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Embracing the Currents

An International Conference on the Sulu Archipelago

12-13 November 2024

Mindanao State University – Tawi-Tawi College of Technology and Oceanography

Sanga-Sanga, Bongao, Tawi-Tawi, BARMM

Convenors: *University of the Philippines Center for Integrative and Development Studies*

Mindanao State University – Tawi-Tawi College of Technology and Oceanography

Co-Convenors: *Philippine Studies Association*
Australian National University Philippines Institute

Rapporteur: *Rodrigo Angelo C. Ong*
University of the Philippines

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UNIVERSITY OF THE PHILIPPINES
CENTER FOR INTEGRATIVE AND DEVELOPMENT STUDIES

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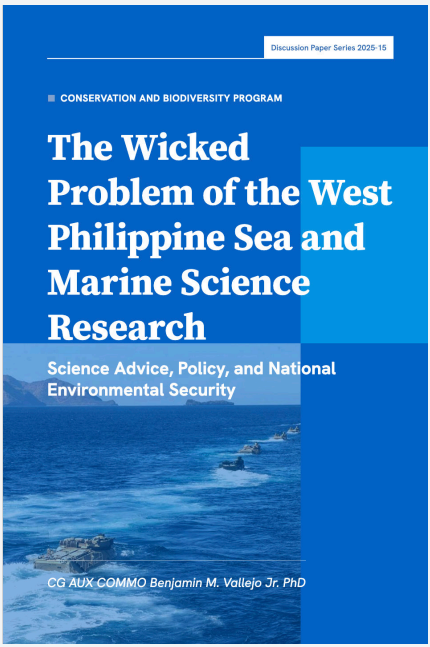

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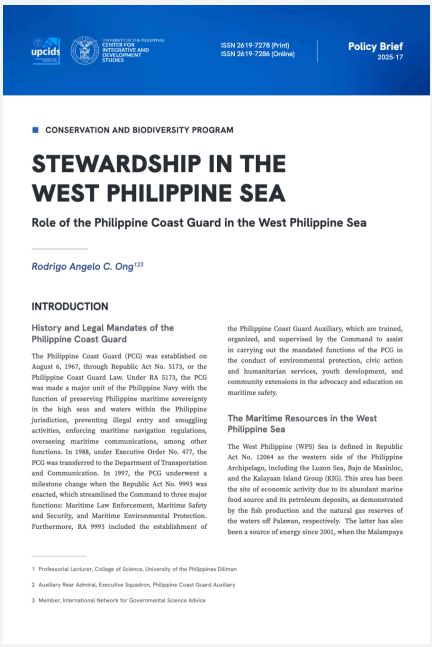

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About the Conference

The International Conference on the Sulu Archipelago, with the theme, Embracing the Currents, was organized by the University of the Philippines Center for Integrative and Development Studies and the Mindanao State University Tawi-Tawi College of Technology and Oceanography. It was held on November 12-13, 2024. This event was the first international conference on the study of the Sulu Archipelago and brought together scientists, experts, scholars, and policymakers from Malaysia, Indonesia, Australia, the United States, and the Philippines to discuss and present the issues surrounding the Sulu Archipelago. The conference served as a platform for sharing research findings on the climate, marine environment, and archeology, as well as historical narratives on maritime trade, law, and culture. A special plenary discussion on the newest constituent unit of the University of the Philippines, The Archipelagic and Oceanographic Virtual University was also held.

With over two hundred participants representing diverse sectors, the event underscored the importance of transdisciplinary approaches to tackle complex issues.

Opening Remarks

Welcoming remarks were delivered by Prof. Mary Joyce Guinto-Sali, Chancellor of MSU-TCTO. Chancellor Guinto-Sali highlighted the diverse assembly of scholars invited to converge, reassess, and re-evaluate the Sulu Archipelago's rich culture, heritage, and diversity.

Meanwhile, in his message, Atty. Basari Mapupuno, President of Mindanao State University, described the Sulu Archipelago as a living laboratory—an extraordinary space where the dynamics of state building, culture exchange, and socioeconomic provide the foundation for innovative solutions. Thanking all those involved in the conference, he shares a call to action for all participants: to deepen understanding of the region's heritage and to collaborate in building meaningful, impactful contributions to the sustainable development of the Sulu Archipelago and its surrounding regions.

Lastly, in his address, University of the Philippines Executive Vice President Jose Fernando T. Alcantara, on behalf of President Angelo Jimenez, underscored the interconnectedness of nature, education, and collaborative progress. He emphasized the need to develop strategic goals that harness the collective intelligence and creativity of Sulu. He ends his message with an appeal to all stakeholders to embrace the collective journey toward knowledge, innovation, and sustainable regional growth.

Keynote Address

Leonard Andaya, PhD
University of Hawaii Manoa

Dr. Andaya began by stating that early modern Southeast Asia was governed by nationalist or colonial ideas with perspectives from the center—in this case, the region of the archipelago. The Sulu Archipelago during the early modern period during the 18th and 19th centuries presents a fascinating contrast to contemporary studies, offering insights into how space and the sea were conceptualized and organized in maritime Southeast Asia. Early perceptions of space were heavily influenced by trade, geography, and the interdependence of island communities, shaping the creation of networks that linked the local to the global economy. He proposes that his studies and presentation at the conference on eastern Indonesia can provide clues on the approaches of the studies of the Sulu archipelago.

Space and Organization

In the early period, the notion of space in Southeast Asia was fluid and defined by its practical use, particularly in trade. Communities perceived space not just as physical territory, but as interconnected zones of interaction and exchange between the East and the West. The Sulu Archipelago, as part of this maritime environment, thrived through its linkages with surrounding regions, connecting islands and coastal areas through shared cultural and economic activities.

The Role of the Sea

The sea acted as both a divider and connector. Indonesia, for example, was geographically fragmented by water, yet the sea facilitated the formation of archipelagic states centered on strategic islands. Trade was the primary driver of this spatial organization. The “conception of space and trade” during the early modern era reflected a globalized economy, linking Southeast Asia to the

Horn of Africa, India, the Middle East, and China. Major trade routes, such as those passing through the Red Sea, Persian Gulf to the Strait of Malacca, and eventually to China, became vital corridors for East-West exchange, where Malay communities played pivotal roles by establishing trade posts and supplying commodities like spices. The established East-West International Maritime Route is also referred to as the "Maritime Silk Route," pointing toward the importance of this trade space. Spices such as cloves from northern Maluku and nutmeg and mace from southern Maluku were central to this trade. These high-value goods were transported to hubs like Melaka for broader distribution. Artifacts found in Europe, such as jars used to transport spices found in European sites like Nuremberg, highlight the extensive reach of these trade networks.

Local Spaces and Networks

The survival of spice trading posts in Indonesia depended on inter-island networking. Mechanisms like water exchange, marriage alliances, and hospitality agreements ensured the resilience and survival of the different cultures and the preservation of their networks or connections. Defining linkage and local spaces are island proximity and the similarities in language and culture. These networks also adapted to challenges such as climate change, disasters, technology, trade, and wars thus showcasing the dynamic interdependence among island communities.

Cultural affinities between islands further strengthened these linkages, creating shared identities and mutual support systems. Adaptability allowed maritime Southeast Asia to remain a crucial node in global trade systems, further enhancing trade communities' reliance, interdependence, cooperation, and survival. Examples are the links between Australasian people versus Papua New Guineans, where the lines can be drawn to link one island to the next where common or similar cultures are found.

Sulu Archipelago as a Hub

The Sulu Archipelago exemplified these dynamics, serving as a vital link in the trade routes connecting Sabah, Indonesia, and the southern Philippines. Research into these connections during the early modern period reveals a sophisticated system of interactions that went beyond economic interests to include cultural and social dimensions.

Conclusion

Our study of the history of the region is influenced by both late colonial and modern nation-states. By examining historical linkages, we gain a deeper understanding of how maritime Southeast Asia functioned as a cohesive yet diverse region. The Sulu Archipelago, as a key part of this network, highlights the interwoven histories of trade, culture, and survival strategies that shaped the early modern world. Revisiting Sulu's early and modern history, especially in the concept of interacting networks is beneficial to a historian's understanding of the intricacies of these spaces and the alignments of the different societies in the region.

PLENARY PANEL 1

Opium, Cigarettes, and Fisheries

Commodities and Governance in Sulu

Moderator: Elizabeth Enriquez-Davis, PhD

THE OPIUM AND THE EGG, 1914-1930s

Jilene Chua, PhD
Boston University

Dr. Chua opened with her research question: "How did the US colonial state fail to contain the Sulu Archipelago?" The session presented mechanisms by which the people of Sulu region resisted the US colonial border expansion. Opium smuggling presents a case study of such a mechanism. The opium trade had significant economic value and to maximize revenue. The Moro Exchange was instituted wherein Zamboanga was designated as a customs port. However, traders found avenues to avoid taxes through gaps in enforcement. In 1914, the Philippine Constabulary formally banned opium commerce, marking the beginning of a protracted effort to curb the illicit opium trade in the region. Despite these measures, there were smuggling routes and innovative techniques. Such techniques involved injecting opium into chicken eggs using hypodermic needles which were used at the time to inject morphine to humans. These "opium eggs" were smuggled from China into the Philippines, leading customs officials to adopt stringent measures, including breaking eggs to check their contents.

But by the 1930s, the British claimed to have stopped the opium trade in the region by the transfer of Turtle Islands from the United Kingdom to the United

States. However, evidence suggested otherwise, as the trade continued to thrive due to several factors listed below.

