workshop on Indigenous and Local Knowledge (ILK) for Pacific sub-region was planned for October. In the preparation stages, a call for submissions was conducted through the IGES website, and the organisation committee carefully evaluated all submissions to select the participants for this workshop. He Puna Marama Trust greatly supported the preparation and implementation stages of the workshop, which was successfully held in Whangarei, New Zealand from 1 to 4 November, 2016.

1.2 Objectives:

The objectives of the workshop were:

- Follow up the outcome of the IPBES ILK Dialogue Workshop for Asia-Pacific Region in Chiang Mai 2016 for the sub-regions of the Pacific;
- Convert the stories shared by ILK holders into material useful for the IPBES Asia-Pacific Regional Assessment (APRA) report, as the main objective;
- Build relationships, respect, mutual understanding and trust between and among ILK holders, ILK experts, assessment authors, and Taskforce Members;
- Enhance capacity and empowerment of ILK holders, ILK experts and assessment authors to meaningfully and effectively participate in the Regional Assessment;
- Provide support to indigenous peoples and local communities for their contributions to conservation and sustainable use of biodiversity;
- Facilitate the processes of developing a sub-regional ILK network for IPBES.

1.3 Expected outputs:

The workshop's expected outputs were:

- Discussion on the possible reflection of ILK into the APRA;

- Identification of further ILK holders and a list of ILK holders in the sub-region, and also priority ILK literatures, as necessary;
- Proceedings, discussion summary and meeting report to be referred to by authors for the APRA;
- Development of a list of ILK resources, ILK holders, hubs, nodes and focal points for possible establishment of a sub-region network, as appropriate.

1.4 Organising structure and key partners:

In order to prepare the workshop plan and implement this Sub-regional Workshop, the "Organisation Committee for the Sub-regional Dialogue Workshop on ILK for the Pacific" was formed. The members of the Organisation Committee are listed in the table below.

Organisation Committee for the Sub-regional Dialogue Workshop on ILK for the Pacific

	Affiliation	Role
Ro Hill	CSIRO, TF member	Facilitator
Tui Shortland	He Puna Marama Trust	Host and Co-facilitator
Henry Scheyvens	NRE, IGES	Co-facilitator
Yoichi Sakurai	IGES JBF Project team	Organiser
Wataru Suzuki	IPBES-TSU-AP	Support

An advisory committee for smooth planning and implementation of all the three Sub-regional Workshops in the Asia-Pacific region including this Pacific Sub-regional Workshop was formed. The members of the Advisory Committee are listed below:

Advisory Committee for the Sub-regional workshops in Asia-Pacific

	Affiliation	Role	Remarks
Madhav Karki	Co-chair and TF member	Facilitator	S & W Asia
Ro Hill	TF Member	Facilitator	Pacific
Doug Nakashima	IPBES-TSU-ILK	Advisor	
Joji Carino	Resource person	Advisor	
Thomas Koetz	Resource person	Advisor	IPBES Secretariat
Simone Schiele	Resource person	Advisor	IPBES Secretariat
Wifredo V. Alangui	TF Member	Facilitator	SE & NE Asia

Dayuan Xue	TF member	Facilitator	SE & NE Asia
Kaoru Ichikawa	TF member	Facilitator	SE & NE Asia

1.5 Workshop Programme:

1 November 2016, Tuesday:

10:30	Organisers, facilitators, TF members and authors meet at the Distinction Hotel lobby for a briefing on the days' events
11:40	Travel by van to the cultural ceremony venue
12:00	Maori welcome – powhiri
12:30	Raising of national flags
13:00	Unveiling the Hihiaua Pou
13:30	Official opening of the Pacific Indigenous and Local Knowledge Cultural Centre
14:00	Lunch
16:00	Dialogue with local ILK host organisation

2 November 2016, Wednesday

8:00	Preparatory meeting of organisers, facilitators, TF members and authors
8:30	Registration, coffee and tea, mingling
9:00	Welcome to IPBES Sub-regional workshop on Indigenous and Local Knowledge (ILK) for the Pacific sub-region by local host organisations. (Tui Shortland, He Puna Marama Trust)
9:15	People introduce themselves.
9:30	Introduction of the objective and programme of the workshop. (Yoichi Sakurai, JBF Team, IGES)
9:40	IPBES Asia-Pacific Regional Assessment (Wataru Suzuki, IPBES-TSU-AP)
10:00	The summary of the outcome of the IPBES ILK Regional Dialogue Workshop in Chiang Mai (Ro Hill, ILK-TF member)
10:20	Q&A
10:30	Morning tea/coffee
	Presentations by participants
11:00	Presentation-1 (Tui Shortland)
11:20	Q&A
11:30	Presentation-2 (Ben Ruli)

11:50	Q&A
12:00	Presentation-3 (Kalei Nu'uhiwa)
12:20	Q&A
12:30	Presentation-4 (Pernilla Malmer)
12:50	Q&A
13:00	Lunch
14:00	Presentation-5 (Ghazali Ohorella)
14:20	Q&A
14:30	Presentation-6 (Petero Qaloibau)
14:50	Q&A
15:00	Presentation-7 (Fuimaono Rosalia Me)
15:20	Q&A
15:30	Afternoon tea/coffee
16:00	Presentation-8 (Polikalepo Kefu)
16:20	Q&A
16:30	Presentation-9 (Brooke Takala Abraham)
16:50	Q&A
17:00	Wrap-up discussion
17:30	Close
	(Meeting of facilitators, authors and organisation committee)

3 November 2016, Thursday

8:30	Registration, coffee and tea, mingling
9:00	Introduction to the writing sessions and proposed outline of the meeting report
9:30	Writing session-1: Brief introduction of Chapter 1 and Chapter 2 by the authors and discussion and on how ILK and related cases can be included in the assessment report.
10:30	Morning tea/coffee
11:00	Writing session-2: Brief introduction of Chapter 3 and Chapter 4 by the authors and discussion and on how ILK and related cases can be included in the assessment report.
12:00	Discussion
12:30	Lunch
13:30	Writing session-3: Brief introduction of Chapter 5 and Chapter 6 by the authors and discussion and on how ILK and related cases can be included in the assessment report.
14:30	Wrap-up for the writing session and discussion about key messages

15:00	Afternoon tea/coffee
15:30	Ways and means of facilitating ILK in the sub-region and developing enable environment – Introduction of the summary of the questionnaire and discussion on possible structures to identify ILK holders and information relevant to IPBES process
17:00	Closing

4 November 2016, Friday (Discussion, Closing Ceremony and Reception)

9:30-11:00	Discussion about key messages
11:30-13:00	Closing Ceremony
19:00-20:30	Reception

2. Summaries and key points of cases presented by ILK holders and experts

This chapter presents the case studies submitted by the selected ILK holders and experts from Pacific countries. The case studies were further strengthened by reflection on the discussions that took place during the dialogue sessions. Key messages from each case study to IPBES-APRA were added by respective case study authors under sub-section c).

2.1 Research projects in relation to Indigenous and Local Knowledge of the Northland region of Aotearoa, New Zealand

a) Author(s), affiliation and contact

Ms. Tui Shortland
Organisation: Te Kopu, Pacific Indigenous and Local Knowledge Centre of Distinction, New Zealand
Email: t.shortland@mokonz.co.nz

b) Summary

1. Coastal Cultural Health Index for Tai Tokerau – pilot project to assist three sub-tribes to develop and test their coastal cultural health indicators for their foreshore and marine environment.

2. Research on Dead Stranded Marine Mammals – several hapu around Northland are skilled in harvesting the customary resources from dead stranded marine mammals. They have also assisted the scientific community in providing samples for necropsy, establishing the first ship strike necropsy and stomach sampling.

3. Cultural indicators and monitoring framework for Kauri forests – over several years cultural indicators of forest health and a community monitoring framework have been tested and monitored.

4. Te Kahu Kiwi o Ngati Hine has been designed to coordinate, increase and improve all of the kiwi-focussed work on all Department of Conservtion (DoC) and council lands and some multiple-owned Maori lands within Ngati Hine territories. Planning will address

inefficiencies by connecting people and recognising gaps for improved management. We intend that all kiwi within Ngati Hine territories will be protected and that new wildlife corridors will be established.

5. Cultural Impact Assessment on Renewal of Consent for Kawakawa Wastewater Treatment Plant
6. Catchment Management Plan for Taumarere Catchment
7. Cultural Impact Assessment for Opua Marina Stage 2
8. Cultural Impact Assessment for aquatic herbicide reassessment by the Environmental Protection Authority.
9. Nga Kete Tangariki - Nga Tirairaka o Ngati Hine is the mandated environmental entity for Ngati Hine. We wish to develop the local expertise of Ngati Hine people to be kaitiaki of our surrounding waterways, through planning, education, monitoring and management. We see this project as a leadership opportunity to demonstrate investment in local capacity and innovation, and a catalyst to enhance and extend the uptake of good freshwater fisheries practice through education and localised monitoring and management by whanau, for hapu, Iwi communities and local regulatory bodies. This project will further advance Ngati Hine interests in freshwater fisheries, through the protection and enhancement of freshwater species, habitat and water quantity and quality of Ngati Hine hapu.
10. Ngati Hine Wahi Tapu Inventory and assistance for other hapu

    Treaty Claim evidence including WAI262 on Intellectual Property Rights of Flora and Fauna and the Environmental report of Ngati Hine BOE.

c) Key points/messages of the case relevant to IPBES

1. Coastal Cultural Health Index for Tai Tokerau – coastal cultural health indicators for the foreshore and marine environment can be used to monitor biodiversity and ecosystems.

2. Research on Dead Stranded Marine Mammals – research on the health of marine mammals.
3. Cultural indicators and monitoring framework for Kauri forests – biosecurity research using

cultural indicators of forest health and a community monitoring framework.

4. Te Kahu Kiwi o Ngati Hine – translocation and re-population of endangered species.

5. Cultural Impact Assessment on Renewal of Consent for Kawakawa Wastewater Treatment Plant – cultural indicators of health in relation to wastewater discharges to freshwater habitats.

6. Catchment Management Plan for Taumarere Catchment – indigenous standards in biodiversity management.

7. Cultural Impact Assessment for Opua Marina Stage 2 – indigenous perspectives on eco-cultural impacts of a marina.

8. Cultural Impact Assessment for aquatic herbicide reassessment by the Environmental Protection Authority – indigenous assessment of herbicide eco-cultural impacts.

9. Nga Kete Tangariki - good freshwater fisheries management through education and localised monitoring and management by communities and local regulatory bodies.

10. Ngati Hine Wahi Tapu Inventory and assistance for other hapu – community tools including GIS that can assist IPBES monitoring and decision-making.

11. Treaty Claim evidence including WAI262 on Intellectual Property Rights of Flora and Fauna and the Environmental report of Ngati Hine BOE – historical information on biodiversity health.

d) Website or other sources of information (If a website or other existing information about the project is available, please provide the link.)

Ngati Hine website is planned to be online within next four months with updates on these projects

Research on Dead Stranded Marine Mammals –
https://www.tonmo.com/science/public/Beatson%20et%20al%202007b.pdf

Cultural indicators and monitoring framework for Kauri forests –
https://www.cbd.int/financial/micro/newzealand-kci-monitoring.pdf
https://www.cbd.int/financial/micro/newzealand-monitoring-kauri.pdf

Catchment Management Plan for Taumarere Catchment
https://www.cbd.int/financial/micro/newzealand-ko-ngati-hine.pdf

Cultural Impact Assessment for Opua Marina Stage 2
http://www.fnhl.co.nz/wp-content/uploads/documents/RC4-cultural-impact-assessment-report.pdf

Cultural Impact Assessment for aquatic herbicide reassessment by the Environmental Protection Authority
http://www.epa.govt.nz/search-databases/HSNO%20Application%20Register%20Documents/APP201365_SUBMISSION102614%20-%20Nga%20Tirairaka%20o%20Ngati%20Hine.pdf

Nga Kete Tangariki –
http://waimaori.maori.nz/documents/publications/KETE_TANGARIKI_REPORT.pdf

e) Additional Authors and Key Contributors (Please list additional author/key contributor information, if relevant. Please indicate their affiliation as well.)

f) Relevant literature, documents, videos or other recorded sources of information

1. Shortland. T, (2008). Nga Tikanga mo te Taiao o Ngati Hine: Ngati Hine Iwi Environmental Management Plan. Whangarei, New Zealand: Te Runanga o Ngati Hine
2. Shortland. T, (2013). Ko Ngati Hine Pukepukerau: Catchment Management Plan. Whangarei, New Zealand: Nga Tirairaka o Ngati Hine
3. Shortland. T, (2013). Kete Tangariki: Pilot Tuna Enhancement Project. Whangarei, New Zealand: Nga Tirairaka o Ngati Hine
4. Shortland. T, (2011). Kia Toitu He Kauri: Cultural Indicators for Kauri Ngahere. Bay of Islands, New Zealand: Repo Consultancy Ltd
5. Shortland. T, & Chetham. J, (2013) Kauri Cultural Health Indicators - Monitoring Framework. Bay of Islands, New Zealand: Repo Consultancy Ltd
6. Beatson EL, O'Shea S, Stone C, Shortland T 2007b. Notes on New Zealand mammals 6. Second report on the stomach contents of long-finned pilot whales, Globicephala melas. New Zealand Journal of Zoology 34: 359 362.

g) About the ILK described in your recommended references

Ngati Hine policies related to those topics

Ngati Hine catchment management techniques of monitoring for those related topics

Ngati Hine and other tribes of eel fishers regarding sustainable management of eels

Maori indicators for forest health in response to an alien invasive species

Maori monitoring framework for forest health in response to an alien invasive species

2.2 Gimi People's Perspective on Natural Environment, its Relation to Culture, Livelihood and Biodiversity Conservation

a) Author(s), affiliation and contact

Mr. Ben Ruli

Organisation: New Guinea Binatang Research Centre, Papua New Guinea

Email: bruli@pngibr.org

b) Summary

The natural environment including biodiversity sustains culture and influences the livelihood strategies of many indigenous societies in the tropics, including Papua New Guinea (PNG). Indigenous societies have unique ways of perceiving their natural environment, with intimate relationships and connectedness between biodiversity and culture that have great influence on their livelihoods. This has enabled them to develop better strategies of conserving the biodiversity traditionally and utilising the services provided sustainably by the ecosystem. However, most approaches to biodiversity conservation in PNG at present are based on species, ecosystem or hot spot concepts, which have very little meaning to the communities as such concepts do not fully capture the traditional and cultural values of the biodiversity as seen by indigenous communities. I investigated the Gimi peoples' perspective on their natural environment and its influence on their culture, livelihood and biodiversity conservation.

The aim of this work is to document the importance of the natural environment to the Gimi community by investigating the interrelationship they have with the environment and culture, between traditional knowledge and age and their connectedness to the environment. It also aimed to understand the indigenous peoples' views of the environment, how indigenous people link biological diversity to cultural practices and how their views, which provide a holistic approach to preserve biodiversity and culture not only in PNG but across Melanesia, can be incorporated into biodiversity conservation projects.

I demonstrated in this work that the Gimi men obtained knowledge of the natural environment through two main methods: interactions and engagements; and from the teachings of the elders of the community. I showed that the amount of environmental knowledge Gimi men have acquired is directly dependent on their age. In terms of age, higher proportions of elderly Gimi males tend to

have mastered the knowledge, values, feeling of connectedness, the legends and songs about the natural environment. The Gimi have an anthropomorphous relationship with the major taxonomic groups such as plants, mammals and birds because of the important cultural and spiritual analogies they foresee and have observed in these taxonomic groups.

PNG as well as other indigenous societies practiced the oral transmission of knowledge that has been imprinted in the minds of the people. Therefore, to achieve successful bio-cultural conservation and sustainability for the indigenous communities, it is always appropriate to document the traditional environmental and ecological knowledge. Traditional knowledge is the very foundation of the social norms and values that make the people who they are, revealing their true identity through their behaviours and the way they respond and react to different situations.

There are wider options for research in this field in PNG in the future because there are broader aspects of knowledge that have yet to be unearthed for documentation. The intricacies and potentials within the indigenous peoples seem to have been overlooked in consultations and inputs regarding the local traditional knowledge. For indigenous societies in developing countries, biodiversity is viewed as a resource of great cultural and subsistence importance, where conservation safeguards these resources for continued supply for cultural reasons and for sustainable use of resources. An alternative and successful approach to biodiversity conservation could be from the cultural perspectives of the indigenous communities who would understand and take ownership of it. The Western conservation philosophies, which tend to separate humans and nature, also deserve recognition as a pathway towards successful collaborative ecosystem management for a sustainable future.

Relevance to the IPBES regional assessment themes

The project is relevant to the IPBES regional assessment themes because it fits in well with the theme of sustainable use and conservation. It addresses the ecological, social and cultural importance and related livelihoods and other values for local communities and indigenous peoples. The project also emphasises and recommends new approaches in biodiversity conservation as traditional approaches in biodiversity conservation tend to overlook indigenous peoples for consultations and inputs regarding the local traditional knowledge. Biodiversity is viewed as a resource of great cultural and subsistence importance, which conservation safeguards for the indigenous societies in PNG and in Melanesia.

c) Key points/messages of the case relevant to IPBES

- addresses the ecological, social and cultural importance and related livelihoods and other important values
- recommends new approaches in biodiversity conservation indigenous peoples perspectives
- consultations and inputs regarding the local traditional knowledge in biodiversity conservation is needed from the indigenous peoples and

biodiversity is viewed as a resource of great cultural and subsistence importance where conservation safeguards indigenous societies

d) Website or other sources of information (If a website or other existing information about the project is available, please provide the link.)

The project is completed as an honour thesis under Papua New Guinea Institute of Biological Research's student Internship program with collaboration with the University of Goroka under Indigenous Environment and Development Studies.

Similar projects are still ongoing with;

i. https://programs.wcs.org/png
ii. www.rcfpng.org
iii. www.pngibr.org/

e) Additional Authors and Key Contributors (Please list additional author/key contributor information, if relevant. Please indicate their affiliation as well.)

ILK holders: Gimi Men – Lufa district, Eastern Highlands Province, PNG

f) Relevant literature, documents, videos or other recorded sources of information

1. West, P. (2000). *"The practices, ideologies, and consequences of conservation and development in Papua New Guinea".* (Ph. D.), Rutgers University New Brunswick.

2. West, P. (2005). "Translation, Value, and Space: Theorizing an Ethnographic and Engaged Environmental Anthropology". *American Anthropologist, 107*(04), 632–642.

3. West, P. (2006a). "Environmental Conservation and Mining: Between Experience and Expectation in the Eastern Highlands of Papua New Guinea". *The Contemporary Pacific, 18*(2), 295-323.

4. West, P. (2006b). *"Conservation is our Government now, The Politics of Ecology in Papua New*

Guinea".

g) About the ILK described in your recommended references

The ILK holders assist and contribute immensely through participating in imparting and disseminating the important Traditional Knowledge primarily for education and documentation. The information is used to develop teaching resource books for teachers in teaching cultural education.

2.3 ‘Aimalama

a) Author(s), affiliation and contact
Ms. Kalei Nu’uhiwa
Organisation: Kama’aha Educational Institute, USA (Hawaii)
Email: kalei21@yahoo.com

b) Summary
Utilizing the Kaulana Mahina (Hawaiian Moon Calendar) to empower Hawai‘i communities to prepare and adapt to the changing climate. In 2013, a partnership was formed between Kalei Nu‘uhiwa a kilo and Kaulana Mahina practitioner, Olani Lilly of the Kama‘aha Education Initiative, Malia Nobrega-Olivera of the Loli Aniau, Maka‘ala Aniau (LAMA) Climate Change, Climate Alert – Hawai‘inuiākea School of Hawaiian Knowledge – UH Mānoa and Micky Huihui also of LAMA– UH Mānoa. Each partner represented different Hawaiian communities involved with the revival of traditional Hawaiian educational pedagogies. The partners reached out into their own communities seeking out experts, practitioners and scientists to find interested individuals who might want to revive the Kaulana Mahina as an educational, resource management and climate change tool. A few preliminary meetings were held with the partners and community individuals. The decision to hold a symposium was made and the term ‘Aimalama was chosen to represent the combined Hawaiian practices of the Kaulana Mahina, kilo (environmental observation) and trend prognosticator and survival adaptation. ‘Ai generally means food, but is also a term that means to rule over, to enjoy the privileges of or to control responsibilities. The term malama generally means the moon, the light of the moon or the Hawaiian lunar months. Therefore, we collectively chose the term ‘aimalama to represent the mission of the partners and individuals who are trying to revive and enjoy the privileges of living in the season with the natural cycles of the environment, track natural occurrences around us by the lunar cycles and control the human responses to a changing climate with the intent of surviving. Another goal was to share the ‘Aimalama methodology and the findings to a global audience. The group decided that the International Union of Conservation of Nature (IUCN) World Conservation Congress, the world largest conservation event, held every four years, would be one of the ideal opportunities to share ‘he world with the world since Honolulu, Hawai‘i was selected to be the host in September 2016. An additional opportunity also includes the

upcoming United Nations Convention on Biological Diversity (CBD) thirteenth meeting of the Conference of the Parties (COP) that will be held in Cancun, Mexico in December 2016.

c) Key points/messages of the case relevant to IPBES

The 2015 ʻAimalama Lunar Conference brought together peoples of Hawaiʻi and the Pacific who are revitalizing lunar practices to share lunar methodologies with one another and build a regional community of practice.

There were two goals for this gathering:

- To empower the Pacific peoples with tools to note changes within their environments, adding solutions for survival and adaptability.

To publish a paper of our findings, highlighting the Kaulana Mahina methodologies used to identify changes occurring in the Pacific, the natural indicators of changing climate, and the adaptive measures to prepare for the change with intention. This paper will be a native peoples of the Pacific's response to climate change. It is envisioned that the paper will be published and presented at the International Union for Conservation of Nature (IUCN) World Conservation Congress, scheduled to be held in Honolulu in 2016, as well as various pertinent international meetings like the United Nations Convention on Biological Diversity (CBD), and the United Nations Framework Convention on Climate Change (UNFCCC)

d) Website or other sources of information (If a website or other existing information about the project is available, please provide the link.)

http://www.aimalama.org/resources/

e) Additional Authors and Key Contributors (Please list additional author/key contributor information, if relevant. Please indicate their affiliation as well.)

f) Relevant literature, documents, videos or other recorded sources of information

2.4 Dialogue across indigenous, local and scientific knowledge systems

a) Author(s), affiliation and contact
Ms. Pernilla Malmer
Organization: SwedBio, Sweden
Email: pernilla.malmer@su.se

b) Summary
This "ongoing dialogue across knowledge systems" involves a diverse network of indigenous peoples and local communities, and their organisations and other actors from research and policy institutions, from all over the world. The dialogue focuses on biological and cultural diversity and knowledge systems in the interface between policy, practice and science from local to global, in fora such as the Convention on Biological Diversity (CBD) and the IPBES. Bottom up approaches for revival and mobilisation of indigenous and local knowledge are identified as key to inform policy decisions and their implementation.

The "Multiple Evidence Base approach" has been developed in response to needs identified in the dialogue for methods for weaving knowledge systems, based on equity and reciprocity and with usefulness for all actors involved. In this spirit, the projects presented below are aiming at building learning platforms and intercultural dialogues to make this happen. The scope of the work is cross-scale, from local to global, including across geographical regions.

A dialogue across indigenous, local and scientific knowledge systems (2011 – ongoing) Coordinator: Pernilla Malmer.

This dialogue process emerged from collaborations between SwedBio with partners among indigenous peoples and local community organisations (e.g. International Indigenous Forum on Biodiversity[1], IIFB) and networks of experts from different knowledge systems, committed to the value of diversity and engaged in biodiversity management and its links to policy processes from local to global levels, such as the CBD. The starting point was the window of opportunity emerging from the possible inclusion of ILK in IPBES, during the years before IPBES was established (see

[1] The International Indigenous Forum on Biodiversity is the caucus for indigenous peoples and local communities and their organisations actively engaging in the CBD. See: http://iifb.indigenousportal.com/

for example the Guna Yala Dialogue from 2012 at www.dialogueseminars.net/Panama). One of the outcomes of the dialogues is the envisioning of "The Multiple Evidence Base (MEB) approach" that sees indigenous, local and scientific knowledge systems as different manifestations of valid and useful knowledge systems that generate complementary evidence for sustainable use of biodiversity. MEB emphasises the importance of equitable and transparent processes for connecting across knowledge systems, and of maintaining the integrity of each knowledge system throughout the process. If applied in, for example, ecosystem assessments, evaluation of knowledge occurs within rather than across the contributing knowledge systems.

