

Learning from Experience:

How indigenous peoples and local communities contribute to wetland conservation in Asia and Oceania

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Ramsar Convention

The Convention on Wetlands, called the Ramsar Convention, is an intergovernmental treaty whose mission is “the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world”. Under the “three pillars” of the Convention, the Contracting Parties commit to: work towards the wise use of all their wetlands; designate suitable wetlands for the list of Wetlands of International Importance (the “Ramsar List”) and ensure their effective management; and cooperate internationally on transboundary wetlands, shared wetland systems and shared species.

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Contents

Foreword: Oceania	4
Foreword: Asia	5
Acknowledgements	6
Executive summary	7
Introduction.....	8
Ramsar Sites in Asia and Oceania.....	11
Good practice	13
1. Application of traditional beliefs and knowledge for wetland management	16
Philippines	17
Japan	20
Lao PDR.....	21
2. Involvement in active wetland management	22
India.....	23
Australia	25
India.....	26
3. Maintaining a wetland-dependant lifestyle	27
Iraq.....	28
4. Involvement in Ramsar processes	31
Myanmar.....	32
Australia.....	35
5. Involvement in decision-making and governance.....	37
New Zealand.....	38
Marshall Islands	41
6. Adopting alternative sustainable livelihoods	42
I.R. Iran	43
Fiji.....	46
7. Documenting, sharing and celebrating indigenous knowledge	48
Australia	49
Nepal.....	52
Papua New Guinea.....	53
Recommendations	56
Photo Credits	59
Dedication: Dr. Dhruvajyoti Ghosh.....	60

Foreword: Oceania



Indigenous people and local communities are integral to the conservation of wetlands the world over. I believe good custodianship is a collective responsibility, it is what our forefathers did for us and we owe it to our future generations to manage our wetlands and resource use in these areas.

We are fortunate that our forefathers were wise custodians, and they gifted the pristine environment that we enjoy today. They recognized that wetlands are more than an ecosystem, the resources in them are crucial to our language and culture, significant flora and fauna are cultural totems that contribute to our cultural identity.

However, times are changing, the threats brought about by climate change, pollution, and development are putting wetlands, our livelihoods and our very identity under threat of extinction.

And so I believe the time for action is now, and one of the ways we can take action is to share our stories and experiences. In my province, sharing stories about the importance of wetlands and why we should look after them helped communities realise their value and importance.

As Tui Macuata, I am proud that members of my community namely the Qoliqoli Cokovata have worked consistently to ensure that their traditional fishing grounds were nominated as a Ramsar site. Our learning is that collaboration between resource owners, government and environmental organisations is key to wetland conservation.

As a traditional leader, I am constantly reminding our partners not to re-invent the wheel but to tap into the existing community and traditional networks and knowledge we have. After all, these networks and their practices helped our forefathers manage the wetlands. That approach, coupled with 'new knowledge' such as scientific evidence and practice will help address threats to wetlands.

The case studies in this report have their own learnings, some are similar and others differ. And this is what makes our contribution as indigenous peoples and communities to wetlands conservation unique- and I pleased that they are captured well in this report and I am confident they will be shared widely.

I hope that communities will read this report and realise they need to take the first step in conserving wetlands. This report will illustrate that there is no single solution or approach.

I would like to share what I tell my communities and those who use the resources in our wetlands, be proud that you live in and access the wetland's rich resources look after these God given resources. We should hand our wetlands to our children in the same or in better state that we received them.

God bless you all.

Ratu Wiliame Katonivere
Tui Macuata
Fiji

Foreword: Asia



Wetlands have always been an essential part of my life. I grew up in the heart of the middle-marshes in an area called Al-wadia, which is surrounded by local communities, distinctive habitats, rich biological diversity, deep-water streams and lakes and all accompanying tales, legends and culture.

When I was a young boy, I had the chance to meet Gavin Young (the British gentleman who was obsessed with the marshes) while my father (Sayyied Sarwat) was hosting him. I realized back then how important this spot is to the world. When Gavin Young published his book “Return to the Marshes”, I felt overwhelmed with the concern that he had for the Marsh Arabs and their marshlands and how important it is to protect them.

The Dictatorship and its repressive polices drained off the entire marshes in 1991 and destroyed everything, transforming the full-of-life environment to ruins and a desert and forcing the people to flee the area after losing their assets and beautiful life-style.

Man can be shattered yet never give up. That is why, once the Ba’ath regime fell, people used all available tools like axes, sharp objects and small water pumps to take down the landslide dams that stopped water from rivers and streams flowing into the marshes. Within days, weeks and months the marshes regained their soul as well as their biological diversity. Buffalo herders and fishermen resumed their economic activities. We got back the environment that we loved and the life that we knew.

As local communities, we organized a campaign in Hasankeyf city to address the water scarcity in Dijlah River back in 2013. This campaign drew the attention of the different governments to the cultural similarities all along this river, and the importance of good water management protocols for the sustainability of the marshes and the wetlands that depend on the river.

The local marsh people held huge celebrations in 2016 after the marshes joined the list of UNESCO World Heritage Sites. Reed houses witnessed many activities to celebrate this achievement.

Currently our local communities are cooperating together to fight water scarcity. Many workshops and sessions have been held, and a unified public opinion is developing on conserving these sites since we fully understand that without the wetlands, and especially without the marshes, we will never have the same life again.

Abbas Sayyied Sarwat Al-Ismaeeli
Iraq

Acknowledgements

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We take this opportunity to extend our special thanks to the MAVA Foundation for their generous support of this publication.

Finally, we would like to thank the many people who live and work in these exceptional sites for their long established commitment to the protection of their wetlands through their cultural values, traditional knowledge and sustainable practices for the benefit of future generations.



Executive summary

Wetlands provide a range of vital ecosystem services for human life and the environment, including; water purification, flood protection, shoreline stabilization, groundwater recharge, streamflow maintenance, climate regulation, carbon storage, biodiversity support and provision of food resources and other materials. Unsurprisingly, humans have a long history of interaction with wetlands. Indigenous people and local communities have developed a wealth of indigenous ecological knowledge, cultural practices and time-honoured traditions that contribute to maintaining wetland functions and values.

The Ramsar Strategic Plan 2016-2024¹ encourages Contracting Parties to promote, recognize and strengthen active participation of indigenous peoples and local communities, as key stakeholders for conservation and integrated wetland management. The Strategic Plan requests parties to document, respect and integrate traditional knowledge, innovations and customary use into their wetland planning and management.

This report aims to showcase experiences about the relationship of indigenous peoples and local communities with wetlands, through stories about particular Ramsar Sites (or other wetlands). The target audience is the wider 'Ramsar community', including Contracting Parties, National Focal Points, STRP Focal Points, CEPA Focal Points, indigenous and community groups, IOPs and other MEAs, and also those outside the 'Ramsar community' who are working on issues concerning indigenous peoples, local communities and wetlands.

Sixteen contemporary case studies, submitted from across Asia and Oceania, reveal broad themes of good practice and the myriad ways that indigenous people and local communities are contributing to wetland wise use and conservation.

Seven broad themes are illustrated in this report:

1. Application of traditional beliefs and knowledge for wetland management
2. Involvement in active wetland management
3. Maintaining a wetland-dependant lifestyle
4. Involvement in Ramsar processes
5. Involvement in decision-making and governance
6. Adopting alternative sustainable livelihoods
7. Documenting, sharing and celebrating indigenous knowledge

These themes provide the basis of a suite of recommendations to strengthen the role of indigenous people and local communities in wetland management, including deeper involvement in Ramsar processes.

¹ www.ramsar.org/the-ramsar-strategic-plan-2016-24

Introduction

Throughout the ages, many human settlements have been located in or adjacent to wetlands. Long-standing rights, ancestral values, and traditional knowledge and institutions are often associated with the wise use of wetlands with a history of human interaction. As culture continuously evolves, cultural values are associated not only with the past, but also with the present. Wetlands are an integral part of the identity of some communities, particularly those who inhabit them. Loss or degradation of wetlands not only removes important socio-economic resources, but can also cause profound social damage to local and indigenous people².

Since its adoption in 1971, the Ramsar Convention on Wetlands has increasingly recognized the cultural importance of wetlands.

In 1999, the Convention adopted the “Guidelines for establishing and strengthening local communities’ and indigenous people’s participation in the management of wetlands”³.

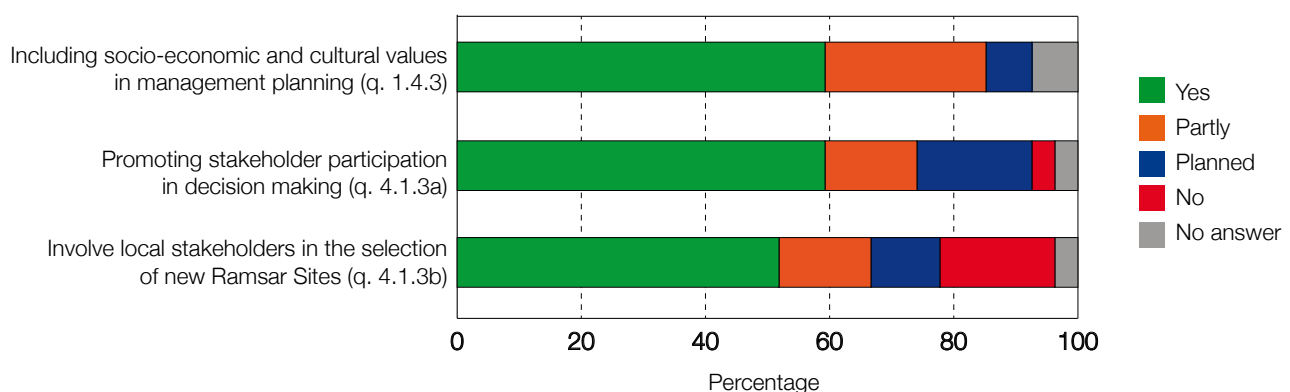
In 2005 the Convention’s Contracting Parties agreed that when assessing wetlands as potential Ramsar Sites,⁴ a wetland may be considered of international importance when, in addition to relevant ecological values, it holds examples of significant cultural values⁵.

In 2015 the Convention adopted The Ramsar Strategic Plan 2016-2024⁶ which recognizes that the wise and customary use of wetlands by indigenous peoples and local communities can play an important role in their conservation. The Strategic Plan encourages Contracting Parties⁷ to promote, recognize and strengthen active participation of indigenous peoples and local communities, as key stakeholders for conservation and integrated wetland management.

The Strategic Plan further requests that “*the traditional knowledge, innovations and practices of indigenous peoples and local communities relevant for the wise use of wetlands and their customary use of wetland resources are documented, respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention, with a full and effective participation of indigenous peoples and local communities at all relevant levels.*”

National Reports submitted to the Ramsar Secretariat in 2014 (prior to the release of the Strategic Plan), reveal that only 51% of Contracting Parties in Asia and 83% in Oceania specifically involved local stakeholders in the selection of new Ramsar Sites. Promoting stakeholder participation in decision-making was practiced by 60% of Asian and all Oceanic contracting nations (see Figures 1a/b.)

Figure 1a: COP 12 National Reports for Asia (27 reports)



2 www.ramsar.org/document/culture-and-wetlands-a-ramsar-guidance-document

3 www.ramsar.org/document/culture-and-wetlands-a-ramsar-guidance-document

4 www.ramsar.org/document/resolution-vii8-guidelines-for-establishing-and-strengthening-local-communities-and

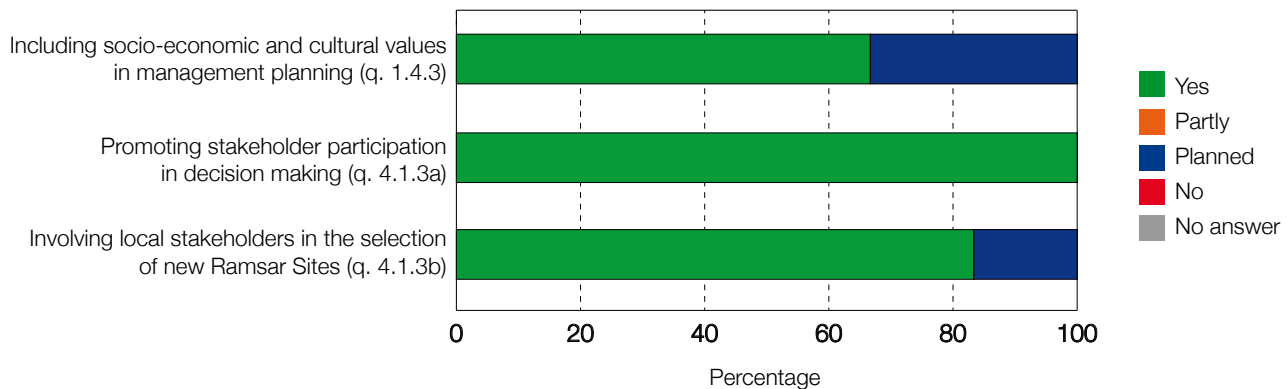
5 Under the Ramsar Convention, Contracting Parties designate suitable wetlands for the list of Wetlands of International Importance (the “Ramsar List”) and ensure their effective management

6 www.ramsar.org/sites/default/files/documents/pdf/res/key_res_ix_21_e.pdf

7 www.ramsar.org/the-ramsar-strategic-plan-2016-24

8 Nations who have signed the Ramsar Convention

Figure 1b: COP12 National Reports for Oceania (6 reports)



To strengthen the involvement of local stakeholders, the Conference of the Parties in 2012 encouraged “...Parties to promote, recognize and strengthen active participation of indigenous peoples and local communities, as key stakeholders for conservation and integrated wetland management”, recognized “...that the wise and customary use of wetlands by indigenous peoples and local communities can play an important role in their conservation”, and requested the Secretariat to prepare an initial report on the relationship of indigenous peoples, local communities and wetlands ([Resolution XII.2, paras 19,20](#)).

This supporting document was prepared in line with Ramsar Standing Committee Decision SC53-15, which requested the Ramsar Convention Secretariat to explore the possibility of further regional projects on culture and wetlands. It aims to:

- raise awareness of the role of communities in wetland conservation in the Asia and Oceania regions,
- facilitate exchanges of experience on this topic between countries and across regions, and
- provide a set of good practices and recommendations for strengthening the role of indigenous peoples and local communities in wetland conservation, applicable for the two regions

This report has drawn on multiple information sources. Submitters were invited to provide case study text responding to key questions. These included aspects of the site and its context; cultural, spiritual, economic values; and knowledge, practices and actions of indigenous peoples and/or local communities that contribute to the conservation of the sites.

The Ramsar Sites Information Service (rsis.ramsar.org/, accessed 17 November 2017) has been accessed to provide overview descriptions of the Sites. The authors have also drawn on a wider literature base to provide additional detail where required. Due to space limitations, only the key citations are provided as reference sources.

The lessons learned and good practice themes have been interpreted and synthesised by the authors based on the evidence provided in the case studies and also on information presented in relevant publications.

The case studies presented here cover a broad range of involvement in wetlands, from sharing traditional knowledge, through contributions to decision-making, and active involvement in day to day wetland management. Not all cultural aspects of wetland-related activities are necessarily positive for wetland health, particularly in areas where rapid population growth has rendered traditional methods unsustainable. Several case studies in this report document the willingness of indigenous communities to adapt their practices and even life-styles to reduce harm to their wetland’s ecological character. All of the case studies illustrate ways that indigenous and local communities have contributed to wetland conservation in Asia and Oceania.



Ramsar Sites in Asia and Oceania

Asia and Oceania are two of the six ‘Ramsar regions’. The diverse Asia Region includes the high mountains of Nepal, the archipelago of Japan, the deserts of the Arabian Peninsula and the wet tropics of New Guinea. Oceania incorporates the South Pacific, from Papua New Guinea in the west, to Kiribati in the east, and south to New Zealand.

Within these regions, 42 nations (34 in Asia and 8 in Oceania) have signed the Ramsar Convention and nominated internationally important wetlands within their territories to the Ramsar List.