1. **Geographical and Enforcement Challenges**

   The northern Borneo region, including Sandakan and Tambisan Island, along with the Sulu Archipelago, were identified as significant hubs for opium production and trade from 1911 to 1931 due to the ease in sea travel between Borneo to the Sulu archipelago. Travelers exploited gaps in enforcement, with those caught often inadvertently increasing the value of opium due to heightened demand. Smugglers utilized their knowledge of local routes and created circuits bypassing customs, such Zamboanga, to evade taxes and inspections.

2. **Mobility and Navigation**

   The movement of people and goods between Sandakan, the Philippines, Zamboanga, and Cebu was relatively fluid, facilitated by limited enforcement. Deporting individuals caught in smuggling to Sandakan proved difficult due to infrequent shipping routes, often resulting in detainees being sent to Hong Kong where ships traveled with more frequency and regularity. The Chinese traders sailed from the Sandakan islands however had their own vessels and, through kinship affiliations and networks in various locations were able to bypass Zamboanga to continue the opium trade outside the bounds of enforcement officials.

3. **Resource Constraints**

   Both U.S. and British authorities faced limited budgets, with insufficient patrols and resources to fully suppress the trade. British patrols in northern Borneo were underfunded, and the U.S. Constabulary lacked the necessary assets to sustain effective surveillance. Furthermore, the region's lone patrol vessel struggled to contend with the agility and familiarity of Chinese and Muslim sailors, who navigated the seas more effectively than the patrol steamship.

   These operational and logistical challenges turned the opium trade into a diplomatic issue between the U.S. and Britain. The Philippines pressed Britain to respect local laws, while the U.S. accused the British of enabling the continued trade. Turtle Island, a strategic location linked to the trade,

was eventually turned over to the Philippines as a symbolic gesture to declare an end to the opium trade. Dr. Chua suggested that the British announced the cessation of the opium trade to prevent embarrassment. However, by the 1930s, it was clear that the trade persisted, undermining claims of success and exposing the limitations of enforcement and diplomacy in curbing the opium network.

BLUE SEALS AND THE SULU WORLD

Patricio Abinales, PhD
University of Hawaii Manoa

In the 1950s, Philippine newspapers frequently highlighted issues of communism and smuggling, hence allowing insights into the quantity of trade happening in Sulu. Among the most notable commodities involved in smuggling during this period was tobacco, particularly cigarettes. This period reflected the interconnectedness of economic demand, political influence, and geographical factors that shaped the smuggling landscape in the mid-20th-century Philippines.

Cigarette Smuggling and the Blue Seal Phenomenon

The Philippines' tobacco industry was unable to meet the burgeoning local demand for cigarettes. Filipinos sought products elsewhere, often favoring "blue seal" cigarettes—cheaper imports smuggled into the country. Local cigarettes, by contrast, were of lesser quality with lesser nicotine content and bland flavor and aroma, thus driving the illicit trade of blue seal packs which were also less expensive. Smuggling routes were well-established, connecting Sabah, Sulu, and Zamboanga to northern areas like Cavite and Batangas, which were suspected smuggling hubs. From Sabah, contraband cigarettes are loaded and transported to landing points suspected in Palawan, Mindoro, Batangas Cavite, Zambales, Quezon, and Cotabato. Cebu, followed by Negros and Bohol emerged as hotspots for capturing contraband, including narcotics and jewelry. Generally, smuggled goods hail from Sabah, Taiwan, and the US bases in Tokyo via commercial transport illustrating the transnational scope of the trade. By 1964, blue seal cigarettes comprised 10 percent of the cigarettes consumed in the Philippines. Further newspaper research by Dr. Abinales

found that a businessman named Tomas Liangco (sic) confessed to officials that smuggled goods were facilitated with the aid of government officials.

Government Response and Economic Integration

In 1972, the Philippine government intensified its crackdown on smuggling, recognizing the need to curb its impact on the formal economy. However, a pragmatic compromise emerged: smuggling was acknowledged as a functional part of the regional economy. This led to the establishment of initiatives like the Zamboanga Economic Trade Zone, which aimed to regulate and integrate trade in a way that addressed both economic and enforcement challenges.

Amid these developments and anti-smuggling campaigns, the trade continued to thrive and the government, according to Abinales, was forced to recognize that it was a way of life in the archipelago.

Jolo solidified its role as a central hub for trade between Borneo and the Philippines. The town's strategic location and established networks allowed it to thrive as a focal point in both legal and illicit commerce, underscoring the enduring complexities of smuggling in the Philippine archipelago which challenges the standard political viewpoints of Manila that places Sulu only at the periphery of the Nation's economic history and development.

NETWORKED AND NESTED GOVERNANCE IN THE PHILIPPINES' SOUTHERN MARITIME FRONTIER

Rosalie Arcala Hall, PhD
University of the Philippines Visayas

The interaction between state "ordering" and local "ordering" in maritime spaces reveals how governance, security, and local livelihood coexist and sometimes clash in the Philippines' maritime domain. This dynamic reflects efforts to maintain a stable order at sea while recognizing the local strategies communities use to organize spaces and sustain livelihoods.

State and Maritime Governance

The Philippine national government plays a crucial role in enforcing stability and security in maritime areas. Through a variety of schemes, the state seeks to assert its territorial claims and defend its maritime zones. This includes the deployment of both white ships (civilian law enforcement) and grey ships (naval forces) for maritime operations. However, law enforcement overlaps with territorial defense, creating a complex interplay of responsibilities with the recruiting of local communities to act as extended surveillance volunteer agents.

Layered Governance of Maritime Spaces and Agreements:

1. Balabac Strait and Sibutu Passage: They serve as key East-to-West corridors. These are vital connective spaces for regional trade and navigation.

2. Regional Waters under BARMM: The Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) and the Armed Forces of the Philippines oversee parts of the Sulu Sea through joint patrols, emphasizing national and local governance within the national framework.

3. Sulu Sea and Joint Patrols: The Sulu Sea has become a zone of joint cooperation with patrols conducted under the 2002 Trilateral Cooperation Agreement (TCA) involving the Philippines, Malaysia, and Indonesia. These patrols address piracy, smuggling, and illegal activities while promoting shared responsibility for regional stability.

4. The 2002 Trilateral Cooperation Agreement: The TCA established a maritime coordinating center that conducts surveillance and information sharing of intelligence on the Sulu archipelago. In regions like the Sulu Archipelago, the TCA has the potential to conduct robust law enforcement, vigilant monitoring, and strengthened regional cooperation in other maritime security aspects such as illegal, unreported, and unregulated (IUU) fishing. However, these efforts are often hindered by cross-border disruptions caused by terrorism and piracy, diverting attention and resources from addressing IUU fishing. Recognizing the critical importance of security, local governments prioritize maintaining peace and order, while communities actively volunteer their time and effort to

support these initiatives, reflecting a collective commitment to stability and prosperity.

5. Municipal Waters and Fisheries Management: Local governance includes municipal waters and Fisheries Management Area 4 (Sulu Sea, Basilan Strait and Tawi Tawi Bay), where sustainable fishing practices and marine protected areas are prioritized. State agents, including the Philippine Marines and the Philippine Coast Guard (PCG) protect channels, monitor trafficking and smuggling, and finally enforce fishery and security laws.

Local Livelihoods and Resources

Communities organize maritime spaces to sustain livelihoods through fishing and aquaculture. For example, agar-agar (seaweed) production thrives in BARMM, making it the top producer in the country. Other key resources include high-value fish such as sardines, mackerel, and tuna, which are central to the local economy. Dr. Arcala-Hall proposes that Malaysian Chinese businessmen finance fishing in Sabah with Tausug and Sama-Badjao fishermen.

The Seas as Highways of Commerce and Risk

The seas serve as highways, enabling commerce but also facilitating illicit activities such as smuggling, human trafficking, and fuel theft. Maritime spaces often blend legal trade with illegal operations, including kidnapping at sea. This duality underscores the need for effective governance and vigilance in addressing overlapping challenges in the maritime domain.

Conclusion

The interplay of state and local ordering in the Philippine maritime context demonstrates a complex balance of enforcing security, supporting local livelihoods, and managing shared spaces. Collaborative initiatives, sustainable practices, and adaptive governance are critical to addressing the challenges posed by the political economy of the seas, where commerce and conflict intersect.

OPEN FORUM

In a thought-provoking open forum, several experts dissected the complex topic of smuggling from various angles, emphasizing the different perspectives and implications.

Smuggling as a Colonial Term

The discussion began with an exploration of smuggling as a colonial term, highlighting that the state determines the definitions and terms associated with it. The contrast between smuggling and drug development, as well as the influence of customary laws, was examined. It was noted that in some communities, smuggling was a way of life, such as the case of Indonesia smuggling gas to Davao for coconut oil.

Chancellor Clement Camposano noted how his presentation resonated well with the keynote speech, bringing up three critical points about how spaces are perceived, conceived, and lived depending on the perspective of the actor. From the viewpoint of a smuggler, smuggling involves specializing in violating, undermining, and challenging the law. The political biography of objects, such as eggs and blue seals, was discussed. Camposano argued that a smuggler is defined by the law; without laws, the smuggler would not exist.

Furthermore, Dr. Arcala-Hall offered insights on how state agents view space in accordance with state ordering, recognizing the realities of smuggling and piracy. This viewpoint acknowledges how people see and allow these acts, accommodating various perspectives.