A pilot test for the MEB approach from the ground is ongoing in collaboration with partner organisations and communities, where communities are mobilising knowledge for their own identified needs. It is a collaborative partnership between: SwedBio at SRC, Sweden; Tebtebba Foundation, and communities in Tinoc, Philippines; Pgakenyaw Association for Sustainable Development (PASD), and the community of Hin Lad Nai, Thailand; African Biodiversity Network with Institute for Cultural Ecology (ICE) and the Tharaka and Masinga communities, Kenya; MELCA, with the community of Haroberbabo in Ethiopia; and Forest Peoples Programme (FPP) with Fundación para la Promoción de Conocimiento Indígena (FPCI) and the community of Usdub in Guna Yala, Panama.

One of the objectives of the pilot test has been to develop methods, procedures and good examples for how evidence can be mobilised from ILK systems for local to global needs, and across knowledge systems, such as local and national policymaking. It also looks at processes such as the monitoring of the CBD and its Aichi Targets and the IPBES assessments, and other fora where working with synergies across knowledge systems is essential. Other objectives have been to contribute to the change in the view of governments of indigenous governance and management systems, towards respect and benefit for indigenous peoples and local communities, and to strengthen livelihoods and wellbeing within the communities based on their indigenous governance systems.

Throughout the dialogue process, we have been engaging with the IPBES process, contributing INF. documents, presenting side events, and organising meetings and workshops in collaboration with ILK holders, the International Indigenous Forum on Biodiversity and Ecosystem Services (IIF BES)[2] and dedicated practitioners and scientists, back-to-back with IPBES meetings.

[2] International Indigenous Forum on Biodiversity and Ecosystem Services (IIF BES) is the Caucus for Indigenous peoples and

B Connecting diverse knowledge systems at multiple scales for enhanced ecosystem governance - developing the Multiple Evidence Base approach (research project by Stockholm Resilience Centre) 2016 – 2018.

Coordinator: Dr. Maria Tengö.

This research project was formulated to take up the challenge that came out from the dialogue process to further develop tools and theories for creating synergies across knowledge systems in an equal, transparent, and inclusive way, for the benefit of sustainable governance of ecosystems. This includes empirically analysing the process and outcomes of scaling up ILK within IPBES and the CBD as examples of such ongoing processes. An important aim is also to create a platform for an intercultural and transdisciplinary 'community of practice' of experts representing diverse knowledge systems, for dialogues and generation of policy relevant syntheses on tools, approaches and experiences for implementing processes with Multiple Evidence Based approaches.

The main objective of my participation in the Pacific ILK workshop is sharing and learning about methods for weaving knowledge systems. In particular, this focuses on methods for mobilisation, translation, negotiation and synthesis of knowledge, as they are applied and evolve in the workshop. What our project can contribute is experiences on methods and processes from earlier dialogues, and from linking ILK in policy processes where indigenous knowledge has had an important positive influence, such as in the CBD negotiations related to customary sustainable use, and traditional knowledge, innovations and practices. I have also been involved as a practitioner from the onset in the IPBES efforts to find ways of creating synergies across knowledge systems, and can share concrete experiences from a Nordic ILK dialogue 2015 in relation to IPBES (Annex 1).

The insights from the Pacific workshop will contribute to processes where the dialogue engages, e.g. with the CBD, Food and Agriculture Organisation of the United Nations (FAO) and the Intergovernmental Panel on Climate Change (IPCC), where there are similar needs and interests to learn about bottom up approaches to engage with ILK. It will in particular contribute to the Community of Practice that are developing the Multiple Evidence Base approach as a common method and tool where ever a diversity of knowledge systems are needed for solving the critical challenges of biodiversity governance and management.

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their organizations actively engaging in the IPBES, when they gather at in particular the IPBES Plenary meetings.

c) Key points/messages of the case relevant to IPBES

- Indigenous, local and scientific knowledge systems are different manifestations of valid and useful knowledge systems which generate complementary evidence relevant for sustainable use of biodiversity.
- A Multiple Evidence Base Approach to connect across knowledge systems is based on equity, reciprocity and usefulness for all involved. It emphasises the value of letting each knowledge system speak for itself, within its own context.
- Knowledge is more than the outcome. Mobilisation and generation of knowledge and evidence is a process – creating legitimacy and credibility and usefulness for all actors.
- While bridging knowledge systems, moving from the 'integration of knowledge forms' to the 'mobilisation of knowledge actors' creates new opportunities for generating knowledge relevant for sustainable use of biodiversity.
- Communities' revival and mobilisation of their indigenous and local knowledge and practices strengthens agency, secures territory and rights, and gives authority to manage and govern.
- Interactions of ILK with science and policy can contribute to improved governance and societal decision-making. Furthermore, insights and innovation from ILK systems can strengthen the efforts of industrialised societies in transformations towards stewardship of the biosphere.
- Attention to the roles of actors, institutions and processes in the five tasks of mobilisation, translation, negotiation, synthesis and application of knowledge is a foundation for weaving knowledge systems in a useable way.

d) Website or other sources of information (If a website or other existing information about the project is available, please provide the link.)

SwedBio webpage : http://swed.bio

Stockholm Resilience Centre: http://www.stockholmresilience.org

Multiple Evidence Base approach:

http://swed.bio/stories/a-multiple-evidence-base-approach-for-equity-across-knowledge-syst

ems/
http://swed.bio/wp-content/uploads/2015/11/Connecting-Diverse-Knowledge-Systems_MEB.pdf
http://swed.bio/stories/mobilisation-and-revival-of-indigenous-and-local-knowledge-for-enhanced-ecosystem-governance/

e) Additional Authors and Key Contributors (Please list additional author/key contributor information, if relevant. Please indicate their affiliation as well.)

f) Relevant literature, documents, videos or other recorded sources of information

1. Tengö, M., Malmer, P. & (eds). 2012. Dialogue workshop on Knowledge for the 21st Century: Indigenous knowledge, traditional knowledge, science and connecting diverse knowledge systems. www.dialogueseminars.net/Panama.

2. Tengö, M., Brondizio, E. S., Elmqvist, T., Malmer, P. & Spierenburg, M. 2014. Connecting Diverse Knowledge Systems for Enhanced Ecosystem Governance: The Multiple Evidence Base Approach. Ambio http://swed.bio/wp-content/uploads/2015/11/Connecting-Diverse-Knowledge-Systems_MEB.pdf

3. Tengö, M., Hill, R., Malmer, P., Raymond, C., Spierenburg, M.,Danielsen, F., ,Elmqvist, T. 2017.. Weaving knowledge systems in IPBES, CBD and beyond –lessons learned for sustainability
https://www.researchgate.net/publication/311740292_Weaving_knowledge_systems_in_IPBES_CBD_and_beyond_-_lessons_learned_for_sustainability
https://authors.elsevier.com/sd/article/S1877343517300039

4. Tunón, H., Kvarnström, M., Malmer, P. 2015. Report from the project: Indigenous and Local Knowledge in a Scoping Study for a Nordic IPBES Assessment. CBM:s skriftserie nr 96. Swedish Biodiversity Centre, Uppsala. Available at: http://pub.epsilon.slu.se/13349/

2.5 Sustainable resource management based on Alifuru enforcement mechanisms

a) Author(s), affiliation and contact

Mr. Ghazali Ohorella
Organization: International Relations and Indigenous Right Advisor, Alifuru Council, Maluku
Email: ghazali.ohorella@gmail.com

b) Summary

The main economic activities for the indigenous peoples of Maluku include sago extraction, banana and root crop agriculture, hunting and trapping, and gathering forest products such as edible plants, rattan, and wild honey. These activities are primarily conducted for subsistence. Hunting and trapping are usually conducted in primary and mature secondary forest, far from the village. The forest area has been divided into many small forest lots on the basis of trails and natural landmarks such as rivers. The forest area in Seram is divided into over 1000 forest lots (kaitahu). Each lot has a specific name based on its topographic characteristics and belongs to a certain individual or group.

Ownership here does not mean total ownership (absolute and exclusive rights), but rather relative and nonexclusive rights. The ownership of forest land is inherited through the paternal line. Forest lots can be classified into four categories: lohuno forest, collectively owned by members of more than two soa; soa forest, owned by all members of a soa; kin-group forest, owned by several people related to each other through patrilineal kinship or other family ties; and private forest, owned by an individual. In collectively owned forest (e.g., lohuno, soa, and kin-group forest) generally, members of the ownership group take turns using the forest, with an interval of several years during which the forest is closed for hunting and trapping.

Each collectively owned forest has a custodian (maka saka), who is expected to coordinate forest use. He is also regarded as understanding the history of forest rights inheritance and transfer and is eligible to talk about the history. Others strongly avoid talking about this because it is believed that if their account is incorrect, it will arouse the anger of ancestor spirits and hasten their death.

When the number of game animals declines significantly, a temporary ban on hunting and trapping, known as seli kaitahu, is imposed to allow the numbers to recover. All traps are removed

from the forest, and a sign is set up made of wooden stakes. This is an object to which sira tana and awa (natural spirits that rise and protect cuscus), and ancestors' spirits, moyang, are drawn or summoned temporarily. Indigenous peoples believe that these spirits live in the forest and grant game animals as gifts. In terms of the forest, we invoke a sasi. Sasi is a customary resource management system, encompassing spatial and temporal prohibitions on harvesting crops, cutting wood, and gathering other products from the forest, tidal zone, or marine territory of a village.

c) Key points/messages of the case relevant to IPBES

d) Website or other sources of information (If a website or other existing information about the project is available, please provide the link.)

Projects are still ongoing.

e) Additional Authors and Key Contributors (Please list additional author/key contributor information, if relevant. Please indicate their affiliation as well.)

f) Relevant literature, documents, videos or other recorded sources of information

http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/8283/Changing%20Indigenous%20Environmental%20Law.pdf?sequence=1

http://pubs.iclarm.net/Pubs/Way%20Forward/19%20Harkes.pdf

2.6 Establishing a Sustainable Land Management Approach to Enhance and Conserve the Natewa Tunuloa Socio Economic Production Landscape (SEPL) and Community-Managed Protected Area.

a) Author(s), affiliation and contact

Mr. Petero Qaloibau
Organization: SISI Initiative Site Support Group, Fiji
Email: peteqaloibau@gmail.com

b) Summary

The project is relevant to the IPBES regional assessment theme, as its main objective is to 'protect, restore and sustainably manage' the Natewa-Tunuloa (on the northern Island of Fiji, Vanua Levu) SEPL natural assets to sustain and guarantee the perpetuation of heritage, livelihoods, resilience and opportunities for current and future communities within the landscape. The overall long-term objective of the COMDEKS Programme Landscape Strategy is to enhance socio-ecological production landscape resilience through community-based activities especially through the use of indigenous and local knowledge (ILK).

The Sisi Initiative Site Support Group (SSG in the project document and also the recipient of the grant), was established in 2005 as a voluntary community-based group that has agreed to oversee environmental activities in the area. In 2009, the group was formalised and given the name Sisi Initiative with a specific goal to conserve and sustainably manage the forests for the benefit of landowning communities and for the wider population of Fiji. It established a community-managed protected forest and was seeking mid to long-term development projects to help sustain its conservation initiative.

The overall objective of the project is to provide support to maintain the agricultural biodiversity and productivity within the landscape through reviving traditional crop varieties and establishment of demonstration or model farms. Activities included establishment of trial plots to propagate all crop varieties that are traditionally known in the Natewa Tunuloa peninsula. The project aims at reviving traditional farming methods. The SSG in consultation with the communities put together a strategy to ensure that small projects and enterprises are established to ensure livelihoods for themselves, since they have put aside their forest for protection.

Several experiences have indicated that participation in forest restoration happens only after the resolution of conflicts over land use. People want to maintain and restore their local environment, as it is vital to their daily life. By empowering the villagers and focusing on the communities' local knowledge and need, they are valuable partners in assessing, planning and managing their resources. This process generates mutual trust and partnership, which allows the villager's capabilities to extend further from forest restoration to wildlife conservation to other resource management.

The villages around the Important Bird Area (IBA) derive their income mainly from agriculture (taro, kava and copra) and use the forests for firewood, wild foods, hunting, traditional medicines and timber for their homes. In addition, the Natewa Tunuloa watershed is the source of drinking water for some villages. However, unsustainable resource use has led to forest resources slowly being depleted, and agriculture is also encroaching into the forest as there are very limited areas of flat land on the peninsula not converted into mahogany plantations. In addition, bordering the IBA is mostly degraded forest that has been logged heavily in recent years. Poorly planned and implemented logging has degraded or destroyed a large proportion of the lowland forest, threatening its endemic (bird) species with extinction.

The Sisi Initiative SSG was established so a community-based group made up of landowners could take proactive action to combat this problem (see news story Natewa community-based protected area in the Fijian press). Although the area is not yet legally recognised, it is being recommended by the National Protected Area Forum as a high priority area that is in need of formal recognition through Protected Area legislation. The Sisi Initiative SSG is responsible for supporting these communities in order to enhance the conservation status of the forests as well as to provide mechanisms to support and enhance their livelihoods.

This COMDEKS project through its baseline assessment has again reconfirmed the threats to the ecosystem; therefore, the SSG hopes to revitalise the socio-ecological and production stance of the landscape. In doing so, the SSG have developed in the short-term and are not only manageable but aligned to the COMDEKS strategy. The primary objective of the project is to provide support to maintain the agricultural biodiversity and productivity within the landscape through sustainable land use practices and approaches. This objective will be measured directly by:

i. Area of agricultural land brought under sustainable land use management regimes;

ii. Number of community farmers actively taking up and practicing sustainable land use

management and demonstrating productivity;

iii. Number of communities establishing viable seed banks for enhancing crop diversification;

iv. Number of community farmers actively reviving sustainable traditional farming methods and retention of traditional breeds of local crops.

Projects such as this are crucial for 'young' conservation initiatives, such as the Sisi Initiatives, as it is not developing a lease or income foregone compensation model for a community managed area, but is developing a true partnership with resource owners where communities themselves can support sustainable livelihoods and agricultural development alongside protected area management.

Project Coordinator: Mr Petero Qaloibau

Project Dates: May 2014- December 2016

c) Key points/messages of the case relevant to IPBES

d) Website or other sources of information (If a website or other existing information about the project is available, please provide the link.)

1. GEF SGPCOMDEKS Project FIJI
2. Sisi Initiative Site Support Group, Fiji
3. Equator Initiative Prize winners, 2012
4. Natewa community-based protected area

e) Additional Authors and Key Contributors (Please list additional author/key contributor information, if relevant. Please indicate their affiliation as well.)

1. Mrs Miliana Ravuso, Senior Project Officer, Birdlife International Pacific Secretariat-Suva, Fiji. (Technical Advisor)
2. Mrs Katarina Atalifo, GEF-SGP Regional Coordinator, Suva-Fiji. (Technical Advisor)

f) Relevant literature, documents, videos or other recorded sources of information

2.7 Women in Business Development Fine Mat Programme

a) Author(s), affiliation and contact

Ms. Fuimaono Rosalia Me
Organisation: Woman in Business Development Inc., Samoa
Email: finemat@womaninbusiness.ws

b) Summary

Project Co-ordinators: WIBDI Executive Director Adimaimalaga Tafunai, Cultural Protocol Specialist, Fuimaono Rosa Me

Dates: 1997-ongoing

Theme: sustainable use & conservation

Brief organisation summary: Founded in 1991, Women in Business Development Inc. (WIBDI) is considered a pioneering organisation in certified organic agriculture in Samoa and in the region. Organic farming as a set of principles and practices for ecologically sustainable agriculture are much aligned with traditional farming approaches already existent in Samoa

In 1997, WIBDI started working with weavers to revive the tradition of creating Samoan fine mats, the ie sae. Prior to the commencement of WIBDI's ie Samoa programme, the fine mats being produced in Samoa were of poor quality.

The traditional process of making a mat is complex, physically demanding, and time-consuming. It takes a skilled weaver up to six months to produce a single mat of standard size (approximately 230 cm x 210 cm). The outcome of this process however is extraordinary – the ie sae is very durable and gains in quality over time. When kept for many years, the fine mats resemble a piece of fabric almost the quality of fine silk. Its softness is produced by treating and finely cutting (in strips of one to three millimeters) only the leaves from a particular species of pandanus tree (lauie).

The knowledge of how to produce fine mats is traditionally passed on from mothers to their daughters, but towards the end of the last century this practice gradually declined and the quality of the fine mats significantly deteriorated. The traditional preparation of the pandanus leaves

nearly ceased completely. As a result, fine mats became rare. Only coarsely-woven hard mats and mass-produced hard mats were to be found on the Samoan market.

To revive the production of fine mats, WIBDI identified a master weaver from Manono Island, Vilealava Vaepae, to share her knowledge and experience about the production of fine mats. This weaver provided training to a new generation of weavers all over rural Samoa. Some of these women are WIBDI trainers today.

In Samoa, carrying out training workshops successfully requires a good understanding of the local political structure. Each Samoan village runs a women's committee, whose members report to the high village chiefs. The reunion of the village chiefs is the final decision-making body at the village level. WIBDI staff generally approach the women's committees to discuss the need of a workshop in their villages.

The training sessions then take place in existing weaving houses (falelalaga). If one does not already exist, WIBDI might encourage a village to set up such a work-space.

For those women who decided on weaving as their income-generating activity, WIBDI developed payment plans - the "sponsorship scheme" - to provide the weavers with a steady stream of income during the approximately six month weaving process. Under these schemes, buyers slowly pay off the total sum of up to SAT$ 7,000 for a fine mat while it is woven. The payments are made fortnightly to the weaver if a sufficient amount of the mat is woven and to the required standard, and a small portion of the payment is paid to WIBDI to cover the operational costs of village workshops and visits.

The income of a weaver is nearly equal to the national monthly average wage (see above).

WIBDI has also worked to increase the demand for fine mats through online marketing through its revamped website and social media activities.

The organisation realised that providing opportunities for women to earn an income can lead to changes within traditional family constellations, which might stop women being economically active. One solution was to allow for flexible working hours during the weaving period to permit weavers to also fulfil their roles as mothers and wives. Furthermore, the organisation started to include the husbands of weavers in the training programme to raise their awareness for the importance of the fine mats, and the need to plant and maintain the pandanus tree (a traditional men's task). In role-sharing, men also took on household duties. This way, the weaving livelihood

became a family business.

Additionally, WIBDI runs financial literacy and time management courses for women and men in the wider community.

The process of revitalising a traditional cultural item initiated by WIBDI gained the support of the Samoan Government in 2002, when the Fine Mat Steering Committee, chaired by the Prime Minister and co-ordinated by the Ministry of Women, Community and Social Development, was set up. The Government also banned the use of the lower quality mats during festivities (fa'alavelave) and set up an annual ie Samoa National Display.

Now the Government through its Fine Mat Steering Committee conducts quarterly surveys of fine mat weavers to ensure the standard is being upheld. The Committee regards WIBDI weavers as some of the best weavers in the country.

Internationally, the fine mat programme was singled out by UNESCO as exemplary and WIBDI presented its fine mat story at the UNESCO World Forum on Culture and Cultural Industries in Italy in 2014. UNESCO has described the WIBDI programme as follows: "This example of best practice aligns with UNESCO's approach to the safeguarding of Intangible Cultural Heritage (e.g. the skill of weaving a mat) as expressed in UNESCO's 2003 "Convention for the Safeguarding of the Intangible Cultural Heritage" and the 2005 "Convention on the Protection and Promotion of the Diversity of Cultural Expressions". The fine mat programme demonstrates how culture serves as an enabler and driver of sustainable development of communities, and women's empowerment."

c) Key points/messages of the case relevant to IPBES

d) Website or other sources of information (If a website or other existing information about the project is available, please provide the link.)

www.womeninbusiness.ws,

http://www.pacificfarmers.com/wp-content/uploads/2014/06/Growing-for-Market-in-SI.pdf

e) Additional Authors and Key Contributors (Please list additional author/key contributor information, if relevant. Please indicate their affiliation as well.)

1. Ta'iala o Faiva Alofilima mo Tina ma Tama'ita'i (MWCSD, 2000)

   The Ministry of Women Community and Social Development is our key stakeholder in the Government Ministry working in partnership with Women in Business Development Inc. with the extension of this project in the community, as they have representatives from villages that comply to the government's requests whenever the Fine Mat committee wishes to visit, as mentioned above.

2. Faavagagaina Faiva Alofilima o Tama'ita'i Samoa (2008) (These two publications are in Samoan language. I wrote this book to document the effort and the initiative of our organisation, WIBDI, in conducting the research in reviving our indigenous knowledge that was almost lost 18 years ago, and to provide a teaching tool for young women.)

f) Relevant literature, documents, videos or other recorded sources of information

g) About the ILK described in your recommended references

Pandanus is an agricultural crop that is mainly used by women in Samoa. Its continued cultivation of all varieties is important for the Samoan community because it provides the raw material for the fine mats and also the domestic mats used for sitting, sleeping, drying of foods such as cacao beans and other uses. It is also the main source of income for many rural women. However, it is a crop that is not taken into account during times of natural disasters and extreme climatic events such as droughts and floods, which are increasing in frequency and duration. As such, the conservation and sustainable use of pandanus for families need to be included in national agricultural and conservation plans. In some areas of Samoa, some varieties of pandanus are no longer found.

2.8 Bio Diversity and Eco System

a) Author(s), affiliation and contact

Mr. Polikalepo Kefu
Organization: Tonga Red Cross Society, Tonga
Email: kalepo149@gmail.com

b) Summary

The Kingdom of Tonga is a small South Pacific nation comprising 171 islands, of which about 37 are inhabited. There are five main groups of islands; Tongatapu, Ha'apai, Vava'u,Eua and Niuas. The Tonga group of islands consist of both volcanic and coral islands. The islands spread out between latitude 16:S to 24:S, and longitude 176:W to174.5:W. The total land area is only about 700 square kilometers but the territorial waters cover about 700,000 square kilometers.

Concern about global biodiversity loss has emerged as a prominent and widespread public issue. Current critical environmental concerns in Tonga have arisen due to both natural and anthropogenic pressures such as deforestation, damage to coral reefs and the introduction and spread of invasive alien species, climate change and natural disasters.

Tonga supports a wide diversity of flora and fauna. Its flora includes 419 fern and angiosperm species. Tonga is also home to 20 species of terrestrial and sea birds, two of which are endemic to Tonga and Near Threatened (NT), namely the Tongan whistler (*Pachycephala jacquinoti*) and the Polynesian Megapode. More than 100,000 sooty terns (*Sterna fuscata*) and according to the latest survey conducted in Late and Fonualei Islands in September 2013, Polynesian Megapode continue to survive in good numbers on Fonualei but were not located on Late. About forty Polynesian megapode birds were seen at each of two sites on the forested slopes above camp and the forested gully in the north of the island. Several chicks were seen at the first site and one active nesting burrow located. The volcanic islands of Late and Tofua have some of the best remaining high diversity native forest and still support large populations of birds and reptiles.

c) Key points/messages of the case relevant to IPBES

d) Website or other sources of information (If a website or other existing information about the project is available, please provide the link.)

https://www.cbd.int/doc/world/to/to-nr-05-en.pdf

e) Additional Authors and Key Contributors (Please list additional author/key contributor information, if relevant. Please indicate their affiliation as well.)

Contributors:

1. Dr. Viliami Manu, MAFFF; Dr. Viliami Kami, MAFFF; Mr. Taniela Hoponoa, MAFFF.
2. Mr. Poasi Fale Ngaluafe, MAFFF; Ms. Atelaite Lupe Matoto, MLECCNR.
3. Ms. Lu'isa Malolo, MLECCNR; Ms. Mafile'o Masi, MLECCNR; Mr. Siosiua Latu, MLECCNR.
4. Mr. 'Atelea Kautoke, MLECCNR; Ms. 'Ana Fekau, MLECCNR; Ms. Eileen Fonua, MLECCNR.
5. Ms. Pelenatita Kara, civil society.

Editors:

Mr. 'Asipeli Palaki, Ms. 'Atelaite Lupe Matoto, Ms. Eileen Fonua, Ms. Pelenatita Kara

NBSAP Project Management Unit:

Ms. Eileen Fonua Project Coordinator, Mr. Vivieni Sika Assistant Administration Officer

f) Relevant literature, documents, videos or other recorded sources of information

g) About the ILK described in your recommended references

To educate members of the public in addition to experts, considered an educational tool because it requires consultation with the affected community, and this could be an educational experience for all. The review considers the application of environmental impact assessment (EIA) to development projects as an achievement to Tonga and useful contribution to preserving biodiversity.