As of January 2018, the Ramsar Site Information Service⁹ listed 319 Ramsar Sites in Asia (totalling 18,063,760 ha), and 80 wetlands (9,051,211 ha) in Oceania. Over half of the listed Ramsar Sites in these regions are inland freshwater systems, approximately one third are marine or coastal wetlands, and the balance are human-made wetlands.

Cultural values of the Ramsar Sites in these two regions are relatively high. In Asia 94 % of listed sites include cultural values among their range of recognised ecosystem services. In Oceania this applies to almost all sites (98 %).

In contrast, provisioning services (of products and resources such as food, water and genetic materials) are seen as less important. Only half of the Oceania site descriptions indicate that one or more of these resources is relevant, though they are relevant in 85% of Asian sites, where a higher proportion of people likely depend on wetlands for their livelihood. Data from the Ramsar Sites Information Service supports this distinction – provision of food, fresh water and other life-

sustaining resources is noted as an important role for over 50% of Asian Ramsar Sites, compared with fewer than 30% of Sites in Oceania (see Figure 2).

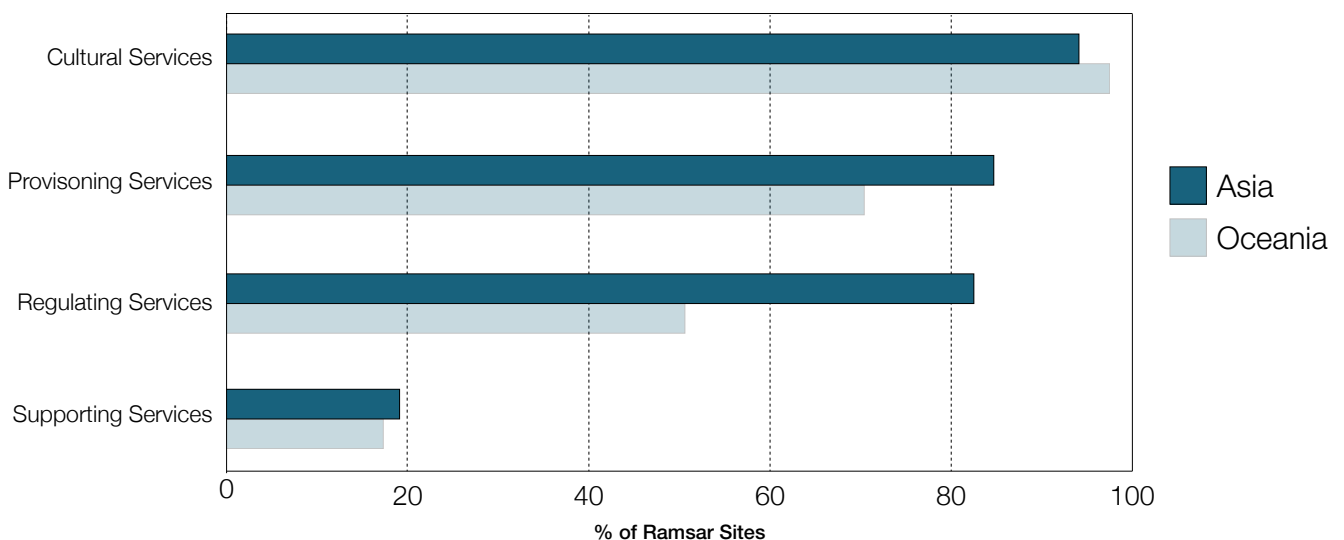
Despite the high importance of cultural services, only 18.3% of Asian and Oceanic wetlands have ‘Cultural Characteristics’ that contribute to their designation as Ramsar Sites (see Figures 3). These are sites where the ecological character of the wetland is strongly linked to either the presence of sacred sites, interaction with local communities or indigenous peoples, or the application of traditional knowledge and practices. However, it should be noted that such information has only been collected in Ramsar Information Sheets developed or updated since 2006.

Among the types of cultural services provided, spiritual values are ranked relatively low - noted as relevant in 50% of Asian Ramsar Sites and 29% of Sites in Oceania, where tourism & recreation and science & education were the most frequently cited cultural services provided by Ramsar Sites.

Threats to wetlands differ between the two regions. In Asia, biological resource use (harvest of wetland species) and agriculture or aquaculture are most frequently listed threats to the wetland’s ecological character, along with habitat modification. In Oceania habitat modification, invasive species and pollution are the most frequently mentioned threats to Ramsar Sites (see Figure 4).

Maintaining cultural services and addressing threats remain significant challenges in these regions.

Figure 2: Ecosystem services provided by Ramsar Sites (Source: RSIS, February 2018)



9 rsis.ramsar.org/

Figure 3: Ramsar Sites with data on cultural characteristics in Asia and Oceania (Source: RSIS, November 2017)

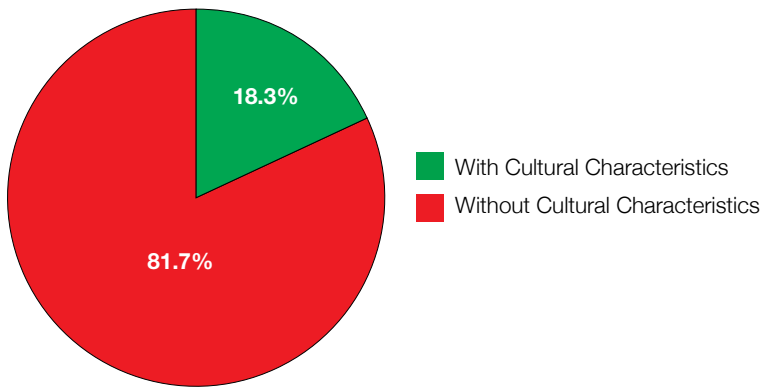
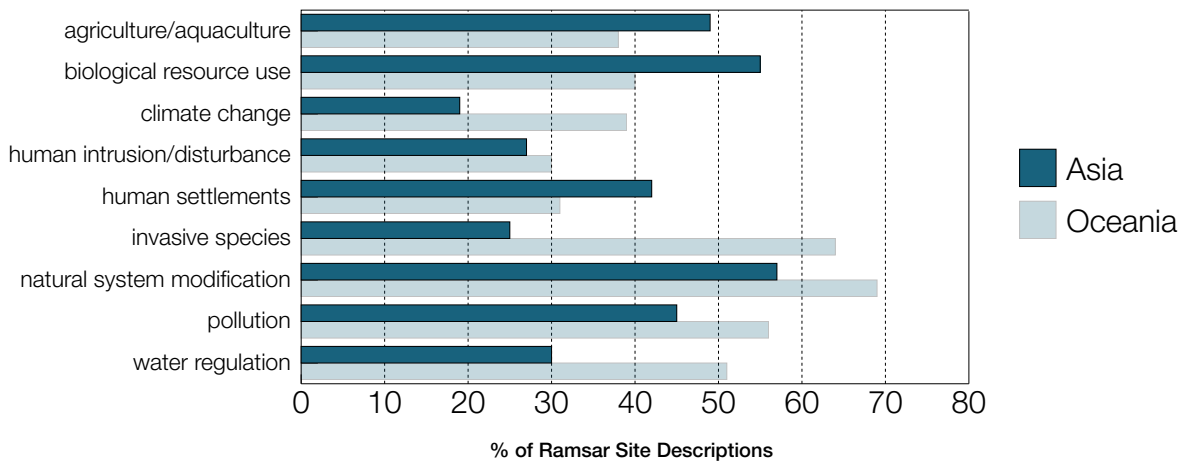


Figure 4: Threats to Ramsar Sites in Asia and Oceania (Source: RSIS, November 2017)



Good practice



Wetlands are the basis of livelihoods and cultural identity for millions of people across the globe, providing multiple resources (energy, food, water, fodder, soil) for survival and income. Their conservation and wise use are crucial to maintain these ecosystem services.

Conservation needs the capacities, concerns and engagement of society as a whole, not just of expert professionals¹⁰. Indigenous communities and local people have a long and strong connection with their local ecosystems. They have managed natural resources with ingenuity and care because their very survival depends on those resources, their security, and the many cultural and religious values associated with them. While sustainable use has generally been more a matter of survival than choice, through it communities have contributed to conserving biodiversity.

Dr. Grazia Borrini-Feyerabend describes the concept of “*Indigenous & Community Conserved Areas*”, whose management is built on sophisticated ecological knowledge systems, including sustainable use, which have stood the test of time¹¹.

These cultural systems and new methods developed to harness and apply, resurrect or strengthen them, form the basis of a suite of “good practice” themes that can be adapted, adopted or supported across the globe to improve wetland wise use.

A number of case studies from across Asia and Oceania are presented here to illustrate how cultural values and practices, including those that draw on traditional knowledge and community participation, have contributed to sustainable development and positive conservation outcomes for wetlands. For each theme a full case study is presented, sometimes followed by supporting mini case studies.

Some of the case studies relate to Ramsar Sites, but all link to a common theme around the relationship between indigenous peoples or local communities and wetland management.

The aim of the case studies is to illustrate the benefits and challenges of managing wetlands, and to provide site managers and policy-makers with positive examples and lessons learned on how best to wisely manage wetlands.

10 Dr. Grazia Borrini-Feyerabend (gbf@cenesta.org), cmsdata.iucn.org/downloads/presentation_governance.pdf

11 cmsdata.iucn.org/downloads/presentation_governance.pdf

Table 1. Application of good practice

Table 1 presents a suite of good practices along with example full or mini case studies presented in this report which demonstrate how a particular practice has been employed. Many of these case studies represent a range of good practices, however a particular practice has been chosen as the focus for each case study.

Good practice	Case study example	Contribution to wetland wise use
1. Application of traditional beliefs and knowledge for wetland management	Philippines: Blending spiritual beliefs and modern science in Agusan Marsh Ramsar Site Japan: Controlled burning maintains Kuju Bogatsuru Tadewara-shitsugen Ramsar Site Lao: The Lum Pa practice: a traditional fish trap in Beung Kiat Ngong Ramsar Site	Use of time-honoured methods for sustainable wetland use or management.
2. Involvement in active wetland management	India: Adapting traditional knowledge to maintain a livelihood in East Kolkata Ramsar Site Australia: Indigenous people actively managing Cobourg Peninsula Ramsar Site India: Local people taking initiative to protect Deepor Beel Ramsar Site	Local people leading or contributing to day-to-day wetland management.
3. Maintaining a wetland-dependant lifestyle	Iraq: Restoring a wetland and a unique culture in the Mesopotamian marshes	Continued customary use or occupation of a wetland, increasing its social and economic value and interest in the site's long term maintenance.
4. Involvement in Ramsar processes	Myanmar: Community-led designation and management planning for the Gulf of Mottama Ramsar Site Australia: Indigenous people contributing to an ecological character description for Coorong Lakes Ramsar Site	Local or indigenous people involved in designating a Ramsar Site, or developing management plans and ecological character descriptions.
5. Involvement in decision-making and governance	New Zealand: Shared governance between indigenous people and government contributing to wetland restoration Marshall Islands: Reimaanlok Conservation Area Management Planning Framework	Local people involved in planning processes and decision-making for wetland management.
6. Adopting alternative sustainable livelihoods	Iran: Application of Ramsar CEPA processes to reduce water takes in Lake Urmia Ramsar Site Fiji: Adopting sustainable fishing methods helps preserve Cakaulevu Reef	Adapting to wetland-friendly livelihoods can reduce adverse effects on wetland systems.
7. Documenting, sharing and celebrating indigenous knowledge	Australia: Engaging children through cultural immersion in Peel-Yarlgorup Ramsar Site Nepal: Sacred Waters: Cultural Values of Himalayan Wetlands Papua New Guinea: Celebrating natural and spiritual values at Lake Kutubu Ramsar Site	Building awareness and appreciation of wetland cultural and natural values among indigenous and non-indigenous people.

Table 2. Ramsar Sites in the case studies

Map number	Country	Ramsar Site	Site number	Ramsar Site area	Date registered
1	Australia	Peel-Yarlgorup	482	142,530 ha	11/01/1985
2	Australia	Cobourg Peninsula	1	220,700 ha	08/05/1974
3	Australia	The Coorong, Lake Alexandrina & Albert Wetland	321	142,530 ha	11/01/1985
4	India	Deepor Beel	1207	4,000 ha	19/08/2002
5	India	East Calcutta Wetlands (East Kolkata Wetlands)	1208	12,500 ha	19/08/2002
6	I. R. Iran	Lake Urmia	38	483,000 ha	23/06/1975
7	Iraq	Hammar Marsh	2242	180,000 ha	07/04/2014
8	Iraq	Central Marsh	2241	219,700 ha	07/04/2014
9	Iraq	Hawizeh Marsh	1718	137,700 ha	17/10/2007
10	Japan	Kuju Bogatsuru Tadewara-shitsugen	1547	91 ha	08/11/2005
11	Lao PDR	Beung Kiat Ngong	1941	2,360 ha	16/06/2010
12	Myanmar	Gulf of Mottama	2299	42,500 ha	10/05/2017
13	Nepal	Gosaikunda	1693	1,030 ha	23/09/2007
14	Nepal	Maipokhari	1850	90 ha	20/10/2008
15	Papua New Guinea	Lake Kutubu	961	4,924 ha	25/09/1998
16	Philippines	Agusan Marsh	1009	14,836 ha	12/11/1999

Case study locations



1. Application of traditional beliefs and knowledge for wetland management

The wise use and conservation of wetlands in many areas of the Asia and Oceania regions are regulated by international, national, regional or local laws and policies - but importantly, by the traditional beliefs and time-honoured practices of local indigenous people.

Case studies from the Philippines, Japan, and Lao PDR demonstrate how this best practice method is being applied.





Philippines

Blending spiritual beliefs and modern science to protect Agusan Marsh Ramsar Site

The wise use of natural resources and conservation of biodiversity in the Agusan Marsh Ramsar Site is regulated by international, national, regional, and local (Protected Area Management Board) policies - but most importantly, by the beliefs of the indigenous Manobo people.

The Agusan Marsh lies within the upper basin of the Agusan River and its tributaries, which rise in the hills of eastern Mindanao. The site is a vast complex of freshwater marshes and watercourses with numerous shallow lakes and ponds. It contains the largest remaining examples in the Philippines of seven habitat types, including the nation's only peat swamp forest.

The site has an extraordinarily rich biodiversity, with 445 animal species recorded, including 196 birds, 50 fish and 40 mammals. Over 70 vertebrate species are endemic to Mindanao. It is home to the Mindoro crocodile and the endangered golden-crowned flying fox.

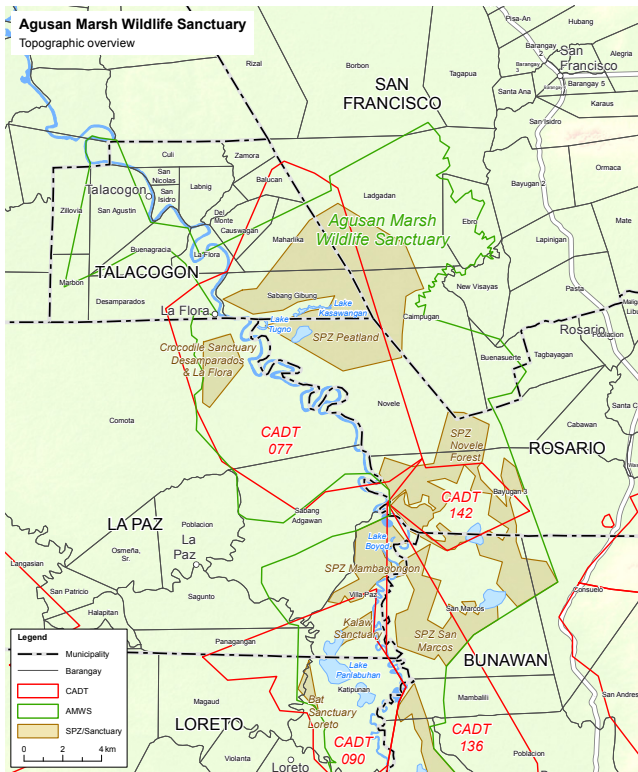
The site is an important storage area for rain water, reducing the flow of flood water into downstream population centers. During the rainy season, the water level can rise 4m, swelling the floodplain area and forming a single lake.