Sama Badjao and Colonial Exonyms

The forum then shifted to the Sama Badjao, questioning why people still use colonial exonyms. The thesis suggested that supply chains for high value fish are structured and shaped by gender and ethnic identity, with high skill sets identified among the Badjao, particularly females.

National Security Council and Layered Governance

The discussion moved to how governance is influenced by layered governances from communities. Bureaucratic concerns were raised, emphasizing the need

for state agents and civilian involvement. It was suggested that the civilian side should play a more active role in forming policies, with academic institutions studying these dynamics.

Sonny Fernandez highlighted that governance extends beyond government, supporting mechanisms of civilian volunteerism and involvement. However, he pointed out the downside that civilians take time away from their livelihoods, and there are costs involved in engaging civilians, whose labor cannot simply be free. Government intervention often initiates conflict, raising the question of how much the Philippine government will allow.

Border Studies

The forum also touched on border studies, noting that people in border areas think differently as they benefit from smuggling. The view of the bureaucracy was also discussed.

Mindanao State University shared its perspective on smuggling and piracy. In the 1950s, Jolo was a center of smuggling and viewed as progressive compared to Manila. After the destruction of Jolo in 1954, it was rebuilt from scratch, and smuggling became a business once again. Muslims selling and buying cigars were seen as haram and socially unhealthy, but economically beneficial. Regulations were often bypassed, and income from smuggling was used for family needs, including new guns and personnel. Instead of challenging Islam, these activities were seen as trade.

Adding to the discussion, Professor Benjamin Vallejo Jr. discussed the smuggling of endangered animals, which is considered a trade. The transport of products has gone on for millennia, from Jakarta to Singapore, China, and America. The term smuggling is now replaced by bioprospecting or biopiracy, examining how local traditions and international conventions define it.

In response to this, Prof. Emma Estenzo Porio of the Ateneo de Manila looked at the sources of the economy and discussed circular and blue economies. Panelists replied that if these economies are studied, tariffs may be applied to the industry, thus highlighting that the Philippine economy is influenced by various regional perspectives.

The forum provided a comprehensive analysis of smuggling, revealing its multifaceted nature and the diverse perspectives that shape its understanding.

PLENARY PANEL 2

Sulu and Seaweed

Gender, Conservation and Livelihood

Moderator: Farisal U. Bagsit, PhD

CURRENTS OF CHANGE: REVITALIZING THE SEAWEED INDUSTRY THROUGH WILD EUCHEUMATOID POPULATIONS AND TRADITIONAL KNOWLEDGE IN THE SULU ARCHIPELAGO

Sitti Zayda B. Halun, PhD
Mindanao State University, Tawi-Tawi

In the presentation titled "Revitalizing the Seaweed Industry through Wild Euchomatoid and Traditional Knowledge," Prof. Halun detailed the blend of traditional and modern practices that sustain seaweed farming.

Seaweed farms have recently expanded to meet the global demand for carrageenan—is a versatile polysaccharide used as a thickener, gelling agent, stabilizer, and ingredient in pharmaceuticals and cosmetics. Dr. Halun pointed out that 66 percent of the seaweed supply comes from the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). Seaweed farming is an ideal family enterprise, requiring minimal investment and engaging minimal manpower in various aspects of the operation. Seaweed cultivation takes place in both shallow and deep-water areas, often using water bottles as floaters.

Despite its success, the seaweed industry faced challenges, as evidenced by the drop in production from 1.8 million metric tons in 2010 to 1.5 million metric

tons in 2020. This decline was attributed to the lack of high-quality seed stocks and diseases like ice-ice, epiphyte infestations, and sereng-sereng algae.

Dr. Halun emphasized the importance of saving a portion of each harvest for replanting to combat these issues. Inorganic fertilizers were considered in the cultivation of seaweeds to improve output, however, their use, which helps combat these problems, sometimes causes skin irritation and disqualifies the harvested seaweed from being classified as organic. Furthermore, fertilizers encourage the growth of epiphytes that need to be removed, taking time away from other necessary tasks in the cultivation of the seaweeds.

Dr. Halun highlighted the geographical nuances of seaweed farming: the Sulu Sea, with its diurnal tides, harbored fewer species. Meanwhile the Celebes Sea, characterized by semi-diurnal tides and strong currents, boasted greater biodiversity due to the influx of nutrients. This is due to the greater flow of the water at the Celebes Sea which causes the nutrient rich bottom waters mixes with surface water.

The diversity of collected cultivars—114 eucheumatoids—was particularly notable. These cultivars, named according to native farmers' taxonomy, revealed that some regions farmed a greater variety of species. However, a common issue was the mislabeling by farmers, who sometimes cultivated species with low carrageenan levels.

Looking ahead, Prof. Halun outlined future directions for the industry:

1. Developing a database of biochemical traits, genotypes, and environmental requirements.
2. Enhancing seedstock production.
3. Diversifying derived products to expand the market.

Seaweed farming in the Sulu Sea could be further developed with the studies on genotypes, seedstock, and sustainable farming practices.

AQUACULTURE IN THE SULU ARCHIPELAGO: CURRENT TRENDS AND ITS POTENTIAL DIVERSIFICATION FOR SUSTAINABLE DEVELOPMENT

Victor Marco Emmanuel N. Ferriols, PhD
University of the Philippines Visayas

The fisheries and aquaculture sectors play a pivotal role in the Philippines' economy, contributing significantly to food security, employment, and exports. Aquaculture dominates the sector, comprising 54 percent of production, with municipal and commercial fisheries accounting for 26 percent and 19.9 percent, respectively. Central to aquaculture's success is seaweed farming, which constitutes 66 percent of its output and anchors the livelihoods of communities in regions like the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), MIMAROPA, and Regions IX and VI. The Sulu Archipelago alone contributes 44 percent of the nation's aquaculture production.

The Role of Seaweed in Aquaculture

Seaweed farming, particularly of carrageenophytes such as *Kappaphycus alvarezii* and *Kappaphycus striatus*, has been a cornerstone of Philippine aquaculture. The demand for carrageenan has spurred production growth, with the sector demonstrating resilience and adaptability. However, this growth faces challenges from environmental pressures and diseases like "*ice-ice*," which underscore the need for proactive management strategies.

Lessons from Agricultural Trends

Past agricultural trends in the Philippines highlight the vulnerability of monocultures and the necessity of diversification. For instance, the rise and fall of black tiger shrimp production (1992-1994 boom followed by a decline post-1995) and the impacts of African Swine Fever Virus (ASFV) on swine production (2020-2022) illustrate how disease outbreaks can devastate industries. Similarly, the banana industry has faced reduced yields due to viral infestations and soil-borne diseases like Fusarium wilt. These cautionary tales

reinforce the importance of genetic diversity, strategic crop management, and robust disease mitigation efforts in sustaining agricultural productivity.

Strategic Management for Seaweed Sustainability

The Philippines must leverage genetic biodiversity and enhance cultivation practices to ensure the long-term viability of seaweed farming. Wild seaweed varieties, rich in biochemical and metabolic diversity, offer a reservoir of traits to improve disease resistance and productivity. Bioactive compounds such as artemisinic acid (antimalarial precursor with antibacterial properties) and umbelliferone (UV-absorbing, antifungal, and antioxidant) exemplify the potential to diversify seaweed applications beyond traditional uses, opening new markets and revenue streams.

Diversification and Site Optimization

Diversifying aquaculture production is vital for resilience and economic expansion. Strategic site selection further enhances sustainability. The Sulu Archipelago, with its stable climate, nutrient-rich upwellings, and minimal typhoon impact, is ideal for seaweed farming. However, strong surface currents limit its suitability for cage farming. Exploring high-value species such as abalone, sea cucumbers, sea urchins, mantis shrimp, and spiny lobsters could unlock significant export potential while leveraging natural advantages.

Future Directions

The seaweed industry's future lies in innovation and sustainability. Key strategies include:

1. Developing a database of biochemical traits, genotypes, and environmental requirements for optimized cultivation.
2. Enhancing seedstock production to ensure high-quality, disease-resistant strains.
3. Expanding the range of derived products to diversify market opportunities and increase economic resilience.

By integrating traditional knowledge with modern scientific practices, the Philippines can bolster the sustainability of its aquaculture sector while addressing broader agricultural challenges. The success of seaweed farming in the Sulu Archipelago serves as a model for other regions, demonstrating how leveraging natural advantages and investing in diversification can drive sustainable development.

A Vision for Philippine Agriculture

While seaweed farming showcases resilience and innovation, challenges in other agricultural sectors highlight the need for comprehensive solutions. Disease management, diversification, and sustainability are essential to overcoming vulnerabilities. Aligning efforts across sectors and regions in the Philippines can advance towards a diversified, sustainable, and globally competitive agricultural future.

NURTURING THE LOCAL CHAMPIONS: COLLABORATIVE STRATEGIES FOR PROTECTING MARINE ECOSYSTEMS AND LIVELIHOODS IN THE SULU ARCHIPELAGO

Richard Muallil, PhD
Mindanao State University Tawi-Tawi

The Philippines, an archipelagic nation, is at the heart of the Coral Triangle, a global center for marine biodiversity. This makes the country one of the world's richest marine biodiversities. Within this region, the Sulu Archipelago, encompassing Sulu, Basilan, and Tawi-Tawi, holds particular ecological significance. Tawi-Tawi, located at the core of the Coral Triangle, boasts a staggering 291 fish species—more than other areas in the archipelago. Its rich biodiversity is attributed to its strategic location between the Sulu and Sulawesi seas, over 300 islands with extensive reef systems, and strong southward ocean currents that concentrate marine life. The relatively pristine state of its reefs further enhances its ecological value.