2.9 Ejab maron ERUB: Recentering traditional Marshallese Knowledge Systems (MKS) [Doctoral thesis in-progress]

a) Author(s), affiliation and contact

Ms. Brooke Takala Abraham
Organisation: Elimondik, Marshall Islands
Email: btakala@gmail.com

b) Summary

• Ejab maron ERUB: Recentering traditional Marshallese Knowledge Systems (MKS) [Doctoral thesis in-progress]

- My doctoral study in Education for Sustainable Development focuses on the re-centering of Marchallese Knowledge Systems (MKS), and democratisation of the research process. This collaborative study with the Enewetak community – a community that continues to feel the devastating effects of nuclear testing – aims to document Marshallese epistemology through indigenous methodology for the purpose of healing, empowerment, praxis, and policy influence. ERUB refers to Enewetak, Rongelap, Utrik, Bikini – the four atolls recognised by the United States as affected by the 67 bomb tests conducted in the Marshall Islands.

• Joint NGO statement to UN Special Rapporteur on Human Rights and the Environment [in-progress]

- Statement in coordination with Iju in Eañ (Rongelap women's NGO) and Elimoñdik (Enewetak NGO, which I co-coordinate with my husband), focused on biodiversity, health, and human rights. The current issue now is the nuclear legacy and continued militarism of indigenous lands, and how to address these issues in a democratic manner through an indigenous lens.

• Multi-island assessment of resiliency factors during drought [in-progress]

- Assessment was conducted by Marshall Islands Women's Research Initiative (a local NGO where I sit as director) for Women United Together Marshall Islands (WUTMI) and the International Organization for Migration (IOM). Adelma Louis, Remus Peter

and I conducted Fieldwork on 14 outer islands using indigenous methodology to learn more about life experiences during our current drought, and localised resiliency factors that communities draw upon during times of disaster.

- Environmental disaster & resilience: The Marshall Islands experience (Johnson, B.J & Abraham, B.T, in Cultural Survival Quarterly, October 2016)
    - Dr. Barbara Rose Johnston is a Senior Research Fellow at the Center for Political Ecology in California. She was the lead anthropologist for the Rongelap people in their case against the United States at the Nuclear Claims Tribunal, which resulted in a USD1 billion dollar award that has yet to be paid. In this article we look at environmental disaster and hardships directly resulting from the nuclear testing program, and resiliency factors (i.e. MKS and disruptive factors thereof) and self-determination (including sustainable fisheries development and remediation)
- Long-term sustainability through place-based small-scale economies: Approaches from historical ecology (Habu, J., Johnson, B.R., Abraham, B.T., for Japan Research Institute for Humanities and Nature)
    - Dr. Junko Habu, project leader, is a professor at the Japan Research Institute for Humanities and Nature (RIHN). Dr. Johnston and I completed this research as a component of Dr. Habu's investigation of "place-based, small scale and diversified economies for the long-term sustainability of human societies." Our fieldwork, conducted in the Republic of the Marshall Islands (RMI), engaged various sectors including governmental and non-governmental organizations, community members, and traditional leaders to address the nuclear legacy impacts on biodiversity, health, human rights, and sustainable development.
- Focused assessment of community needs during iien idiñ (2016, March, for International Organisation for Migration)
    - This pilot project under Marshall Islands Women's Research Initiative for IOM explored menstrual health management (MHM) during times of disaster. MIWRI designed the research, developed research tools, and engaged indigenous methodology to explore MHM in disaster situations.
- Joint NGO shadow report (Universal Periodic Review) to UN High Commission on Human

Rights

http://www.centerforpoliticalecology.org/nuclear-ecologies-human-rights-marshall-islands-civil-society-statements/

https://www.culturalsurvival.org/sites/default/files/media/upr_statement_by_cpe_-_united_states-1.pdf

- Collaboration between Elimoñdik, Iju in Eañ (Rongelap women's NGO) and ERUB (nuclear elders NGO) to submit the first ever civil society shadow report from the RMI regarding the nuclear legacy. Submitted testimony on human rights violations and gave recommendations to both the US and RMI governments to address environmental degradation, ongoing health issues, and indigenous rights.

c) Key points/messages of the case relevant to IPBES

The nuclear cycle poses an immense threat to the biodiversity of the Pacific region. US nuclear testing in the Republic of the Marshall Islands (RMI), while the islands were held in colonial 'trust' by the United States, has left the Small Island State (SIS) with lasting scars to the culture, the ocean, the lands, and the people. Radioactivity from 67 nuclear and thermonuclear bomb tests blanketed the RMI. These radioactive isotopes, along with the continuous leaking of radioactive waste from Cactus Dome on Enewetak Atoll, pose serious risk to communities through uptake pathways including food sources, water sources, and essential livelihoods such as medicines and other traditions.

d) Website or other sources of information (If a website or other existing information about the project is available, please provide the link.)

http://www.chikyu.ac.jp/rihn_e/project/R-09.html -- Small-scale economies
http://www.centerforpoliticalecology.org/nuclear-ecologies-human-rights-marshall-islands-civil-society-statements/ -- UPR Statements

e) Additional Authors and Key Contributors (Please list additional author/key contributor information, if relevant. Please indicate their affiliation as well.)

1. Ejab maron ERUB: Recentering traditional Marshallese Knowledge Systems (MKS) [Doctoral thesis in-progress]

- In collaboration with the Enewetak community, endorsed by Enjebi and Enewetak traditional leadership

2. Joint NGO statement to UN Special Rapporteur on Human Rights and the Environment [in-progress]

- In coordination with Rongelap women, members of Enewetak community, Enjebi traditional leadership

3. Multi-island assessment of resiliency factors during drought [in-progress]

- Adelma Louis and Remus Peter of Marshall Islands Women's Research Initiative
- Community members from Aur, Maloelap, Wotje, Ailuk, Likiep, Utrik, Kwajalein, Jabat, Arno, Mejit, Wotho, Ujae, and Lae
- Women United Together Marshall Islands (WUTMI)

4. Environmental disaster & resilience: The Marshall Islands experience in *Cultural Survival Quarterly*

- Dr. Barbara Rose Johnston, Center for Political Ecology

5. Long-term sustainability through place-based small-scale economies: Approaches from historical ecology

- Dr. Junko Habu, UC Berkeley and Japan Research Institute for Humanities and Nature
- Dr. Barbara Rose Johnston, Center for Political Ecology

6. Focused assessment of community needs during iien idiñ (2016, March, for International Organization for Migration)

- Adelma Louis, Remus Peter, Nikita Gideon, Loreena Maie of Marshall Islands Women's Research Initiative

7. Joint NGO shadow report (Universal Periodic Review) to UN High Commission on Human Rights

- Iju in Eañ (Rongelap women) and Elimoñdik (Enewetak/Enjebi)
- ERUB (nuclear elders)
- Center for Political Ecology

f) Relevant literature, documents, videos or other recorded sources of information

A separate file will be submitted with an extensive list of documents underpinning the above projects.

g) About the ILK described in your recommended references

As most of my work centers on human rights and environmental violations within indigenous communities affected by the nuclear cycle and militarism, the documents that I draw upon involve Canadian First Nations, US Native American Nations, and various Pacific Nations. There is a

literature gap in the Northern Pacific – a gap that we are trying to fill through the MIWRI.

These documents are relevant to assess as many indigenous communities face similar legacies of degradation due to colonisation. These references include indigenous research methodology, epistemology, and ontology; resiliency factors; legal precedents related to environmental and human rights violations (undeniably connected); and sustainable programmes for remediation and rehabilitation of poisoned lands, along with sustainable land use.

3. **Summary of discussion**

This chapter summarises the discussions during the dialogue workshop under five sections: (1) cultural ceremony; (2) dialogue with selected ILK holders and experts; (3) chapter-wise writing session; (4) discussion about key messages; and (5) discussions about the concept of establishing an ILK network for Pacific sub-region. The discussion on the second section (ILK case studies) was informed by the case studies submitted by the selected ILK holders and experts as presented in chapter 2. The discussion under the fifth section referred to the note from IGES presented in Chapter 4.

1 November 2016

3.1 Cultural ceremony

The Leadership Academy of A Company and Te Kopu, Pacific Indigenous and Local Knowledge Centre of Distinction

Around 300 students, elders, local people and government officials, including a Member of Parliament, the Mayor of Whangarei District Council and Council members, participated and performed in the cultural ceremony. The ceremony, powhiri, started with a welcoming dance and song, followed by speeches and songs in Maori by elders, youth, the Member of Parliament and the Mayor and Vice Mayor.

In their response, the workshop organisers also made speeches and sang songs. Ms. Tui Shortland from He Puna Marama Trust explained that workshop participants were here to learn from one another. She also stated that this trust created harmony in the Asia Pacific region. Mr. Wataru Suzuki from IPBES-TSU-AP expressed in his speech how impressed he was with the welcome ceremony. He explained that the workshop was for learning from indigenous and local knowledge held by indigenous communities and other experts. He also explained that IPBES is working on incorporating indigenous and local knowledge into its regional assessment report. Mr. Ghazali Ohorella, one of the workshop participants, spontaneously expressed his heartfelt appreciation for the warm welcome and how he was moved by the way in which the local community ensured that knowledge was shared with the younger generation and beyond. He emphasised that we need to work together to strengthen indigenous knowledge and our network.

After the speech, thirteen flags from Australia, the People's Republic of China, Cook Islands, Fiji, Hawaii, Japan, Maluku islands, PNG, Philippines, Marshall Islands, Samoa and Tonga representing participants of the workshop were raised in the meeting room. Following a visit to the newly unveiled carved pole and Te Kopu Centre, the cultural ceremony was closed.

2 November 2016

3.2 Dialogue with Selected ILK Holders and Experts in the Pacific sub-region

- Welcome to IPBES Sub-regional workshop

The meeting began with a Maori traditional ceremony. It was explained that Maori believe that the gods have given three baskets of knowledge to us. A local leader prayed for a fruitful meeting for the workshop participants.

- Self-introductions

(Please see the participant list in Annex 1.)

- Introduction of the background and objective of the workshop

Mr. Yoichi Sakurai, the project leader for the JBF-IPBES Capacity Building Project, introduced the participants to the backgrounds, objectives and outline of the entire project, as well as the programme for the sub-regional ILK Dialogue Workshop for Pacific. Dr. Ro Hill mentioned that we needed to take some time for evaluation of the workshop at the end of the workshop. (See Annex 2 for further detailed of the presentation)

- IPBES Asia-Pacific Regional Assessment

Mr. Wataru Suzuki, the head of the Technical Support Unit for the IPBES Asia Pacific Regional Assessment, provided information on IPBES, the process for the production of the IPBES Assessment Report, as well as the outline and schedule of the IPBES Regional Assessment for Asia and the Pacific. He also introduced an outline of the meeting report from this workshop. (See Annex 2 for further detailed of the presentation)

Discussion:

Dr. Randolph Thaman mentioned that there were overlaps on description about ecosystem services in both Chapters 3 and 5, and that it was necessary to discuss how to avoid duplication across the different chapters. Ms. Haripriya Gundimeda clarified that Chapter 5 only briefly mentions ecosystem services. Coordinating Lead Authors of Chapter 3 suggested the following, questions to local knowledge holders could be clarified in this workshop, such as (1) what are the main criteria for assessment of biocultural diversity? (2) what are the standard protocols to assess ILK? (3) what are the measures of biocultural diversity and have such measures been used across the Asia-Pacific region (APR) uniformly? (4) which countries in the APR have achieved the Aichi Targets pertaining to traditional knowledge (TK) and ILK and how? (if was felt that this question is particularly relevant to project future trends for the APR), and (5) what are the enabling policies and practices that encourage conservation of biocultural diversity that can be replicated in the APR? Based on these questions, Dr. Rong Dai said that she tried to find a way to quantify the ILK contribution as much as possible to provide evidence to chapter 3. Then, Dr. Randolph Thaman raised the question

of whether ILK needs to be quantified. She said that the potential contribution of Indigenous knowledge to contemporary ecosystem science and management is irrefutable. But how will the value of the potential contribution of indigenous knowledge be measured? Therefore, quantification research of the ILK contribution offers a more convincing explanation for the question. In the chapter 3, the ILK contribution was hard to quantify, but we would like to do our best to try it by using quantified criteria.

- The summary of the outcome of the IPBES ILK Regional Dialogue Workshop in Chiang Mai

Dr. Ro Hill, ILK-TF member, introduced the summary of the outcome of the IPBES ILK Regional Dialogue Workshop in Chiang Mai, June 2016, including goals of the piloting process of a face-to-face dialogue. She mentioned that some people believed it is good to have a face-to-face meeting to collect more information, and some people believed it is better to document ILK knowledge and exchange information through documents. Thus, authors tried to collect information through two different ways. Ten case studies from China, India, Nepal, Iran, Laos, Philippines, New Zealand and Papua New Guinea have been provided. She introduced the nature of IPBES assessment reports using the example of the pollination assessment. In the assessment report, there is a section Summary for Policy Makers (SPM), which provides key messages to policy makers. (See Annex 2 for further detailed of the presentation)

Discussion:

Mr. Petero Qaloibau asked whether there was any opportunity for local communities to receive funding to collect information. Dr. Ro Hill responded that there is no funding available at this point in time. Dr. Saiful Karim stated that some information and case studies could be presented in a box in the chapters. Dr. Ro Hill responded that she could not decide on this issue only by herself and needed consultation with other authors.

- Presentation 1: Ms. Tui Shortland – Aotearoa, New Zealand

Presentation:

Ms. Tui Shortland explained land ownership during colonisation and the present. She described the current landscape in the Ngati Hine Lands. She introduced the coastal cultural health index, used to collect data with the communities. She also explained how Maori use dead stranded marine mammals for their livelihoods, despite such harvesting being illegal. She also explained how they used the Tane Mahuta - Ngahere (forests) and that the forests were monitored by students. Her people believe that there is a god of water and have a series of ceremonies related to water. They have organised water monitoring with young people and this has included the monitoring of eels. She also explained examples of traditional knowledge indicators methodologies, for example, using cultural indicators of health and the traditional lunar calendar. To protect the data, they established an access policy for traditional knowledge. She introduced some of the monitoring and action outcomes, which included school programmes, capacity building, cultural impact assessments and others. (See “2 Summaries and key points of presented cases” and Annex 2 for further details of the presentation)

Discussion:

Dr. Judith Fisher said that in Chapter 2 they looked for more information from the Pacific. Dr. Ryo Kohsaka mentioned that it was interesting to talk about the culture related to eels because we did not know much about their living ecosystem, and need to have more scientific knowledge of the eel ecosystem. Ms. Tui Shortland replied that they were collecting some information on spawning areas and that they have observed that the ideal habitat for eel is swampland. Dr. Randolph Thaman mentioned that fresh water eels were threatened and that their migration pathway was still not clear yet. He explained that such information would be very useful for the assessment report.

Mr. Petero Qaloibau asked whether they have any traditional medicine. Ms. Tui Shortland answered that elders held knowledge of traditional medicine and that they used many medicinal plants. Ms. Joji Carino mentioned that some information was only passed on orally and that she really appreciated cultural indicators for communities. She mentioned that it was good to share these indicators with other indigenous communities.

Dr. Ro Hill asked how we could put together this information, and whether we could create a database from this information. She also mentioned that it was much easier to use biobliographic data-bases rather than spreadsheets to share information and she would like to discuss how to store the information. Ms. Tui Shortland said that they were discussing how to store and share these data as well.

Ms. Haripriya Gundimeda mentioned that some traditional knowledge was discussed in Chapter 5. She asked Ms. Tui Shortland whether she had obtained some information about the presence of too many animals or insects in one particular season, meaning something in their traditional knowledge. Ms. Tui Shortland answered that there were positive and negative indicators related to the number of animals or insects for some specific reasons, and they could share that information with authors.

Dr. Saiful Saifu Karim asked about the relationship between customary practice and the western system, and how to integrate the information. Ms. Tui Shortland responded that they could publish elders' knowledge as a part of traditional knowledge. Dr. Henry Scheyvens asked how Maori people understood wellbeing and connection of ecosystem services in their culture, and how we could put their traditional knowledge into the assessment report. Ms. Tui Shortland said that they adapted four different kinds of wellbeing and that they did not document wellbeing they received from the ecosystem. Receiving wellbeing from the ecosystem is quite natural for them. Dr. Randolph Thaman mentioned that we could not measure traditional knowledge, but we needed to transfer knowledge, which was difficult to describe. Ms. Tui Shortland responded that in their school, they were considering what knowledge they would provide at what age.

- Presentation 2: Mr. Ben Ruli – Papua New Guinea

Presentation

Mr. Ben Ruli introduced Gimi people's perspective on the natural environment, its relation to culture, livelihood and biodiversity conservation. He provided an overview of the Gimi peoples in Eastern Highlands Province of PNG, the problems they were facing, research methods, and the result of the research. A key finding of the research was that Gimi men obtained knowledge of the natural

environment through two main methods: 1) interactions and engagements; and 2) teaching of the elders of the community. The knowledge, value and feeling of connectedness to the natural environment that influence the way of life of the Gimi people increases with age. Every legend and myth explains their connectedness to their natural environment. Knowledge on the environment is passed from one generation to the next. The bamboo flute legend is one of their legends. The amount of detail in the telling of the bamboo flute legend increases noticeably with age. As a conclusion, Mr. Ben Ruli mentioned that Gimi have a very strong relationship with the environment and are intimately connected to the environment. They connect to nature through strong relationships and interactions through songs, legends and names. He recommended (1) integration of both cultural and ecological knowledge at policy level that could have influence at national, provincial and local levels, (2) capacity building for more documentation on the ecology, biology and anthropological fields, and (3) incorporation of traditional ecological knowledge into natural resource management systems. (See "2 Summaries and key points of presented cases" and Annex 2 for further detailed of the presentation)

Discussion:

Dr. Ro Hill asked about some slides mentioning that legends were important, and others indicating legends were not important. She wondered why there was different information in the same research. Mr. Ben Ruli answered that some local people answered the questions without fully understanding those questions and that the teachings of the elders of the community included legends. Dr. Saiful Karim asked why the target of the study was only men. Mr. Ben Ruli responded that the study targeted men because most legends are sacred and only men know this sacred information. Women are not involved in legend-telling due to the sacredness of the legend. Dr. Henry Scheyvens asked about rights regarding cultural practices. Dr. Saiful Karim also questioned whether this traditional information was part of customary law, and about ownership of oral practices. Mr. Ben Ruli answered that some knowledge held by the people is not shared with government or others.

Dr. Rong Dai mentioned that there is a description of status and knowledge of indigenous peoples in Chapter 3. She asked whether Mr. Ben Ruli's research was a long term study for data collection, as she tried to figure out the trend of traditional knowledge. Mr. Ben Ruli responded that the research was short-term, running for a period of two years.

- Presentation 3: Ms. Pernilla Malmer – SwedBio at Stockholm Resilience Centre, Stockholm University

Presentation:

Ms. Pernilla Malmer presented on an ongoing dialogue across indigenous, local and scientific knowledge systems and their research on how to ensure contributions of indigenous and local knowledge systems on their (indigenous peoples) own terms, with the integrity of each knowledge system maintained in assessments, policy and decision-making through a multiple evidence base (MEB) approach. They applied a dialogue method, which created additional value and enhanced mutual understanding across indigenous, local and scientific knowledge systems. She introduced an example from the Solomon Islands on a community-based monitoring and information system. The dialogue across indigenous, local and scientific knowledge systems has been evolving since the

Guna Yala dialogue workshop, which contributed to the IPBES process to recognise and respect ILK. The Guna Yala dialogue workshop was held right before the Panama meeting that established IPBES in April 2012. They have on-going transdisciplinary research that is piloting the further application of MEB in collaboration with partners among indigenous peoples and local communities. They are also developing a framework for weaving knowledge systems that pays particular attention to the roles of actors, institutions and processes in the five tasks of mobilisation, translation, negotiation, synthesis and application, as the foundation for weaving knowledge systems in a useable way. (See "2 Summaries and key points of presented cases" and Annex 2 for further detailed of the presentation)

Discussion:

Dr. Ro Hill asked about the framework for weaving knowledge systems. She stated that we normally start a dialogue process at the beginning, and asked how we could keep engagement with ILK knowledge holders throughout the IPBES assessment report process, up to producing a summary for policymakers. She stated that we needed to come back to this topic at the end of the workshop.

Mr. Wu Ning asked if there was any case study for the MBE approach. Ms. Pernilla Malmer responded that they were still in a process of compiling research. She mentioned that the conclusion so far is that there is a need to put more emphasis on mobilisation of the knowledge in communities, before connecting across knowledge systems. They have developed cases of knowledge mobilisation together with piloting communities. For example, the Karen community in Thailand has practiced shifting cultivation for a long time and they have developed their own community research, based on their Karen knowledge system, showing evidence that their local knowledge was contributing to biodiversity conservation. Mr. Wu Ning asked what key challenges they were facing to implement the MEB approach. Ms. Malmer responded that it took time to create processes of generating knowledge through the MEB approach and that this was a major challenge. She explained that is also the general case for creating a solid base for understanding when knowledge systems are striving to meet based on mutual understanding and respect.

- Lunch time presentation by Dr. Rondolph Thaman - Fiji

Dr. Rondolph Thaman introduced his experience of building synergies between indigenous and local knowledge and modern science as a basis for the conservation of marine biodiversity in the Pacific islands using a case study of Vanua Navakavu, Fiji. People on Vanua Navakavu do not separate the ocean and land. In general, women know more about small fish and men know more about large fish. One of the key outcomes of the research was a taxonomic assessment of changes in marine biodiversity over the past 50 years in Vanua Navakavu, based on testimonies and the knowledge of older male and female fishers. (See "2 Summaries and key points of presented cases" for further detailed of the presentation)

- Presentation 4: Ms. Kalei Nu'uhiwa - Hawaii

Presentation:

Ms. Kalei Nu'uhiwa introduced their twenty-year project to transfer local knowledge on the lunar calendar to the young generation. Many young people do not know their cultural practices as their everyday life does not have a connection with nature. Ms. Kalei Nu'uhiwa explained that people are starting to forget knowledge related to nature, for example, when the mango and apple seasons are, as these products are now sent from all over the globe. She started with producing newsletters introducing what she found regarding cultural practices on the lunar calendar and how important it was to manage natural resources. Ms. Kalei Nu'uhiwa developed a programme so that young people were able to observe lunar calendar practices on the ground. She collaborated with a salt farmer who produced salt in the natural way used by previous generations. Sea level rise meant that the salt farmer could no longer harvest salt, and she became interested in the lunar calendar project. Ms. Kalei Nu'uhiwa approached the US government to start a traditional knowledge project regarding the lunar calendar with local knowledge holders. She compiled outputs of the project as a report and submitted this to IUCN in 2016 <"Kaulana Mahina 2017" on Dropbox>. She also produced lunar calendar tools to empower local people to take actions for change. (See "2 Summaries and key points of presented cases" and Annex 2 for further detailed of the presentation)

Discussion:

Dr. Rondolph Thaman stated that we needed to add provision of salt and sand as ecosystem services in the assessment report. Dr. Ro Hill asked how we could transfer local knowledge to the next generation. Ms. Kalei Nu'uhiwa answered that many of the older generation still hold traditional knowledge, and their challenge was how to transfer their knowledge to the younger generation. Dr. Ro. Hill asked whether elders documented some local knowledge. Ms. Kalei Nu'uhiwa answered that there was not much of such documentation taking place in Hawaii, so they tried to promote documentation and restore local knowledge and languages with this project.

Ms. Joji Carino mentioned that they used the seasonal and ecological calendar not only for one year, but also for multiple years. She also said there is a linkage to the next generation, and that the rate of knowledge loss depends on the loss of languages. She stated that it would be worthwhile exploring this issue further. Dr. Rondolph Thaman stated that in Fiji they also have a seasonal calendar. He mentioned that some ecosystems are in the lunar calendar and that some are in the seasonal calendar, such as fish migration, and that we need to keep this in mind. Ms. Nu'uhiwa explained that in Hawaii, conservation practices are in the lunar calendar, because nature follows the lunar calendar. In Hawaii, it is illegal to fish for some local communities, and fish migration is related to the lunar calendar. Dr. Ro Hill explained that there are seasonal calendars in Australia as well, and that a way could be found to fit lunar and seasonal calendar into the assessment report. Dr. Judith Fisher stated that it would be good to find a link between lunar and seasonal calendars. Dr. Ro Hill responded that we need to discuss this further.