Traditional beliefs and values

The Marsh, locally known as Danao, is sparsely populated because of this seasonal flooding. The 18,000 inhabitants comprise permanent residents who live in floating houses, seasonal residents who live there in the dry seasons, and people who live on the fringes and enter the marsh on a daily basis. They represent several indigenous cultural communities, but Agusanon-Manobos make up 70% of the Marsh's population. Fishing is their major livelihood, although some families farm the raised river beds during the dry season, and some areas of the marsh have been converted into rice paddies.

The Manobos considered their ancestors as guardians of the forest, lakes and rivers. Sanctions are enforced by a variety of spirits responsible for different aspects of life such as agriculture, land, water, and fishes, mountains, thunder/lightning and human beings. According to the Manobos, some people, like the baylans (religious leaders) have a guardian spirit watching over them called abyan, who guides them. All of their activities are undertaken after rituals invoking the guidance of their 'amigos' or friends - the term used for the lake and swamp forest ecosystems in the area.

Almost all aspects of the Manobo life reflect reciprocity. Sharing is the fundamental basis for relationships within communities, and with spirits and nature. All resources from harvesting, fishing, hunting or gathering are shared among the community. The practice is brought about not only by limitations in storing



goods, but more importantly, by their belief that the Magbabaja (“the one who causes everything” or “the one who owns all”) and the spirits care for humans, plants, and animals. Together, these cultural beliefs and traditions create the framework for conservation and wise use of valuable resources and the ecosystem services of the Agusan Marsh.

Ownership

Before the government introduced land classification ownership systems, the Manobos believed that the Magbabaja owned the land - people were only allowed to till and harvest the resources. Nowadays, extended families or kinships ‘own’ land for subsistence cultivation and fishing. Forests, lakes, burial grounds and other special use areas remain communal and are conserved, since damage would cause harm to the whole community.

The Manobos have established several mechanisms to manage sites or species important to them. Animal sanctuaries are usually allocated by elders to protect certain species by controlling entry or banning activities like hunting and cultivation. Called patagonan, these conserved areas include breeding sites, water sources, and burial grounds. Many of these areas coincide with the Strict Protection Zones declared by the Department of Environment and Natural Resources owing to their ‘less disturbed’ state.

In addition to rules that limit access to breeding grounds of fishes in the Agusan Marsh, the Manobos have strict regulations and fishing methods to protect juvenile fish.

Modern changes

Up until the 1940s, 90% of the Agusan Marsh was conserved by the Manobos through these traditional regulating

systems. In recent history, this system was confronted by several challenges. During the World War II, many of the restricted areas were cleared and used as encampments by Japanese and Filipino guerrilla forces. In the ‘80s and ‘90s, forest areas were used as hideouts by communist insurgents. During the logging era of the ‘70s to the ‘90s, the government gave control to corporations, leading to deforestation and further violation to the Manobos’ restricted areas.

Now the Manobos are facing the impact of mining and further deforestation to plant oil palm. High silt loads from catchment activities are reducing water storage capacity in the lakes, and the resultant flooding is threatening the native flora and fauna. These challenges have affected indigenous knowledge systems and practices, as well as the landscape and ecosystem the Manobos co-exist with.

Active involvement

The involvement of communities as citizens of the protected area, and documentation of indigenous knowledge systems and practices (IKSP) of Agusanon-Manobos, has been a key approach to enhance the socio-economic, socio-cultural and socio-ecological value of the Agusan Marsh. The importance of IKSP as tools for the management and protection of Ancestral Domains (traditional lands) are enshrined in law, under the Philippines National Integrated Protected Areas System Act 1992 and Indigenous Peoples Rights Act 1997, which protect the rights of indigenous peoples to sustainably use natural resources and engage in environmental management.

Today the communities in the marsh are actively involved in the management of the site. They are represented on the Committee of Indigenous People, established under the Protected Area Management Board (the policy-making body of the wildlife management area), and their customary laws and conflict resolution systems have been integrated into the Board’s Manual of Operation and Communication Plan.

With support and training from the Department of Environment and Natural Resources, local people are now engaged in ecotourism, biodiversity monitoring alongside Agusan Marsh Wildlife Sanctuary staff, and sustainable handicrafts, including making slippers (flip-flops) from stalks of the invasive water hyacinth and jams from native fruit. Some local people, with village approval, have been deputized as Bantay Danao Law Enforcement (lake wardens) and given training, equipment and funding to help enforce protected area regulations. As a result, many of the fisher folks who were using electro-gadgets in fishing voluntarily surrendered their devices, thereby contributing to the conservation of the fishery resource in the marsh. The Bureau of Fisheries and Aquatic Resources are supporting the wardens with additional trainings and boats.

Advocacy and education are a key strategy to reduce re-offending, and the indigenous knowledge system will be used to develop a Manobo Cultural Heritage CEPA

(Communication, Education, Participation and Awareness) plan to highlight the contribution to wise use of wetlands.

The indigenous people and local communities in the Agusan Marsh provide living testimonies of best practices for adaptation to adverse change. They are also the primary

users of the resources of the site. With the benefit of their indigenous knowledge and spiritual beliefs, combined with appropriate training, and legal and physical support, the local people offer the best solution to benefit the area economically without compromising the ecosystem services that it provides.

Key resources

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Additional resources drawn from:

rsis.ramsar.org/ris/1009

Negotiating with the Spirits-Recognizing the Conservation Values of Indigenous Knowledge Systems and Practices of the Agusanon Manobo, Agusan del Sur, Philippines (Nicole Bendsen, Adonis Gonzales, Ferit Temur, Mae Carla Sharon Jasma) - GIZ COSERAM, 2017

Japan

Controlled burning in Kuju Bogatsuru Tadewara-shitsugen Ramsar Site

At 91 hectares, Kuju Bogatsuru Tadewara-shitsugen Ramsar Site has the largest area of mountainous mixed sphagnum bogs in Japan. Local people revived the practice of Noyaki (controlled burning) to protect the grassland character of the Ramsar Site, in particular grassland landscape.

Noyaki had been practiced in Kuju for centuries to secure cattle feed materials, thatching, and other products, but advancements in farming, an aging population and other factors brought the practice to a halt in the 1980s. The grassland, including in the Ramsar Site, soon turned to a thicket, destroying the grassland scenery and natural environment. In response, executive committees were formed to revive Noyaki.

The Executive Committee for Controlled Burning consists of various stakeholders including nature conservation organizations, the tourism association, local municipalities,



and the Kyushu Electric Power Company, which owns the land around the burning site.

Annual controlled burning maintains ecosystem diversity, encourages new growth of native plants, and protects rare species such as violet, Japanese gentian and globe thistle, which cannot survive without burned grassland.

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See also:

rsis Ramsar.org/ris/1547

Lao PDR

The Lum Pa practice: a traditional fish trap in Beung Kiat Ngong Ramsar Site

Beung Kiat Ngong Ramsar Site is an important wetland complex that includes swamps, lakes and marshes. It is located within the province of Attapeu and Champasak, in southern Lao, where the traditional fishing system lum pa is practiced by indigenous people of the Oy's group. The large number of semi-natural fish pits (lum pa) owned by the local Oy villagers in the wetland is a notable cultural feature of the Beung Kiat Ngong Ramsar Site.

Lum pa are small 2-3 m deep wood-lined pits dug into rice paddies, wetlands, or house ponds to provide a refuge for aquatic species. They are filled with vegetation, and as the wetlands dry out fish concentrate in these refuge holes from where villagers can harvest them. Pits can be dug by hand and framed in a matter of days. They take up less space than ponds and are easier to secure against theft.

Lum pa provide tangible evidence of the Oy people's unique and intimate relationship with wet rice cultivation and the natural environment. Farmers explain that lum pa are constructed to provide for a spirit, and a good spirit will ensure both the wellbeing of the rice fields and of the family who constructed it.

A Global Environment Facility/UN project on Climate Change Adaptation in Wetland areas in Lao PDR is exploring ways to introduce this old practice into new wetland areas. While there is considerable potential, the current ownership



of this practice should not be compromised. For the Oy, the lum pa practice is not simply an agricultural technique, but an important part of their spiritual belief system. As Oy farmers explain, similar pits could be constructed by other communities, but without the presence of Oy spirits and traditions, they are doubtful the fish would come.

The lum pa practice is emblematic of the integration of wild fisheries management into traditional rice-fish farming systems of local farmers. It illustrates how traditional knowledge has developed to sustainably exploit the natural wetland environments of the Mekong River. These refuge areas can be exploited both as a source of food and for conservation of wild brood stock to restock the wetland species. Climate change in the region has caused disruption in rain flows and droughts, but rice farmers with lump pa have added protection against such unpredictability since fish find refuge in the pits when water levels decline.

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See also:

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www Ramsar.org/news/management-plan-for-the-beung-kiat-ngong-Ramsar-site-lao-pdr



2. Involvement in active wetland management

Local communities and indigenous people across the Asia and Oceania regions are leading or engaged in active wetland management, either independently or in collaboration with government or other organisations.

Case studies from India and Australia demonstrate how this best practice method is being applied.



India

Adapting traditional knowledge to maintain a livelihood in East Kolkata Ramsar Site

A part of the mature delta of the river Ganges, the wetlands to the east of Kolkata are world-renowned as a model of a multiple use wetland. The 12,500 hectare wetland is a network of constructed canals and extensive ponds that receive the city's wastewater. With local knowledge and innovation the water is treated using natural biological processes, and utilised for fish farming and agriculture, sustaining about 100,000 local people and providing a free wastewater treatment system for the City.

Core Kolkata (Calcutta) City produces around 1000 million litres of wastewater every day - yet the city has no official treatment plant. A feature of this area was the existence of the Bidyadhari River and an active delta-building tidal channel that deteriorated after a drainage scheme, completed in 1884, directed the city's untreated sewage and stormwater into the river and across the wetlands. There was also premature reclamation of this delta, and a combination of these factors contributed to the de-watering of the Bidyadhari River, which was officially declared "dead in 1928.

This wetland area had been the livelihood site of brackish water fish farmers. However, with the changes to the wetland, the farmers became desperate for an alternative source of water.

This led them to innovate and evolve the use of wastewater to carry on with their livelihood.

Adaptive farming

Experimentation began in 1929 with a local landowner and his fishermen starting to farm freshwater fish using wastewater in small quantities. This state of successful adaptation was replicated in a small scale for a number of years until the construction of the Bantala Lock Gate (1944-46) by engineer Birendra Nath Dey. These are a set of 10 sluice gates that regulate the city sewage through the city's outfall channels and into the wetlands. There, the sewage undergoes comprehensive treatment by exchange of oxygen and carbon-dioxide between algae and bacteria, to result in algal blooms upon which fishes graze. After the sluice gates were built local landowners participated to create a vast network of connecting constructed canals and extensive ponds (which acted as oxidation ponds) using the wastewater from the carrier channels into inlet points specifically designed for the purpose.

Early each morning, fresh fish are harvested from about 200 bheries (ponds) and sold at auction markets (over 10,500 tonnes per year). The nutrient rich water is used to irrigate paddy fields, and also vegetables grown in "garbage farms" (mounds of solid waste essentially organic, at the edge of the wetland) which produce about 150 tonnes of vegetables every day. The system is mostly located in Dhapa and Chowbaga, two revenue villages located within the boundary of the

wetland. There are a total of 32 revenue villages or mouzas comprising the East Kolkata Wetlands.

Best wastewater treatment

This dramatic innovation developed by the local people holds the knowledge base of a least-cost fish producing ecosystem, and is the best wastewater treatment method for tropical countries with a lot of sunshine. For three generations at least, the community has nurtured this ecosystem, where the ponds function as oxidation ponds and are fed with regulated quantities of sewage, retained for at least three weeks. The knowledge of biological reactor and detention time for near complete removal (99.9%) of contaminating bacteria is perfectly in agreement with advanced engineering knowledge of wastewater treatment. The wastewater is successively used for growing fish, vegetables and rice, and gets comprehensively treated in the process.

Dr Dhrubajyoti Ghosh who has studied the system since the 1980's describes Kolkata as "an ecologically subsidised city". The ecosystem services provided by the wetland make Kolkata the cheapest major city in India. Dr Ghosh has utilised the traditional practice of wastewater aquaculture to develop designs for four other towns in West Bengal under the Ganga Action Plan of the Government of India.

International example

Dr Ghosh spent 10 years impressing upon global arbitrators the international importance of the wetland. It was finally declared a Ramsar Site in 2002, being described as "one of the rare examples of environmental protection and development management where a complex ecological process has been adopted by the local farmers for mastering the resource recovery activities."

Under threat

In the early 1990s, the state government sought to build a world trade centre in the wetlands. This was challenged in court by the non-government organisation PUBLIC (People United for Better Living in Calcutta) and in 1992, Kolkata's high court delivered the verdict that the wetlands would be preserved for fishing and farming. However, building construction remains rampant.

The site's resource recovery systems, developed by local people through the ages, have saved the city of Kolkata the costs of constructing and maintaining waste water treatment plants. The wetland's high social and economic value helps provide insurance against further destruction.

The most important lesson for the conservation scientists and wetland activists is the need to recognize the Right to Livelihood for the more than 20,000 fisher families because of the fact that the practice they are involved in has been recognised as a model of wise use under the Ramsar Convention since 2002. Decision makers need to support the community's ability to sustain and improve; and more importantly stop the spread of illegal housing development upon a protected wetland. So much so that one particular mouza where the conversion of wetland to housing was very pronounced, saw a decline of waterbody area from 88% in 2002 to 19% in 2016.

Despite being extensively studied, the cumulative findings are yet to be formulated into a management plan that accounts for the complexity of the system, the livelihoods of the people involved, fishery management hydrological characteristics of the ecosystem and the water distribution network, market and value chain involved and conflict resolution issues.

The wetlands and the people involved in wastewater fish farming are directly linked - each must survive to help the other survive.

Key resources

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Australia

Indigenous people actively managing Cobourg Peninsula Ramsar Site

Cobourg Peninsula was Australia and the world's first Wetland of International Importance. The 220,700 hectare Ramsar Site comprises a peninsula with extensive tidal flats, fringing coral, rocky reefs, estuaries, mangroves, riverine wetlands, permanent freshwater and brackish ecosystems, and melaleuca (paperbark) swamps dominated by eucalyptus forest. It supports several threatened animal species such as the loggerhead turtle, green turtle, hawksbill turtle and the northern quoll, as well as an abundance of waterbirds and numerous rare plants.

The cultural values of the site are interconnected with its conservation values. They include the on-going 'living culture' maintained by the indigenous Arrarrkbi - the traditional owners who have occupied the site almost continuously for an estimated 50,000 years.

The Arrarrkbi have strong ties to this land and retain freehold land title. They hold a substantial body of traditional ecological knowledge of flora, fauna, ecological processes, landscape change, weather and seasons, and of the many sites of cultural

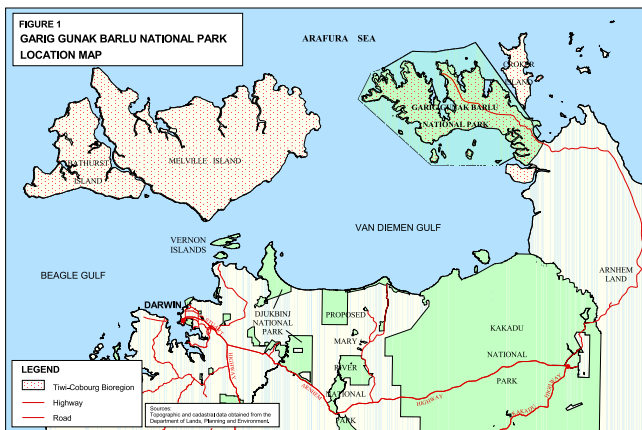


significance. The Arrarrkbi who live there still place great importance on hunting and gathering.