Marine Protected Areas (MPAs) in the Philippines play a critical role in sustainable fisheries management. These MPAs temporarily close fishing grounds, allowing fish populations to recover and spill over into adjacent areas where fishing is permitted. With over 1,640 MPAs established nationwide, notable examples include the renowned Tubbataha Reefs Natural Park. However, despite their potential, MPAs face challenges, such as overfishing, declining coastal fisheries, and the poor condition of commercially important reef fish.

The effectiveness of MPAs is often undermined by their small size, inadequate management, and lack of support from local government units (LGUs) and fisherfolk communities, who may view them negatively. Successful fisheries management within MPAs requires strong leadership, community engagement, and science-based strategies. Building effective networks among MPAs, fostering local support, and integrating scientific advice are crucial to ensuring the sustainability of marine ecosystems and the livelihoods they support.

A NEW PLACE FOR WOMEN IN THE SEAFOOD INDUSTRY: AQUACULTURE AND SEAWEED CULTIVATION IN SOUTHEAST ASIA

Barbara Watson Andaya, PhD
University of Hawai'i Manoa

Women often take on roles that are perceived as secondary economic activities in many coastal communities. For instance, in the fishing industry, while men head out to sea for the physically demanding task of catching fish, women remain onshore, repairing nets, processing the catch, and trading. Although these roles are essential for the industry's success, they are often undervalued, with women facing limited opportunities, poor compensation, and difficult working conditions. Balancing these responsibilities with family life further underscores the complexity of their contributions.

Seaweed farming, however, presents a different narrative. Women play vital roles in the selection, drying, packaging, and marketing of seaweed,

positioning them as key players in the trade. The Philippines, a global leader in seaweed production, has made this industry a lifeline for many coastal households. Women's involvement extends beyond cultivation to processing and entrepreneurial activities, where their skills significantly shape the industry.

Looking at Indonesia's experience highlights the transformative potential of seaweed farming. When production began in Bali in 1987, the industry has thrived with its ideal environmental conditions and support from initiatives like the United Nations Industrial Development Organization (UNIDO). By teaching group-based farming techniques, these programs not only boosted production but also increased household incomes, providing women with alternative sources of livelihood.

In the Philippines, similar opportunities exist for women to leverage seaweed farming for economic empowerment. However, challenges remain. Competition from foreign companies with advanced technologies threatens local farmers, and the industry struggles with sustainable practices. Despite these obstacles, innovative approaches—such as developing recipe books, exploring new product lines, and investing in small-scale entrepreneurship—hold promise. These initiatives not only empower women but also enhance the economic resilience of their communities.

By recognizing and supporting women's roles in industries like seaweed farming, the Philippines can pave the way for greater gender equity and economic development. Empowered women, equipped with resources and opportunities, can drive the success of their households, communities, and the industries they sustain.

OPEN FORUM

The open forum discussions centered on the challenges and opportunities in leveraging science and technology to serve grassroots communities, particularly through the lens of the blue economy and sustainable development.

The forum highlighted the disparity between research funding and the actual needs of local communities. Many research proposals, though well-intentioned, lack input from grassroots stakeholders. To address this,

participants stressed the importance of involving community members in formulating research agendas, ensuring that questions focus on creating policies or technologies directly benefiting the people. For instance, fishermen in coastal areas often sell their abundant catch for income while preferring canned goods over fresh fish due to economic constraints. Similarly, limited access to fruits and vegetables exacerbates malnutrition in these regions, underscoring the need for socially and economically impactful interventions—a requirement increasingly emphasized by the Department of Science and Technology (DOST).

Another topic of discussion was the intersection of traditional knowledge and scientific taxonomy. Farmers often use local names for species, which may not align with official taxonomies. Suggestions included creating guides and farmer-centric schools for cultivar identification, blending traditional environmental knowledge with scientific data to improve agricultural resilience under varying climates.

Lastly, participants examined the role of science in societal progress, particularly the career trajectories of scientists. There is a recognized gap in translating research outputs into industry applications, diminishing their impact. The forum called for stronger mechanisms to bridge this gap, ensuring research and innovations truly align with the needs of the communities they aim to serve. By adopting a "science for the people" approach, the potential of scientific advancements can be harnessed to address critical issues like malnutrition and sustainable livelihoods effectively.

PANEL DISCUSSION ON THE ARCHIPELAGIC AND OCEANOGRAPHIC VIRTUAL UNIVERSITY

Clement Camposano, PhD

The panel discussion aimed to address and share the latest institutional efforts regarding the blue economy. Specifically, it focused on sustainable and equitable ocean use. Recently, more countries, organizations, and institutions have been claiming their stake in this concept, especially as it pertains

to extractive industries. However, some of these industries disguise their destructive activities as sustainable practices.

Under the administration of President Atty. Angelo Jimenez, the UP embarked on a pioneering initiative that aligns with this vision: the creation of the Archipelagic Ocean Virtual University (AOVU). This strategic initiative seeks to establish a specialized unit within UP dedicated to archipelagic and marine research and studies. The University intends to contribute in institutionalizing these efforts by training experts, formulating policies, and providing support to both the government and the public on relevant concerns.

The AOVU will play a crucial role in translating scientific research into actionable policy, aligning with the earlier discussion on bridging science with policy. The AOVU aims to support the growing body of knowledge generated by UP and collaborate on policies that embrace the Philippines' maritime nature, ensuring that the country recognizes its archipelagic identity in both national priorities and investments. For instance, the modernization of the Armed Forces of the Philippines (AFP) and initiatives to protect coastlines are key efforts that relate directly to the Philippines' unique geographic status.

UP, as the national university, is committed to contributing to these efforts. On stage with me is the technical working group for the AOVU, including Prof. Jay Batongbacal, from the UP College of Law, who heads its maritime law unit. This collaboration between UP, its allied institutions, and its partners will play a pivotal role in achieving these objectives.

Jay L. Batongbacal, JSD

The AOVU is built on a bold vision: to inspire and develop leaders who are deeply connected to the unique realities of the Philippine archipelago and oceans. These leaders will embody values rooted in the nation's maritime heritage and will drive research and innovation aimed at creating a sustainable and thriving future for the country's coastal and marine communities. At its core, AOVU is about making a difference where it matters—engaging with communities, conducting meaningful research, and addressing real-world challenges with purpose and relevance.

The Mission

AOVU's mission is to go beyond the boundaries of traditional academics by embracing a transdisciplinary and holistic approach to education and professional development. It recognizes that solving the challenges of the Philippine archipelago requires more than isolated expertise. AOVU calls for the integration of culture, science, technology, and society in developing practical, inclusive, and forward-thinking solutions.

It also seeks to shift the national focus from primarily land-based issues to include the vital concerns of the seas. Too often, funding and development priorities overlook the needs of coastal and maritime communities. AOVU aims to bridge this gap by promoting initiatives aligned with the principles of the blue economy—ensuring that both land and sea are integral parts of sustainable development.

Turning Goals into Impact

AOVU's goals are ambitious but grounded in its vision of making a tangible impact on the lives of Filipinos and the health of the nation's marine ecosystems:

1. *Empowering Learners with Specialized Education*

   AOVU aims to create educational programs designed to prepare students in addressing unique challenges of the Philippine archipelago. Through graduate and postgraduate programs, as well as continuing education, the university will focus on areas like marine resource management, conservation, and sustainable development, equipping students with the skills they need to make a difference.

2. *Driving Innovative Research*

   The university seeks to lead research initiatives prioritizing sustainable management and the development of coastal and marine areas. These projects aim to deepen scientific understanding and create practical solutions to pressing environmental and economic issues.

3. *Building Stronger Partnerships*

The university seeks to lead research initiatives prioritizing sustainable management and the development of coastal and marine areas. These projects aim to deepen scientific understanding and create practical solutions to pressing environmental and economic issues.

4. *Developing Global Leaders*

The university envisions cultivating a diverse community of experts who bring their knowledge and skills to the global stage. These individuals will become advocates for innovation and sustainability, contributing to meaningful change both at home and around the world.

5. *Enhancing Offshore Research Capabilities*

Recognizing the importance of the nation's seas, AOVU intends to invest in manpower and infrastructure needed for advanced offshore research. Key areas of focus include the West Philippine Sea, the East Pacific seaboard, and the Sulu-Celebes Sea. These efforts will ensure that the Philippines is at the forefront of marine science and conservation.

6. *A Future Built on Connection and Purpose*

At its heart, AOVU is more than just a university—it is a movement to empower communities, safeguard the nation's coastal and marine resources, and create a better future for the Philippines. By bringing together education, research, and collaboration, AOVU envisions a nation where leaders, experts, and communities work hand-in-hand to achieve sustainable development and a thriving archipelagic future.

Academic Programs

The proposed academic programs aim to equip individuals with the knowledge and skills to address the unique challenges and opportunities of living in an archipelago like the Philippines. Rooted in the country's distinct geography, culture, and economic potential, these programs are designed to foster sustainability, resilience, and national development while celebrating the nation's rich heritage.