Ms. Haripriya Gundimeda asked whether indigenous peoples in Hawaii recognise climate change. Ms. Kalei Nu'uhiwa answered that they do, but that the climate keeps changing, with the recent changes being more extreme than in the past, as can be seen, for example, when looking at bird migration.

- Presentation 5: Mr. Ghazali Ohorella – Maluku Islands

Presentation

Mr. Ghazali Ohorella introduced the Sasi traditional resource management practice in Maluku Islands, which consists of 999 islands, and is also known as the “spice islands”. He presented the history of Sasi, explaining that the imprint of history remains even after the colonisation of the islands. Sasi is part of indigenous law. It is an encompassing body of meaningful relations between people, the natural environment, spirits and ancestors, and includes prohibition rules related to the natural resources in the Maluku Sea, rivers, forests and villages. Sasi includes seasonal prohibition of fishing in the ocean. Local traditional authorities have found a decline in some species of fish and are worried about sanctions from the god of nature. Information about Sasi can be found in books written by one Sasi chief, Eliza Kissya <http://www.iwgia.org/iwgia_files_publications_files/0666_Indigenous_Knoledge_and_Customary_La_in_Natural_Resource_Management.pdf>. Communities practicing Sasi also prohibited mining companies from operating on one island. The governance body, Saniri Alifu, has registered an increase of Sasi institutions. For the future of Sasi in the protection of their environment, local people try to incorporate traditional practices into local ceremonies. (See “2 Summaries and key points of presented cases” and Annex 2 for further detailed of the presentation)

Discussion:

Dr. Henry Scheyvens asked how Sasi worked to prohibit mining companies, how this indigenous initiative engaged with government, and if there was any role for government in maintaining Sasi. Mr. Ghazali Ohorella answered that the mining company tried to operate on a small island to mine gold. In response, all the villagers called for Sasi and almost the whole archipelago supported Sasi. Therefore, the mining company was forced to respect the wishes of the indigenous peoples and had to give up its operation on the island. Regarding the role of government, he said that government needed to respect indigenous peoples’ rule and the principle of free prior informed consent.

Dr. Ro Hill mentioned that in Australia uranium mining was approved but governments to place in an excluded zone surrounded byone world heritage protected area, but opposition from the indigenous traditional owners eventually led to the company withdrawing. The company has stated that they will not proceed without prior informed consent of the traditional owners. She stated that the way indigenous peoples regulated the activities of the company was a really important example for the governance section of Chapter 6. Dr. Rondolph Thaman stated that this is a great example and that governance at the local level is critically important. He emphasised that IPBES needs to recognise local natural resource management systems.

Dr. Judith Fisher asked whether the government recognised Sasi. Mr. Ghazali Ohorella answered that government respected Sasi. Ms. Joji Carino explained that in the Chiang Mai sub-regional workshop in October 2016, there was a case study introducing customary law that had conflicted with national law. She explained that she was wondering what might happen if government recognised customary law and tried to develop a new regulation to take over customary law. Ms. Joji Carino stated that how we deal with customary law and national law is a critical issue, and good practices should be properly recognised.

- Presentation 6: Mr. Petero Qaloibau - Fiji

Presentation:

Mr. Petero Qaloibau introduced a Sisi initiative in Fiji regarding revitalisation, restoration and rehabilitation programmes, and presented a video on local knowledge of and economic benefits from natural resources in Fiji. The Sisi initiative established a community protected area in the Natewa-Tunuloa Penisula, Vanua Levu, Fiji. Deforestation caused by excessive logging was one of the threats to local communities and they promoted alternative livelihoods utilising natural resources supported by Birdlife International Fiji. With a specific goal to conserve and sustainably manage the forest, they promoted the benefits to landowning communities and the wider population of Fiji. Deforestation leads to soil erosion and threatens water security. A sustainable land use approach and practices were promoted continuously by local communities supported by the government and NGOs. They succeeded in revitalising traditional farming practises including harvesting watercress and taros through collaborating with traditional knowledge holders. Rehabilitation of the coastal area through replanting mangrove was also promoted. To create alternative livelihoods utilising cultural knowledge they promoted bee-keeping and eco-tourism projects. (See "2 Summaries and key points of presented cases" and Annex 2 for further detailed of the presentation)

Discussion:

Dr. Ryo Kohsaka asked about the agreement with the logging concession in the area. Mr. Petero Qaloibau answered that under the current concession, the local logging company had almost 80 years of concession and the last logging took place in 2012.

Dr. Saiful Karim stated that it seemed the community signed the concession in Fiji, but in some countries only the government signed the concession agreement. Mr. Petero Qaloibau answered that the concession was with the government, with free prior informed consent (FPIC) from the local communities. Dr. Saiful Karim mentioned that in some countries, governments can grant concessions without consent of the local communities. Mr. Petero Qaloibau said that in the past, concessions in Fiji were signed by the chief of the communities, but the current chief supported local conservation.

Dr. Ryo Kohsaka asked who had agreed to the current concession agreement of the logging. Mr. Petero Qaloibau answered that the local office together with land owners signed the concession. Community members know more about impacts of logging and recently it is not only the chief who signs the concession, but others in the local communities. Ms. Joji Carino asked whether they promoted other livelihoods in order to stop deforestation. Mr. Petero Qaloibau answered that they promoted alternative livelihoods and also restoration of the forest. Dr. Henry Scheyvens said that it seemed the situation is similar to that of PNG. For large concessions, the government is required to secure FPIC before logging takes place. FPIC processes fail when either governance is lacking at higher levels or within the communities. Ms. Pernilla Malmer stated that people in the Solomon Islands also hold the rights to resources. However, logging companies can easily secure concessions from the government and they go to the communities and try to divide them, which makes the processes very difficult for the communities and makes them even more vulnerable. Community members sometimes bring cases to court, but is difficult to get support for running such processes.

- Presentation 7: Ms. Fuimaono Rosalia Me - Samoa

Presentation:

Ms. Fuimaono Rosalia Me showed a video to introduce one programme of Women in Business Development in Samoa http://www.womeninbusiness.ws/ that aims to empower women through the making of fine mats using traditional knowledge and methods. Her organisation also provides training on organic farming aligned with local knowledge, including for the production of coconut oil, coffee and the material for the mats. The traditional way of making mats is time consuming, but the quality is extremely high and comparable to that of silk. Traditional mat making has recently been declining; thus, Women in Business Development in Samoa are trying to transfer knowledge on fine mat making to the younger generation. They also promote the production of pandanus tree leaf for mats, which is a task allocated to men. This fine mat making initiative is recognised as a UNESCO cultural heritage. (See "2 Summaries and key points of presented cases" and Annex 2 for further detailed of the presentation)

Discussion:

Dr. Saiful Karim asked whether fine mats were produced in other Pacific Islands Countries. Ms. Fuimaono Rosalia Me answered that they used a particularly species of pandanus tree, and only people with access to such trees would be able to make fine mat. Men are responsible for growing this species of pandanus. Ms. Brooke A. Takala Abraham mentioned that in the Marshall Islands, there were many examples of mat making. She believed that this revitalisation of knowledge should be shared with others and should be accessible to others.

- Presentation 8: Mr. Polikalepo Kefu - Tonga

Presentation:

Mr. Polikalepo Kefu introduced climate change adaptation practices based on local knowledge regarding risk reduction in Tonga. There is a lot of different local knowledge about risk reduction related to signs from the leaves of trees, fish, flowers, bees, fruits, coconuts, and birds, etc. This shows us how people can learn from nature regarding signs of disasters. Some of this local knowledge is documented. Major threats to Tonga's biodiversity include: habitat loss, habitat degradation, overexploitation of biological resources, types of fishing methods, pollution, urbanisation, tropical cyclones and tsunami, lack of awareness and education, and disease. Special management areas designated by government are protected from activities such as fishing. There is a project to transfer knowledge to the younger generation, including mat making and planting medicinal plants. (See "2 Summaries and key points of presented cases" and Annex 2 for further detailed of the presentation)

Discussion:

Dr. Judith Fisher asked whether there was any existing publication on the presented knowledge. Mr. Polikalepo Kefu answered that they have published documentation on medicinal plants. Ms. Haripriya Gundimeda asked about the organic farming practice in Tonga. Mr. Polikalepo Kefu

answered there were organic farming practices, but it was difficult to motivate local people to practice organic farming. Dr. Ro Hill asked about a project to prepare for disaster management and build cyclone-proof housing. Mr. Polikalepo Kefu answered that there was a project to build cyclone-proof housing with better wood and screw systems. Dr. Ro Hill asked how traditional house building methods were disaster-proof. Mr. Polikalepo Kefu answered that the recent projects were technology intensive and that electricity was needed to charge the battery that powers the siren for this system. He said that they needed to find an alternative local system.

Dr. Rondolph Thaman mentioned that in 1971 Tonga was the only Pacific island country to produce a kale crop called Ipica, which is a resilient plant and very nutritious. He asked what kind of plants they use to prevent disaster, and stated that they needed to plant appropriate trees to prevent damage from cyclones and other disasters. He added that this was the case in the Marshall Islands.

- Presentation- : Ms. Brooke A. Takala Abraham – Marshall Islands

Presentation:

Ms. Brooke A. Takala Abraham introduced their local knowledge on the Marshall Islands. The Marshall Islands are known as a location for nuclear tests. The damage from these poses a massive challenge. All of the islands are affected by the nuclear bomb testing. The activities she has been involved in recently include reporting to the UN Special Rapporteur on Human Rights and the Environment. The report describes biodiversity legislation, good practices, challenges and obstacles, rights of the vulnerable, and protection of defenders working on biodiversity and conservation in the Marshall Islands. The Marshall Islands Women's Research Initiative (MIWRI) had a pilot project on women's research initiative, menstrual health management during disasters, and indigenous research methodology, and also conducted a drought assessment review to see how people are adapting to changes in their environment. The Research Institute for Humanities and Nature, the Center for Political Ecology and MIWRI conducted research about historical ecology, including the nuclear legacy on biodiversity, health, human rights and sustainable development. This study explored the lasting effects of the US nuclear testing program on the Enewetak people, and the whole of the Marshall Islands (https://www.culturalsurvival.org/author/barbara-rose-johnston-and-brooke-takala). This MIWRI also conducted research on environmental disasters and resilience for cultural survival regarding anthropogenic disaster from the US nuclear testing and continued militarisation highlights the obligations not met by the United States with regard to reparations, health, food security, and continuing environmental contamination at Enewetak Atoll. Elimondik. MIWRI also prepared the Universal Periodic Review, a shadow report about human rights violations related to the nuclear legacy of the Runit Dome (Enewetak Atoll), indigenous rights and health issues linked to environmental pollutants. (See "2 Summaries and key points of presented cases" and Annex 2 for further detailed of the presentation)

Discussion:

Dr Saiful Karim mentioned that food safety were issues in some countries related to nuclear testing and soil contamination. Dr. Ro Hill stated that biodiversity and people's habitat changed with nuclear testing. In Australia, many indigenous peoples' land was contaminated by nuclear waste. Dr. Rondolph Thaman mentioned that they were planning to write about nuclear contamination as one of

the biggest impacts on our biodiversity and ecosystem services at the beginning of the report, including on the example of Fukushima in Japan, Christmas Islands, Marshall Islands and others. He stated that we also needed to consider including nuclear issues in Chapter 4 on impact drivers. So far, there was no technical solution for high-level radioactive contamination, Dr. Ro Hill stated.

Dr. Saiful Karim said that he was planning to write about locally important issues, even though they were politically sensitive. However, he also stated, we had to be careful how to put this information in the assessment report. Dr. Henry Scheyvens was wondering whether there was any way to write about "nasty" things done on indigenous peoples' land in the assessment report, such as nuclear testing and dumping hazardous waste. Ms. Carino mentioned that we could raise issues on mining and other industrial activities as causes of destruction of the environment. Dr. Randolph Thaman offered to send other authors the book "Pacific: Ocean of the Future" by Simon Winchester that was used as one of the references in Chapter 1. Dr. Judith Fisher said that it was good to clarify the messages to policymakers in the assessment report. Dr. Randolph Thaman mentioned that we could not separate biodiversity and people. Dr. Ro Hill stated that in the Asia Pacific assessment report, we could mention about the impacts from nuclear waste. Mr. Wataru Suzuki described local peoples' fishing monitoring in Fukushima, Japan. He said that some outputs of the local monitoring were that fish living in the bottom of the ocean were more contaminated, and small fish were less contaminated by nuclear waste. Mr. Wataru Suzuki mentioned that this kind of local monitoring methodology could be applied to the Marshall Islands as well. Dr. Ro Hill replied that this information on fish monitoring in Fukushima was very interesting information that could be incorporated into the assessment report. Dr. Henry Scheyvens mentioned that local knowledge holders could discuss these issues further with authors.

3 November, 2016

3.3 Writing Session

The day started with a traditional ceremony. A Maori elder prayed and sang a song to set the stage for a fruitful meeting. Dr. Randolph Thaman expressed his gratitude and responded to the elder's message by singing a song. He mentioned that indigenous and local knowledge is a foundation of biodiversity conservation. Local knowledge holders and experts would be able to share what is in the public domain.

The writing session was broken down into short sessions, which started with presentations by a chapter author, or someone on behalf of the chapter authors, on the key messages and outline of the chapter. Authors also explained what kind of inputs they would like to receive for their chapters from local knowledge holders and experts in order to fill gaps. The session was followed by an open discussion with the workshop participants looking at how the ILK case studies presented at the workshop could contribute to each chapter.

- Chapter 1: Setting the scene

Presentation

Dr. Ryo Kohsaka, Chapter 1 coordinating lead author (CLA), presented draft key messages and the outline of Chapter 1. He highlighted the characteristics of the Asia and Pacific region (APR) in terms

of demographic changes, as well as the proposed added value for the IPBES assessment in synergising information from various sources and packaging them to make real policy impacts. He then explained the IPBES assessment report drafting process in which the authors were required to fill information gaps in response to the comments from reviewers. For example, the external review on Chapter 1 first order draft recommended to include a specific sub-section on the current status and use of ILK in the APR and how it could contribute to enriching the academic knowledge base. To respond to this comment, Chapter 1 critically needs literature produced by ILK holders and experts, including ILK on non-timber forest products (NTFPs) and the interactions between different knowledge systems. From external reviewers, they received comments on the importance of the incorporation of the different knowledge system into the report.

Key messages that Dr. Randolph Thaman emphasised for the Pacific were: (1) the APR is the largest and most biogeographically diverse of the four IPBES regions; (2) APR biodiversity and ecosystem services' (BES) inheritances range from the richest terrestrial, freshwater and marine "biodiversity hot spots" on Earth to some of the poorest, most impoverished atoll and small island "biodiversity cold spots"; (3) the APR is economically and culturally the most diverse region having the highest proportion of indigenous people (70-80%); (4) BES and associated ILK in the APR are seriously and increasingly threatened, degraded, fragmented and vulnerable; (5) the APR assessment is an integrated, inclusive policy relevant and inter-regionally and intra-regionally comparable assessment; (6) the APR assessment is responding to the expressed needs of an assessment by IPBES member countries; and (7) the APR assessment embraces the three types of ecological services – provisioning, regulating, and cultural services.

- Chapter 2: Nature's benefits to people and quality of life

Presentation

Dr. Judith Fisher explained that in this chapter there were many spaces to add ILK. She explained key messages, contents and sub-headings of the chapter. Indigenous values can fit into 2.2 Living in harmony with nature and value systems, where the impact of colonisation and land use changes can also be discussed. In section 2.3, it is possible to add material benefits, provisioning services and non-material benefits, as well as cultural services. More on social relations and cultural identity can be added to section 2.4. Section 2.5 is a section to discuss institutional drivers of changes on nature's benefits to people. Dr. Judith Fisher explained that fish migration could be mentioned in this chapter. She stated that colonisation and post-colonisation for indigenous communities also needs to be mentioned in this chapter.

Dr. Randolph Thaman noted that there was a section to write about drivers in Chapter 4 on benefits of ecosystem services.

- Discussion of Chapter 1 and 2

Ms. Brooke A. Takala Abraham mentioned that it was important to include the perspective of a mother taking care of her children and their future in the assessment report. The first two presentations did not mention women. In the introduction and community relations, it is important to

mention the role of women. Gender is mentioned in the sustainable development goals (SDGs) and needs attention in the assessment report. Dr. Judith Fisher explained that the value section talked about women. Ms. Joji Carino mentioned that within indigenous knowledge systems there was specific knowledge held by women. She stated that we need to understand the conceptual framework of IPBES, and that in the report it was important to explain how indigenous knowledge contributed to the IPBES conceptual framework. Dr. Saiful Karim stated that even for the authors it was not very easy to understand this framework. Dr. Randolph Thaman said that in Chapter 1 we need to include how ILK contributed to the IPBES conceptual framework.

Mr. Ben Ruli said that it would be good to mention the economic value of trees and other plants in PNG in Chapter 2. People can receive economic benefits from ecosystems. Economic valuation is useful for the local community too. Mr. Ben Ruli stated that people need to fully understand the value of rivers and forests, instead of having mining operations or logging. Dr. Saiful Karim said this should be part of the EIA system. Dr. Ro Hill mentioned that this could also be a cultural impact assessment or some other assessment. Dr. Randolph Thaman said it was important to put a value on ecosystem services, such as plants, animals and cultural sites.

Mr. Petero Qaloibau asked how we could incorporate community capacity to take care of people with disabilities who were pushed out of the social structure and have them included, as well as the role of women in the report. He emphasised that people with disabilities need to be included in the community.

Ms. Joji Carino felt uncomfortable to put our discussion into particular language right away. Now we are trying to find a word for deep cultural meaning into one language. We need to have more conversation with local knowledge holders rather than finding the perfect language for our conversation. Dr. Judith Fisher said that we could sit down and find out languages with local knowledge holders later. Dr. Ro Hill also suggested that people could write cards about their statement after the workshop. Dr. Henry Scheyvens explained that with any writing during this workshop, we are only trying to report what local knowledge holders have said. We recognise that this is not a drafting process.

Dr. Ro Hill explained the IPBES conceptual framework to the workshop participants. She mentioned that following the IPBES conceptual framework Chapter 1 is about the overall framework, Chapter 2 is about good quality of life and nature's benefits to people, Chapter 3 is about status of biodiversity and ecosystem services, Chapter 4 is about drivers of change, Chapter 5 is on scenario and modelling, and Chapter 6 is about governance, .

- Chapter 3: Status, Trends and Future Dynamics of Biodiversity and Ecosystems Underpinning Nature's Benefits to People

Presentation

Dr. Rong Dai, a Lead Author of Chapter 3, introduced Chapter 3 as follows. There are mainly two parts in her presentation, includes the review from the two workshops in Chiang Mai on Chapter 3, and her expectation for the Chapter from this workshop. Some key issues from the Chiang Mai workshop in June 2016 include: (1) suggestions on the structure of the sub-section on biocultural diversity; (2) integration of case studies in the chapter; (3) measurement of biocultural diversity including traditional knowledge indicators and other indicators; (4) organisation of the case studies;

(5) terminology issues for ecosystem services; and (6) feedback from authors. And she would like to discuss on these key issues at this workshop as follows. (1)What would constitute a “good” case study/ story in Chapter 3? (2)What case study /story would be needed in order to effectively incorporate ILK into chapter 3? (3)Which case study will be presented under which section under Chapter3? (4)Writing template of case study/ story box in Chapter 3? (5) The evidence and confidence of data resource on case study/ story?

- Chapter 4: Direct and indirect drivers of change in the context of different perspectives on quality of life

Presentation

Mr. Wu Ning explained the drivers they identified in Chapter 4. Direct drivers include resource overexploitation, pollution, land use/land cover change, climate change and variability, urbanisation and infrastructure development, and invasive alien species. Indirect drivers include demography, economy, science/technology, policies, governance and socio-cultural institutions. He also explained about the contents of the Chapter. He highlighted the relevance of ILK in Chapter 4 to changes in land use and land cover, resource overexploitation, socio-cultural drivers, forest and woodlands, and agro-ecosystem. He explained that the coverage of ILK for these drivers depended on whether the authors could find evidence. ILK holders/experts are expected to provide detailed evidence, data, or written records that would constitute a “good” case study so that ILK could be effectively incorporated into chapters. Mr. Wu Ning suggested that a few boxes could be used to illustrate these “stories”.

- Discussion about ILK’s discussion process

Ms. Kalei Nu’uhiwa expressed concerns about being asked to say something in a forum that was very western and was not conducive to the way we expressed ourselves. She said that we could have a basis to exchange information yesterday after the presentations. But she felt the way that they were being asked now was similar to the scientists’ way of coming to us and saying “tell us about this”. When Mr. Ben Ruli was talking, that exchange was a classic example of how ILK holders were backed up in a corner. She stated if that is the way this whole process is going to be, we’re not going to get ILK. She did not know how to remedy the process to have a productive exchange. Ms. Kalei Nu’uhiwa also said that it was probably a good idea to have an Oceanic or Pacific author. Ms. Tui Shortland supported what had been said, and stated that we are here to design and address these challenges in a respectful way for the knowledge experts here. She mentioned that they had all experienced the extractive industry that science was. She said that she would like to get to know the authors more from their hearts and spirits and where they had come from as people. She stated that it was about building trust and understanding that we were committed as they were. She suggested to spend a little time talking about process and welcomed Pacific indigenous people to come forward and give their opinions as well.

Ms. Brooke A. Takala Abraham said that she was researcher, but her children were also indigenous and she was in an odd space when she did research sometimes as an insider and sometimes as an outsider. She looked forward to indigenous methodology that allowed a space to be created when we were talking about methodology and the status of biodiversity for evidence based research. She

continued that it had to be negotiated in an indigenous way. For example, her university went to an island with huge wooden crates and took things without permission; even a little grain of sand is part of her children. She is doing her best to make good research following protocols, which have to be with informed consent. When she shares the connections that she sees her children having with the land, when you say nature's benefits to people, it's reciprocal. She believes that not just people benefit but the land benefits. Mr. Wu Ning mentioned that we needed to consider which group of people benefit and whether the benefit was long term or short term. Ms. Brooke A. Takala Abraham said we were not simply on the planet to give everything to people and for us to take. She continued that it was reciprocal and that was mirrored in our relationships with our people and our land.

Dr. Rong Dai said that methodology was very important in Chapter 3. They already made the methodology of assessment but the methodology of ILK was not enough in this chapter. Therefore, they need to add some methodology for the ILK, and would like to bring ILK in an appropriate way. Mr. Ghazali Ohorella echoed what had been said by Ms. Kalei Nu'uhiwa. He said that one of the issues was that we were going through issues quite fast in the workshop and we only had four days for the whole process; whereas indigenous people throughout history have experienced that the devil is in the detail. For future reference, he would like to see a draft of the assessment, so that he can contribute in a more productive way in short amount of time. He said that he didn't necessarily have a remedy. But as protagonists of their story he would like to feel comfortable about contributing to this report and being part of it.

Ms. Joji Carino said that we were clearly in a situation of actually learning and this was ground-breaking. IPBES has acknowledged that it is new in terms of genuinely and sincerely bringing ILK into the whole process of assessment. For her, she was confident that what was presented yesterday really provided the space for different cultures and different world views to be considered. She continued that there was the challenge for us to acknowledge the difficulties but we also needed to be quite concrete in giving the inputs that the authors wanted. She stated that it was also for us to respond to the requests. She continued that it was always a general message about the sustainability of ILK systems. She thinks that this is a limited perception, and we are talking of linking generations. The overall frame is a major assault on both biodiversity and ILK institutions and knowledge, precisely because the institutions see this knowledge as marginal, so it is not fully appreciated. However, the indigenous communities are revitalising and re-establishing our knowledge systems into contemporary challenges, which are able to show that these are very significant and important drivers that solve big problems, such as ecosystem-based approaches to climate change and language revival. She believes that these holistic systems are addressing problems of rivers and climate change with confidence. She said that we needed to show where significant achievements were being made by ILK in addressing contemporary problems, because in the view of science these are often seen as old systems that cause problems rather than transformation systems that solve contemporary challenges. For example, rotational farming in Southeast Asia, which was criminalised, is now a special cultural zone for forest revitalisation. So we have some examples where government recognition of these ILK systems is creating a different dynamic. She hopes that we would use the case studies that are opening this up and solving problems.

Dr. Ro Hill raised an alternative approach that considers ILK holders as reviewers, rather than dialogues, as anyone who wanted to review a draft could be registered as reviewer. Ms. Tui Shortland stated that they did not only want to review, but also to co-design and to co-author.