The site is jointly managed by the Arrarrkbi and the Parks and Wildlife Commission of the Northern Territory, under the Cobourg Peninsula Aboriginal Land, Sanctuary and Marine Park Act 1981. The Act established the Cobourg Peninsula Sanctuary Board and gives the traditional owners control of the decision-making processes. This supports the Arrarrkbi to maintain spiritual links with the site, and practise their culture and customary beliefs.

Most of the site is managed as a conservation reserve, with some tourism and education, recreational fishing and safari hunting. Arrarrkbi engage in land and sea management through independent traditional practices and through employment as rangers by the Parks and Wildlife Commission. These activities include fire, weed and feral animal management, coastal surveillance, ghost net management, biodiversity monitoring and surveillance for illegal fishing vessels. Eco-tourism offers further employment and business opportunities for Arrarrkbi.

Through their traditional practices, and employment, the indigenous Arrarrkbi are helping to manage the Cobourg Ramsar Site and maintain its rich ecological and cultural values.



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See also:

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India

Local people taking initiative to protect Deepor Beel Ramsar Site

Deepor Beel, a permanent fresh water lake in a former channel of the Brahmaputra River, became a Ramsar Site in 2002. It is a sanctuary for large congregations of birds, and a major staging site for migratory birds in India. It is also economically important, being the only major storm water storage basin for Guwahati city, and providing a livelihood to fourteen lake-side villages. Water lily nuts, flowers and other products are harvested and sold in the local market, while fish provide protein and the water supports paddy fields.

Recent water pollution caused by garbage dumping and industrial growth has affected the site and its local people. It has driven the indigenous Karbi community in the southern area of the wetland away from rice farming into factory work. The northern Koibrata fishing community has also been dependant on the wetland for their livelihood for centuries. In 1976-77 the Scheduled Castes community formed a

committee (Deepor Beel Paachpara Samabai Samiti Ltd) to protect and maintain the wetland.

The Samiti spend their own funds for lime and potash to purify the water. They also clear vegetation obstructing waterways, and act as watchmen day and night to protect birds from poachers. They raise and release fish into the wetland, which provides food for the birds as well as a future source of harvest. However a 2009 community fishing ban to maintain biodiversity is putting their livelihood and conservation work at risk.

In the absence of a coordinated approach, the local Koibrata Samiti have taken it upon themselves to manage and protect the wetland despite their limited means, however the loss of the right to fish may reduce their ability to continue this work.

“Sustainable eco-tourism and other options may help tackle the issues related with livelihood of the communities depending on the wetlands like the Deepor Beel and the conservation of their biodiversity”, said the Principal Chief Conservator of Forests, R.P. Agarwalla.

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3. Maintaining a wetland-dependant lifestyle

Continued permanent occupation and use of some wetlands in Asia and Oceania has endowed them with high cultural, social and economic values, which provides insurance against their destruction

A case study from Iraq demonstrates how this best practice method is being applied.



Iraq

Restoring a wetland and a unique culture in the Mesopotamian marshes

The southern Mesopotamian marshlands, which once covered some 20,000 square kilometres, were devastated in the 1990s after former President Saddam Hussein ordered them drained to punish and expel Shi'a guerrillas opposed to his regime. In little over a decade the marshlands were almost completely gone. After the fall of Saddam, the displaced local people returned and destroyed the dykes, allowing the unique marshland environment to slowly recover.

Located near the confluence of the Euphrates and Tigris Rivers in southern Iraq, the southern Mesopotamian marshes comprise three wetland systems: the Hammar Marshes to the south, the Central (or Qurnah) Marshes and the Haur Al-Hawizeh Marshes which straddle the border with Iran. Each unit is designated as a Ramsar Site, Hawizeh in 2007 and the other two in 2014.

Combined they covered over 500,000 hectares, and collectively made up the once extensive and biodiverse Mesopotamian marshlands in southern Iraq, a mosaic of permanent and seasonal lakes, vast reed beds, mudflats and seasonally inundated plains.

These Ramsar Sites are home to threatened species such as the endangered Basrah reed warbler, the endangered

Euphrates softshell turtle and the vulnerable smooth-coated otter. They are also important for resident and migrating avifauna, including the vulnerable greater spotted eagle.

The marshes provide a range of important regulating services such as flood control, water storage and purification, and climate regulation. However the sites are most well-known for their extraordinary historical and cultural value, which has led to their registration on UNESCO's World Heritage list in 2016.

Historical value

Before their almost complete drainage in the 1990s, the marshlands were populated by Marsh Arabs who relied entirely on the wetland environment and resources for their traditional way of living. Also known as Ma'dān, they are descendants of ancient Sumerians, whose civilization and traditional way of life dates back 5000 years.

The Ma'dān lived throughout the marshes in secluded villages of elaborate floating reed houses, often only reached by boat along networks of constructed channels. Families derived a livelihood from fishing, raising water buffalo, collecting and processing reeds.

The Marsh Arabs have long maintained a unique way of life that tied them intimately to their wetland environment. Reeds have been a crucial resource, to feed and contain

water buffalo, build boats and houses, or woven into mats and baskets. Traditional resource management includes selective harvesting of different sizes and textures of reeds, and burning reeds on seasonal and plant life-cycle rhythms, which stimulates new growth and increases microhabitat diversity. Fish stocks were maintained through a system of restrictions on harvest in key areas and during spawning.

As a result of this long history of human management, the marshes are a cultural landscape, formed over thousands of years by agricultural and traditional management practices. The marshlands played a major role in the development of the earliest urban centers and in the emergence of complex societies in southern Mesopotamia, dubbed the “Cradle of Civilization”.

Population decline

The Ma’dān people comprise a number of different Shi’a tribes, including the Bani Asad, Bani Tamim, Albu-Hassan, Albu-Muhammad, and Bani Lam. In the 1950s their population was estimated at 400,000.

Economic migration between the 1960s and the 1980s reduced the population to an estimated 250,000 by 1991. Another exodus occurred in the early 1990’s when Saddam Hussein attacked the Marsh Arabs, and constructed extensive canals and dykes to destroy their homes and livelihoods. Between 80,000 and 120,000 people fled as the marshes dried up¹³.

Today, as few as 20,000 inhabitants remain, and only 1,600 were estimated to still be living in traditional villages by 2003. In this turbulent environment, a pocket of descendants of one of the oldest civilizations continued their struggle to survive and maintain their culture.

After the drainage

After the Saddam regime fell in 2003, the displaced Marsh Arabs began to return and destroy the dykes, allowing waters from the Tigris and Euphrates rivers to flood back in. The marsh areas rapidly recovered to around 75 percent by 2008, but the whole ecosystem, and the Marsh Arab way of life may take far longer to restore. New threats have emerged. Since 2008 increased levels of water extraction from the Tigris and Euphrates and years of drought have caused the wetlands to shrink again, down to around 50 percent of their pre-drained extent.

The impact was so great that in 2010 the Hawizeh marshes were placed on the Montreux Record, the list of threatened Ramsar Sites. The other two sites were not yet registered as Ramsar Sites.

After starting new lives away from the marshes many of the displaced Ma’dān may not wish to return to their former home and lifestyle, especially given uncertainty over whether the marshes will completely recover.

Recent interview-based surveys have sought to understand the way in which locals interact with the wetland ecosystems today. The data reveal that marsh drainage has resulted in a distinct decrease in traditional ecological knowledge and resource management, due to lack of application. Without the marshes there have been few opportunities to engage in traditional activities and keep the practices alive. Many Marsh Arabs switched to sheep rather than buffalo herding. The women no longer make use of traditional medicinal plants. The rhythms of seasonal reed harvest and use in traditional handicraft work has declined.

Solutions

The Ministry of Water Resources has worked to help restore the marshes and created a series of habitable islands with space for classrooms and a water filtration system.

However, restoration of infrastructure is only part of the solution. Restoration of the traditional ecological knowledge is also essential. Traditional Ecological Knowledge systems are increasingly acknowledged for their contribution to sustaining biodiversity and ecosystem services, and to building resilience in the face of environmental changes.

A unique feature of the marshlands is the large indigenous population living inside of it. If these marshes are to be rehabilitated then its indigenous population must be included in every step as stakeholders and decision makers, along with private sectors, government agencies and researchers.

Some issues that will need to be addressed are problems posed by pollution, drought, dam-building activities upstream, salinity, impaired water quality and quantity, regional and international government policies affecting water releases into the marsh areas, exploitation of oil reserves, and land tenure conflicts between returning Marsh Arab communities.

Future

The Mesopotamian marshes and their rich cultural history were almost completely destroyed during the 1990’s. Following the end of the Hussein regime, returning indigenous people began to restore water levels and resurrect their traditional lifestyle.

By adding the Mesopotamian Marshes into the List of Wetlands of International Importance, the Government of Iraq has signalled its long-term commitment to restore the marshes and the vital ecosystem services they provide to the communities and the world. Adaptive management and adaptive governance will be needed so that the Marsh Arabs can continue their sustainable lifestyle symbiotic with the wetland ecosystem.

13 Abulhawa, T. 2017

Key resources

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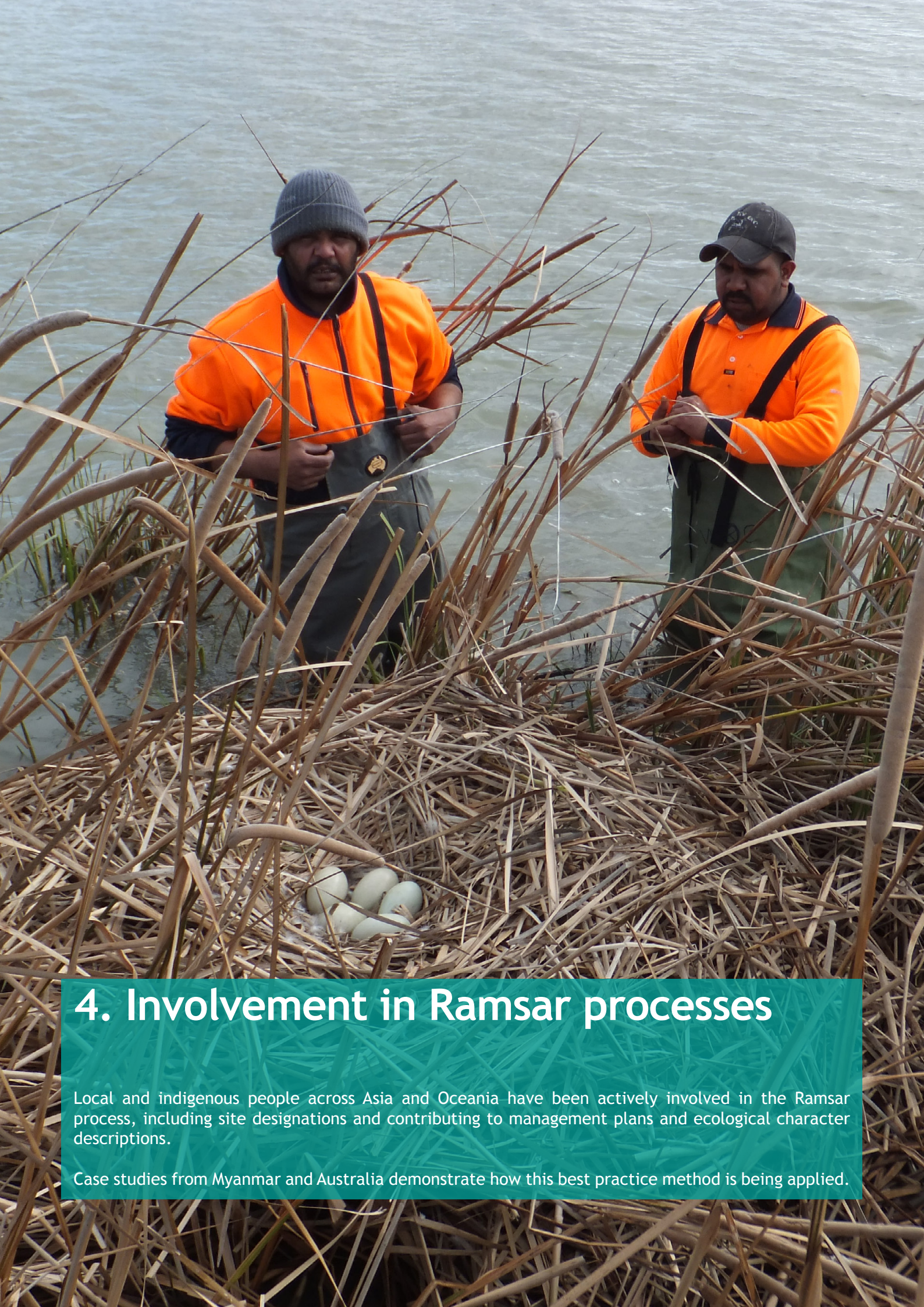
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4. Involvement in Ramsar processes

Local and indigenous people across Asia and Oceania have been actively involved in the Ramsar process, including site designations and contributing to management plans and ecological character descriptions.

Case studies from Myanmar and Australia demonstrate how this best practice method is being applied.



Myanmar

Community-led designation and management planning for the Gulf of Mottama Ramsar Site

The local community and non-government organizations worked for ten years to get the Gulf of Mottama added to the Ramsar list. Now they are preparing a community-led management plan to protect the ecosystem and livelihoods.

The Ramsar Site

The Gulf of Mottama (GoM) Ramsar Site in the eastern region of the Bay of Bengal covers an area of 42,500 hectares. It is one of the world's largest areas of permanently muddy water.

Sediment delivery from four major rivers and a 7-meter tidal range that drives a powerful bore tide, produce constantly changing patterns of sediment deposition and erosion¹⁴. As a result, the tidal mudflats of the Gulf are among the largest, most dynamic and most productive in the world, supporting a large number of invertebrates, fish, and up to 150,000 migratory waterbirds in the non-breeding season. The site hosts up to 200 critically endangered spoon-billed sandpipers each winter - about half of the global population. It meets six out of nine Ramsar criteria, a comparatively high proportion, making it of outstanding global conservation value.