The Master of Science in Archipelagic and Oceanic Environment focuses on understanding and protecting the Philippines' diverse coastal and marine ecosystems. On the cultural side, the Master of Arts in Archipelagic Social Studies dives into the heart of the nation's identity, exploring the vibrant traditions and unique lifestyles of coastal and island communities. The Master of Arts in Archipelagic Blue Economics and Engineering takes a forward-thinking approach to harnessing the Philippines' vast ocean resources. Meanwhile, the Master of Arts in Archipelagic Security and Integrity focuses on safeguarding the nation's maritime and aerospace domains.

Together, these programs reflect a commitment to addressing the complex realities of the Philippines as an archipelagic nation. They empower individuals to make meaningful contributions to environmental protection, cultural preservation, economic development, and national security. By blending scientific knowledge, cultural awareness, and innovative thinking, these programs are more than just academic pathways—they are catalysts for sustainable progress and a brighter future for the Philippines.

The AOVU redefines education with its innovative "learning webs"—a dynamic approach to professional learning that prioritizes accessibility, personalization, and real-world impact. At the core of this model is a flexible, online learning platform designed to meet the unique needs of professionals, local leaders, and community stakeholders.

A New Way to Learn: Personalized and Practical

AOVU's learning webs offer self-paced and ladderized courses, allowing learners to tailor their educational journey to their specific needs and goals. Whether a local official seeks to address marine resource management challenges or a community leader wants to implement sustainable development projects, the courses can be customized to provide actionable knowledge and skills that directly influence governance and decision-making.

This personalized approach ensures that education is not just theoretical—it is immediately practical. Learners can apply what they learn to tackle pressing issues in their own communities, from coastal conservation to disaster response, empowering them to drive meaningful change.

Peer Professional Learning: Building Collaborative Expertise

The learning webs also emphasize peer-to-peer interaction, fostering a collaborative environment where professionals can share insights, experiences, and best practices. This peer-learning dynamic creates a rich network of knowledge exchange, ensuring that participants not only gain from the curriculum but also from the collective expertise of their peers. This model bridges gaps between disciplines, sectors, and regions, strengthening the capacity for problem-solving across the Philippine archipelago.

Flexible, Ladderized Learning: Education That Grows with You

The ladderized structure of AOVU courses allows learners to progress step by step, building on foundational knowledge to reach advanced levels of expertise. This flexible framework accommodates varying schedules and commitments, making it accessible for busy professionals. It also offers opportunities for lifelong learning, enabling participants to return and enhance their skills as new challenges and opportunities arise in their fields.

Impact-Driven Education for Local Contexts

AOVU's learning webs are designed with one goal in mind: to make a difference in the real world. By addressing specific practical needs, the courses empower participants to solve problems in their own communities. and create solutions that matter where they are needed most.

A Vision for Connected Learning

Through its innovative learning webs, AOVU is not just delivering education—it is building a community of problem-solvers who are equipped to lead, innovate, and collaborate for the betterment of the Philippine archipelago. With personalized, practical, and peer-driven learning at its core, AOVU is setting a new standard for how education can directly impact lives and shape sustainable futures.

Jose Fernando T. Alcantara, PhD

The AOVU emerges as a transformative initiative aligned with the vision of UP as a national university poised to lead in innovation and knowledge creation over the next decade. AOVU represents the fifth of UP's ten flagship programs designed to position the university as a hub of transformative learning, research, and collaboration. Guided by scholarly objectivity, UP has committed to becoming a transformative university, and AOVU plays a central role in realizing this ambition.

The Vision of AOVU: A Transformative Mode of Learning

The AOVU is conceived as a graduate-level academic unit, emphasizing interdisciplinary and transdisciplinary approaches to education and research. At its core, it is designed to tackle complex and interconnected challenges through innovative, problem-oriented programs. This includes integrating existing academic disciplines in a transdisciplinary manner, fusing knowledge areas to create solutions that address pressing local and global issues.

Components of the AOVU: Building the Foundation

Several key components are being integrated to establish the AOVU:

1. *Graduate and Research-Oriented Academic Structure*

   The AOVU is envisioned as a graduate-level institution with a strong focus on research. It offers micro-credentialing and advanced programs that combine interdisciplinary and transdisciplinary methodologies, ensuring relevance and innovation. These programs are designed to address real-world problems and provide practical solutions, leveraging UP's expertise in various academic fields.

2. *Utilization of Technology and Online Platforms*

   The AOVU capitalizes on UP’s existing technological infrastructure. The university already boasts a robust online education platform, including TVUP, an established module delivery system. TVUP serves as a key driver for creating and disseminating digital learning content, ensuring broad access to AOVU programs.

3. *Intelligent Systems and Data Commons*

AOVU will also draw on UP's powerful data centers, among the most advanced in Asia, located in Diliman, Los Baños, and Manila. These facilities will host a Data Commons and support the integration of artificial intelligence (AI) systems to enable knowledge-sharing and collaboration. The upcoming AI Center at the College of Engineering will further enhance AOVU's ability to analyze, interpret, and disseminate data, ensuring that the virtual platform is a cutting-edge repository and exchange for knowledge.

4. *Virtual Governance Framework*

The AOVU's governance model will differ from that of traditional constituent universities. Recognizing the unique needs of a virtual academic institution, the AOVU will explore governance frameworks that benchmark best practices from leading virtual universities worldwide. This approach ensures adaptability and effective administration while remaining rooted in academic excellence.

5. *A Platform for Collaboration*

The AOVU is designed as a platform for collaboration among the Philippines' academic institutions. With 120 state universities and colleges (SUCs) and 204 local universities and colleges (LUCs) nationwide, the AOVU will serve as a "university of universities" by facilitating resource sharing, including library exchanges, faculty development, and cross-enrollments to foster a united academic network capable of addressing the country's socioeconomic development challenges.

6. *The Future of AOVU: A New Era of Knowledge Creation*

The AOVU is not just an educational initiative; it is a bold step toward creating a "virtuality of knowledge." It represents UP's commitment to innovation, adaptability, and inclusivity in addressing the evolving needs of society. By integrating cutting-edge technology, fostering interdisciplinary research, and creating a national platform for collaboration, AOVU is poised to redefine education and research in the Philippine archipelago—and beyond.

Realizing the AOVU's vision necessitates critical considerations for facilities, logistics, and operational budgets. These elements are not merely about securing monetary resources but about designing a system that aligns with the unique administrative structure and governance framework of the AOVU. The institution's success hinges on its ability to strategically allocate resources and address logistical and physical requirements in a way that supports its academic and research priorities.

This design approach reflects AOVU's commitment to addressing the interconnected challenges of the Philippine archipelago. As a nation defined by its waters, not divided by them, the AOVU embraces the opportunities presented by its geographic and maritime identity. The West Philippine Sea, a vital part of the country's heritage and future, represents a challenge and a call to action—one that the AOVU is ready to answer.

By anchoring its efforts in collaboration, innovation, and inclusivity, the AOVU will serve as a unifying force, connecting institutions and communities across the archipelago. Through this shared purpose, the AOVU will not only transform the academic landscape but also create tangible impacts that resonate across the waters that bind us together. With determination, vision, and collective action, the AOVU is poised to lead the charge toward a sustainable and progressive maritime nation.

Mary Joyce Guinto-Sali, PhD

MSU-TCTO has formally expressed its commitment to being among the first to join the newly formed consortium, highlighting its readiness and capacity to contribute meaningfully. With robust manpower and advanced facilities, the institution is positioned to support the initiative's goals. Its physical infrastructure has been bolstered by the Information Technology Modernization Project for Intelligent Campus Systems, which underpins several forward-looking projects.

The Archipelagic Learning Innovation Hub is a notable project which will house classrooms, training centers, electronic laboratories, and administrative offices. This hub is envisioned as a central node for fostering innovation and learning on campus. Recently, the institution inaugurated its Digital

Engagement Lab, a cutting-edge facility equipped with 30 high-powered computers, designed to enhance digital learning and collaboration.

The campus also boasts an innovation laboratory equipped with 30 high powered iMacs, further advancing its technological capabilities. The faculty, known for their expertise in science and technology, includes a specialist actively leading AI initiatives at the university level. These investments are part of an aggressive strategy to develop the institution's capacity, with an anticipated full readiness within three years.

The institution has acknowledged the support of the current administration in making these projects possible, with a timeline for materialization beginning next year and continuing over the next two years. As the institution's leadership transitions, there is a strong focus on ensuring these initiatives reach fruition. The institution aims to foster collaboration among its peers within the consortium, demonstrating a commitment to innovation and progress that will leave a lasting impact on its community and the broader educational landscape.

DAY 1 RECAP

OBSERVATIONS OF A SEASONED RESEARCHER AND SCHOLAR

Matthew Constancio M. Santamaria, PhD
Professor of Asian and Philippine Studies
University of the Philippines Diliman

Dr. Santamaria shared insights to recapitulate the topics and presentations from the previous day's plenary sessions and panel discussion. The theme was about exchange, much like trade or barter.

Dr. Santamaria emphasized that "the seas connect peoples, places and cultures," in contrast to historical observations where mountains and its passages were normally divisive. It frames the forum's topic of Tawi-Tawi—as part of Sulu—always remaining connected. Drawing from Dr. Andaya's lecture, he highlighted that the Sulu Archipelago was the gateway or "front door" to Southeast Asia, as opposed to the "back door" of the Philippine islands. His anecdotal experience from his studies has supported this point as he has seen the same cultures, and sometimes experts, move in the same circles within the archipelago and into nearby countries (Malaysia and Indonesia).