Ms. Fuimaono Rosalia Me acknowledged the comments and was wondering why indigenous peoples held back sometimes. On the other side with the authors, she already appreciated what colleagues had put in. She stated that we need an open mind and that we want to carry this forward in a harmonised way. She has been through this even in her own country. Trying to revive indigenous knowledge in her country was very hard. Trying to make people outside her country understand is even harder. Mr. Ben Ruli stated that we all came from different countries. However, all the information we collected was similar. He felt honoured to be involved in this process and would like to contribute more to the report. Mr. Petero Qaloibau wanted to support what others mentioned. He was delighted to learn how ILK could be included in the report. He stated that it was important to sit down together, so that we could contribute more to the report.

Dr. Ro Hill asked about the discussion to prepare the agenda for this workshop. Ms. Tui Shortland suggested forming groups to have more detailed discussions. Ms. Kalei Nu'uhiwa stated that ILK holders would be able to respond to each chapter. Mr. Yoichi Sakurai stated that the secretariat of the workshop would like to provide an equal opportunity for each author to present all chapters. Dr. Saiful Karim said that we could not cover all the ILK knowledge, and what we could do was to cover key ILK from workshop participants. Ms. Haripriya Gundimeda mentioned that it was difficult to discuss in a separate group because we needed to understand which knowledge would fit into which chapter.

Ms. Tui Shortland stated that if we are going to move forward with presentations and emails she did not think real information exchange would happen. Dr. Rong Dai stated that given the time constraints we are facing and the issue of ILK's contribution is hard to quantify as well, she would at least like to know who was interested in Chapter 3. Ms. Brooke A. Takala Abraham said there needed to be a follow-up with ILK holders on how their knowledge would be described in the report, before the report is published. She continued that feedback and ownership of the ILK needed to be secure.

- Discussion of Chapter 3 and 4

In the discussion of chapter 3, Dr. Rong Dai hold the opinion that practices and case studies would be a good way to support these issues. Especially, what case study would be needed in order to effectively incorporate ILK into chapter 3? And she also said that in Chapter 3 the authors did not write much about methodology for ILK, so she encouraged ILK holders to contact her if they are interested in methodology.

Dr. Randolph Thaman suggested discussing what is the most important area of biodiversity and what were the drivers of destruction of this area of biodiversity. For example, he didn't see natural hazards like cyclones as drivers. But if we ask people from the Philippines, they would say cyclones are drivers. Mr. Wu Ning responded that drivers, such as mountain hazards and typhoons were discussed on the islands.

Dr. Randolph Thaman mentioned that we also have a problem of how to link chapters.

Ms. Joji Carino called attention to two resources: (1) the 1st Asian Conference on Biocultural Diversity in October 27-29, 2016, Ishikawa, Japan <http://bcd2016.jp/english/index.html>, which identified four areas of interlinkage between cultural and biological diversity, and covered 15 themes and 45 presentations; and (2) a Forest Peoples Programme's publication entitled Local Biodiversity

Outlooks: Indigenous Peoples' and Local Communities' Contributions to the Implementation of the Strategic Plan for Biodiversity 2011-2020 – A Complement to the fourth edition of the Global Biodiversity Outlook prepared in collaboration with the International Indigenous Forum on Biodiversity (IIFB) and supported by the CBD Secretariat. She suggested that the authors look at these information sources. Dr. Ro Hill responded that it was good to share information with all authors about bioculture and the indigenous conference in Ishikawa, Japan.

- Chapter 5: Integrated and cross-scale analysis of interactions of the natural world and human society

Presentation

Ms. Haripriya Gundimeda clarified that she welcomed any comment about ILK. She explained that the key messages of Chapter 5 include: (1) the majority of the Asia Pacific region are diverse and yet have similarities; (2) the top drivers for change in biodiversity and ecosystem services are overexploitation of species, land use change and fragmentation of ecosystems; (3) biodiversity and ecosystem services contribute to human wellbeing and their loss is projected; (4) demographic trends and economic growth are exerting increasing pressure on the terrestrial ecosystem; and (5) climate change would continue to exert pressure on the marine ecosystem. She also explained the objectives of Chapter 5. She explained why, how and in what ways ILK could aid better building of plausible scenarios, and dynamics of interactions between diverse societies. She introduced some examples of models, how these different models would be able to help the Asia Pacific region, and the features of each model. She also discussed knowledge integration for the Asia Pacific scenario building and pathway. She emphasised that she needed more inputs for Chapter 5.

Discussion:

Ms. Haripriya Gundimeda said that most of the models were global models and she needed to modify them to fit the Asian Pacific region. She needs more inputs to do this and she stated that she would like to integrate local knowledge into the Asia Pacific model.

Ms. Joji Carino said that trade-off is an economic theory. From her experience of the World Commission on Dams, the communities who own the land were disproportionately affected and didn't receive any benefits. Thus, in that scenario it was decided not to use the language of trade-offs. She continued that it was accepted that small populations of people could be sacrificed for aggregated benefits. So, she would like to challenge the use of the term trade-off. She also questioned whether it is necessary to bring in the practice of global modelling if it is not appropriate to local wellbeing. She explained that local wellbeing necessarily takes account of local context, which would be erased when we go to global modelling. She stated that in IPBES we should focus on getting local contents into the scenarios. She thinks that IPBES has misconceived its tools when it hasn't given attention to the local context that impacts the wellbeing of society.

Ms. Kalei Nu'uhiwa asked how the authors would like to be provided information from ILK holders, such as existing publications. Ms. Haripriya Gundimeda asked to send the information, evidence and reference, then she would follow up with ILK holders if she required some clarification. Ms. Kalei Nu'uhiwa continued that, for example, if there is some ILK about cyclones from Hawaii, Fiji and other areas, it would be relevant information for authors, though it could take time to produce this information. Ms. Haripriya Gundimeda said the concept of sustainability depends on who you are.

Mr. Ben Ruli stated that we just received the information and that we now need some time to think about what information could contribute to what chapter. Ms. Brooke A. Takala Abraham said there was a gap between western science and ILK knowledge, and wondered how we could fill these gaps and how we could evaluate the economic value of cultural aspects. Ms. Haripriya Gundimeda said that we could not put monetary values for all ecosystems, but as a policy tool, they tried to value ecosystems in economic terms.

- Chapter 6: Options for governance, institutional arrangements and private and public decision-making across scales and sectors

Presentation:

Dr. Karim explained the contents of Chapter 6, noting that there are some specific sections related to ILK. He mentioned that he would like to include case studies of indigenous perspective. Examples from Fiji, Samoa, PNG and others on policymaking and governance systems would fit into the chapter.

Discussion:

Ms. Joji Carino mentioned that the title of the chapter refers to public and private decision-making, but that there is also customary decision-making. Legal pluralism is important. Customary institutions are the institutions most relevant for indigenous peoples and local communities; however they seem to be lost, especially in the Pacific where customary law and tenure are recognised, yet are over-ridden by the government. There is a conflict between customary and national statutory law that claims the ownership of the minerals and water. Ownership of knowledge is also in conflict. The customary systems of ownership of knowledge and resources underpin natural resource management.

Dr. Saiful Karim mentioned that these legal systems are very complex. He saw many countries drafted environmental laws mainly following other countries' laws. These acts were mostly established after 1992 and do not reflect customary law. He recognised the importance of customary law, but customary law's perspective has not been reflected in this chapter, so he would convey this message to the CLAs. Conflict of law comes in many shapes, so he explained that stating the same problems in different countries would help for documentation. Ms. Kalei Nu'uhiwa said that there needed to be some sort of reference to customary law and resource management in the report, since these people were criminalised, treated severely and ended up in jail. She explained that she wanted the customary law that governs them to be respected, and their practices not to be criminalised by government. Dr. Saiful Karim mentioned that they could include this if it is supported by evidence. Evidence is needed for everything in this report, he stated. He said that the authors were here to write the assessment based on existing research.

3.4 Discussion about key messages (1)

Dr. Ro Hill explained that authors were happy to hear any input to the key messages and about useful maps that the Asia Pacific regional assessment report could include. She explained an

example of seven types of traditional knowledge regarding honey hunting for mapping in the pollination assessment report. She said that some reviewers' comments included how local knowledge reflected to scientific knowledge. She explained that she would be pleased to receive any comments from ILK holders regarding important key messages in the assessment report in the Asia and the Pacific region.

Discussion:

Community-based monitoring

Ms. Joji Carino mentioned that community-based monitoring was widely used by communities, which complemented scientific assessment and monitoring, and aided understanding of the current situation. Ms. Kalei Nu'uhiwa referred to native time-keeping. Mr. Petero Qaloibau mentioned that cultural indicators were important for forest protection and engagement with local communities for protection of medicinal plants. Dr. Ryo Kohsaka asked whether the term "community-based monitoring" was multi-dimensional and still abstract. Ms. Joji Carino said that it was useful to have a map or table of sites where community-based monitoring was occurring and what was being monitored. Dr. Randolph Thaman said that community-based monitoring came after an intervention and the first step was working with communities to ask what had been changed. Mr. Petero Qaloibau said that for the Satoyama project, they conducted pre-survey/assessment before implementation of the project in order to develop a field-based system to monitor the project. He said that this Satoyama approach needed to be mentioned in Chapters 2 and 6. Ms. Fuimaono Rosalia Me stated that their first approach was consultation with the Village Chief, and if they received a positive response, they would then continue. If the chief did not agree, they would stop. She emphasised that this consultation was very important in the first place, then they could implement and monitor the project.

Gender equity in indigenous communities

Dr. Randolph Thaman talked about gender equity, and that there were different knowledge systems on mountains to the sea, and knowledge groups such as the medicinal group and others. For example, the number of medicinal plants could be one of the key indicators of ILK. And, we have not yet even considered the knowledge that women hold. Dr. Henry Scheyvens mentioned that Mr. Ben Ruli's research was focused on men, as the cultural practice he studied was one of the men's practices. Mr. Ben Ruli explained that regarding the bamboo flute in Gimi, men needed to be away from women to practice this aspect of their culture. He emphasised that of course there are important roles for women as well in their culture. Dr. Randolph Thaman stated that the assessment report should mention the important role of women's knowledge to protect biodiversity, which applied across the whole of the Pacific region. He added that in PNG men are the warriors, but in terms of protecting biodiversity it is the women who play the important roles. Mr. Ben Ruli explained the men are named after big trees, big mountains, and the women are named after frogs, insects, and flowers. He continued that men are seen as superior to women, as to be strong in the community men must be able to defend their land. The concept of gender equity is now being taken in, but even though women can be highly educated, they will still pay more respect to men.

Mr. Ghazali Ohorella said that the point trying to be made was difficult to express in terms of human rights, and it was not like gender equality, which is very black and white. He continued that men and women have their own capacity in the community, and we cannot talk about gender equality because

we each have our own roles. In the UN Declaration on the Rights of Indigenous Peoples, they do not talk about gender equality; rather, the Declaration provides for the special needs and rights of women in a human rights respect, without mentioning gender equality. Dr. Saiful Karim explained that they did mention gender equality in the report. Dr. Ro Hill stated that the term equity has different meaning, whereas equality seems to imply men and women are the same. In indigenous communities, men and women play different roles, but it doesn't mean they are not equal. Dr. Randolph Thaman mentioned that there are big differences in the roles of men and women and we need to capture this in the assessment. Mr. Ghazali Ohorella stated that he hoped this process and any other process that involved indigenous peoples acknowledged the hard work that had gone on for decades into the UN Declaration on the Rights of Indigenous Peoples for the language and the vocabulary of this particular document. Ms. Fuimaono Rosalia Me re-emphasised that the values and beliefs took into account their traditional culture, and they respected their environment. She continued that gender had a different meaning from the English language perspective and their own "identity". Now, with their local customs, women have the right to hold title.

Local languages related to ecosystems

Ms. Kalei Nu'uhiwa stated that there is an important point about languages and the preservation of languages. If we lose languages, we don't know what is connected, because we don't have the words to express this. Mr. Polikalepo M. Kefu agreed that language is very important and stated that there were many examples of local languages related to ecosystems. Mr. Ben Ruli explained that they were involved in every secondary school to see if the pupils could name the vegetation from the lowlands to the highlands. Once they move out of the environment, people lose that part of their language that is about biodiversity. Ms. Fuimaono Rosalia Me said they valued their beliefs and took into account their tradition and customs, even though they came from different islands. Ms. Joji Carino mentioned that there was a table of values that was recognised in China and Japan. But in indigenous cultures also have values that are respected – they also need the indigenous conceptions and relations that are in Chapters 2 and 3.

3.5 Discussion about the concept of the establishment of ILK network for Pacific sub-region

Presentation:

Mr. Yoichi Sakurai, the JBF Project team leader, explained the concept of establishment of an ILK network for the Pacific sub-region. Mr. Sakurai described the background and the survey to develop this concept. He also presented draft criteria for the participating organisations in the network and tentative steps to establish the network. He mentioned that they had received responses to the questionnaires from only five organisations and needed to receive more from others.

Discussion:

Purpose of the network

Ms. Fuimaono Rosal Me asked how they could join the network - whether they were going to be invited, or whether each organisation needed to apply for membership. Mr. Wataru Suzuki answered

that this was a network to maintain communication among the workshop participants. Ms. Tui Shortland stated that in order to engage in the IPBES process, they sometimes had difficulty recognising ILK holders and experts, and this network would help to keep communicating with ILK holders and affiliate with other networks as well. She continued that this was not to create a new network, but supplement the existing network.

Relationship with existing indigenous peoples' network and involvement of local communities

Dr. Ro Hill asked whether the existing indigenous network included local groups. Ms. Joji Carino answered that local communities were part of the indigenous group; however, only two local communities from Africa were members of the network. She continued that groups holding ILK were members of this network and many organisations were participating in many different networks. She believed that this was a network from the workshop that would strengthen capacity to engage in the IPBES process.

Dr. Ro Hill mentioned that it was important to have a long-term process, and an on-going relationship would be important. Ms. Joji Carino said that there was an indigenous network in the Pacific, so this network of the workshop would be a supplemental network. Dr. Randolph Thaman asked how they could link different networks given the language barriers. He stated that the real challenge of these networks was how to link with local people. Mr. Wataru Suzuki mentioned that the same concern was raised by the CBD secretariat and the Japanese government, who were funders of this network. Mr. Petero Qaloibau stated that local communities were reached through provincial governments. He believed that this was a good way to reach local communities, and through the approval of the government, we would be able to reach out to local communities.

Ms. Fuimaono Rosalia Me stated that although this was the first time to attend this network, she presented a case study because she worked with local communities. She said that she listened to the voice of local communities, and conducted research and collected data to support this network. Mr. Wataru Suzuki stated that participation in the network did not mean any requirement of contribution of their knowledge for the future. Mr. Wu Ning said that he was wondering about the sustainability of the network. He continued that if the purpose of the network is only to contribute to IPBES, then it is a concern whether this network would be sustained after the IPBES assessment report was published. He believed that for participants, this would be a good network to publish their information.

4 November, 2016

3.6 Discussion about key messages (2)

As a follow up to discussions on key messages on Day 3, the group discussed remaining notable issues for authors to incorporate ILK into the assessment report. The group also discussed the process to appropriately incorporate the workshop discussion into the assessment report. Dr. Ro Hill reminded participants that the idea of tables and maps (1) community participatory monitoring; (2) customary laws and cultural practices; and (3) gender aspects, which are important for biodiversity, were noted from yesterday's discussion.

Indigenous and local peoples' identity

Taking into account culture and tradition, Ms. Fuimaono Rosalia Me stated that their language, land title and environment are important identities for them. Mr. Peoeo Qaloibau also mentioned that whatever they have on their island is their identity in the Pacific. Dr. Rong Dai explained that China has 55 ethnic minorities. Language, location and customary law are usually the symbol of their identities. For example, Hmong people and Tujia people live in the mountains and they have similar customary law for the forest and water resource management. This helps them create the sense of identity, which helps determine their customary law origins. Ms. Kalei Nu'uhiwa mentioned that not having access to their land and resources – these define who we are – means a loss of identity. Ms. Fuimaono Rosalia Me said that indigenous communities fear a lack of acknowledgement and that others will block their access to nature, including medicinal plants and other resources. Ms. Haripriya Gundimeda stated that according to Access and Benefit Sharing (ABS), it was illegal to take natural resources without the consent of the people and sharing the benefits. She said that in India they had set up a committee to understand how revenues could be shared. Ms. Kalei Nu'uhiwa said that this is a major issue, not just related to resources, but also to personal things, down to the genealogy of the people. Dr. Judith Fisher mentioned that if there is any good case study about intercultural property rights or access and benefit sharing, she can write about it in Chapter 2.

Colonialism

Ms. Brooke A. Takala Abraham said that colonialism was an overarching issue. It is good to mention this issue at the beginning of the assessment report. Ms. Kalei Nu'uhiwa stated that colonialism was happening now and it was not just an issue of the past. Dr. Judith Fisher mentioned that colonialism was a key driver, which was not currently recognised. This assessment is not just for policymakers, but also for change. She found that colonialism is a critical issue to include in the report.

Gap between diversity and institutional and legal framework to manage diversity in the Pacific

Ms. Joji Carino stated that in the section on diversity in the Pacific, a statement is needed on how institutions and law need to be adjusted to take into account diversity. She said that recognising diversity was one thing, but there is also a need to adjust the laws, as there is a big mismatch between the richness of diversity and the policies of government on research, education and resource management to take into account diversity. She also mentioned that new governments were opposing or overlaying many governance policies over what already existed. She said that when we were talking about transformation this had to be adjusted, so we could look at big agendas and local actions. Dr. Saiful Karim also said that there is a serious problem of environmental legal governance in many countries in the Asia Pacific region and laws are often not appropriate to protect the environment and indigenous peoples' rights. He stated that environmental law was relatively new compared to other areas of law. He also explained that the environmental laws when applied in the field may sometimes conflict with the customary practices. He believed that there had not been a serious consideration of how these new laws interact with customary laws. These new environmental laws came through some international initiatives, and were drafted by someone else in the parliament. These failed legal systems have not always been imposed by colonial powers, they have been imposed through the wrong sort of governance by the post-colonial governments. It is a different type of colonialism, but these mechanisms, these imposed laws, are not working properly. Ms. Joji Carino said that she had studied all of the forest laws in Asia and many of these just carried over directly from the colonial government. Dr. Saiful Karim agreed that forest law was usually

drafted by colonial governments and they were continuing it in post-colonial time, with some amendments, but still these laws are a big problem. Ms. Brooke A. Takala Abraham said colonialism was embedded in a country and people could work for de-colonisation by themselves as well. Dr. Judith Fisher said that she would take this issue to the co-chairs of the assessment, stating that colonialism needs to be incorporated across the assessment.

Nuclear cycle and militarisation

Dr. Ro Hill asked whether nuclear pollution should be in the report as one of the key messages. Ms. Brooke A. Takala Abraham stated that the nuclear cycle impacted different indigenous people and biodiversity in the Pacific region differently. She explained that world-wide the nuclear cycle had the most impact on indigenous lands from uranium mining in Australia. The uranium is shipped to Japan, and the spent fuel is taken across the Pacific Ocean across indigenous lands in the USA into Oak Ridge. Nuclear power in Tasjhatan, nuclear subs in Pearl Harbour Hawaii, and trying to get nuclear powered vessels back into NZ were all issues. Militarisation of many Pacific Islands can be observed, all coming under this over-arching umbrella of colonisation, with people thinking they have the right to do what they like.

Ms. Joji Carino said how governments needed to think about energy sources, such as nuclear power, was relevant. Dr. Judith Fisher mentioned that the food, water and energy nexus was another issue that could be discussed in the report. Mr. Wu Ning asked if there was any publication about the nuclear cycle. In his experience, for example in Afghanistan, wars are one of the biggest causes of destruction of biodiversity and the environment, but nobody can write about this issue. He explained that he understood that it is important to cite existing publications, so it was important to refer to existing literatures. Dr. Saiful Karim agreed that generally, they must have evidence to write about this issue and they were happy to write about controversial issues, but strong references and evidence were required. Ms. Brooke A. Takala Abraham stated that 128 nations just voted to form a working group to ban nuclear weapons, namely L41, and was wondering whether they could use this as supporting evidence.

Dr. Ro Hill said that the nuclear cycle and militarisasion were captured as key issues and asked if there were any other issues. Ms. Kalei Nu’uhiwa mentioned that all nuclear bases were in the Pacific. Ms. Brooke A. Takala Abraham stated that Kwajalein was an atoll where the US had taken over a few islands, and that people were refugees there because of the missile testing, although they were housed on the islands. She continued that a map would be useful that showed all nuclear footprints including testing sites, the mines, the processing, the storage disposal sites and the transportation routes that go back and forth through the Pacific several times.

Maps on traditional livelihoods

Ms. Joji Carino said it was good to have maps on traditional livelihoods and it was important to have a story on indigenous peoples’ livelihoods. Ms. Fuimaono Rosalia Me mentioned that reviving culture was a very important issue for them. She said that in the process of planting, harvesting, processing, and drying Pandanun, all family members including men and children would be able to play some role and that income from the Pandanun mat would support the family. Ms. Kalei Nu’uhiwa agreed that in the process of producing the Pandanun mat, there was knowledge of the environment, such as the type of salt, water etc. and all these processes connect with nature. Mr. Polikalepo M. Kefu mentioned that the role of gender in livelihoods, the division of labour, the role

of men, young people and women, is related to passing on knowledge and that this is all related to gender. Ms. Kalei Nu'uhiwa stated that there was a science behind all these practices. Ms. Fuimaono Rosalia Me said that the Women in Business Development in Samoa <http://www.womeninbusiness.ws/> had good documentation of pandanus mat making. Ms. Brooke A. Takala Abraham said they had lot of books on Pacific science. For example, the science of weaving and navigating are very well documented Mr. Petero Qaloibau stated that it was important for ownership of cultural identity to be transferred to the younger generation in the face of technological changes. Mr. Ben Ruli said that in PNG it was important for indigenous people themselves to engage in documentation of their own culture, rather than foreigners coming and conducting research.

Cultural indicators

Dr. Judith Fisher mentioned that cultural indicators were important, and for indigenous communities, appropriate biological indicators were also critical and important for documentation. Ms. Kalei Nu'uhiwa agreed with this. Ms. Joji Carino said that the presentation from Ms. Tui Shortland included a good example of cultural indicators. Mr. Petero Qaloibau mentioned indicators, and stated that natural indicators, such as climate indicators, need to be adjusted.

Discussion of further communication process:

The group also discussed how we could communicate further with ILK holders to write the assessment report. Mr. Wu Ning suggested that ILK holders send their case studies to the IPBES-TSU-AP so any author interested in these case studies would be able to use them. In the case studies, he continued, it was good to emphasise the linkage between ILK and biodiversity and ecosystem services. Dr. Ro Hill suggested three ways to communicate with ILK holders which were: (1) authors can access Powerpoint files from this workshop; (2) individual authors consult with their lead authors and add case studies; and (3) existing PDF documents produced by ILK holders can be stored in the Mendeley database. She continued that we also needed to set a deadline for setting this information sharing system. She also mentioned that three policy dialogues were supposed to be set up before finishing a second author's draft report.

Dr. Judith Fisher mentioned that yesterday Mr. Ben Ruli, Mr. Wu Ning, Ms. Rong Dai, and she discussed about plans for further communication with ILK holders. Mr. Ben Ruli said when they went back home there were so many things they were engaged in, so it was good to set a timeline. Ms. Joji Carino said that the actual report of this workshop was critical and needed to ask presenters to check the report. Dr. Ikuko Matsumoto clarified that the report of this workshop was a summary of presentations and discussions including an annex of Powerpoint presentations and a summary of case studies prepared by each ILK holder, so authors needed to communicate with ILK holders for detailed information of the assessment report.

Dr. Ro Hill asked when the workshop report would be on the website, and also clarified that authors needed to communicate with presenters to get further details for writing. Dr. Judith Fisher said she was happy to start with an email to everyone to keep in contact. Ms. Hariprliya Gundimeda asked to have an email list sent to the secretariat. Mr. Yoichi Sakurai stated that the presenters who did not submit a summary of case studies, including Mr. Ben Ruli and Ms. Tui Shortland, needed to send the

summary documents to the secretariat and that they were planning to upload the workshop report in January or February 2016. Dr. Ro Hill mentioned that the secretariat should feel free to seek support for editing from the ILK task force. Dr. Judith Fisher offered that she was happy to facilitate a process to communicate with ILK holders. In his closing remarks, Mr. Sakurai expressed his thanks to all participants of the workshop. He closed the workshop with a traditional Japanese Shinto prayer.