The Gulf also supports the livelihoods of 200,000 people living in 180 villages around the Ramsar Site, with an ethnic mix that includes Burmese Mon, Karen, Kayin and Indian. With few local support services or employment opportunities,

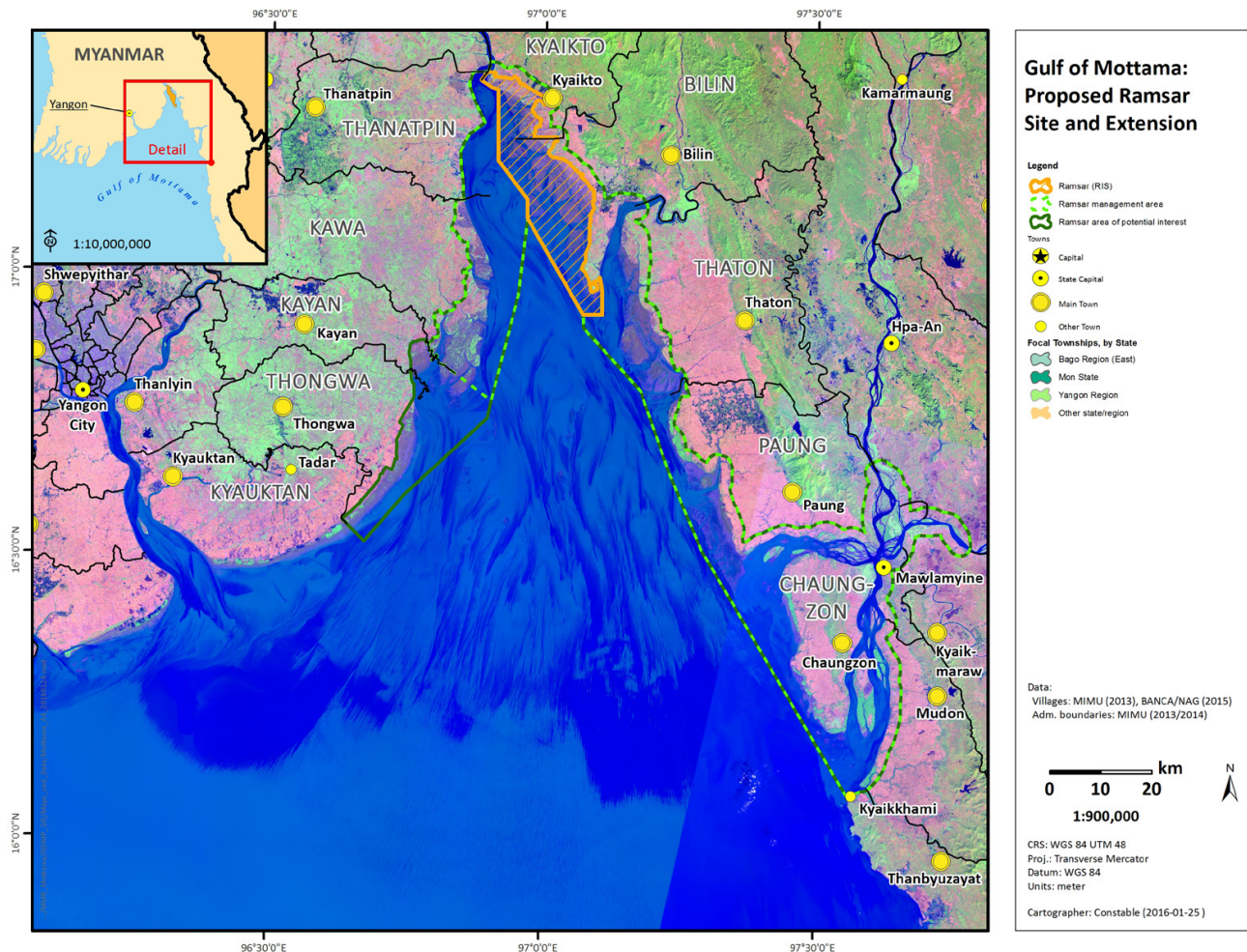
impoverished local communities rely on the site to survive, through fishing, grazing, duck-rearing and paddy farming.

The GoM is a vulnerable and changing environment where communities have lived by adapting to change over time, however it is facing many new or increased threats, including bird hunting and overfishing. The population of wintering birds is in decline, as poaching and declining fish stocks continue to pose a threat to many critically endangered species. With no formal protection status, its resources are being depleted at an alarming rate.

Fish catch has declined by 50-90% over the past 10 years as the result of overfishing, often through illegal use of drag nets with fine mesh that trap fish of all sizes. Small-scale fisher folk using traditional wider mesh cast nets are struggling to survive. Some have had to remove their children from school, others forced to look for work in other sectors or migrate.

Recognizing the Gulf's importance, Myanmar's non-government organization Biodiversity and Nature Conservation Association (BANCA) started working in 2008 to protect the wetland. In addition to work on the ground, such as shorebird monitoring and patrolling to protect the threatened sandpipers from poachers, BANCA played a key role in achieving international recognition of the wetland's values.

¹⁴ www.iucn.org/news/myanmar/201606/gulf-mottama-navigating-muddy-waters



Seeking Ramsar status

Because of its importance for livelihoods, a strictly protected area status was inappropriate for the Gulf of Mottama. BANCA realized the site needed to be designated as a Ramsar Site, which allows for wise use, while meeting biodiversity conservation objectives.

BANCA spent almost a decade seeking Ramsar status for the site, working through the Mon State government to petition the Myanmar Government. The process crucially involved working with the community - it's essential to learn about the site and the issues from the community, and build trust. The small-scale fishers were very willing to attend the consultation meetings, because of their concerns over the unsustainable fishing issues in the Gulf. They formed local groups to represent the community, which later became members of the Gulf of Mottama Management Committee.

International interest

The great significance of the mudflats, as one of the most important shore bird wintering sites in Asia and for the East Asian Flyway, attracted the attention of many international organizations. As the international groups began to arrive to study the site, the local communities became aware of the global importance of their gulf and species like the spoon-billed sandpiper.

“Previously the local people don't know the value of these rare birds, the fowlers caught the birds and ate them. At present, when we see the foreigner and the organization come and study these birds, the people know the value of the rare birds. The fowlers don't do their previous jobs. They no longer catch the birds and become the protectors of these birds.” U Than Naing, Kotesu Village.

Meetings with local government officials, the Forest Department (the national Ramsar focal point), and communities were held to gather support for the designation of the site. The Ramsar Site was finally listed after the Mon State government submitted the official claim to the Union Government of Myanmar in 2017.

Designation as a Ramsar Site is seen as an opportunity for the fishing communities. The international attention is expected to bring tourists offering new sources of income. International organizations are already helping them to develop alternative and sustainable livelihoods. Pyea Phyo Aung of BANCA says *“As a result of the area being demarcated as a Ramsar Site the livelihoods of the local people will likely be improved. Local people will receive a lot of international aid in order to develop and better their socio-economic position.”*

Community-led management planning

In 2015, the Community Led Coastal Management Gulf of Mottama Project (CLCMGOMP) was implemented through

a Consortium led by HELVETAS Myanmar, a local NGO (Network Activities Group, NAG), and the International Union for Conservation of Nature and Natural resources (IUCN), in partnership with Biodiversity and Nature Conservation Association (BANCA). They began work on a management plan for the Gulf, including the Ramsar Site area. The process involves local people in a bottom-up approach, and will incorporate the “wise use” principles of the Ramsar Convention. The project is assisted with over US\$4 million funding from the Swiss Government’s Agency for Development and Cooperation.

CLCMGOMP aims to improve the livelihoods of vulnerable coastal communities and protect the environment by addressing three key outcomes:

- improving the fishery sector,
- diversifying livelihoods, and
- promoting sustainable co-management and conservation of natural resources.

Becoming sustainable

The Gulf of Mottama Ramsar Site is unusual among Myanmar’s existing Ramsar Sites because of the hundred thousands of people living along the coast, relying on, but also threatening, its resources. As the community-led management plan becomes adopted, local people will be assisted into more sustainable

practices. Former bird hunters may become actively involved in shore bird monitoring and patrolling activities. Fishers may become involved in enforcing rules in newly established community fishing zones.

The Gulf of Mottama is a significant example of collaboration between international agencies, local government and the community for wetland conservation. On-going financial and practical support will be needed to build capacity of community leaders and site managers, but with the support of the local communities there is hope that sustainable wise use of the Gulf of Mottama can be achieved in the near future.

H.E. Dr. Min Kyi Win, the Mon State Minister of Natural Resources and Environmental Conservation:

“The solution to the challenges of the Gulf of Mottama has to be found together, across sectors, and across states, jointly with our neighbors in Bago Region and with the direct involvement of the local communities that depend directly on the ecosystem services provided by the gulf. It is important to take advantage of international tools and opportunities to support management of the gulf such as the Ramsar Convention, which was ratified by the government in 2005 and provides a strong framework for managing our coastal resources.”

Key resources

Submitted by:

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Additional resources drawn from:

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www.banca-env.org/

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myanmar.helvetas.org/en/projects/clcmgomp/

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Australia

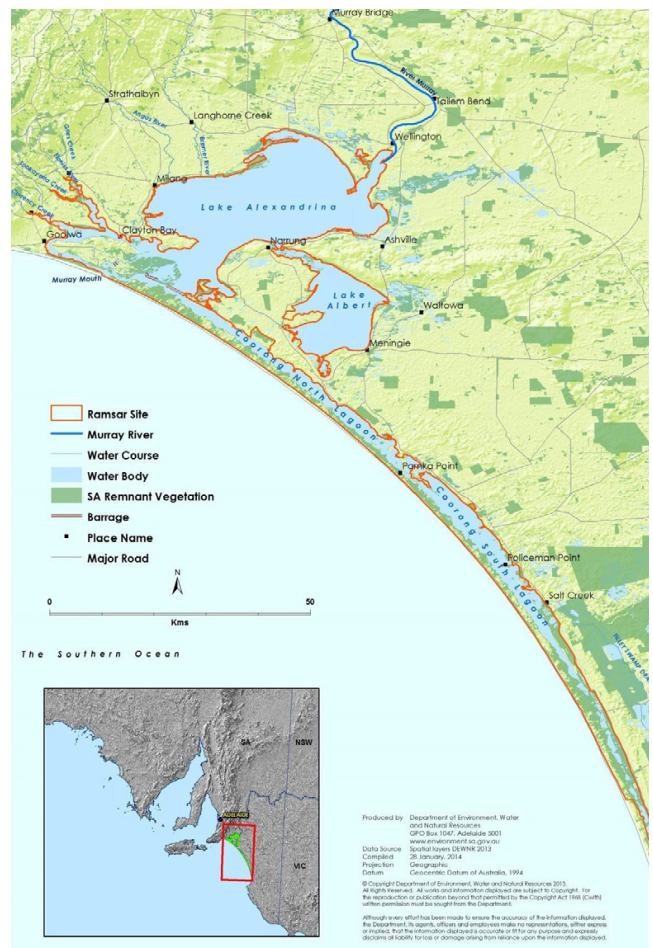
Indigenous people contributing to an ecological character description for Coorong Lakes Ramsar Site

The Coorong Lake, Lower Lakes and Murray Mouth (CLLM) region of Australia is the central homelands of the Ngarrindjeri people. This area contains the culturally and spiritually significant 'meeting of the waters', which is vital to Ngarrindjeri wellbeing.

Cultural and spiritual histories passed down through the generations have provided Ngarrindjeri laws and lessons for 'wise use', care and management of plants, animals, lands and waters. Ngarrindjeri rights and responsibilities as Traditional Owners are framed by the concept of Ruwe-Ruwar - all things are connected. This fundamental spiritual connection is reliant on healthy lands and waters, and the maintenance of connectivity between the Coorong, Lower Lakes and Murray Mouth.

In 1985, the Coorong and Lakes Alexandrina and Albert Wetland complex was designated as a Ramsar Site. Ngarrindjeri involvement in the listing of the site and in the preparation of the Ramsar Information Sheet, Ecological Character Description (ECD) and Ramsar Management Plan (RMP) was limited.

A new relationship between the South Australian government and the Ngarrindjeri Regional Authority established through the Kungun Ngarrindjeri Yunnan (KNY) Agreement in 2009, paved the way for increased involvement of Ngarrindjeri



in the Ramsar monitoring and reporting process. A key commitment of the Agreement supported significant numbers of Ngarrindjeri to complete training in conservation and land management, participate in regional decision-making processes, and develop skills in water resource and river planning, monitoring and evaluation.

As part of an update of the ECD, the Ngarrindjeri are conducting a Yannarumi (Speaking as Country) assessment of the health of the Ramsar Site, addressing overall wellbeing. Ngarrindjeri have used the Yannarumi framework to

incorporate into the ECD their philosophy of Ruwe/Ruwar, and concepts of interconnected benefit and responsibility – a fundamental shift away from the existing ECD representation of the wetland as individual components, processes and ecosystem services.

Whilst both the ECD and RMP are yet to be finalised, this strategy of engagement has enabled Ngarrindjeri to actively engage in planning and management activities, introducing a more equitable and culturally appropriate framework for Ramsar Site monitoring and reporting.

Key resources

Submitted by:

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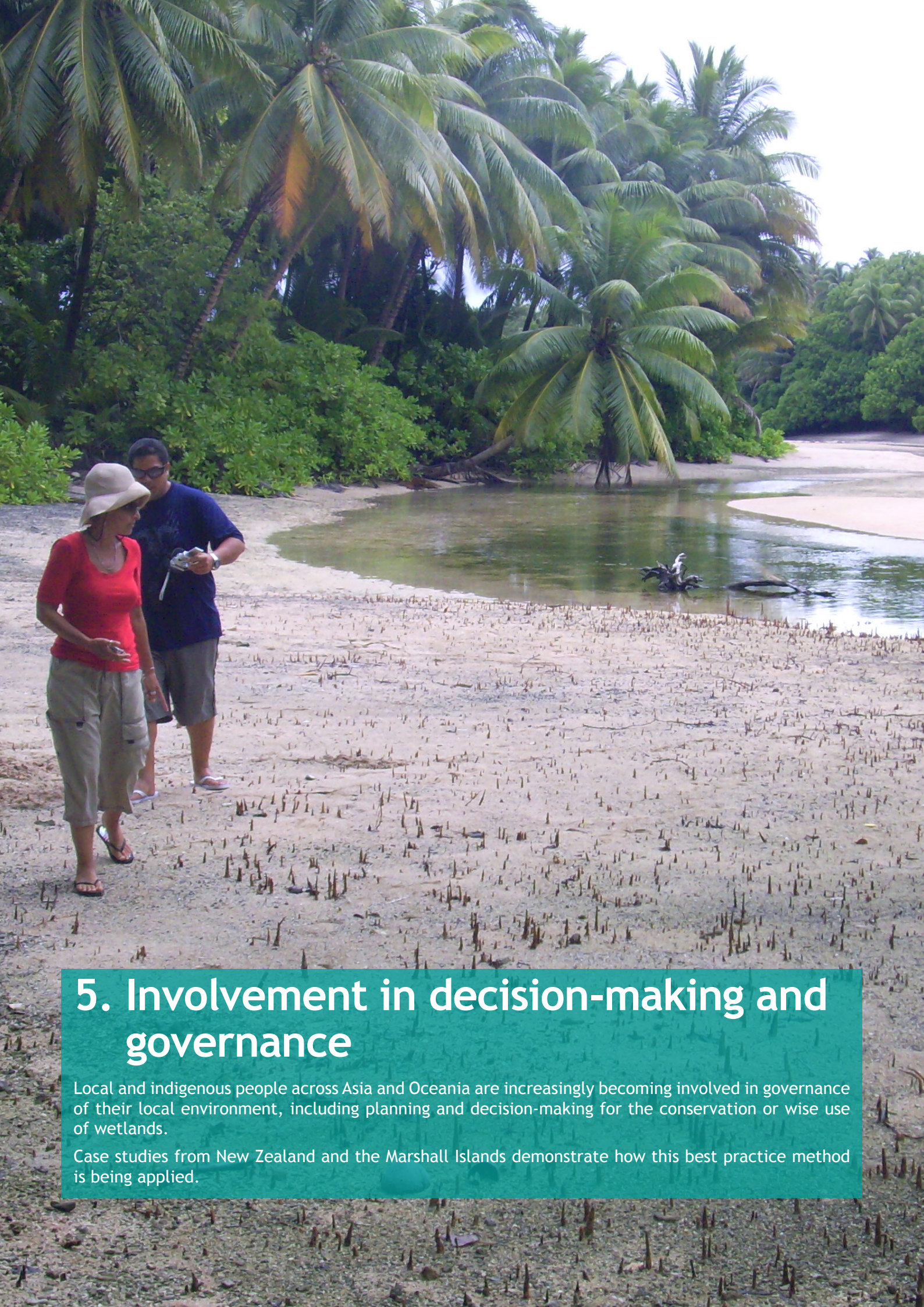
Steve Hemming, Associate Professor, Office of Indigenous Strategy and Engagement, Flinders University; Ngarrindjeri Regional Authority Research, Policy and Planning Unit, steve.hemming@flinders.edu.au

See also:

rsis.ramsar.org/ris/321

www.environment.gov.au/water/wetlands/publications/coorong-and-lakes-alexandrina-and-albert-ramsar-wetland-factsheet

www.goyderinstitute.org/projects/view-project/35



5. Involvement in decision-making and governance

Local and indigenous people across Asia and Oceania are increasingly becoming involved in governance of their local environment, including planning and decision-making for the conservation or wise use of wetlands.

Case studies from New Zealand and the Marshall Islands demonstrate how this best practice method is being applied.