Meanwhile, his second point stresses that "the archipelagic world is a world of biodiversity." . Dr. Richard Muallil highlighted the concurrence of many other experts by showing the Sulu Archipelago as the "Heart of the Coral Triangle." The Coral Triangle has been touted as the biggest center of biodiversity by the global scientific community.[1]

Additional points touched on "the archipelagic world as a world of cultural diversity." Cultures have transcended boundaries, each one contributing

1 Recognized by the United Nations (UN) Secretary General in November 2017, The Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security as an international platform for further cooperation with other international bodies under the UN.

to the rich and diverse experiences within the Sulu Archipelago and the neighboring island masses of Mindanao and Sabah. It also emphasizes “the archipelagic world as a world of dynamic change.” This point tied in suitably with discussions on the diversity of culture, as exposure to varied cultures also provided a foundation of inclusivity and respecting new ideas or expressions thereof. People freely move about among the islands that gave them a greater world view.

Dr. Santamaria also glossed over the notion of “the sea is a space of governance.” Accepting that people, cultures, as well as goods move about among the islands, he notes that they posed a challenge in governance. Within the legalistic framework of piracy and the illegal and unregulated movement of goods, monitoring and regulation was brought up as something that government in the Sulu Archipelago must overcome. Given the circumstances about governance and movement, this brought us to the final point of his summary, “the sea is a world of opportunity.”

Universities, experts, and communities in the region must seize the opportunity to embrace the currents. The currents referred to as change, which also reflected the theme of the International Conference. This thought also hinted to the AOVU that UP has envisioned to establish.

In conclusion, Dr. Santamaria challenged the university to change with the currents. His summary of the previous day’s topics and presentations was on point; ending with opportunity as the springboard for participants and organizers alike. “If we fail to embrace the currents, it can crush you.”

PLENARY PANEL 3

Beyond the Archipelago

The Regional Connections of Sulu

Moderator: Mary Josefti Nito, PhD

CHARTING THE SULU ARCHIPELAGO: EXPLORING THE ARCHAEOLOGICAL AND CLIMATIC NARRATIVES OF SULU'S SEASCAPES

Stephen Acabado, PhD
University of California Los Angeles

Introduction and Objectives

Dr. Acabado's research sought to uncover the Sulu Archipelago's long-term human-environment interactions and highlight adaptation strategies to contemporary climate challenges. The program employs a seascape archaeology approach in exploring connections between historical societies and their maritime surroundings.

Historical Context

The Sulu Archipelago has a history of interactions with diverse trading cultures, including Chinese, Southeast Asians, and Arab merchants, dating back to the Sulu Sultanate's prominence in the 14th century. Seafaring communities, like the Sama-Badjao have demonstrated expertise in navigation and marine resource management, reflecting deep-rooted maritime traditions. However,

the archaeological record of the region remains largely untapped, with limited surveys and excavations, emphasizing the need for systematic research.

Research Themes

Key areas of investigation include:

1. Trade and Connectivity: Mapping ancient maritime routes and analyzing trade artifacts such as ceramics.
2. Adaptation to Climate Shifts: Understanding how historical communities responded to environmental changes, including sea-level rise.
3. Marine Resource Use: Documenting sustainable practices in fishing and coastal resource management.

Methodology

The research integrates archaeological fieldwork with environmental and climate science. Coastal and underwater surveys will employ advanced technologies like LiDAR to reconstruct ancient landscapes. The study also emphasizes indigenous knowledge, engaging with local communities such as the Sama-Badjao and Tausug to enrich archaeological interpretations.

Climate Change Impacts

The region's archaeological sites face significant threats from rising sea levels, coastal erosion, and intensifying storms. By documenting past human responses to environmental changes, the program aims to provide insights into resilience strategies applicable to current challenges.

Community Engagement and Decolonization

A central tenet of the research is community involvement, ensuring that local voices and knowledge shape the study. Training programs for local scholars aim to build capacity in archaeological methods and heritage management. The project also rejects Eurocentric models, instead emphasizing a decolonized approach to Philippine archaeology, including revising periodization frameworks to reflect indigenous perspectives.

Significance and Sustainability

This program not only seeks to document the rich maritime heritage of the Sulu Archipelago, but also to promote its preservation. Fostering sustainable partnerships with local and international stakeholders allows the research to contribute in heritage management, climate resilience, and the empowerment of local communities. The findings are expected to inform broader discussions on Southeast Asian maritime history and contemporary environmental adaptation.

Conclusion

The Sulu Archipelago offers a unique lens to study human resilience and innovation across millennia. Through collaborative and integrative research, this program endeavors to preserve its heritage while addressing pressing environmental challenges, ensuring that its stories continue to inspire future generations.

IN SEARCH OF A DEEPER UNDERSTANDING: THOMAS FORREST AND THE MAKATURING ERUPTION CIRCA 1764–65

James Francis Warren, PhD
Murdoch University

Dr. Warren introduced his Australia Research Council project, which brought together historians, geologists, volcanologists, climatologists, and statisticians to study historical natural disasters. As part of this endeavor, he reviewed past research in collaboration with volcanological colleagues and focused on the remarkable contributions of Thomas Forrest. Historically, this project centered on a top-secret commission report that shed light on events with a strong factual basis.

The specific event under discussion was a volcanic eruption near the Makaturing area in the mid-1760s and its impact on the Iranian people. Forrest, an English sea captain, recorded firsthand observations during a secret mission for the East India Company in May 1775. While walking along

the southwestern coast of Mindanao, he noted the dramatic changes in the landscape. His local informant revealed that a volcanic eruption had occurred about ten years earlier, marking the event within the volcanic-seismic zone of Makaturing. Forrest's methods, emphasizing detailed observation and local knowledge, echoed the practices of the ancient historian Herodotus.

Dr. Warren highlighted that Forrest's accounts, written during an era of global conflict, provided crucial insights into the eruption's impact on the local population. The eruption devastated the Iranian region, transforming it into a wasteland. Forrest noted that many displaced people fled to surrounding areas, including the Sulu Islands and Borneo, in search of better conditions. His detailed observations, combined with oral histories, offer a vivid picture of the environmental and social consequences.

The context of the mid-18th century was vital in understanding these events. The Jesuits, who had pioneered volcanological studies in the Philippines, had been expelled in 1768, shortly before Forrest's arrival. Meanwhile, the East India Company, Forrest's employer, was expanding its influence across Southeast Asia through trade, intelligence gathering, and military endeavors. The eruption's aftermath coincided with the British occupation of Manila during the Seven Years' War, further shaping regional dynamics.

Dr. Warren emphasized the challenges faced by the displaced Iranian people, whose population dwindled significantly after the eruption. According to Rucha Lahoven's estimates, the region's population had declined dramatically from its peak in the early 18th century, indicating a demographic crisis. Forrest's writings captured the enduring impacts of the eruption, from ash clouds and lahar to mass displacement.

Dr. Warren's research also touched on Forrest's career. Emerging from relative obscurity as a midshipman in 1745, Forrest rose through the ranks of the East India Company, serving on various missions across Southeast Asia. Fluent in multiple languages, he gained the trust of local leaders and company officials alike. His linguistic skills and cultural knowledge enabled him to document events like the Makaturing eruption with unparalleled accuracy and empathy.

Forrest's descriptions of the eruption included meticulous details about the ash cloud's trajectory, the lahar's depth, and the displacement of communities.

His accounts have been invaluable to modern researchers, including volcanologists like Susanna Jenkins and Marcus Fua, who used stochastic modeling to reconstruct the eruption's characteristics. They determined that the eruption, while moderate in scale, had far-reaching local impacts.

Dr. Warren highlighted the importance of interdisciplinary collaboration in studying historical natural disasters. By combining historical accounts with scientific modeling, researchers can better understand events like the Makaturing eruption. Despite the scarcity of archival records—many of which were lost during World War II—Forrest's writings provide a unique and reliable source of information.

Dr. Warren stressed the significance of seemingly small or moderate eruptions, such as Makaturing's, in shaping regional histories. The eruption triggered long-term socio-environmental changes, including intensified maritime raiding by displaced communities. He commended Forrest's diligence in documenting the event, noting that without his efforts, modern researchers would lack crucial data for their studies. Dr. Warren's collaborative work with Jenkins and Fua exemplifies the value of integrating history and science to uncover the full scope of natural disasters and their impacts.

ABAK: TRACING CAPUL'S CONNECTION TO THE SULU ARCHIPELAGO

Francisco Datar, PhD
University of the Philippines Diliman

Dr. Datar's presentation delves into the historical, linguistic, and cultural intricacies of Capul Island, or Abak, and its enduring connections to the Sulu Archipelago. This exploration illuminates Capul's pivotal role in Southeast Asian maritime networks and its unique heritage amidst the Visayan and Moro cultural landscapes.

Capul Island: Geographical and Strategic Overview

Capul, historically called Abak, lies in the San Bernardino Strait, approximately 800 kilometers northeast of the Sulu Archipelago. Shaped like a grain of rice,

the island stretches 14 kilometers in length and up to 5 kilometers at its widest point, with a total area of 35.56 square kilometers. Its average elevation of 4.5 meters above sea level places it directly in the path of treacherous sea channels, described by early explorers and historians as one of the most dangerous in the Philippines.

The San Bernardino Strait, referred to as Embocadero or Paseo de Acapulco by the Spaniards, was a crucial maritime passage connecting the Pacific Ocean to inland seas. Capul's strategic location made it indispensable during the Acapulco-Manila Galleon Trade (1565–1815). Ships navigating the Pacific used the island as a rest and resupply stop, solidifying its importance in global maritime commerce.