3.7 Closing ceremony

Venue: The Leadership Academy of a Company

The traditional closing ceremony was attended by local elders, leaders and students, and the workshop participants. The ceremony started with a prayer, speeches and songs from the organisers. As representatives of the participants, Mr. Polikalepo M. Kefu from Tonga, Ms. Fuimaono Rosalia Me from Samoa, Mr. Ghazali Ohorella from Maluku, and Mr. Yoichi Sakurai, programme manager of JBF (Japan Biodiversity Fund), each made a speech followed by song. They expressed gratitude to the local community for its hospitality and support for the successful workshop. Following the organisers' speech, a representative of students and local leaders made a speech expressing gratitude that participants came to Whangarei, mentioned the importance of respecting nature, and sang a song in Maori together with all the students. The ceremony was closed by returning all flags and giving special gifts to the participants, comprised of traditional drawings painted by students. At the end of the ceremony, local elders made closing remarks and explained the philosophy behind the paintings, which was bringing light from heaven to Mother Earth.

3.8 Māori hosts appeal to the United Nations for justice

During the closing ceremony, our generous Māori hosts spoke about their struggle for justice in New Zealand, and history of appeals to the United Nations For example, In January 2014, the Ngati Huarere ki Whangapoua Trust, supported by Gregory Mare whanau, Ngati Puu, Ruawaipu Iwi Te Tiriti Claims Settlement Authority, Te Runanga o Te Taou, made a submission to the Human Rights Council's (UNHRC) Universal Periodic Review of New Zealand (see https://www.hrc.co.nz/your-rights/human-rights/our-work/universal-periodic-review/civil-society-and-ngo-submissions/). The submission highlighted that 'The NZ government is perpetrating injustices upon Māori in the settlement of historic Treaty grievances by its failure and/or refusal to fulfil its obligations under international human rights instruments. The government is discriminatory in its settlement process, which is causing irreversible prejudice to some claimants thereby creating a subclass of Māori, which will likely result in the cultural genocide of some tribes.' UNHRC report expressed overwhelming concern about the entrenched inequalities affecting Māori. They recommended that the New Zealand government take steps to reduce racism and discrimination against Māori; to address Māori concerns about treaty settlements; and to take concrete steps to implement the United Nations Declaration on the Rights of Indigenous Peoples (Mutu 2015).

Our Māori hosts highlighted to us that the New Zealand government had not yet acted on these recommendations. Release of the report *He Whakaputanga me Te Tiriti –The Declaration and the Treaty* has greatly strengthened the case of Māori that urgent action is needed in their Northland area to redress injustice. This report is stage one of *Wai 1040: Te Paparahi o te Raki*, an inquiry by the Waitangi Tribunal covering claims in the Northland region. This Tribunal found that the rangatira who signed the Treaty of Waitangi in February 1840 did not cede their sovereignty in doing so. They stated (at 10.4.4)

> *Our essential conclusion, therefore, is that the rangatira did not cede their sovereignty in February 1840; that is, they did not cede their authority to make and enforce law over their people and within their territories. Rather, they agreed to share power and authority with the Governor. They and Hobson were to be equal, although of course they had different roles and different spheres of influence. The detail of how this relationship would work in practice, especially where the Māori and European populations intermingled, remained to be negotiated over time on a case-by-case basis. But the rangatira did not surrender to the British the sole right to make and enforce law over Māori. It was up to the British, as the party drafting and explaining the treaty, to make absolutely clear that this was their intention. Hobson's silence on this crucial matter means that the Crown's own self-imposed condition of obtaining full and free Māori consent was not met.*

Māori argue that this finding establishes what the whole Treaty claims and settlement process should be about: "negotiating (and often fixing up) the relationship between Māori and the Crown and figuring out how to give expression to kawanatanga and tino rangatiratanga in specific circumstances." (Ahikāroa Indigenous Law, 2015). The next stage of the Waitangi Tribunal inquiry will consider how those issues arising from their stage one findings should be addressed (see https://waitangitribunal.govt.nz/inquiries/district-inquiries/te-paparahi-o-te-raki-northland/).

Recognition that Māori never ceded their sovereignty presents a critical juncture in the relationships between Indigenous people and the nation-state in New Zealand, and consequentially the management of biodiversity and ecosystem services. IPBES authors and participants in the Asia-Pacific Regional Assessment are urged to take note of these reports, which can be found at:

https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_68356606/KoAotearoaTeneiTT2Vol2W.pdf

https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_85648980/Te%20RakiW_1.pdf

Ahikāroa Indigenous Law. 2015. "He Whakaputanga." *Ahi-kā-roa. Current issues in the law relating to Māori and other Indigenous peoples*:https://ahikaroa.wordpress.com/tag/he-whakaputanga/.

Mutu, Margaret. 2015. "Unravelling colonial weaving." In *Stroppy Old Women*, edited by P. Little and W. Nissen, 165-178. Paul Little Books. Online: http://www.ngatikahu.iwi.nz/sites/default/files/Unravelling%20Colonial%20Weaving%2012Feb15.pdf

4. Proposal of a sub-regional ILK network for IPBES in the Pacific

In this section, a proposal is set out on the establishment of a sub-regional level ILK network for IPBES assessments, including the background, preliminary proposal, outline and major results of the questionnaire, and an outline of the discussion at the sub-regional workshop.

4.1 Background

Since the IPBES regional assessments address not only biodiversity and ecosystems, but also ecosystem services and the relationship between nature and human societies, it is expected that reference will be made to relevant ILK in order to carry out a comprehensive assessment. The importance of incorporating ILK is stipulated as one of the key principles of IPBES; “Recognise and respect the contribution of indigenous and local knowledge to the conservation and sustainable use of biodiversity and ecosystems (UNEP/IPBES.MI/2/9 II2 (d)).

However, ILK-related information is often not well-documented, so it may not always be available. In order to effectively identify and bring available ILK into the APRA, the JBF project has recognised the importance of networks or regional hubs to facilitate and support bridging ILK holders/experts and IPBES authors in their project.

Therefore, the project envisages that sub-regional level ILK networks, hubs or any form of frameworks will be established to facilitate identifying key ILK holders, experts, information and documentation on ILK, and communication between ILK communities and academia.

At the regional ILK Dialogue Workshop for Asia-Pacific, which was organised by UNESCO as ILK-TSU, in June 2016 in Chiang Mai, Thailand, many ILK cases were presented and shared with some IPBES authors of the IPBES Asia-Pacific Regional Assessment. JBF Project team members also participated and had a consultation session with the participants about the idea of establishing sub-regional hubs or networks for ILK. Through the fruitful discussion on this issue, the JBF project recognised the strong need for such networking by receiving positive and encouraging comments and suggestions. However, there were also many gaps identified. To fill such gaps, the project has decided to continue such consultation during the series of sub-regional dialogue workshops planned to follow up the regional workshop held in June 2016. A questionnaire survey was also conducted to collect necessary information to identify further needs and gaps on this matter.

4.2 Preliminary proposal of IGES for the sub-regional networking and facilitation related to ILK

IGES considers that the establishment of sub-regional ILK Network is needed, because it is expected to greatly contribute to the assessment process through facilitating communication between ILK holders/experts with IPBES authors for better understanding of ILK and also for meaningful recognition of ILK in the assessment reports in a continuous and sustainable manner. It should be also recognised that it is important to carry out networking of ILK holders, networks and communities in terms of identifying and facilitating knowledge in proper ways to contribute to scientific assessment, especially to IPBES. There are already several networks that have been established for/by ILK stakeholders, but IGES recognised the gap in networking which focuses on knowledge and its facilitation for policy-relevant scientific assessment. One of the objectives of the project is to explore and possibly establish hubs or networks to improve the capacity of stakeholders and experts in this region. The summary of the preliminary proposal prepared by IGES is described in Annex 3-1, including draft criteria for the participating organisations to the network, examples of activities of the network, and steps to establish networks.

4.3 Outline and major results of the questionnaire survey

The JBF project prepared a questionnaire to ask applicants of the sub-regional ILK Dialogue workshops about information on the needs, challenges, or gaps for effective and meaningful facilitation of ILK and communication among ILK holders, indigenous and local communities, ILK experts, and regional assessment authors. The results of the survey have been compiled and shared by the sub-regional workshop participants. The results of the survey in the Pacific sub-region are described in the following sections. Additional analysis is made including responses from the participants of APRA Authors from Asian countries.

4.3.1 Target countries, activities and issues, and major languages

The project received five (5) replies to the questionnaires and they agreed to participate in the network.

The target regions are Asia-Pacific region (2 organisations), Pacific (2), Australia (1), Global (1), IUCN region countries (1) and Western Australia (1). Target communities are listed in Annex3-2, Table 3-2-1 including 12 Independent Pacific Island countries, Maori and others (1), etc. The major languages of the organisations are English (5), Cook Island Maori (2), Fijian (1), French (1), over 12 indigenous Pacific Island languages (1), Pidgin English (1), Te Reo (1), etc. (See Annex 3-2, Table 3-2-2.)

4.3.2 Views on the needs, challenges, concerns and suggestions for possible functions of the sub-regional network

The summary of results of the questionnaire on views on the needs, challenges, concerns and suggestions for possible functions of the sub-regional network is explained below.
Detailed responses are indicated in Annex 3-2, Table 3-2-3, 3-2-4 and 3-2-5.

(1) Need for possible functions of the sub-regional network

The responses to views on the needs are analysed from two aspects. These are Function (6 organisations) and Share/Engagement (5).

(2) Challenges, concerns and suggestions for possible functions of the sub-regional network

The responses to challenges and concerns are answered from the aspect of System/Fund (3 organisations). Aspects of Differences and Intellectual Property are pointed out respectively.

The suggestion is to address a workshop on capacity building and assisting in publishing of ILK. (1 organisation)

4.3.3 Contributions from organisations to the network

Responses to contributions are analysed from two aspects. The major aspects are Programme/Workshop (5 organisations) and Sharing/Connection (4).

Detailed responses are indicated in Annex 3-2, Table-3-2-6 and 3-2-7.

4.3.4 Ideas and suggestions to secure the sustainability of the network, and any challenges or constraints

The major responses to both ideas and suggestions to secure the sustainability of the network are explained below. The challenges or constraints are not clearly pointed out in the questionnaire. Detailed responses are indicated in Annex 3-2, Table 3-2-8 and 3-2-9.

There are four aspects of ideas and suggestions to secure sustainability namely, Knowledge/Leadership/Supportive function (6 organisations), Activity area/fund (2), Research/Bulletin (2) and Discussion/meeting (2).

4.4 Outline of the discussion at the Pacific sub-regional workshop

The Project compiled all the information provided by the participants and presents that information to participants during the sub-regional workshop. Following the presentation, discussion on the proposal was exchanged among participants. The following points make up a summary of discussions:

- The concept and idea of the ILK network seemed to be welcome and recognised by the participants.

- It is important for the ILK network is to have a long-term process and on-going relationship.

- It would be good for the network to contribute the assessment of IPBES and also to publish their information in spite of IPBES assessment report published.

- Some participants were concerned about how to link with different networks due to the language barrier and how to reach the local communities through provincial governments.

There were some suggestions from participants as follows;

(1) It is not for creating a new network, but supplementing the existing networks. It would help to keep communicating with ILK holders and affiliate with their network.

(2) Sustainability of the network is important even after the IPBES assessment report has been published.

(3) There should be an e-mail list to start e-mail communication with ILK holders and participants of the sub-regional workshop to keep in contact and maintain linkages.

(4) One role would be to facilitate a process to communicate with ILK holders.

A detailed record of discussion is presented in Chapter 3 “3.5 Discussion about the concept of the establishment of ILK network for Pacific sub-region”.

4.5 Proposal of a sub-regional ILK network for IPBES in Pacific sub-region.

Based on the results of the questionnaire and discussion at the sub-regional workshop, the idea to establish an ILK network in the sub-region has been generally accepted. Participants shared the view that the sustainability of the network is critical and that the network should be reasonably functional yet practical and realistic in terms of human, institutional and financial resources requirements.

In the questionnaire, five responses indicated agreement to participate in a sub-regional network. During the discussion at the workshop, several participants showed an interest in contributing to the network. Regarding the supporting structure or hubs, there was a positive response that it should consider the existing network of the ILK holders. There were some suggestions at the discussion session of the workshop to ensure communication among participating organisations to contribute writing the assessment report. A mailing list was suggested as a worthwhile and effective method of communication. For example, a mailing list to start e-mail communication or equivalent would be considered as one of the applicable tools for the ILK network.

Although there was no organisation who was willing to host a hub or act as the secretariat of the ILK network, it would be helpful to identify such organisation(s) in the future.

To develop and expand sub-regional network, the following issues have been identified;

- Membership criteria and Membership Approval procedure of the network
- Scope of the activities of the network
- Steps to expand the network

In order to consider and develop these points, one possible idea would be to establish a decision-making body such as a Steering Committee (tentative name) or a new body based on the Organisation Committee of the Pacific sub-regional workshop. This entity would continue with follow-up consultations and discussions together with the JBF team aiming to establish a network and/or hub(s).

Annex 1: Participants list

1. ILK holder/Expert Participants

(1) Ms. Tui Shortland
Pacific Indigenous and Local Knowledge Centre of Distinction, New Zealand
t.shortland@mokonz.co.nz

(2) Mr. Ben Ruli
New Guinea Binatang Research Centre, Papua New Guinea
bruli@pngibr.org

(3) Ms. Kalei Nu'uhiwa
Kama'aha Educational Institute, USA
kalei21@yahoo.com

(4) Mr. Polikalepo Kefu
Tonga Red Cross Society, Tonga
kalepo149@gmail.com

(5) Ms. Pernilla Malmer
SwedBio, Stockholm Resilience Centre,
Stockholm University, Sweden
pernilla.malmer@su.se

(6) Ms. Rosalia Me
Women in Business Development Inc. Samoa
finemat@womeninbusiness.ws

(7) Mr. Ghazali Ohorella
International Relations and Indigenous Rights Advisor, Maluku
ghazali.ohorella@gmail.com

(8) Mr. Petero Qaloibau
Coordinator Projects
SISI Initiative Site Support Group, Fiji
peteqaloibau@gmail.com

(9) Ms. Brooke Takala Abraham
Elimondik, Marshall Islands
btakala@gmail.com

2. Author Participants:

(10) Dr. Dai Rong
Nanjing Institute of Environmental Sciences, Ministry of Environmental Protection, China
dai_rong2008@163.com

(11) Dr. Judith Fisher
Fisher Research Pty Ltd, Australia
ecologist@westnet.com.au

(12) Ms. Haripriya Gundimeda
India Institute of Technology Bombay, India
gharipriya@gmail.com

(13) Dr. Saiful Karim
Faculty of Law, Queensland University of Technology (QUT), Brisbane, Australia
mdsaiful.karim@qut.edu.au

(14) Dr. Ryo Kohsaka
Tohoku University, Japan
kikori36@gmail.com

(15) Dr. Randolph Thaman
University of the South Pacific, Fiji
randolph.thaman@usp.ac.fj

(16) Mr. Ning Wu
International Centre for Integrated Mountain Development (ICIMOD), Nepal
wu.ning@icimod.org

3. TF member + Resource person Participants

(17) Dr. Rosemary Hill
Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia
ro.hill@csiro.au

(18) Ms. Jocelyn Nettleton (Joji Carino)
Forest Peoples Programme, UK
joji@forestpeoples.org

(19) Dr. Henry Scheyvens
Institute for Global Environmental Strategies (IGES), Japan
scheyvens@iges.or.jp

4. Secretariat: IGES

(20) Mr. Yoichi Sakurai
IGES, JBF-IPBES project, Japan
sakurai@iges.or.jp

(21) Mr. Wataru Suzuki
IPBES-TSU-AP, Japan
w-suzuki@iges.or.jp

(22) Mr. Ikuko Matsumoto
Institute for Global Environmental Strategies (IGES), Japan
i-matsumoto@iges.or.jp

(23) Ms. Tomoshi Ichikawa
IGES, JBF-IPBES project, Japan
tomoshi.ichikawa@mx.iges.or.jp

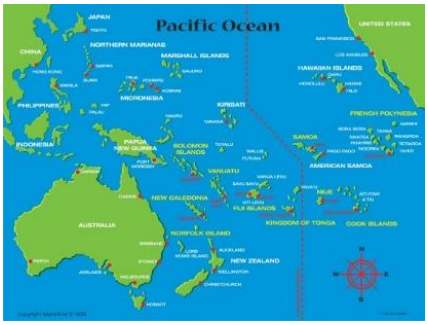
5. He Puna Marama Trust

(24) Ms. Arohanui Vause
He Puna Marama Trust, New Zealand
a.vause@mokonz.co.nz

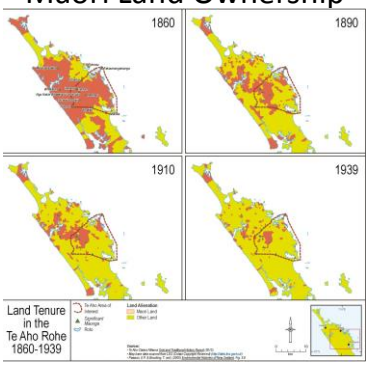
Annex 2: PPT slides on cases presented (2 Nov.)

Te Moana Nui a Kiwa

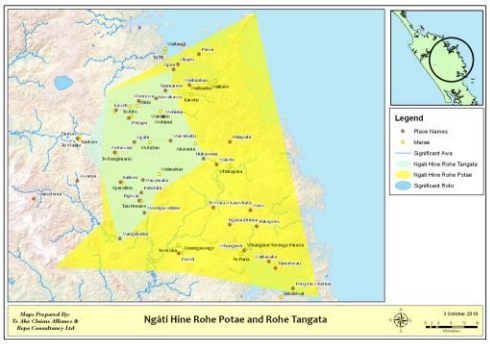
Tui Shortland



Maori Land Ownership



Ngati Hine Lands



Coastal Cultural Health Index

Tane Mahuta – Ngahere (forests)

Tangaroa – Puna, awa, rere

- Waiora - Medicine – compresses, showers, dunks, baths, packs, sponging, steams, teas, - clarity, pungaweriweri, kokopu, tangariki, mussels
- Waimaori – drinking water, Water security, teach babies to swim, flow, depth, clarity, riparian planting
- Waipuke – flooding, sedimentation
- Waikino & Waimate
- Kaiawa

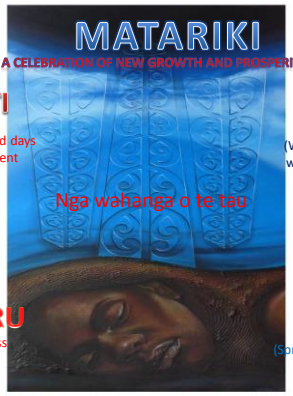
Indicator – Tuna (eels)

Traditional Knowledge Indicators Methodology

- Realms of the gods and goddesses relating to biodiversity
  - Rangi (sky father): tears for earth mother, water
  - Papa (earth mother): earth, soil, minerals
  - Rongo (god of peace): cultivated foods, sweet potatoe taro
  - Tane Mahuta (god of the forest): forest trees, plants, birds
  - Tangaroa (god of the ocean): ocean water, fish
  - Tumatauenga (god of war): coastal tidal zone, shellfish
  - Haumietiketike (god of wild foods): berries, mushrooms, edible plants

How?

- Monitor Name, date, Weather,
- River name
- Clarity, Flow,
- Spider webs above, Kokopu below, and other species abundance and diversity eg how many types and how many of each
- Surrounding land use,
- Traditional riparian planting 100m, shade, coolness/temperature of water
- Abundance of threatened species
- Pests, abnormalities
- Grade – Waiora, Waimaori, Waikino, Waimate



Who?

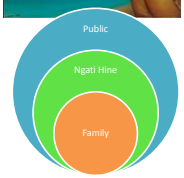
Youth addressing fish passage

Protection of data

- Legal Information Sharing Agreements with external organisations eg local government
- Archival policy eg copies, protection from computer failure or fire, etc
- Access policy

1. Public atlas
2. Ngati Hine
3. Family

- Access to schools online and regular workshops



Monitoring & Action Outcomes

1. School programme
2. Capacity building for other hapu service
3. Cultural Impact Assessments eg aquatic herbicide reassessment by Environmental Protection Authority
4. Fisheries management a national pilot and requested transfer to other freshwater species
5. Eel aquaculture
6. Rahui/tapu – traditional restrictions placed on species and practices
7. Developing enforcement methods
8. Replanting of spring areas and rivers
9. Lobbying for our rights to control our territories
10. Treaty claims evidence
11. Compliance monitoring of resource consents, policy, etc
12. Informing our moon calendar indicators

INTERGOVERNMENTAL PLATFORM OF BIODIVERSITY AND ECOSYSTEM SERVICES (IPBES)

Sub-regional workshop on Indigenous and Local Knowledge (ILK) for the Pacific sub region

Gimi People's Perspective on Natural Environment, its Relation to Culture, Livelihood and Biodiversity Conservation

November 1-4 2016, New Zealand - Whangarei

Ben Ruli - PAPUA NEW GUINEA

My Background

a) Work on documenting and advocate of Traditional Ecological Knowledge (TEK)
b) promote sustainable use of wild animals for cultural occassions
c) Undertake community needs assessment surveys
d) Conceptual Enhancement Plan and Ecosystem Services Analysis

Current projects

Current trends in language skills and ethno-biological knowledge in Madang Province, a globally important hotspot of cultural diversity

Political Map of Papua New Guinea

- Population 7 million
- Language (830) and cultural diversities
- Biodiversity Hotspot area

Introduction (Overview of Gimi)

- Gimi peoples in Eastern Highlands Province of PNG
- strong cultural traditions revere environment for sustaining culture, livelihoods and knowledge and remain traditional
- environment is not only valuable and meaningful but have incredibly active social relationship with it
- better strategies of conserving the biodiversity traditionally and utilizes the services ecosystem provided sustainably

Aim of Project

- document the importance of the natural environment to the Gimi community
- to understand the indigenous peoples' views of the environment, how indigenous people link the biological diversity to cultural practices
- how their views can be incorporated into biodiversity conservation projects
- holistic approach to preserve biodiversity and culture not only in PNG but across Melanesia and throughout the Pacific

Problem statement

- Approaches to biodiversity conservation based on species, ecosystem or hot spot concepts and endemism
- have very little meaning to the communities (CWMA & Gahavisuka)
- such concepts do not fully capture the traditional and cultural values of biodiversity as seen by indigenous communities
- top-down approach is considered as major reason for failure of conservation programs
- indirect force of severance to indigenous peoples from their natural and cultural environment

Research Questions

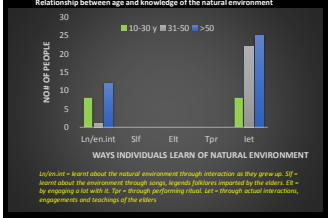
- What are the relationship between age and the Gimi men's understandings of the natural environment and its cultural traditions?
- Do Gimi people feel connected to the natural environment when recounting stories, singing songs and in naming practices towards the behavioral or folk ecology of plants and animals?

Research Methods & Data Analysis

- structured survey questionnaire & Digital Audio Recorder
- participants are only men between the age of 10-50 years or more
- interviews were done in Tok Pisin and in the Gimi language
- qualitative and quantitative methods were used to analyze the data
- responses of the men were analyzed and interpreted using graphs
- Spearman Rank Correlation

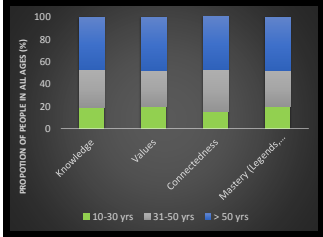
Results & Discussions

Relationship between age and knowledge of the natural environment



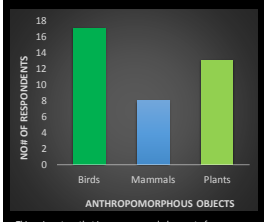
The different ways in which Gimi males of the different age categories learn and gained knowledge of their natural environment.

- Gimi men obtained knowledge of the natural environment through two main methods;
  - interactions and engagements
  - teachings of the elders of the community



Percentage of interviewees by age that have knowledge about the natural environment, value, connectedness to the natural environment and mastered the legends and songs about the natural environment.

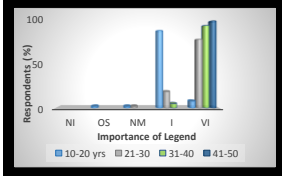
- The knowledge, values and feelings of connectedness that influences way of life of the Gimi people increases with age
- higher proportions of elderly Gimi males tend to have mastered the knowledge, values, feeling of connectedness, legends and songs



Things in nature that is seen or regarded as part of men (Anthropomorphous).