New Zealand

Shared governance between indigenous people and government contributing to wetland restoration

Power-sharing arrangements in resource management, including co-governance and co-management schemes, are becoming common across New Zealand. These schemes bring together indigenous people and the Crown (government) to facilitate various environmental objectives. In the Waikato Region a co-governing arrangement is actively supporting community, agency and private wetland restoration projects.

New Zealand (Aotearoa) was the last habitable land mass in the world to be settled by humans. Ancestors of Māori, the indigenous people of New Zealand, probably arrived in the late 13th century, travelling by large canoes from Polynesia. They lived in tribal groups, and developed strong connections with freshwater and coastal wetlands, which were rich in resources including freshwater eels, weaving materials for shelter and clothing, and swamp mud for staining flax clothing.

After discovery by European explorers in the 17th Century, sealers, whalers, traders and (mostly British) settlers arrived. In 1840, New Zealand's founding document, the Treaty of Waitangi was signed by 500 Māori chiefs and by representatives of the British Queen, who sought sovereignty over the country. In return Māori were promised ownership of their land, and the rights of British citizens.

A period of unrest followed however, and in 1975 the Waitangi Tribunal was established to hear claims brought by Māori relating to Crown actions that breached Treaty promises. A number of claims heard before the Tribunal relate to environmental degradation, including of wetlands and water quality.

Until the 1990s, Māori and their values towards ancestral taonga (treasures) were largely excluded from decision making. Recent Waitangi Tribunal settlements have required local authorities and other agencies to co-govern and co-manage natural resources with local Māori.

In 2010, a major settlement with Waikato-Tainui iwi (tribes) in the North Island established Waikato River Authority to jointly govern the management and restoration of New Zealand's longest river, the Waikato.

Waikato-Tainui have a unique and special relationship with the Waikato River, from which they derive their name. Their identity, their health and their strength are drawn from the River. They consider themselves kaitiaki (guardians) and therefore have duty to themselves and future generations to protect the River. They wish for the River to be restored to its former health and strength. The direct discharge of waste, effluent or other pollutants, whether treated or untreated, from land is unacceptable and offensive to Waikato-Tainui.

Māori view the environment holistically, and their relationship with their ancestral river is described in this whakataukī (proverb):

Ko au te awa, ko te awa ko au

I am the river, and the river is me

Waikato-Tainui define the Waikato River as including its waters, banks and beds (and all minerals under them), its steams, waterways, tributaries, lakes, aquatic fisheries, vegetation and floodplains as well as its metaphysical being - so the settlement includes the River's associated wetlands, including the Whangamarino Ramsar Site.

Waikato River Authority

The Waikato River Authority has ten board members – five appointed from each river iwi (Tainui, Te Arawa, Tūwharetoa, Raukawa, and Maniapoto) and five Crown-appointed members. The Minister for the Environment appoints one of two co-chairpersons; iwi choose the other.

The purpose of the River Authority is to:

- set the primary direction through a vision and strategy to achieve the restoration and protection of the health and wellbeing of the Waikato River for future generations:
- promote an integrated, holistic, and co-ordinated approach to the implementation of the vision and strategy and the management of the Waikato River:
- fund rehabilitation initiatives for the Waikato River.

The Authority's vision is for *“a future where a healthy Waikato River sustains abundant life and prosperous communities who, in turn, are all responsible for restoring and protecting the health and wellbeing of the Waikato River, and all it embraces, for generations to come.”*

The vision statement and strategy is binding on all national, regional, and district policy and decisions for the management of the river.

Waikato River Clean-Up Fund

This co-governance arrangement has added real value to protecting wetlands and waterways in the Waikato Region, in particular through a contestable fund managed by the Authority.

Since 2011 over 260 ecological or cultural restoration, research, public access or education projects have been funded, totalling in excess of US\$ 25 million. Several projects aim to restore and enhance the Whangamarino Ramsar Site, which is an important part of the Waikato flood control scheme, as well as holding significant ecological and cultural values.

Applications are welcome from across the board, including private individuals, landowners, agencies, charitable trusts, tribes, schools, research agencies, universities and even industry.

Works on the ground have included sediment traps, nutrient filters, native fish spawning habitat, re-vegetation, riparian planting, and invasive plant and animal control. Restoring the many smaller wetlands that feed into the river is recognized as crucial for improving water quality.

Several projects aim to restore access to local rivers and wetlands. This is of considerable importance to local indigenous people seeking to resurrect traditional harvest, spiritual and ecosystem monitoring activities that have been lost through legal or physical barriers, such as privately owned land, livestock fences or weed thickets.

Mātauranga Māori

Another area funded is support for the increasing interest in applying mātauranga Māori (Māori knowledge) to wetland conservation. Mātauranga Māori can be used to;

- measure wetland conditions
- express change in the environment
- establish relationships to whakapapa (ancestry)
- highlight relevance of Cultural Indicators of ecosystem well-being
- contribute to restoring wetlands

Mātauranga Māori and western science combined can inform decision making for freshwater wetlands. Some examples are profiled in the book *Te Reo o Te Repo* – the Voice of the Wetland, prepared by the Waikato Raupatu River Trust (set up to implement the River Settlement on behalf of Waikato-Tainui) in collaboration with Crown Research Agency, Landcare Research. The book highlights a range of projects undertaken by Māori people to increase the health and wellbeing of their wetlands, with case studies on wetland restoration, cultural indicators, and monitoring, all led by or in collaboration with indigenous people.

Social enterprise

The large injection of funds for wetland restoration into the region generated a sudden demand for native plants and labour. This has created significant employment opportunities for indigenous people and led to the rise of marae-based social enterprise. Marae are meeting grounds based around a tribe or extended family unit. Social enterprises are for-profit organisations with a strong emphasis on blending positive social or environmental outcomes with training and employment opportunities for local people. Through these businesses young Maori are learning how to restore wetlands, in the process strengthening their links to the ecosystems that their ancestors relied on for sustenance.

Regional Council chair Vaughn Payne says:

“Māori have brought values and experiences – such as māatauranga Māori - that add richness to decision making, as does the fact that iwi have multiple interests, including environmental, social, cultural and economic. Iwi waited a long time to be involved in the major decisions relating to the rivers involved. Their input into the on-going discussions about their future will no doubt continue to be invaluable.”

Conservation and sustainable resource management are life-sustaining practices that have always been a part of Marshallese traditional culture. In the face of global biodiversity loss, the Marshall Islands retain some of the healthiest and most pristine coral reef systems in the

world, but in recent years these have become threatened by increased pressures on fisheries, urbanization and a loss of the traditional subsistence lifestyle, central to the identity and wellbeing of the Marshallese people.

Key resources

Submitted by:

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Yvonne Taura, Landcare Research, TauraY@landcareresearch.co.nz

Additional resources drawn from:

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www.waikatoregion.govt.nz/Council/Policy-and-plans/Rules-and-regulation/Regional-Plan/

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Payne, V. 2016. Opinion-Co-governance-delivers-benefits-for-Waikato-rivers

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Taura Y, van Schravendijk-Goodman C, Clarkson B eds. 2017. Te reo o te repo, the voice of the wetland. Hamilton, Manaaki Whenua - Landcare Research and Waikato Raupatu River Trust. www.landcareresearch.co.nz/publications/books/te-reo-o-te-repo



Marshall Islands

Reimaanlok Conservation Area Management Planning Framework engages local people in planning and decision-making for wetland management

Reimaanlok, meaning “looking to the future”, is a conservation area planning framework now used throughout the Marshall Islands to help create effective community-based conservation areas. The 8-step Reimaanlok Framework is used by trained facilitators to help atoll communities identify and define local threats, needs and objectives, which can be prioritised and even scaled up to national, regional and international goals. The process allows them to develop a management plan with short, medium, and long term measures.

Reimaanlok aims to revive the physical and spiritual connection of indigenous people to their environment, to ensure the sustainable use of resources and food security, and conserve the remarkable biodiversity of the Marshall Islands.

Involving the local people from the outset has kept them engaged in the process of implementing and monitoring these measures, as a unifying endeavour for their community. This helps to promote sustainable resource use, protect biodiversity, address the effects of climate change and sea level rise, and ensure the availability of natural resources for future generations.

See also

atollconservation.org/reimaanlok/

seagrant.soest.hawaii.edu/sites/default/files/publications/reimaanlok_fieldguide.pdf



6. Adopting alternative sustainable livelihoods

Adapting to wetland-friendly and sustainable livelihoods has reduced adverse effects on wetland systems in many parts of Asia and Oceania.

Case studies from Iran and Fiji demonstrate how this best practice method is being applied.



I.R. Iran

Adopting alternative sustainable livelihoods to reduce water takes in Lake Urmia Ramsar Site

Through an ambitious pilot project in Iran, thousands of local people have changed their farming practices to save their wetland and improve their lives.

With an area of almost 500,000 hectares, hyper-saline Lake Urmia is one of the biggest inland lakes in north-western I.R. Iran. Its brackish reedy marshes support large breeding colonies of various waterbirds, including 40,000-80,000 pairs of flamingos, and are an important staging area for migratory waterbirds. The lake is a Ramsar Site, a National Park and a UNESCO Biosphere Reserve.

More than 5 million people live in the basin of Lake Urmia, many of them farmers growing wheat, barley, rapeseed, fruit and vegetables. Over the past decade increased water takes from its feeder rivers and groundwater aquifers, coupled with severe droughts and upstream dams, have drastically reduced the lake's water levels – by up to 90% of its former extent. This threatens the wetland ecology, but also the local people, as exposed salt blown from the dried lake bed forms dust storms, affecting human health and farm yields.

Ecosystem approach

Recognizing that significant pressures arising from human activities were degrading Lake Urmia and other wetlands, the Iranian government, with support from the Global Environment Facility and United Nations Development

Program (UNDP) initiated a project to conserve I.R. Iran's wetland systems.

In 2005 they launched CIWP - the Conservation of Iranian Wetlands Project - which seeks to "Save Wetlands: for People, for Nature". CIWP aims to reduce threats at three demonstration wetlands, and transfer the lessons learned to other wetland protected areas in I.R. Iran.

The project uses a holistic 'ecosystem' approach, which considers a range of factors including biodiversity conservation, livelihoods of local people, water and soil management, inter-sectoral collaboration, and water rights for people and the wetland. It seeks to balance conservation and sustainable use, acknowledging that human communities are part of the ecosystem. Including local people in developing and implementing management plans for important wetlands is a vital component of the project.

Capacity-building and education are the main tools used by the CIWP. The core principle is that decision-makers and local communities will support sustainable management and wetland restoration if they are aware of (and benefit from) the multiple values of these areas, and if they are involved in key elements of management.

Focus on Lake Urmia

A three-phase US\$3 million allocation by the Japanese government from 2014 enabled CIWP to apply the

ecosystem approach model in the Lake Urmia basin. Based around the Ramsar CEPA (Communication, Education, Participation and Awareness) process, this ambitious project has involved many thousands of people over the three phases. Each phase operates as a pilot study, working with a number of villages and learning along the way to improve the process as the project scales up to involve more villages.

Scientific data revealed that 87% of the water resources drawn from the Lake Urmia basin were used for irrigation and other farming needs. Transitioning local farmers to sustainable agricultural practices and alternative livelihoods was therefore a key step to restore the lake.

CIWP co-ordinators brought together farmers, cooperatives, agriculture research centers and professional facilitators to look at ways to reduce water use on the farm without compromising incomes. Local experts were employed and trained in socio-economic and technical aspects of sustainable agriculture, including no-tillage, low tillage, trickle-irrigation, and drought resistant crop varieties. Through a large number of community meetings, field manuals, and direct training, in the first phase of the project, they helped 41 villages to adopt new ways to farm using less water. By 2016 this had been scaled up to involve approximately 10,000 farmers in 90 villages.

Lessons learned

One of the lessons learned in the pilot study was the importance of involving women. Household life relied on the husband's income, so there was an understandable reluctance among men to risk their livelihood by testing alternative farming methods. Instead, rural women provided the early transition. Their deep-rooted sewing skills offered a good alternative to water-hungry cash crops, such as onion farming, commonly practiced by women.

The CIWP project helped set up communal sewing workshops, and micro-loans enabled the women to buy sewing machines and other equipment to set up business selling garments, rugs and crafts. Women from nearby villages set up similar enterprises after visiting the workshop and learning from their experiences. The craftswomen also attend exhibitions throughout the country to display and sell their products, providing further opportunities to inspire other women to switch to more sustainable livelihoods.

Education

To encourage the communities to attend the training events, it was important to first raise their awareness about wetland, and its significance and threats. Televised documentaries, websites, posters, festivals, games, exhibitions and awareness-raising campaigns targeted a wider audience of hundreds of thousands. The clergy were also engaged, invited to capacity-building workshops to convey the message of religious teachings on environmental protection.

Ms. Okhravikhah, the managing director of Yashil Yasham Bonab (an NGO helping implementing the project) says that awareness among women and children about the importance of Lake Urmia and their dependence on the wetland has remarkably increased, paving the way for their participation in wetland restoration and conservation: "Prior to this project, women were cultivating onions, tomatoes and eggplants which are water intensive crops, and now their cultivation has dropped dramatically."

Contribution to wetland conservation

CIWP started in three important wetlands as demonstration sites and plans to up-scale the experiences to another fifteen wetlands in I.R. Iran. Monitoring and evaluation are an essential part of the CIWP project, to test its methods and suitability for application to other wetlands. Many lessons learnt along the way will be used to enhance and update the project methodology.

For example, monitoring gauges were installed in selected pilot-study farms to compare water savings across different water-friendly agricultural methods and with "business as usual" farms. They found that adoption of sustainable practices led to an average of 35% water saving and a 40% reduction in agricultural chemical application.

Socio-economic surveys have shown the crops and farmers' income have increased because of this project, while their business expenses have decreased. Broader outcomes such as the level of awareness raised are also being monitored as a measure of success.

In addition to the community water saving efforts, engineering works to unblock feeder rivers and release water from the dams in the surrounding hills is having a dramatic effect on Lake Urmia's water levels.

In March 2017, Gary Lewis, UNDP Representative said "*Returning to the barren landscape after almost four years, I was able to see water - not nearly enough, but much more than last time. The lake is reviving.*"

Key resources

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Additional resources drawn from:

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Fiji

Adopting sustainable fishing methods helps preserve Cakaulevu Reef

Cakaulevu (the Great Sea Reef) is a coral reef off Vanua Levu. Combined with the nearby Pascoe Reef it is the third longest continuous barrier reef in the world, and of high conservation value.

With a richness of marine life, the reef has supported indigenous people for hundreds of years. The traditional owners (who hold customary rights to fish there) are the people of the Provinces of Macuata, Bua, Ba, and Ra.

Currently some 70,000 people depend on the reef, which contributes \$US 5.7–7.6 million annually to the country's economy through inshore fisheries. It supplies almost 80% of the fish that feeds the domestic markets, and is also a valuable tourist attraction for its diving, snorkelling, and sandy beaches.

Despite the relative intactness of the reef, by 2004 there was growing concern about its health. Siltation, untreated wastewater, rubbish, turtle hunting, and over-fishing and were taking their toll. Unsustainable fishing practices were common, including use of small-mesh fishing nets that catch small fish, poisoning (an old technique which kills fish indiscriminately), and use of diving equipment to allow mass harvest of sea cucumbers from the sea floor.

After seeing fish populations decline, local leaders created a series of marine protected areas where fishing

is banned. Ratu Aisea Katonivere, Paramount Chief of Macuata Province asked World Wide Fund for Nature, the University of the South Pacific, and the Fiji Locally Managed Marine Areas network for assistance to protect the reef. Collectively they developed an ecosystem-based management approach to help the local communities sustainably manage their natural resources without compromising their livelihoods.

Among a suite of solutions that are being implemented, including land management to reduce silt run-off, a significant focus has been placed on helping local people adopt sustainable fishing practices and find alternative livelihoods.