Capul's Unique Linguistic Heritage

In stark contrast to its neighbors speaking Waray, Cebuano, and Bicolano languages, Capul is home to Inabaknon, a language classified within the Sama-Badjao group under the Austronesian family. Early Spanish accounts noted the coexistence of three languages on the island: Inabaknon, Inagta, and Samarnon (Waray). Over time, only Inabaknon survived as the dominant language.

This linguistic peculiarity hints at deep connections to Sama-Badjao seafaring groups of the southern Philippines. Fr. Francisco Alcina, a 17th-century historian, noted striking similarities between Inabaknon and the dialects spoken in Borneo. Fr. Alcina's observations provide early evidence of shared linguistic roots and cultural exchanges across maritime Southeast Asia.

Capul's Role in the Sulu Archipelago Network

Historically, Capul was not just a stopover for Spanish galleons but also a hub within regional trading and raiding networks. Moro raiders reportedly used Capul as a staging ground for pillaging expeditions targeting Visayan and Bicolano settlements during the Spanish Era. Captured Christians were brought to Capul before being transported to slave markets in Jolo and Sandakan, cementing its role as a link between northern Visayas and the Sulu Sultanate.

This connection extends beyond the slave trade. Capul's linguistic and cultural affiliations with the Sama-Badjao suggest deeper integration into the socio-economic and maritime fabric of the Sulu Archipelago. The Sama-Badjao's expertise in navigation and boat-building resonates with Capul's traditions, reinforcing the historical linkages.

Cultural and Genetic Diversity

Despite its linguistic distinctiveness, Capul's population reflects a diverse genetic heritage shaped by centuries of migration and interaction. Traces of earlier Agta inhabitants, Visayan settlers, and Moro traders are evident in the physical traits and oral histories of its people. Early European illustrations, such as the one from Van Noort's Voyages (1599–1600), depict Capul's inhabitants as distinct from their neighboring Bisayan counterparts, further emphasizing their unique cultural identity.

The island's historical records also reveal a complex interplay of cultural influences. The survival of Inabaknon amidst dominant regional languages suggests a community deeply rooted in its heritage, yet open to external exchanges that enriched its cultural fabric.

Testing Capul's Southern Connection

To further understand Capul's connection to the Sulu Archipelago, researchers have focused on linguistic analysis, oral traditions, and comparative studies of maritime practices. Shared linguistic structures between Inabaknon and Sama-Badjao dialects support historical accounts of southern migration or interaction. Similarly, boat-building techniques and navigation skills passed down in Capul align with the seafaring expertise of Sama-Badjao communities, bridging the cultural gap between the Visayas and the southern Philippines.

A Historical and Maritime Crossroads

Capul's enduring legacy lies in its role as a cultural and historical crossroads. Situated at the nexus of trade routes linking the Pacific Ocean to the South China Sea, it served as a meeting point for Spanish galleons, Moro traders, and local seafarers. Its involvement in the Galleon Trade, connections to Moro raiders, and linguistic ties to the Sama-Badjao illustrate its significant yet often overlooked place in Southeast Asian maritime history.

Conclusion: Capul as a Maritime Heritage Keystone

The story of Capul is one of resilience and interconnectedness. From its linguistic uniqueness to its pivotal role in the Galleon Trade and the Sulu Archipelago network, Capul embodies the rich tapestry of maritime heritage that defines Southeast Asia. By tracing its connections to the Sulu Archipelago, we gain a deeper appreciation of the intricate cultural and historical interactions that have shaped the region for centuries. This research underscores the importance of preserving Capul's legacy as both a historical treasure and a vital link in the maritime narratives of the Philippines.

THE DYNAMICS OF THE RELIGIOSITY OF THE BAJO PEOPLE

Benny Baskara, PhD
Haluleo University

The Bajo people have a unique religiosity that reflects a harmonious fusion of their indigenous beliefs and Islam. Central to their worldview is the reverence for ancestor spirits, known as *Mbo Ma Dilao,* believed to guard the sea. Over time, they have incorporated Islamic practices into their spiritual life, creating a syncretic religious identity. This religiosity is expressed through rituals tied to life cycle events, healing practices, and Islamic celebrations.

However, the Bajo's distinctive religiosity faces numerous challenges, both external and internal, that test the resilience of their traditions and their community's unity.

Challenges to the Bajo Religiosity

1. *Islamic Purification Movements*

   Islamic purification movements have emerged as a significant challenge to the Bajo's syncretic practices. These movements promote adherence to orthodox Islamic teachings, often in conflict with the Bajo's indigenous rituals. They also actively seek to increase their influence within the Bajo community, sometimes leading to tensions between traditionalists and reformists.

2. *Indonesian Government Policies*

The Indonesian government imposes regulations aimed at standardizing religious practices, which often clash with the Bajo's customs. For instance, the government dictates the official determination of Islamic observances, such as the timing of holy days and the prescribed amounts for almsgiving (zakat). Such interventions can undermine the Bajo's autonomy in practicing their faith.

3. *Commodification for Tourism*

In the Wakatobi Islands, the commodification of Bajo rituals for tourism has led to their desacralization. Ceremonies that were once deeply spiritual are now commercialized as cultural spectacles for visitors. This trend erodes the sacred meaning of these rituals and exposes them to external reinterpretation.

4. *Cultural Shifts and the LGBT Movement*

The Bajo's values, rooted in both their indigenous traditions and Islamic teachings, face challenges from evolving societal norms, including those brought by the LGBT movement. Same-sex relationships and marriages contradict both Bajo customs and Indonesian law, creating cultural and ideological tensions within the community.

Responses to the Challenges

Elders. Elders strive to preserve their ancestral traditions and resist the changes imposed by external forces. They view their spiritual practices as integral to their identity and a vital connection to their heritage.

Youth. Younger generations tend to be more receptive to new influences, including reformist Islam, tourism-driven modernization, and contemporary social movements. This openness reflects their desire to adapt to a rapidly changing world while negotiating their cultural identity.

Mapping the Challenges

The geographical and cultural proximity to land-based influences significantly impacts the intensity of these challenges. Communities closer to the mainland

or frequently interacting with land-dwelling populations experience greater pressure to conform to external norms. Conversely, Bajo communities in more isolated locations face less direct influence, allowing them to maintain traditional practices more robustly.

Conclusion

The Bajo people's religiosity is a testament to their resilience and adaptability, yet it exists at the intersection of tradition and change. Navigating the pressures from purification movements, governmental policies, tourism commodification, and shifting social norms requires a delicate balance. The ongoing dialogue within the Bajo community—between elders safeguarding heritage and youth embracing transformation—will shape the future of their cultural and spiritual identity.

OPEN FORUM

The opening question was directed to Dr. Baskara. It looked into perceived similarities of the Indonesian Bajo peoples with the Bajau concept within the Sulu Archipelago. The Bajo of Indonesia were likely similar to the Sama Badjao in the Philippines, observed as sea gypsies or water people.

Without going into much detail on migration, Dr. Baskara focused on the *exonym* of 'Bajo or Bajau', clarifying that the peoples themselves refer to their society (*endonym*) as Sama. The evident similarity being water nomads or maritime communities that have embraced life on the sea more than on the land.

The following question, directed to Dr. Stephen Acabado, touched on early history of rice growing and consumption. The question comes from the perspective of agricultural researches pointing towards the high suitability of growing millet in the area and climate. This did not require irrigation, as opposed to the 'traditionally' observed rice farming.

Acknowledging that millet was an earlier cultivar in the Cordillera regions than rice, and a colonial record of Legazpi being provided millet in Cebu, Dr. Acabado brought attention to 2023 as the Year of Millet. Agriculture experts wanted to revisit growing millet as it required less water to grow. He even

cited the discovery of abandoned millet terraces in mountain areas of Taiwan. He ended by noting that the probable wider adoption of rice consumption was attached to status and the durability in storage versus root crops and other starches.

Dr. Baskara added the Indonesian experience regarding rice adoption was politically motivated. Its mass adoption stemmed from government direction in the 1960s.

Dr. Camposano shared an additional insight on rice being political, relating how importing rice into Japan was near impossible. His local experience in Iloilo where the *Kinaray-a* term for "one who buys rice at the store" was *darawat* or "one who has fallen into hard times." These concepts punctuated how rice and its consumption relates to politics and social status.

Additional insights were drawn from the incidental discussion of slave trading, and how *Bisaya* or *Visayan* was the language of slaves as noted by communities in the Philippine South. Dr. Baskara added how Indonesian Bajo also recorded that Tobelo pirates had kidnapped Indonesians to be sold as slaves in Sulawesi/ Makasa.

Contributing to the forum, Dr. Camposano looked into the Austronesian concept of cultures, and the notion that there was nothing in Southeast Asia before early people moved out of Taiwan (Formosa). Noting the Bellwood-Sondheim debate on historic linguistic versus archeological evidence, painting differing pictures of the concept of population migration, a question is opened: are we talking about two sets of evidence pointing in different directions?

The term *Austronesian migration* was based on linguistic and biological evidence that Austronesian speaking groups originated from Taiwan, with 10 Austronesian speaking "families" all being present there; the exception of the Malayo-Polynesians not being present there.