- Gimi peoples have anthropomorphous relationship with the major taxonomic groups such as plants, mammals and birds because of the important cultural and spiritual analogies they foresee and have observed in these taxonomic groups.

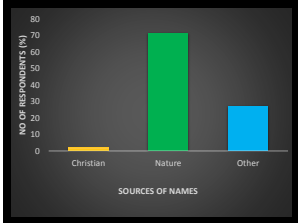
People's connectedness with the Natural Environment



Rating of Legends about the natural environment within different age groups in the order of its importance: NI = Not important; OS = Ordinary Story; NM = No meaning; I = Important and VI = Very important

- amount of environmental knowledge Gimi men have acquired is directly dependent on their age
- legends and myths that explain their connectedness to their natural environment
- very important to them because most of the knowledge that are disseminated were embedded in the legends, myths, folklores

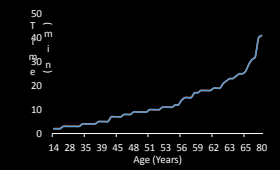
Naming Practices



Source of names for the Gimi people

- Gimi treat and see names as a very important aspect of their culture and *livelihoods*
- names carry in-depth knowledge

Audio recording - the Bamboo flute legend



The relationship between age of interviewees and the time it took to recount the same legend about the bamboo flute of the Gimi people.

- average time recount story was 12.9 minutes
- amount of details covered increased noticeably as the age increases
- elderly men took much longer time to recount the legend ($r_s = 0.99$, $N = 63$, $P < 0.05$) and covered story in greater detail

Conclusions

- Gimi has very strong relationship and intimately connected to environment
- Connected to nature through strong relationship and interactions, songs, legends, names
- Traditional conservation was already there for so many generations
- biodiversity is resource of great cultural and subsistence importance where conservation safeguards these resources for continued supply for cultural reasons and for sustainable use of resources
- wider gaps for research in this field in PNG because there are broader aspects of knowledge that is yet to be unearthed

Recommendations

- integration of both cultural and ecological knowledge at policy level that can have influence at the National, Provincial and Local levels
- Capacity building for more documentation be done on the ecology, biology and anthropological fields
- TEK needs to be incorporated into natural resource management systems
- approach and the ideas should be incorporated into existing projects by various stakeholders
- holistic approach in BIOCULTURAL Conservation that will enhance and strengthen Environmental and Cultural sustainability for Papua New Guinea

`AIMALAMA

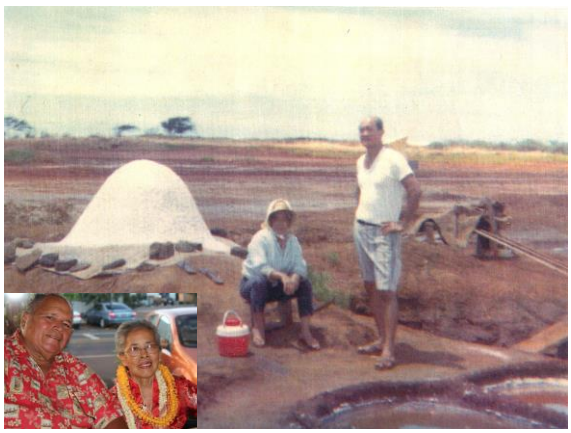
Kalei Nu'uhiwa

LAMA
Loli Aniau, Maka'ala Aniau
Climate Change, Climate Alert

Goal is to engage and empower climate justice communities in Hawai'i and globally.

http://islandclimate.net

HAWAI'INUIĀKEA
School of Hawaiian Knowledge



‘Aimalama Symposium
October 3-5, 2014
Kailua, Ko‘olaupoko, O‘ahu

The primary purpose of the **‘Aimalama Symposium** was to engage, listen and learn from one another as lunar calendar practitioners and to enhance the collective knowledge and skills of the participants regarding the use of the **Kaulana Mahina**, ancient Hawaiian lunar calendar.

http://www.aimalama.org/

‘Aimalama Symposium
October 3-5, 2014
Kailua, Ko‘olaupoko, O‘ahu

http://www.aimalama.org/

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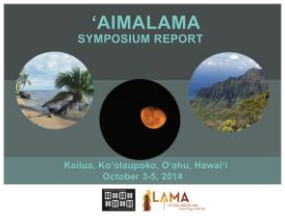


http://www.aimalama.org/

KE KAI: LOKO I'A (FISH PONDS)

Hi'ilei Kawelo, Executive Director at Paepae o He'eia, shared valuable mana'o about how the fishponds are regulated by mahina. The pond and surrounding areas are rich with Hina mo'oelo, and underscores the importance of a close relationship with the mahina. With shallow reef systems that are constantly subject to tidal changes directly impacting restoration work, the mahina is always in mind at the pond. **In light of a changing climate and changes in our environment, she stressed the need to transition our people from 'awai'a to mahi i'a ~ from fisher people to fish farmers.**

Maintenance and restoration work at Paepae o He'eia is dictated by the mahina and seasonal changes. Recorded observations of these lunar and seasonal variables have allowed their hui to determine the best times to perform different kinds of work, recognize patterns in recruits and migrations of sea life, and anticipate how mahina will affect productivity. All the while, the hui incorporates an educational component, correlating the needs of the pond with learning and teaching opportunities for the community.

"Through the disciplined cultivation of observation skills, we learn about adapting to change by anticipating the forces that arrive to influence our environment" – Roxanne Stewart

Roxy Stewart, a cultural resource teacher at Ka 'Umeke Ka'eo, utilizes Papakū Makawalu methodology in all of her work. This methodology incorporates categorization, familiarization with

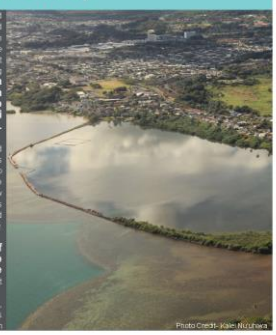


Photo Credit: Kalei Nu'uhiwa

10

'Aimalama, August 4, 2015
Hawai'i Conservation Conference

Photo Credit: Ulalia Woodside

1. Utilizing the Lunar Calendar for Readapting to Climate Change
2. Presentation by Kalei Nu'uhiwa, Olani Lilly and Roxy Stewart
3. What significant Kilo have you made in your environment in the last 3 years?

http://www.aimalama.org/

Weather

Temperature	Rain	Wind	Storms	General
High temperature start earlier in the summer all over Hawai'i	Wetter summer, drier winter in 2015	Amount of tradewind days have decreased , the winds that do come from trades are light	A lot of storms, weather changes throughout the day	Longer days
Temperature has been hotter this year & not as much rain as com armed to normal rainfall		Trade winds laps for longer periods (30+ years ago maybe 5 days per year uncomfortable at night w/o fans) now 30+ days	2014-2015 more storms	weather patterns are 2 months later than usual
This 2015 July temperatures record high			Storm season now (Aug?) for at least the past two years	Significant weather changes and hot summers
Days and nits feel hotter for a longer period of time than it did 5,10, 20 years ago			More storms & hurricanes, longer hurricane season	
Temperatures are getting warmer			More tropical storms earlier in the year	

Hawai'i	Kaua'i	Maui	O'ahu	Outside Hawai'i
Warmer winds in Hilo	Kalaheo Kaua'i rainfall monthly	In kipahulu Maui there's a drought & has had less rain in the last 2 winters	Absence of trade winds in July & August, stillness - Kaneohe	San Diego California extremes in weather patterns, drought, random rain, downpours for a few days
Waiakea Uka more hot & drier in the summer, less rainfall, less river flow		Kula Maui, increased amount of rainfall upcountry	Oahu hotter summers, hottest summer by far 2015	

http://aimalama.org

Technology – Meeting Sift

'Aimalama Lunar Conference
September 25-27, 2015
Malama- Hilinamā
Mahina- Hua, Akua, Hoku

'Aimalama Lunar Conference
September 25-27, 2015
Malama- Hilinamā
Mahina- Hua, Akua, Hoku

‘Aimalama Lunar Conference
September 25-27, 2015
Malama- Hilinamā
Mahina- Hua, Akua, Hoku

Panel 1 – Mahi I‘a (Aquaculture)
Panel 2 – Mahi‘ai (Agriculture)
Panel 3 – Birthing, Healing Practices
Panel 4 – Educators
Panel 5 – Resource Managers
Panel 6 – Lunar Calendar Tools

‘Aimalama Lunar Conference
Malama- Hilinamā
Mahina- Hua, Akua, Hoku

‘Aimalama Lunar Conference
Huaka‘i:
Ka Papa Lo‘i o Kānewai

‘Aimalama Lunar Conference
Huaka‘i: Kōkua Kalihi Valley

‘Aimalama Lunar Conference
Huaka‘i:
Kānehunamoku

‘Aimalama Lunar Conference Huaka‘i:
Kumuola Foundation

‘Aimalama Lunar Conference Huaka‘i:
Lyon Arboretum

‘Aimalama Lunar Conference Huaka‘i:
MA‘O Farms

‘Aimalama Lunar Conference Huaka‘i:
Paepae o He‘eia

‘Aimalama Lunar Conference Huaka‘i Papahana Kuaola

‘Aimalama Lunar Conference Huaka‘i:
Kaulana Mahina

ʻAimalama Lunar Conference Kilo Panel

Mahalo nui to our sponsors

Lunar Calendar Tools

- **Social Media**
  - **@Moon Phase Project**
  - **#hiloiaapaa**
  - **#kilohonua**
  - **#aimalama**

Limu ʻeleʻele last week and yesterday //
maiā @hkawelo //
Loko iʻa Heʻeia
#hilo #anahuluhoonui #hiloiaapaa

Lunar Calendar Tools

- **Moon Phase Planners**

ʻAIMALAMA
www.aimalama.org

Mahalo!

Indigenous and Local Knowledge dialogue for the Pacific Sub-region
for IPBES Asia-Pacific Assessment of Biodiversity and Ecosystem Services
1 – 4 November 2016

Contributions of Indigenous and local knowledge in assessments, policy and decision making through a Multiple Evidence Base approach

Pernilla Malmer
SwedBio at Stockholm Resilience Centre

Stockholm Resilience Centre

SwedBio

A programme at Stockholm Resilience Centre

Outline of presentation

- How **dialogues** based on equity and reciprocity across indigenous, local and scientific knowledge systems create added values and generate new solutions
- How ILKS can be combined and brought into policy and science through a **Multiple Evidence Base approach**

Indigenous and Local Knowledge Systems in the Anthropocene

- Local and indigenous populations inhabit vast often biodiversity rich areas of the world
  (Brondizio and Le Tourneau 2016 *Science)*
- Local ecological knowledge is at the core of governance, resilience and adaptation
  (Mistry and Berardi 2016 *Science)*
- Contribute to data scarce regions, but also systems understanding, management practices, dealing with change, disturbance and stewardship
  (Reyers-Garcia et al. 2016, Johnson et al. 2015 etc.)
- Fundamental inequalities

Window of opportunity

President Obama collecting melt runoff from the ice of Exit Glacier (Official White House Photo by Pete Souza)

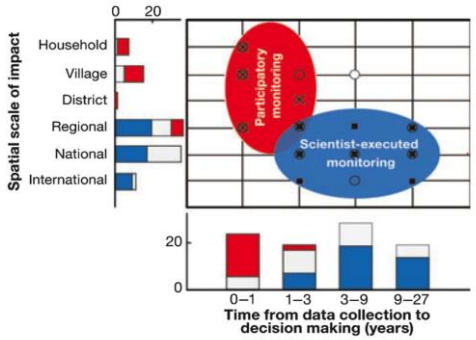
- Recognition of co-production of knowledge for sustainability
  (Future Earth, e.g. Mauser et al. 2013, Clark et al. 2016)
- Recognition of indigenous and local knowledge (ILK) in policy, e.g. community based monitoring, citizen science, and US-Canada agreement on the Arctic
- Demand for ILK in international science-policy programs such as CBD, IPBES, IPCC
- Desire to share knowledge from Indigenous Peoples and Local Communities (IPLC)

Participatory monitoring systems

- Hunters, fishermen, smallholder farmers and others in local communities observe their environment and biodiversity continuously over time.
- Community based monitoring schemes represent important sources of large amounts of valuable data.

e.g. Danielsen et al 2014; Danielsen et al. 2005; Moller et al. 2004 for syntheses)

Biodiversity monitoring: the scale and speed of implementation varies according to the degree of peoples involvement



Danielsen et al. 2010

e PISUNA project

cting biodiversity and creating multiple benefits for local communities
eenland through innovative bottom up approaches to natural resource
gement among local communities and the government

Contributed so far to 14 management recommendations, e.g;

- **setting quotas (2 proposals),**
- **changing hunting seasons (5),**
- **identifying research needs (3),**
- **altering fishery bylaws (2),**
- **others (2).**

The local municipal authority has so far responded to 11 of these 14 proposals

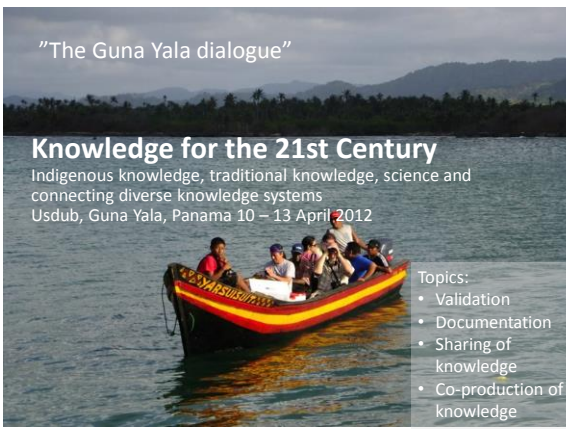
Community Based Monitoring and Information Systems (CBMIS)

"the bundle of monitoring approaches related to biodiversity, ecosystems, lands and waters, and other resources, as well as human well-being, used by indigenous peoples and local communities as tools for their management and documentation of their resources"

→ strengthen the local knowledge base for territorial resource management and community development
→ contribute case studies and data for Aichi targets and other international commitments.

M. F. Ferrari et al. 2015. CBD/COP/12/XII

Multiple Evidence Base (MEB) approach – a point of departure



Background to MEB approach

- Initial idea discussed by Thomas Elmqvist, Eduardo Brondizio, and Marja Spierenburg and presented in the report from the International Science Workshop on Assessments for IPBES, Tokyo 2011.
- Taken up in SwedBio dialogue process across knowledge systems, ***the Guna Yala dialogue***, on how to connect indigenous, local and scientific knowledge systems

Three general approaches to connect across knowledge systems

Integration:

Components of one knowledge systems incorporated into another through a validation process

Parallell approaches:

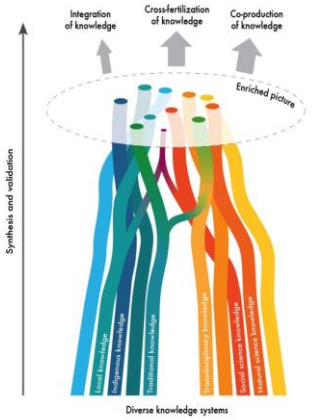
Placing knowledge systems next to each other, using separate validation mechanisms and assesing insights.

Co-production of knowledge:

Engaging in mutual processes of knowledge generation

How?

- How can we explore **synergies and complementarity** between knowledge systems to move towards more sustainable futures, while also respecting the rights and worldviews of knowledge holders?
- Legitimate, transparent, equitable, useful (salient)?

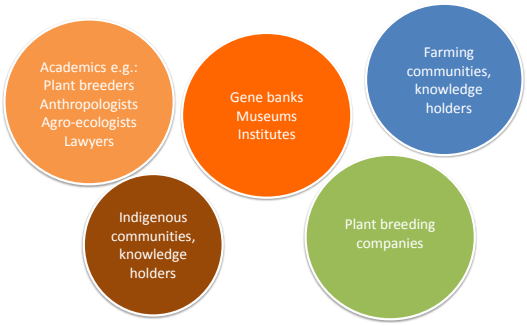


The Multiple Evidence Base (MEB)

- Complementarity of knowledge and an enriched picture
- Emphasize knowledge systems and their integrity
- Validation within rather than across knowledge systems

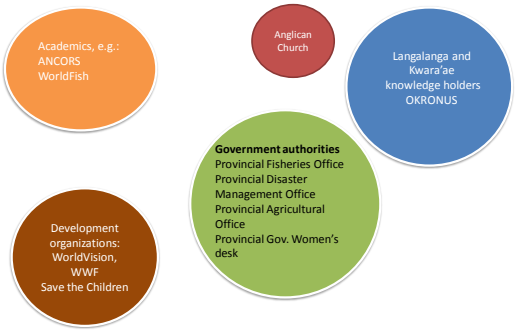
(Tengö, Brondizio, Elmqvist, Malmer, Spierenburg 2014)

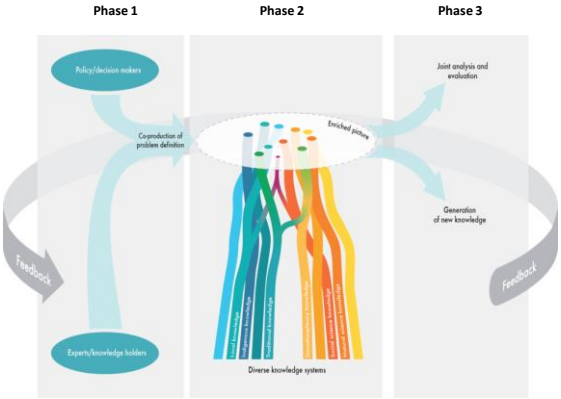
Spheres of knowledge about agricultural biodiversity and seed systems



The biocultural system of indigenous peoples and local communities of Solomon Islands

Spheres of knowledge about marine and coastal biodiversity and ecosystems in Langalanga, Malaita, Solomon Islands





Piloting a MEB approach – a cross-cultural collaborative partnership

- Tinoc, Phillipines	Tebtebba
- Hin Lad Nai, Thailand	PASD/IMPECT
- Tharaka and Masinga, Kenya	ICE/ABN
- Usdub, Guna Yala, Panama	FPCI/FPP
- Gindeberet, Ethiopia	Melca – Ethiopia
- Stockholm, Sweden	SwedBio at SRC

Insights from MEB pilots

- Mobilization of knowledge as part of securing territory, authority and rights to govern ecosystems in a sustainable way.
- Methods and approaches to mobilizing knowledge that are suited to the local context and engage with multiple facets of knowledge, including cultural and spiritual dimensions.
- Importance and role of mobilizing knowledge before engaging with other knowledge systems. Balance pover relations
- Critical with strong emphasis on the local relevance and needs.
- Interactions with science and policy to improve governance and societal decision making, visualizing and enhancing non-monetary values and perspectives
- The outcomes have been well received by local and regional authorities and collaboration has improved.

Multiple Evidence Base approach; policy outcomes

CBD:

- CBD COP12, October 2104, decision XII/12:

"Encourages Parties and indigenous and local communities … to further explore how indigenous and local communities' Community-Based Monitoring and Information Systems can contribute to monitoring of Aichi Target indicators, ***and how a Multiple Evidence Base approach be applied for validation of such data generated from diverse knowledge systems on equal terms."***

IPBES:

- Contributing in the process regarding the procedures and approaches for working with ILK in IPBES, under development, by the IPBES Task Force on ILK.

Future Earth:

- Contributing ideas and experiences

IPCC : Presented at Symposium on ILK

Research project → two main objective

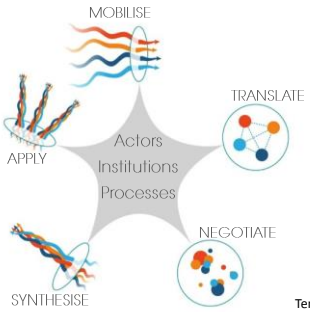
1) Intercultural 'community of practice' for generation of policy relevant syntheses on tools, approaches and experiences for implementing a MEB process
   - Review/perspective submitted to COSUST
   - Validation – initial discussions
2) Empirically analyze scaling up ILK within IPBES and the CBD.
   - Preliminary work on CBD Aichi target 18 indicators
   - Hiring a post doc!

On-going work (science and policy)

→ Useful for rethinking the context of collaboration between knowledge systems, but need for implementation

- Implementing the approach with indigenous communities – community led process
- Engagement with IPBES and CBD (policy)
- Research project: *Connecting diverse knowledge systems – developing the MEB approach*
- Following development of pollination assessment within IPBES (collaboration with Rosemary Hill (CSIRO) and the CBD

Framework for weaving knowledge systems



Tengö et al. ms

Recommendations for collaboration across diverse knowledge systems:

→ The outcome is not enough. Knowledge mobilization and generation of evidence is **a process** – creating **legitimacy and credibility and usefulness for all actors.**

→**Move from the 'integration of knowledge forms' to the 'mobilisation of knowledge actors'**

→ Equity, reciprocity, FPIC and building trust are indispensable elements

On-going work (science and policy)

→ Useful for rethinking the context of collaboration between knowledge systems, but need for implementation

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Weaving knowledge systems in IPBES, CBD and beyond – lessons learned for sustainability

- Synthesis submitted to COSUST June 2016
- Guidance for international science policy processes
  - Literature review
  - Experiences in local to global science-policy processes
  - IPBES Pollination assessment and CBD Plan of Action for Customary Sustainable Use as illustrations

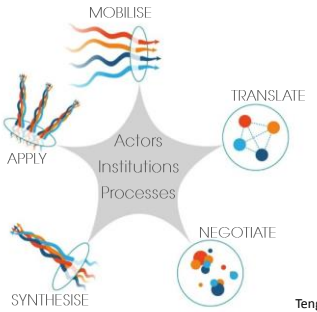
(Tengö, Hill, Malmer, Raymond, Spierenburg, Danielsen, Elmqvist, Folke, ms)

Framework for weaving knowledge systems

Guiding collaboration with ILKS

- Actors: *How were diverse knowledge systems' actors engaged?*
  - Who is representing ILK? Researchers/ILK holders/'scale crossing ILK holders'
- Institutions: *How were diverse knowledge systems' institutions involved?*
  - Validation, governance, control of knowledge
- Processes: *Did the processes provide for equity and power-sharing between and among diverse knowledge systems?*
  - Boundary work

Framework for weaving knowledge systems



Tengö et al. ms

MOBILISE

Development of a knowledge-based product through a process of innovation and/or engaging with past knowledge and experience.

- Validation within knowledge systems, integrity respected

IPBES pollination assessment:

- Open call for contributions, focus on dialogue – assumes that knowledge is available
- Some independent mobilization among knowledge holders:
  - Honey hunters knowledge in Indonesia: how flowering signals harvest-times; songs required for successful harvests; taboos on felling nest trees; spiritual relationships between people and pollinators; actions to foster pollinator nesting resources

TRANSLATE

Adapt a knowledge product into a form appropriate to enable mutual comprehension in the face of differences between actors

IPBES pollination assessment:

- Global Dialogue in Guna Yala, participants including ILK holders, ILK experts, other scientists. Joint presentations and discussions.

NEGOTIATE

Interact between different knowledge systems to develop mutually respectful and useful representations of knowledge

IPBES pollination assessment:

- To some extent during Global Dialogue
- Content of chapters decided by lead authors, mainly natural scientists (one ILK experts, no ILK-holders)

SYNTHESISE

Shape a broadly accepted common knowledge base for a particular purpose

Weaving rather than integration into one 'currency' or knowledge systems

IPBES pollination assessment:

- Led by scientists, one ILK expert, no ILK holder involved
- Not discussed with ILK holders

APPLY

Use the common knowledge base to make decisions and/or take actions and to reinforce and feedback into the knowledge systems

IPBES pollination assessment:

- Summary for Policy Makers widely spread. Considered by CBD in December 2016 and subsequently by national level governments.
- Not yet brought back to contributing communities (but may still happen)

Conclusions

- IPBES pollinations assessment: highlights practices based on ILK supporting an abundance and diversity of pollinators can – can contribute to solutions to pollinator crisis
- But flaws in terms of engaging actors, institutions, in power-sharing processes

- Mobilization within knowledge systems important but often overlooked
- Importance of boundary work and scale-crossing knowledge holders (but need formal recognition)

Conclusions

- Attention to the roles of actors, institutions and processes in the five tasks a foundation for weaving knowledge that is useable:
  - To support indigenous and local community efforts towards sustainability
  - for insights and innovation from ILKS to strengthen the efforts of industrialised societies in transformations towards stewardship

Sustainable resource management based on Alifuru enforcement mechanisms: Highlighting *sasi*.