Training and capacity-building has helped the people affected by fishing bans in protected areas to move into other jobs in tourism, research or conservation. For those still fishing commercially, and affected by quotas and bans on unsustainable methods, loss of income from their reduced catch is avoided by strategies to improve the dollar value of their harvest. These include marketing sustainably caught seafood to resort restaurants for a premium, and improving processing and handling along the supply chain to reduce waste. Training workshops have shown fishers how to “fish smarter, not harder”.

The local people have found that where fishing bans have been enforced the fish populations are rebounding

and spilling over into areas where fishing is permitted – improving the quality of the catch for everyone.

A key success factor of the ecosystem-based approach for the people of Macuata Province has been the recognition

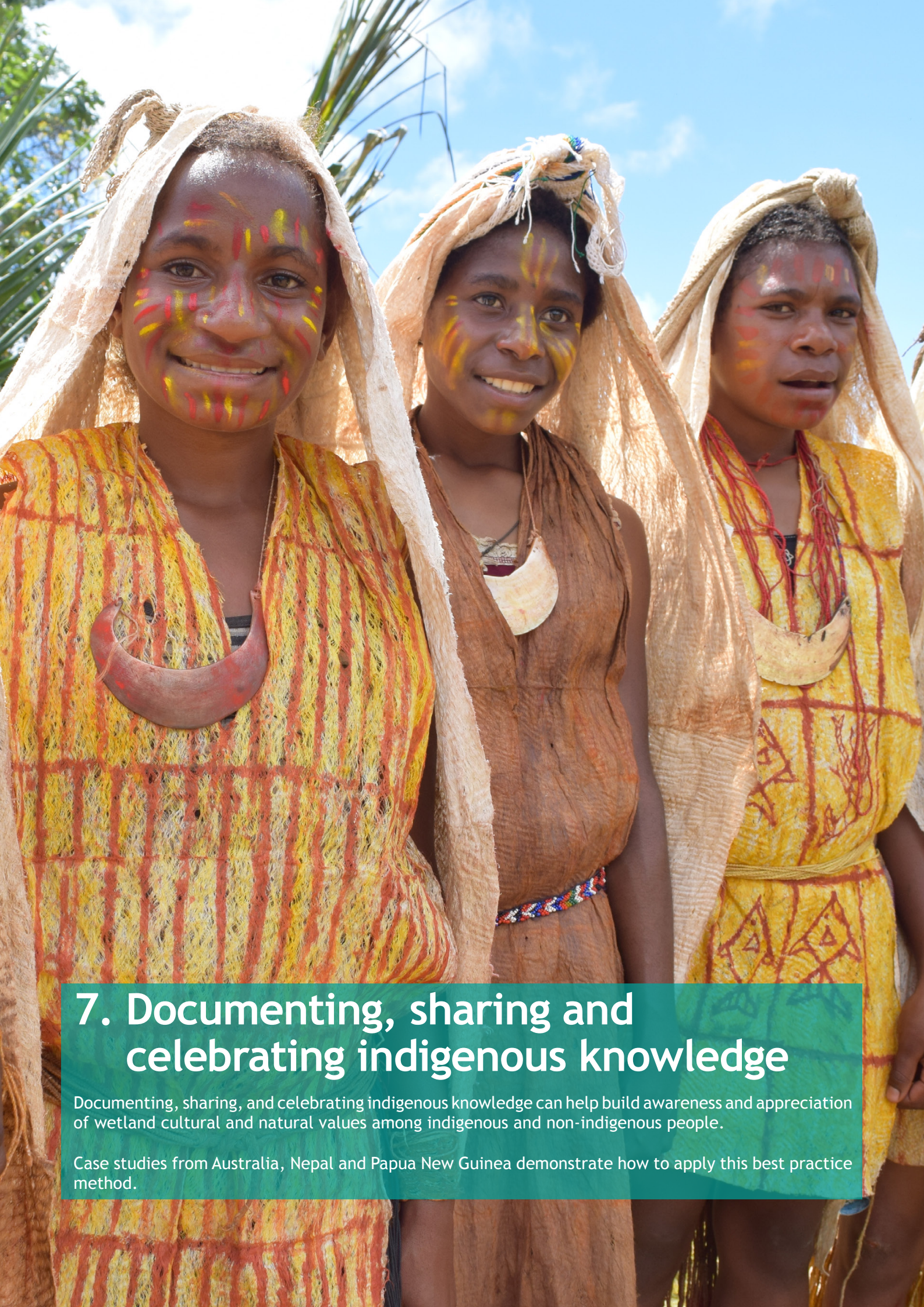
that the protection of the reef is everyone’s responsibility, and the willingness of the local people to re-train and adapt to a more sustainable way of life.

Submitted by:

WWF

See also:

www.wwpacific.org/what_we_do/freshwater/the_great_sea_reef/



7. Documenting, sharing and celebrating indigenous knowledge

Documenting, sharing, and celebrating indigenous knowledge can help build awareness and appreciation of wetland cultural and natural values among indigenous and non-indigenous people.

Case studies from Australia, Nepal and Papua New Guinea demonstrate how to apply this best practice method.



Australia

Engaging children through cultural immersion at Peel-Yalgorup Ramsar Site, South Western Australia

Aboriginal people shared their deep cultural knowledge about the values of the Peel-Yalgorup Ramsar Site ecosystem and its people with 53 eight-year old school students on a school excursion. This trial of the “Wetland Yarns” project connected students with their local Ramsar Site by immersing them in the cultural and scientific values of the Peel-Yalgorup System on a visit to the wetlands.

Ramsar Site

The Peel-Yalgorup Ramsar Site includes the Peel-Harvey Estuary, freshwater Lakes McLarty and Mealup and the coastal lands and lakes of Yalgorup National Park. The wetlands support large numbers of migratory and resident waterbirds, critically endangered thrombolites (living rocks), a variety of wetland types, a high diversity of fish species, and large recreational and commercial fisheries.

The wetlands are of critical importance to the Peel economy for their tourism and recreational value, and are of special significance to local Noongar (Aboriginal) people who are thought to have continuously occupied the southwest of Western Australia for at least 45,000 years¹⁵. Noongar people have a long history of culture and tradition and continue to assert their rights and identity in Noongar boodja (Noongar land).

¹⁵ www.noongarculture.org.au/noongar/

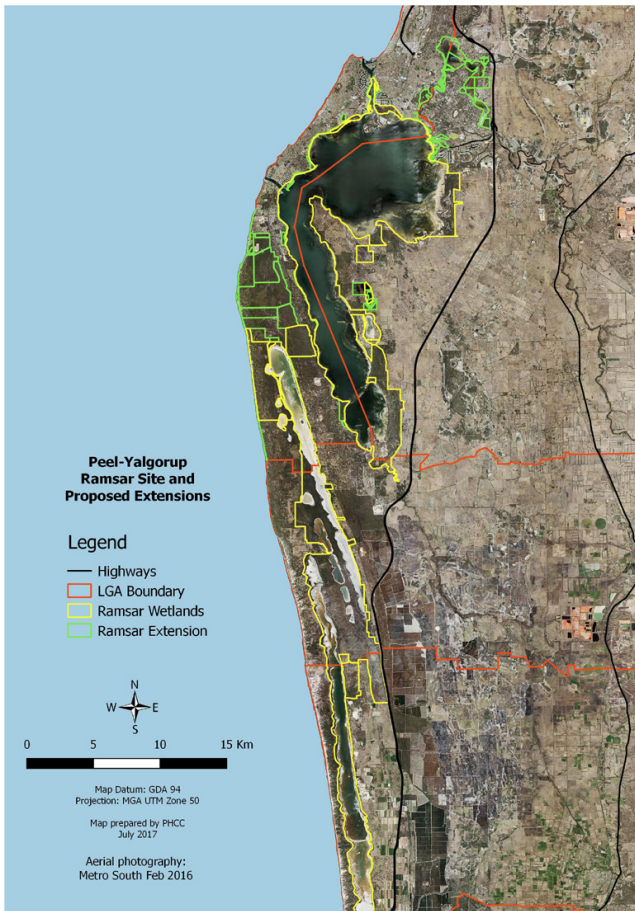
The Peel-Yalgorup wetlands were crucial to traditional Noongar livelihoods. The wetlands were camping areas and food bowls for the Noongar people, who would spear and trap fish and forage for amphibians, edible roots, crustaceans, reptiles, waterfowl and eggs.

The Noongar people believe in the dreaming story of the Waugal. The Waugal is a large snake or rainbow serpent recognized by the Noongar people as the “giver of life“, which maintains the fresh water sources. They believe the Waugal moved over the land, carving out and forming the rivers and lakes including the chain of lakes and waterways that make up the Peel-Yalgorup System.

These wetlands continue to be enormously significant to Noongar people of the area; the banks of the wetlands are places for meeting and ceremony, and “bush tucker” (wild food) is still gathered and hunted in and around the wetlands. The Peel-Yalgorup is considered a sacred place, where traditional life can be remembered and still practiced, and continues to play a strong role in present day Noongar spirituality.

CEPA plan

As part of their role in the management of the Peel-Yalgorup Ramsar Site, the Peel-Harvey Catchment Council (PHCC) recently launched their “Wetlands and People Plan” - a CEPA (Communication, Education, Participation, and Awareness) action plan. It was developed with input from an expert panel and extensive stakeholder engagement.



The *Wetlands and People Plan* is for those who use the wetlands, those with businesses which benefit from the wetlands, and those who make decisions which affect the wetlands. The Plan applies communication, capacity building, education, participation and awareness approaches to better manage and protect the Peel-Yalgorup Wetland System. It supports government, community and industry to become more involved in the care and protection of the wetlands.

Goal 4 of the ‘Wetlands and People Plan’ is to *Increase the community’s capacity to protect wetlands, through social marketing, environmental education and cultural events.*

One of the first actions under this goal is the “Wetland Yarns – Uniting Science and Culture” program, created by the PHCC. It is funded by the Australian Government’s National Landcare Program, the Western Australian Government’s State Natural Resource Management Program, and the City of Mandurah.

The name “Wetland Yarns” has a clever double meaning. In one instance it refers to the thread that weaves things together, as an analogy to connecting communities. Informally, in Australia a yarn means a long story or fable, a reference to the program’s aim to share cultural stories and scientific accounts with local children.

“Yarn” also has a special meaning for the indigenous people. Storytelling is large part of indigenous culture, it is how

knowledge was traditionally transferred, decisions made and mythology shared. The word is often used as a warm way to describe the love indigenous people have for long talks with others.

Into action

The Wetland Yarns program was launched with a trial involving three classes of eight-year old Greenfields Primary School students visiting two wetland sites in the Peel-Yalgorup System: Lake Mealup and Lake Clifton. The June 2017 excursion connected the students directly with the wetlands that are part of their “backyard” whilst the Aboriginal elders, educators, a scientist, an artist and a CEPA co-ordinator, all shared their knowledge and stories with the students about the value of the wetland system and its people.

The excursion was led by local Noongar Aboriginal elders and community leaders, with a moving welcome from Noongar Elder, Harry Nannup. Community leader, George Walley, engaged the students with cultural story-telling and traditional knowledge of the area. George also shared Noongar language with the students, teaching them traditional names for plants and animals. Peel-Harvey Catchment Council Science Advisor, Steve Fisher, shared with students his knowledge of conservation and the environmental importance of the lakes.

Art education

Two weeks after the wetland excursion, artist Angela Rossen visited Greenfields Primary School over four days to lead the students in the creation of a large three-panel painting depicting the wetland setting of Lake Mealup, and the plants and animals that live in that environment. The finished artwork is accompanied by a fourth panel depicting the Noongar names (with cultural knowledge provided by George Walley) for the plants and animals that the students painted.

The painting continues to be an educational tool to keep the experience alive and pass on the united message of science and culture. It was hung in the school library for all students to view, and will be used in lessons and taken to the events. Wetland education continued at Greenfields Primary School, with educators implementing the themes throughout the school term.

Outcomes

Through the wetland visit, the young students developed a deeper connection with their local wetlands and an appreciation of relationships between people and the land. They also learnt about the importance of environmental responsibility and how they can play a role in conserving and protecting our wetlands.

The over-arching lesson for the students was a strong message that we are all part of a living eco-system and

everything is connected. The Noongar people knew and practiced this belief for centuries, forming a deep respect for their environment and creating a sustainable way of living on the land.

Having engaged the students through storytelling, science and art, the program leaders hope this will lead to increased cultural and environmental awareness of the area, and ultimately greater stewardship of the Peel-Yalgorup System.

Future

The Greenwood Primary School visit was a pilot project, and PHCC plan to support similar projects for other schools within the catchment.

Andy Gulliver, Peel-Harvey Catchment Council Chair, commented on the success of the Wetland Yarns project; *“We hope this experience leaves a long lasting impression for the students involved, and for future students. The artwork is one way to keep that experience alive at the school and continue to pass on the cultural and environmental message to others.”*

Key resources

Submitted by:

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The authors wish to acknowledge the huge contribution to the Wetland Yarns project from Year Three Teacher Leanne Walley, a passionate educator committed to teaching her students about environmental responsibility and culture.

Additional resources drawn from:

rsis.ramsar.org/ris/482

www.noongarculture.org.au/noongar/

peel-harvey.org.au



Nepal

Sacred Waters: Cultural Values of Himalayan Wetlands

Nepal is rich in water resources and many important wetlands, but in-depth studies of most sites was lacking. The Nepalese government has supported research, inventory and documentation of wetland biodiversity along with their traditional, ethnic, religious and cultural values. They aim to conserve wetland biodiversity and wise use traditions to improve the livelihood of local and downstream communities.

A beautifully illustrated book produced by World Wide Fund for Nature Nepal documents the strong spiritual links between Nepalese communities and seven sacred wetland sites. The book is a compilation of legends and traditions associated with each site, which include Ramsar Sites Gosaikunda and Mai Pokhari.

According to the mythic tradition Gosaikunda's importance began after the god Shiva drank the Kalakuta poison to prevent it from being a threat to the world (as mentioned in the Mahabharat). However, Shiva squeezed his throat to prevent the poison going down into his body descending into his body and he then looked for a place with water to subdue the effect of poison. He moved northwards, picked up his Trishula (trident), struck it into the earth and out sprang a water fountain from the hole. Shiva then laid his

body in this lake that was formed and he found himself completely relieved. That lake is Gosainkund which is now a place of great religious and cultural importance for both Hindu's and Buddhists community, with people take holy bath during the Janaipurnima and Ganga dashahara festivals in July-August and May-June respectively.

Mai Pokhari (Mai=mother and Pokhari=pond) is revered as Mother-Goddess of water and is a site of high religio-cultural value, being the convergence point of Mundhumism (Animism), Hinduism and Buddhism religious traditions as the Mai-Religio-Culture. As a result, holy persons of different religions and sects have established hermitages, shrines, temples and monasteries at the site. Every year, thousands of people from different traditions and areas gather to pray with the Mai Pokhari in Thulo Ekadashi (a spiritual day) of Kartik month (November). Shamans, monks, priests, hermits and devotees come to visit the pond-shrines and worship the Mai in the full moon of Baishak month (April and May). Traditionally, the Mai is also known as a powerful deity to relieve children from chicken pox/small pox. Hence, it is recognized as a sacred pond for pilgrimage having high eco-tourism prospect. The Mai-Religio-Culture also does not allow pollution in the wetland.

Nepal's sacred wetlands are maintained because of the honor and respect the local people hold for the deities who inhabit the wetlands or other high religious or traditional

beliefs. Any activity that may harm such a site is thought to bring about disasters or tragedy. Documenting and sharing information on important traditional, ethnic, religious and

cultural values that link the local people and these wetlands will help others to respect these traditions and in turn strengthen conservation and wise use.

See also:

rsis.ramsar.org/ris/1693

rsis.ramsar.org/ris/1850

sacrednaturalsites.org/items/sacred-waters-cultural-values-of-himalayan-wetlands/



Papua New Guinea

Celebrating natural and spiritual values at Lake Kutubu Ramsar Site

Lake Kutubu Ramsar Site is a volcanic lake and swamp forest that lies in limestone karst country in the remote and isolated Southern Highlands of Papua New Guinea. The lake's extraordinary level of endemism (12 of its 14 fish species are found only here) exceeds that of any other lake in the entire New Guinea-Australian region. Despite threats from forest clearance and invasive tilapia fish, the lake is a source of great pride for the indigenous Kutubu people. Preservation of its pristine habitat is of paramount importance to the local communities.

There is a high level of interest among school students to learn about their environment and what it has to offer educationally, socially and economically. Since 1994 a concerted education program of village visits, community workshops, visiting scientists, posters, videos and slide shows incorporated into community conservation awareness meetings has fostered this interest.

Maintaining pride and awareness of the Lake's environmental and cultural heritage is the main aim of the "Kutubu Kundu and Digaso Festival". Since 2011, more than 40 different local communities from within the Kikori River basin have come together annually to celebrate their heritage and keep their culture alive. The festival, which showcases traditional and contemporary art and crafts, dance, music, weaving, storytelling, language, theatre, wild food and medicine, games, fishing, and hunting, also has a high potential for boosting eco-tourism.

The regular cultural festival has greatly increased and maintained awareness of the special values of Lake Kutubu. People have been able to learn about the site's endemic flora and fauna, international importance, and cultural significance.

Festival chairman Mr James Irimaru says *"Because Lake Kutubu is so special to the people of Lake Kutubu, their livelihood and resources need to be protected and have people educated through such event so that they will know the values and leave happily"*.

Submitted by:

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See also:

rsis Ramsar.org/ris/961

www.thenational.com.pg/the-colour-of-kutubu/



Recommendations

Guidelines and recommendations for strengthening the role of indigenous peoples and local communities in wetland conservation

In 1999, the Ramsar Convention adopted guidelines for establishing and strengthening local communities' and indigenous people's participation in the management of wetlands¹⁶.

The guidelines advise contracting parties to involve local and indigenous people in a management partnership when:

- a) the active commitment and collaboration of stakeholders are essential for the management of a wetland (e.g., when the wetland is inhabited or privately owned);
- b) access to the natural resources within the wetland is essential for local livelihood, security and cultural heritage; and
- c) local and indigenous people express a strong interest in being involved in management.

The case for local and indigenous people's involvement is even stronger when:

- a) local stakeholders have historically enjoyed customary/legal rights over the wetland;
- b) local interests are strongly affected by the way in which the wetland is managed;
- c) decisions to be taken are complex or controversial (e.g., different values need to be harmonised or there is disagreement on the ownership status of the land or natural resources);
- d) the existing management regime has failed to produce wise use;
- e) stakeholders are ready to collaborate and request to do so; and
- f) there is sufficient time to negotiate among stakeholders in advance of management decisions being made.

The guidelines include a number of lessons learned from participatory management case studies:

1. Incentives for local and indigenous people's involvement and wise use are essential. Everyone must benefit in the long term. These may include for instance maintenance of sustainable livelihoods maintaining spiritual and cultural values associated with a wetland, or more equitable access to wetland resources.
2. Trust among stakeholders is essential and must be developed.
3. Flexibility is required (each situation will need its own approach - regular evaluation and adaptation as needed will lead to better outcomes).

4. Knowledge exchange and capacity building are fundamental.
5. Continuity of resources and effort is important.

Through documenting a range of case studies that illustrate how indigenous people and local communities contribute to wetland conservation and wise use, a number of good practices became apparent. In many situations, a range of the practices contributed to successful outcomes for wetland conservation. The following recommendations are drawn from lessons learned through experiences across Asia and Oceania.

1. Conserve and support cultural values and practices

Provide mechanisms to blend traditional knowledge with modern science

The importance of the indigenous knowledge, systems and practices of the Manobos who inhabit the Agusan Marsh is now enshrined in laws which protect their rights to sustainably use natural resources and engage in environmental management. By blending their spiritual beliefs and modern science with government support and training, local Filipino people are engaged in a range of sustainable enterprises including cultural and ecotourism, biodiversity monitoring, and environmental law enforcement, contributing to the conservation and wise use of the Agusan Marsh.

Respect and revive traditional practices

Traditional land management practices are protecting native species from ecosystem and climate change.

In Japan, the traditional Noyaki burning system to maintain wetland diversity was revived when the Ramsar Site became invaded by shrubs, changing its ecological character. The practice is supported by a committee of stakeholders including nature conservation organizations, the tourism association, local municipalities, and local landowners.

A Global Environment Facility/UN project is exploring ways to introduce the Laotian lum pa fish refuge practice into new wetland areas without compromising the traditional owners of the practice, or its spiritual significance.

16 www.ramsar.org/sites/default/files/documents/library/key_res_vii.08e.pdf

2. Encourage and support active wetland management

Develop appropriate legal instruments to encourage active involvement

Developing and enforcing legal instruments, including a rights-based approach to natural resource management, can help protect traditional practices, knowledge and spiritual connections, and continued involvement of local communities in maintaining the ecological character of a site. This was exemplified in the Agusan Marsh, but also in the Indian wetlands of East Kolkata and Deepor Beel where inappropriate restrictions or law enforcement threaten to hamper local people's involvement in the wise use and management of Ramsar Sites.

Integrate traditional knowledge and local people within wetland planning and management

Australia's Cobourg Peninsula Ramsar Site is managed by a board that gives the traditional owners control of the decision-making processes and supports them to maintain spiritual links with the site and practise their culture and customary beliefs. The Arrarrkbi people hold a substantial body of traditional ecological knowledge of flora, fauna, ecological processes, landscape change, weather and seasons, and of the many sites of cultural significance. They manage the site through independent traditional practices and, with appropriate training via employment as rangers by the Parks and Wildlife Commission.

3. Support indigenous people who wish to maintain a wetland-dependant lifestyle

Identify and provide for the needs of indigenous occupants
The Ministry of Water Resources in Iraq has worked to help local people restore the severely damaged Mesopotamian marshes, and created habitable islands and a water filtration system for the indigenous Ma'dān people who live in the wetlands. However, marsh drainage also resulted in a decline in application of traditional practices that formerly contributed to maintenance of biodiversity and ecosystem services. Restoration of the marshes must include the local people as key stakeholders, knowledge-holders and decision-makers.

4. Involve local people in Ramsar processes

Recognise the value of Ramsar status for wetlands with strong cultural values

The Gulf of Mottama in Myanmar supports the livelihoods of 200,000 people who survive through fishing, grazing, duck-rearing and paddy farming. Recognizing the Gulf's importance and need for protection, but cognisant of its importance for livelihoods, local NGOs sought to have the

site designated as a Ramsar Site, which allows for wise use, while meeting biodiversity conservation objectives.

Recognise 'cultural characteristics' when designating Ramsar Sites

For many of the wetlands profiled in this report, the ecological character of the site is inextricably linked to the existence of cultural characteristics, for instance they:

- a) provide a model of wetland wise use demonstrating the application of traditional knowledge and methods of management (e.g. Agusan Marsh, Cobourg Peninsula);
- b) have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland (e.g. the Mesopotamian Marshes),
- c) depend on the interaction with local communities or indigenous peoples (e.g. India's East Kolkata and Deepor Beel wetlands); or
- d) contain sacred sites (e.g. Agusan Marsh, Nepal's Gosaikunda and Mai Pokhari).

Incorporate the views of indigenous people in Ramsar Convention processes

A new relationship between the South Australian government and the Ngarrindjeri people has paved the way for increased involvement of indigenous people in the Ramsar monitoring and reporting process. As part of an update of the Coorong Lakes Ramsar Site's Ecological Character Description (ECD), the Ngarrindjeri are conducting a holistic assessment of the health of the wetland, incorporating their philosophy of interconnected benefit and responsibility – a fundamental shift away from the existing ECD representation of the wetland as individual components, processes and ecosystem services.

5. Strengthen local involvement in decision-making and governance

Seek opportunities to enter into co-management agreements
Power-sharing can unlock the unique and special relationship of indigenous people with local wetlands, and incorporate it into effective management. In New Zealand, a co-governance arrangement, coupled with financial settlement for past grievances has led to a significant investment of funds and community energy into wetland restoration to improve water quality. It has also encouraged a proliferation of social enterprises providing significant training and employment opportunities for indigenous people in ecological restoration projects.

Encourage participatory approaches

The Reimaanlok conservation area planning framework is used throughout the Marshall Islands to help create effective community-based conservation areas. Trained facilitators help atoll communities identify and define local threats, needs and objectives and goals. Involving the local people from the outset has kept them engaged in the process of

implementing and monitoring these measures, as a unifying endeavour for their community.

6. Encourage and facilitate alternative lifestyles to minimise adverse effects on wetlands

Ensure livelihoods are protected

Transitioning away from unsustainable practices in wetlands that support the livelihoods of local people must include provision of alternatives. In Fiji, training, education and creation of new markets has helped local people to fish smarter, not harder, reducing their take from an important reef yet increasing their financial return from high value sustainably sourced fish.

Employ CEPA methods to encourage a change to sustainable life-styles.

In I.R. Iran, a significant project involving thousands of people supported a shift towards alternative life-styles that drastically reduce water use while improving farm yields to restore a depleted lake system. Capacity-building and education through targeted workshops and large scale broadcasting were key tools used - the core principle being that decision-makers and local communities will support sustainable management and wetland restoration if they are aware of (and benefit from) the multiple values of these areas.

Start with a pilot trial

I.R. Iran's Conservation of Iranian Wetlands Project (CIWP) started their participatory process in three important wetlands of the country as demonstration sites, and then up-scaled using their learnings to 15 other wetlands. This has resulted in establishment of a bottom-up approach, and has provided legal tools for implementation of the mechanism. Monitoring and evaluation were key aspects of the project allowing lessons learned to be applied, such as the importance of involving women in transitioning to alternative livelihoods.

7. Document, share and celebrate indigenous knowledge

Document indigenous knowledge

Traditional beliefs and respect for deities have protected Nepal's sacred wetlands from deliberate harm. Documenting and, where appropriate, sharing information on important legends and beliefs that link the local people and wetlands will help others to respect and maintain these traditions and protect the wetlands.

Share indigenous knowledge

Aboriginal people in Western Australia have been sharing their deep cultural knowledge about the values of the Peel-Yalgorup Ramsar Site ecosystem and its people with

students on school excursions and via artworks through the "Wetland Yarns" project. This immersion programme imbues the students with a deeper connection to their local wetlands and better appreciation of the role they can play in conserving and protecting them.

Further to the Peel-Yalgorup example, all of the case studies in this report offer further enlightenment on wetlands with significant cultural values and help increase understanding of the relationship between cultural processes and wetland conservation and wise use. Sharing this document can assist in this process.

Regularly celebrate indigenous knowledge

In Papua New Guinea the annual "Kutubu Kundu and Digaso" cultural festival has greatly increased and maintained awareness of the special values of Lake Kutubu, including its endemic flora and fauna, international importance, and cultural significance. The festival, which showcases traditional and contemporary arts and customs, maintains pride and cultural identity, while boosting eco-tourism.

Photo Credits

- p. 4 Ratu Wiliame Katonivere (credit: WWF Pacific)
- p. 5 Abbas Sayyied Sawrwat Al-Ismaeeli (credit: Jassim Alasasi)
- p. 10 For any fisherman, there's always a new place to go fishing, always a new horizon, Samoa (credit: Maria Kerstin)
- p. 13 Saina Jeffrey speaking at the Lake Kutubu Festival, Papua New Guinea (credit: Lydia Kaia)
- p. 15 Ramsar Sites in Asia and Oceania (RSIS, 02.18)
- p. 16 Local people engage in rice paddy farming, communal fishing, and cattle and water buffalo raising, Xe Champhone Ramsar Site, Lao PDR (credit: Quoi_Le_Phath)
- p. 17 Community Monitoring Groups provided necessary information to the protected area staff during a Biodiversity Monitoring System meeting, Agusan Marsh Ramsar Site, Philippines (credit: DENR-PASu AMWS Office)
- p. 20 Noyaki (controlled burning) in Tadewara-shitsugen Ramsar Site, Japan (credit: Executive Committee for Controlled Burning in Handa Highland)
- p. 21 A Lum Pa in the rice fields of southern of Lao. The wood that usually conceals the top of the pit has been removed (credit: FAO report 2015)
- p. 22 Conservation Planning, Rangers Andrew Cooper and Alan Withers, Garig Gunak Barlu National Park, Cobourg Peninsula Ramsar Site, Australia (credit: Jonathan Veal)
- p. 23 East Kolkota Wetlands Ramsar Site, India (credit: Lew Young)
- p. 25 Indigenous ranger, Andrew Cooper, Cobourg Peninsula Ramsar Site, Australia (credit: Alan Withers)
- p. 26 Koibrata community fishing boats and nets, Deepor Beel Ramsar Site, India (credit: Jekulin Lipi Saikia)
- p. 27 Ma'adan woman weaving reeds, Iraqi marshes (credit: Jassim Alasadi)
- p. 28 Ma'adan women navigating the Iraqi marshes (credit: Jassim Alasadi)
- p. 31 Swan (kungari) nest monitoring - Des Karpany and Jeremy Rigney, Coorong and Lakes Alexandrina and Albert wetland Ramsar Site, Australia (credit: Ngarrindjeri Regional Authority (NRA))
- p. 32 Fisherman at the Gulf of Mottama Ramsar Site before high tide, Myanmar (credit: BANCA)
- p. 35 Ruppia watch monitoring – Anthony Long and Kat Ryan, Coorong Lakes Ramsar Sites, Australia (credit: Department of Environment Water and Natural Resources (DEWNR))
- p. 37 Namdrik Atoll Ramsar Site, Marshall Islands (credit: Ramsar Convention Secretariat)
- p. 38 The Waikato River, Huka Falls (*insert: Launch of “Waikato River Restoration: A Bi-lingual Guide”*, in Hamilton, New Zealand) (credit main picture: Karen Denyer; credit insert picture: Abby Davidson)
- p. 41 Namdrik Atoll, Marshall Islands (credit: Ramsar Convention Secretariat)
- p. 42 *Top picture: Zarineh and Chichest women cooperative, Iran (credit: Mina Azhari); Bottom picture: Lake Urmia Ramsar Site (credit: Lew Young)*
- p. 43 Participation of the Zarineh and Chichest women cooperative in different exhibitions to introduce and sell their products, Iran (credit: Mina Azhari)
- p. 46 Children of Kavewa Island planting mangrove seedlings within a section of iQoliqoli Cokovata, Fiji (credit: Juergen Freund, WWF-Pacific)
- p. 48 Girls from Daga Village at Lake Kutubu Festival, Papua New Guinea (credit: Lydia Kaia)
- p. 49 Three-panel painting depicting the wetland setting of Lake Mealup, and the plants and animals that live in that environment, created by Greenfields Primary School students with the help of artist Angela Rossen, Peel-Yalgorup Ramsar Site, Australia (credit: Peel-Harvey Catchment Council)
- p. 52 Canoe on a lake in Nepal (credit: Rishav Adhikari)
- p. 54 Women from Mt Bosavi perform in front of the hausman at Pimaga, Daga Village during the Lake Kutubu Festival, Papua New Guinea (credit: Lydia Kaia)
- p. 55 Mita from Ligau Levu Village expertly handles a freshly caught live aggressive mudcrab from the mangroves within iQoliqoli Cokovata, Fiji. (credit: Juergen Freund, WWF-Pacific)

Dedication



During the preparation of this report, we were saddened to hear about the passing of Dr. Dhruvajyoti Ghosh. He was a leader in the designation of the East Kolkata Wetlands as a Ramsar Site and then a strong fighter to stop illegal encroachment into the site, as well as to protect the livelihood of the fisher folk and other community members who are dependent upon the wetland. The wetland conservation world will sorely miss him.



CONVENTION ON WETLANDS
CONVENTION SUR LES ZONES HUMIDES
CONVENCIÓN SOBRE LOS HUMEDALES
(Ramsar, Iran, 1971)

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