Ghazali Ohorella

Overview

An explanation of *sasi*, a local traditional resource management system in Central Maluku, including presence and performance;

•A case study of the, *sasi* institution "Sasi Lompa" to show the performance and potential for resource management;

•Outlining institutional resilience of *sasi* and the mechanisms behind it in order to provide building blocks for newly to be established management institutions.

In short, what, where is Maluku

- Also known as "spice islands"
- Maluku covers 999 islands;
- Approx. 2 million people;
- Central Maluku is Seram, Buru, Ambon, the Lease Islands (Haruku, Saparua and Nusa Laut) and the Bandas.
- Central Maluku mostly instituted sasi, other regions emerging;
- The total area of central Maluku is 284,308 km^2;
- 255,090 km^2 of sea and 29,218 km^2 of land.
- Maluku land total of 180 km^2, only 10% of territory.

History of *sasi* in Maluku

- Introduction of Islam and Christianity during occupation of Arabs (15th century) and the Dutch (17th century), outlawed any form of Alifuru rituals, in 1880 the Dutch even attempted to abolish sasi, breaking down the power of kewang (environment stewards);
- Alifuru practices suppressed during colonial rule by Portuguese and Dutch. Indonesian independence in 1950, and forced integration after overthrow of Republic of South-Moluccas, meant a further blow to the indigenous language and culture;
- Despite all this, *sasi* was still performed as a conservation function.

Distribution of *sasi* on land and marine resources

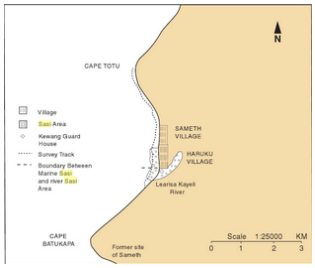
- Sasi is part of indigenous law, its an encompassing body of meaningful relations between people, the natural environment, spirits and ancestors;
- Sasi can be described as a prohibition on the harvesting of certain natural resources in an effort to protect the quality and population of such resources, plant or animal. It is also an effort to maintain the patterns of social life by equally distributing among all local inhabitants the benefits from the surrounding natural resources.
- Sasi has been here since time immemorial, it is a social institution with a code of conduct, rules and regulations vesting the means to control over lands, territories and resources;
- The rules of sasi are decided at a meeting of the Saniri, village council. The kewang, members of which are chosen from every clan, is the institution charged with supervising the implementation of sasi rules. The kewang is also responsible for punishing or disciplining citizens violating these rules.

Distribution of *sasi* on land and marine resources

- There are four types of sasi in Maluku- sea, river, forest and village. They have several prohibitions like entering a certain area, they also comprise several detailed rules, such as those specifying the fishing gear, which may be used, as well as prescriptions of fines.
- A number of additional regulations have been formulated in tune with modern developments. An example is the ban on the use of a type of fine-mesh factory-made net called karoro, which has appeared only in recent years.
- A number of additional regulations have been formulated in tune with modern developments. An example is the ban on the use of a type of fine-mesh factory-made net called karoro, which has appeared only in recent years.

Sasi institution “Sasi Lompa” on Haruku, Central Maluku

- Even though Maluku is part of the global center for coral reef biodiversity, home to hundreds of fish families;
- Sasi is mostly applied on land resources than marine resources, with an average of 5 to 1 ratio.
- In Haruku: Steep decline of lompa fish since the 80s;
- Sasi measure invoked trice a year.



Sasi institution “Sasi Lompa” on Haruku, Central Maluku

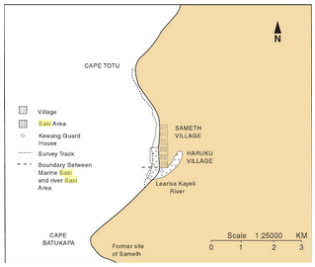
- The sasi relating to the lompa fish (a kind of small sardine) is of particular interest since it represents an integration of the sea and river sasi. The lompa is found only in Haruku and not elsewhere in Maluku. Like salmon, it lives both in the sea and the river, moving out in the evening to the open sea in search of food, and returning to the river only in the early hours of the morning.
- A ceremony called the panas sasi is held twice a year to mark the start of sasi. The kewang head then delivers a speech declaring the beginning of sasi. The secretary of the kewang reads out the sasi regulations on lompa and the punishments for violations.

Sasi institution “Sasi Lompa” on Haruku, Central Maluku

- The sasi rules specify, among other stipulations, that the lompa may not be caught or otherwise disturbed, in the area covered by the sasi. There is also a ban on sea-going motor boats entering the river with their engines running. Lompa needed for bait may be caught only with a hook, but not from the river.
- Those who violate the rules are fined. Even child culprits are punished.

Sasi institution “Sasi Lompa” on Haruku, Central Maluku

- Five to seven months later, when the protected lompa fish grow large enough to be harvested, a second, similar panas sasi takes place;
- After the ceremony, the head of the kewang lights a bonfire at the mouth of the river to draw the lompa into the river;
- Community is allowed to harvest lompa.



Eliza Kissya (Kewang chief of Haruku)

- Appointed as Kewang chief in 1979
- He and his brother gave up school at elementary level to undergo preparation for their future positions
- As a kewang chief, he feels called upon to apply the traditions of sasi as a means to preserve natural resources on land and in the water.
- To earn some money for the institution, in 1980 he wrote a book -- Sasi Aman Harukui (The Sasi of Haruku) -- in which he describes the sasi traditions and the kewang role to the public.

Other significant examples of *sasi* institutions

- 1999: The tiny island of Nusa Laut (home to 1300 families) was threatened by a mining company. All the heads of Saniri in Nusa Laut gathered and instructed their Kewangs to call a sasi. The mining company had the backing of Indonesian armed forces, there was a standoff between the Indigenous peoples and the armed forces. Eventually the mining company withdrew, because of the sasi.
- 2016: Romang has since 2006 become the aim of PT. Gemala Borneo Utama, the people of Romang recently had to witness increasing land grabs from the mining company. The Indigenous peoples have therefore asked to revoke the license of PT. Gemala Borneo Utama, and are preparing to institute a *sasi.*

Saniri Alifuru has registered an increase of *sasi* institutions since 2005, an alarming amount have been instituted on land territories and resources, against extractive industries.

Matebulu!

"Today, people talk about sustainable development. But hundreds of years ago, our ancestors created and enforced *sasi*, laws which are still adhered to in our community" - Eliza Kessya

The future of *sasi* in the protection of our environment

- *Sasi* is intrinsically part of the culture and enjoys a shared notion of its high relevance, it proves to be resilient and adaptive to external perturbations and stimulates villages to maintain it in spite of external and financial influences;
- The future of the biodiversity depends on the transfer of *sasi* knowledge and spirit thereof onto the next generation(s).
- *Saniri Alifuru* is setting up free classes for Alifuru children to learn language, chants and ceremonies.

SISI INITIATIVE SITE SUPPORT GROUP, FIJI REVITILIZATION, RESTORATION AND REHABILITATION PROGRAM

Petero Qaloibau

Establishing a Land Management Approach to conserve the Indigenous Community Protected Area

- The Sisi Initiative SSG has established a community protected area in the Natewa-Tunuloa Peninsula, Vanua Levu, Fiji.
- Founded in 2005 but formalized in 2009 (Birdlife International Fiji Programme).
- Equator Initiative Prize Winner at the Rio+20 in 2012.
- With a specific goal to conserve and sustainably manage the forests (17,600-hectare IBA) for the benefit of landowning communities and for the wider population of Fiji.

-Cont.

- Excessive logging, human-induced fires, agricultural encroachment and overgrazing has been the main threat to the peninsula's forest.
- Deforestation leads to soil erosion and water insecurity, disrupting ecosystem functioning which leads to affecting availability of drinking water as well as threatening birds and wider biodiversity.
- Marine resources and the living conditions of the local and vulnerable communities who live around the vicinity of the IBA were affected as a result.

Sustainable Land Use Approach and Practices.

- Continuous community awareness through sustainable practices with Government Departments such as Land Use Department, Department of Forestry & Fisheries and Agriculture Department and NGO's.
- Establishment of livelihood initiative through Income generation projects
- Empowerment to local communities through upskilling activities on Traditional practices

Revival of Traditional Farming through Wet Land Terraces for Sustainable land use practices

to maintain the agricultural biodiversity and productivity within the landscape through reviving traditional crop varieties and establishment of demonstration or model farms.

Construction of Community Native, Fruiting & Timber tree species for reforestation of degraded areas.

Rehabilitation of Coastal Area through Replanting of Mangroves to prevent erosion

Establishment of Income generating projects to local communities

Establishment of Eco-tourism projects

Our Community Based Office

Thank You

Women in Business Development Inc SAMOA

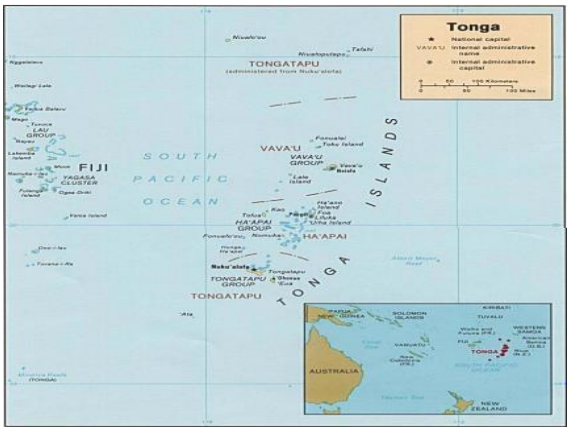
Fine Mat Project

Fuimaono Rosalia Me

Traditional local knowledge helps Tonga face climate change challenges

Prepared by Polikalepo Kefu

IPBES Sub Regional on Indigenous and Local Knowledge for the Pacific sub region



Traditional knowledge helps

- "Adaptation to change is an inherent part of the lifestyles of the Tongan community, and traditional knowledge, values and practices are at the core of resilience and the ability of our islands to live and thrive in Tonga's changing environment."

Threats to Tonga's Biodiversity

- Habitat Loss
- Habitat Degradation
- Over Exploitation of Biological Resources
- Type of Fishing Methods
- Pollution
- Urbanization
- Tropical Cyclone and Tsunami
- Lack of Awareness and Education
- Diseases


Fa'afetai lava
Malo Aupito
Tika hoki, Ka pai
Vinaka vaka levu
謝謝
감사합니다
Tak
شكرا لك
Salamat sa iyo
Mauruuru
diolch yn fawr
Thank you

Marshallese Knowledge Systems

Brooke Takala Abraham
btakala@gmail.com

WÕDDEJIPPIL
JAR DRIKDRIK JERAN MEJ

UN Special Rapporteur on Human Rights and the Environment

- ERUB (Enewetak, Rongelap, Utrõk, Bikini), Iju in Eañ (Rongelap women's NGO), Elimoñdik (Enewetak NGO)
- Biodiversity legislation
  - RMI ratified Convention on Biological Diversity
  - Human Rights Committee
- Good Practices
  - procedural rights, legislation, remedies
- Challenges and obstacles
  - Access to information (classified nuclear documents, US militarization)
- Rights of the vulnerable
  - Outer islands
  - 4 atolls, Kwajalein
- Protection of defenders working on biodiversity and conservation
  - No protective legislation
  - Backlash

Iien Idiñ (disaster)

- Marshall Islands Women's Research Initiative
- Menstrual Health Management (MHM) during disaster
  - Water, local medicines, contaminants
- Indigenous Research Methodology
  - Developed project in Marshallese, collaborative
- Pilot project

Drought Assessment

- Women United Together Marshall Islands (WUTMI), Marshall Islands Women's Research Initiative
- Multi-island assessment
- Post-Disaster Needs Assessment (PDNA)
- Indigenous Research Methodology (collaborative, protocols, reciprocity)

Historical Ecology

- Research Institute for Humanities and Nature, Center for Political Ecology, MIWRI
- Discussions with traditional leaders, elected leaders, stakeholders, community members, NGOs
- Nuclear legacy
  - Biodiversity
  - Health
  - Human rights
  - Sustainable development

Environmental Disaster & Resilience (for *Cultural Survival*)

- Center for Political Ecology & MIWRI
- Anthropogenic disaster from US nuclear testing & continued militarization
- Remediation
- Citizen science

Universal Periodic Review (UPR) Shadow Report

- ERUB, Iju in Eañ, Elimoñdik, Center for Political Ecology, Gensuikyo, others
- Submitted to US & RMI
- Human Rights violations related to nuclear legacy
  - Runit Dome
  - Indigenous Rights
  - Health issues (linked to environmental pollutants)

Ejab maron ERUB

- Re-centering of MKS
- Democratization of research process
- Collaborative study
- Time

Kom kanuuj in emol!

Annex 3: Sub-regional ILK networking

Annex 3-1: Preliminary proposal of IGES for the sub-regional networking and facilitation related to ILK

Table 3-1: The summary of preliminary proposal of IGES for the sub-regional networking and facilitation related to ILK

1. Draft criteria for the participating organizations to the network

The preliminary draft criteria have been prepare to identify target organizations to participate in the network. There are three criteria;

1) To have works/researches experiences on ILK;

2)To be expected to continue their work; and

3) To have interest in contribution to IPBES or similar assessment processes

2. Expected activities of the network (examples)

A list of expected activities of the network has been prepared to identify the nature of the network. However, actual activities practiced by the network will be largely affected by the members of the network or hubs. Therefore the list is considered as examples of activities that will help the network members to develop concrete list of activities by themselves. It would be also necessary to consult IPBES experts about their needs for the network in the course of development of the network.

The examples of expected activities are

1) To identify ILK Holders/Experts;

2)To gather information on documentation relevant to ILK; and

3) To interpret ILK into relevant language or context usable to assessment processes.

3. Steps to establish networks

Following are the tentative steps to establish the networks, hubs or other relevant framework to facilitate and networking ILK community with IPBES community.

- Step1: Prepare questionnaire to inquire the participants of the sub-regional workshops to identify the needs, suggestions, concerns, questions, related to such networks
- Step 2: IGES compiles the result and analyze them, and share the result of the survey the participants during the sub-regional workshops and have discussion as consultation processes
- Step 3: Establish a preliminary network by inviting interested participants of respective workshop with revised criteria, activities and procedure that reflects the needs of each sub-region.
- Step 4: Prepare application procedures and make a call to have new additions to expand network members.

Annex 3-2: Results of the Questionnaire for sub-regional ILK networking

Table 3-2-1: List of the target regions, countries, regions, and communities **by Organization**

Name of organization	**Country**	**The target Regions**	**The target countries**	**The target communities**
Organization A	Fiji	Pacific	Solomon Is., Vanuatu, Fiji, Tonga, Samoa, Niue, Tuvalu, Tokelau, Cook Islands, Kiribati, Nauru, and Marshall Islands	12 Independent Pacific Island countries
Organization B	Australia	Western Australia, Australia, and Global, and IUCN Regions,	Australia, IUCN region countries.	Network of Organizations
Organization C	New Zealand	Pacific	Pacific countries	Maori and others
Organization D	China	Asia-Pacific region	Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and based in Kathmandu, Nepal	Communities from eight regional member countries of the Hindu Kush Himalayas
Organization E	China	Asia-Pacific region	China	Indigenous communities in different sub-regions of Thailand; Myanmar (through partner organizations)

Table 3-2-2: List of the target activities, issues, fields of the activities relevant to ILK and major languages **by Organizations**

Name of organization	**The target activities, issues, fields of the activities relevant to ILK**	**Major languages**
Organization A	Science, social scientific, education, law in basically all teaching, research and community outreach activities with strong foci on marine and island resource and community development.	Over 12 indigenous Pacific Island languages, plus, English, French, pidgin English (teach English, French, Fijian, Hindi and Cook Island Maori

Name of organization	The target activities, issues, fields of the activities relevant to ILK	Major languages
Organization B	Land Management, Restoration, Indigenous Knowledge for land management, Cultural knowledge for preservation/conservation of Biodiversity, Cultural and spiritual significance of water, medicinal use of biodiversity	English
Organization C	-Ensure appropriate sharing of ILK to inform global decisions -Support indigenous enterprise particularly under ILO Conventions 111 & 169 -Support intergenerational transfer of ILK	English, Te Reo, Cook Island Maori
Organization D	A few target activities or programmes are relevant to ILK, including water resources monitoring and assessment; mountain hazards and disaster risk reduction; REDD+ for community; climate change adaptation; conservation and development in transboundary landscapes; and ecosystem management etc.	English
Organization E	- Focus on developing indigenous culture and application research of biodiversity ic awareness and the contributions of women.conservation; exploring the research of adaptability method, approach and management mechanism of biodiversity conservation in ethnic groups. At the same time, protecting and improving the livelihoods, food security, the rural ecological agriculture environment and quality of life of indigenous peoples and local communities. - Focus on the activities of land degradation and restoration, sustainable use and conservation in China. For instance, Dong people have created the "Rice – Fish - Duck Symbiotic System" for thousands of years in Conjiang County, China. The system contributing to improve grain and food production levels under limited resources conditions without chemical fertilizers and pesticides. - Focus on the activities of traditional varieties and seeds saving, public participation, publ	Researcher and local experts: English, Chinese, Dong language, Miao language, Tujia language.

Table 3-2-3: List of view on the needs for possible functions of the sub-regional network **by Aspects**

Aspects	View on the needs for possible functions of the sub-regional network
Function	- Network would be a good information platform. (2) - It is necessary to establish to dig out ILK scattering in communities especially in remote area such as mountains to include and network more and more experts from different levels. -Documentation and to set up dataset of media for knowledge sharing. (1) -Development of community-based programmes to conserve, sustainably use and restore BES within the Pacific Islands (Oceania) region. (1) - Relevant ways to raise awareness and to protect BES-related ILK in the sub region. (1) -Raise visibility of ILK. (1)

Aspects	View on the needs for possible functions of the sub-regional network
Share/ Engagement	- To promote the exchange and communication among ILK holders and experts.(1) - Network should be accessible from any country. (1) - Share strategies for community-based BES assessments. (1) - Cover critical areas of knowledge and engagement like Australia which has a large number of ILK knowledge holders from many different Bioregions and Language Group. (1) -Build trust amongst ILK and UN authors. (1)

Table 3-2-4: List of view on the challenges, concerns and suggestions for possible functions of the sub-regional network **by Aspects**

Aspects	View on the challenges, concerns and suggestions for possible functions of the sub-regional network
System/Fund	-How to ensure effective participation for all participants. (1) -Make everything easier for young local people, or local experts to get involved. (1) -Lack of funding for capacity building for ILK. (1)
Differences	-Different points of view of people using ILK. (1)
Others (Intellectual property issue/ Capacity Building)	-Intellectual property issues. (1) -To address workshop on capacity building addressing IP, EPIC, ABS, and assisting in publishing of ILK. (1)

Table 3-4-5: List of view on the needs, challenges, concerns, suggestions for possible functions of the sub-regional network **by Organization**

Name of organization	View on the needs, challenges, concerns, suggestions for possible functions of the sub-regional network
Organization A	Share strategies for community-based BES assessments; the development of community-based programmes to conserve, sustainably use and restore BES within the Pacific Islands (Oceania) region; and relevant ways to raise awareness among and to protect BES-related ILK in the sub-region.
Organization B	We need to include Indigenous Knowledge Holders from Australia, which has a large number of ILK knowledge holders from many different Bioregions (86? Terrestrial, also many marine ecosystems) and Language Groups. There is extensive knowledge passed on for up to 40,000 years lying within these Groups, I feel we are missing critical areas of knowledge and engagement
Organization C	Intellectual property issues Difference in world views of people using ILK Need to build trust amongst ILK and UN authors Need to raise visibility of ILK Lack of funding for capacity building for ILK To address all of above eg workshops on capacity building re addressing IP, FPIC, ABS, and assisting publishing of ILK etc.
Organization D	It is necessary to establish a sub-regional platform or network to promote the exchange and communication among ILK holders and experts, to dig out and document ILK scattering in communities especially in remote areas such as

Name of organization	View on the needs, challenges, concerns, suggestions for possible functions of the sub-regional network
	mountains, to include and network more and more experts from different levels, and to set up a dataset or media for knowledge sharing.
Organization E	As far as I am concerned, sub-regional network would be a good information platform for us. I hope the network will be able to work in China, because many websites are blocked in China. For example, we didn't succeed to reach many web pages, like "dropbox", "google", "Facebook" etc. Due to the time differences and different types of work, how to ensure effective participation for all participants is a challenge for the network. And how do we get this network make everything easier as more people could get involved, like young local people, local experts?

Table 3-2-6: List of contributions from organizations to the network **by Aspects**

Aspects	Contributions from your organization to the network
Program/ Workshop	- Develop ILK content in all relevant programme. (1) - Run education programs. (1) - Workshop on capacity buildings about addressing IP, EPIC, ABS, and assisting in publishing of ILK. (1) - Involve staff, graduates and current students in Pacific Islands. (1) - Host workshops. (1)
Sharing/ Connection	- Share knowledge and experience in ILK work is possible to contribute with partners. /Share case studies and experiences. (2) - Network and connect with appropriate Groups and local ILK members, including of knowledge holders in planned workshop. (2)
Others	- Identify priorities. (1)

Table 3-2-7: List of contributions from organizations to the network **by Organization**

Name of organization	Contributions from your organization to the network
Organization A	Run education programmes, development ILK content in all relevant programme and involved staff, graduates and current Pacific Island students in all relevant aspects of assessments, recording and applying ILK to BES conservation
Organization B	Networking and connecting with appropriate Groups, inclusion of knowledge holders in planned workshops
Organization C	To address all of above eg workshops on capacity building re addressing IP, FPIC, ABS, and assisting publishing of ILK etc. Hosting workshops Connecting our ILK members Identifying priorities
Organization D	Share its knowledge and experience in ILK work, and coordinate with partners in the Hindu Kush Himalayan region.
Organization E	If the network is established, we would like to share case studies and experiences to the network. Meanwhile, we could help spread the word about the content on this website.

Table 3-2-8: List of ideas and suggestions to secure the sustainability of the network, challenges or constraints from participants **by Aspects**

Aspects	**Ideas and suggestions to secure the sustainability of the network. Challenges or constraints for it**
Knowledge/ Leadership/ Supportive Function	- Let the network be driven by ILK local community leaders in BES related activities based on co-management with appropriate governmental and NGO entities. (1) - Maximize support for the network. (1) - Find committed, knowledgeable leadership from ILK communities. (1) - More inclusive (having more ILK holders from the AP region). (1) - More multi-dimensional (not limit within the fields of ecosystem services and biodiversity).(1) -More open (serving not only for IPBES assessment). (1)
Activity area/ Fund	- Focus more widely on conservation of cultural or human modified landscapes and BES conservation. (1) - Funded Co-coordinator. (1)
Research/ Bulleting	- Opportunities of joint research cooperation on ILK issues in Asia Pacific region. (1) - A bulletin. (1)
Others	- Network meetings. (1) - Further discussions. (1)

Table 3-2-9: List of ideas and suggestions to secure the sustainability of the network, challenges or constraints from participants **by Organization**

Name of organization	**Ideas and suggestions to secure the sustainability of the network. Challenges or constraints for it**
Organization A	Let it be driven by ILK community leaders in BES related activities. Maximise support for the network instead of building up a more centralized network – to do so must find committed, knowledgeable leadership from ILK communities. It must be also more widely focus on conservation of cultural or human modified landscapes (both rural and urban and both island and nearshore marine) and BES conservation in these area (e.g., like Japan's Satoyama-Satoumi) assessment – JSSA), because most of the best-known, culturally-important and the most threatened biodiversity on most Pacific Islands is found in and around rural and urban agricultural areas and in human modified and/or managed nearshore marine areas. In other words BES conservation must be based more on conservation of BES by local communities based on co-management (with appropriate governmental and NGO entities) of important rural and urban ecosystems by building synergies, between ILK and the best modern science in appropriate sectors (e.g., forestry, agriculture, fisheries, health, education, conservation and environment, tourism, women and culture, etc.) . . . a stated priority of IPBES!
Organization B	Funded Co-ordinator, at this stage I do not have enough information of knowledge about the proposal to make any further comments
Organization C	For the network to be sustainable, there must be a mechanism developed to enable ILK holders and experts to interact. To do this there should be financial and material supported for such work.

Name of organization	Ideas and suggestions to secure the sustainability of the network. Challenges or constraints for it
Organization D	This network should be more inclusive (having more ILK holders from the AP region); more multi-dimensional (not limit within the fields of ecosystem services and biodiversity); and more open (serving not only for IPBES assessment).
Organization E	1. The opportunities of joint research cooperation on ILK issue in Asia-Pacific region. 2. In my opinion, a bulletin is necessary for the network. It will carry out trace and report of the work progress. 3. Network meetings.