However, the use of linguistic evidence was debunked in the 1970s from the experience of Indo-European studies as it became problematic, coming with the observation of language as fluid and changing. The Austronesian migration model was primarily based on rice farming as a cultural practice, from which the early rice variety recorded in Philippine archaeology originated from Laos

by way of Indonesia in the South. This was different from the Taiwan variety that was a hybrid of Lao and Japanese rice. Concluding that the social science of archaeology greatly relied on modeling, and deeper study was needed to develop these models, Dr. Acabado pointed out that the most diverse genetic gene pool was found around Sulawesi and Southeast Asia. This led to the observation that societies may have come to the area, then moved on after settling for a while.

Additional insights were brought up with Dr. Santamaria's question on genetic evidence, excavation sites, as well as concepts of religion and belief systems. With the leading thought focusing on genetic evidence, there is a promising exploration on the Bangingi, with Abaknon in Capul and connectivity to the Indo Badjau (Sama Badjao) in Basilan. Looking into DNA samples in 2006, Dr. Datar has expressed desire to do the same with the South (Philippines), though it has not yet materialized. In addition, the Abaknon physically separated from the Badjao over 800 years ago to populate Capul. This is proof that their presence or supposed piracy in and around the island was not for destabilization, but possibly defense or survival.

Furthermore, Dr. Baskara validated that the Ministry of Religious Affairs did not acknowledge belief systems or *kepercayaan* (khe-per-tsaa-ya) as religion. Rather, Indonesia considers those as part of culture and education. He added that the strict definition of religion in Indonesia did not consider partner unions or marriage within kepercayaan, and those were administered through the Ministry of Internal Affairs instead. Indonesia mandated the inclusion of religion on valid government identification before, as last enacted in 2006 by Indonesian civil administration. He has inferred that with the strict customs surrounding Islam—the major religion of Indonesia—the requirement was not unfounded.

The discussion then turned to hominid populations in the Philippines. Dr. Acabado's analysis posits that hominid populations in the country that dated back about 700,000 years could be possible, since *homo erectus* populations were present in Java at 1.2 million years ago, *homo floresiensis*, 1 million -80,000 years ago, and the butchered animal in Kalinga that supported *Homo luzonensis*, dated to 700,000 years ago. Finding further evidence of other hominins would be a matter of "when," "not if." According to Dr. Acabado, the more poignant

question, as a researcher, was whether the find would be grouped under *homo luzonensies* or a new group.

Continuing the open forum, Dr. Clarissa Ayanco-Derramas pondered on techniques for inclusive education, and frameworks to address considerations of ethno-linguistic differences that may not be assistive for those indigenous groups (i.e. Sama Badjao), to which Dr. Acabado confirmed, that there has been proven work with the Indigenous People's Education Center in Kiangan (North Luzon) which helped in transitions of educational frameworks to adapt to the K-12 curriculum. The project established a cultural museum, primarily for the students, wherein they themselves also conduct the guided cultural tour. The essential piece that made their project work was that they had locals and elders to work with, potentially fine-tuning the material to be better understood by the community.

Alluding to the development and use of frameworks to "localize" education would also be a push towards resilience for biodiversity in areas such as the Sulu Archipelago. Dr. Hall asked Dr. Warren how other disciplines looked towards the push-back on colonial driven historical accounts, owing to the strategies towards decolonialization of history as brought up by Dr. Acabado.

In addressing the first question, Dr. Acabado brought Southeast Asia Climate Adaptation Resiliency and Engagement (SEACARE) to the audience's attention. The project focused on climate research from a multidisciplinary approach with climate scientists, archaeologists and environmental historians, combined with indigenous knowledge still available; this network came together to create the research program that identified three strands:

1. To develop a baseline for the archipelago – in terms of meteorological data over the past 100,000 years;

2. To develop an effective communication strategy for relating existing knowledge to the affected communities – communicating findings for climate-related hazards to exposed communities;

3. To normalize indigenous knowledge – with scientific research—the indigenous knowledge was often disregarded or overlooked.

These strands, in turn, address the decolonialization of studies and leading with a step in that direction. Dr. Datar shared the insight on changing dogma, in reference to decolonizing studies. He encouraged the separation of religion and science, as religion was often based on faith, and with science, proof was necessary; in the context of paternity, faith accepts a mother's statement of who one's father was, while science required proof by testing. That discussion was related back to tracing the descendants of settlers in Capul, which took anecdotal evidence from a mayor that was supported by the government.

The open forum concluded with Dr. Camposano proposing the need to reevaluate the concept of "Filipino." Owing to his consultations as a textbook reviewer for Philippine history, he shared his experience on a specific topic: "*Ang mga Pilipino bago dumating ang mga Kastila*" (The Filipinos before the coming of the Spaniards). He stated that the concept itself of "Filipino" was derived from a foreign power. He further brought up how the idea of the nation was a work in process. Having open ended discussions better develop the identity of the Filipino from a holistic point of view. This includes the discussion of the many local identities that make up the nation's islands.

PLENARY PANEL 4

Sulu, BARMM and the Philippine State

Historical and Legal Perspectives

Moderator: Nicomedes B. Alviar, PhD

THE LEGAL FRAGMENTATION AND RECONSTRUCTION OF SULU

Jay L. Batongbacal, JSD
UP Law Center – Institute of Maritime Affairs and Law of the Sea

The pursuit of truth takes distinct forms in the disciplines of history and law. Historians seek objectivity, piecing together narratives from evidence, while lawyers advocate within a framework of client representation and legal precedence. These contrasting approaches to truth and authority are deeply embedded in the Sulu Zone's rich maritime history, shaped by treaties and governance agreements with powers such as Spain and Brunei.

In the 19th century, treaties between Spain and Sulu, in addition to those with the British in North Borneo, underscored these complexities. Recognizing Spanish sovereignty while maintaining local social order and commitments to suppress piracy, these agreements reflected a delicate balance between establishing peace and cooperation and respecting Sulu's traditional governance structures. They aimed to integrate Sulu into broader imperial frameworks without erasing its unique identity and local systems.

This historical context serves as a backdrop to modern governance challenges. The establishment of the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) was hailed as a milestone. This offered Sulu and other regions enhanced governance and collaboration. However, the 2024 Supreme Court decision in Province of Sulu v. Executive Secretary disrupted this trajectory. Sulu's exclusion from BARMM marked a significant regression, raising concerns over autonomy and regional integration.

The decision reduced Sulu to the status of a regular local government unit (LGU), severing its ties to BARMM's collaborative frameworks. This excision led to geographic and political isolation, with Sulu losing access to the adjacent regional waters and the economic and governance benefits they provided. The loss of these maritime connections also stripped Sulu of its participation in critical arrangements for power, revenue, and income sharing within BARMM.

The implications are profound. Within BARMM, the management of regional waters includes preferential fishing rights, protection of traditional fishing grounds, and control over intra-regional maritime routes. The Zones of Cooperation further allow free movement of vessels, goods, and people, fostering economic and resource-sharing opportunities. Moreover, BARMM holds exclusive powers over trade regulation, public utilities, and environmental management while benefiting from shared revenues from natural resources with the national government. These advantages, once accessible to Sulu, may now be out of reach.

As Sulu navigates the uncertainties of its exclusion, its governance challenges grow more pronounced. The loss of BARMM's advantages not only isolates Sulu geographically but also diminishes its role in the broader regional landscape. This situation raises critical questions about the long-term implications of the decision on Sulu's autonomy, economic prospects, and the cohesion of the Bangsamoro region.

This juxtaposition of history and contemporary legal outcomes underscores the enduring tension between local governance and broader frameworks of authority. In Sulu's case, its rich historical legacy as a maritime powerhouse contrasts sharply with its current struggles for relevance and autonomy, charting a precarious path forward in the quest for sustainable governance and identity.

EXPLORING THE IMPLICATIONS OF SULU'S EXIT FROM BARMM

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Policy Research and Legal Services (PRLS)
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Dr. Adiong, looked into the recent Supreme Court ruling on September 9, 2024, which excluded Sulu from the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). This has sparked significant discussion and debate. This decision upheld the constitutionality of Republic Act No. 11054, or the Bangsamoro Organic Law (BOL), while asserting that Sulu would no longer be part of the BARMM. The Court stated that the BOL was a legislative creation rather than a direct product of peace negotiations.

Sulu's exclusion is seen by some as a strategy reminiscent of the colonial policy of "divide and rule," which could instill disunity among the Bangsamoro people over time. The case, "Province of Sulu, et al. vs. Executive Secretary Salvador Medialdea, et al.," centered on constitutional provisions related to autonomy and local governance. The Philippine Constitution allowed only provinces, cities, and geographic areas voting in favor of inclusion to join the autonomous region. In the January 2019 plebiscite, Sulu results reflected sentiments against the ratification of the BOL. The 'NO' votes won with a narrow margin of 25,896 votes, from the 301,156 plebiscite votes surveyed.

Historically, Sulu has been integral to the narrative of Bangsamoro self-determination. Events like the Jabidah Massacre, the burning of Jolo, and the Tripoli Agreement of 1976 underscore the pivotal role Tausug leaders played in the struggle for autonomy and peace. This legacy, emphasized in the remarks of Member of Parliament Dong Loong, highlights the unity and shared struggles of the Bangsamoro people. Loong cautioned that the exclusion of Sulu risks rewriting the narrative of Moro identity, threatening to undermine the cohesive vision of self-determination.

Economically, the implications of Sulu's exclusion are stark. The BARMM has prioritized Sulu in its development agenda, allocating substantial resources to infrastructure, education, and social services. For instance, the 2024 budget

earmarked Php 9 billion for Sulu, including significant investments in public works, health, and education. The BARMM government has also supported projects like the Maimbung Airport feasibility study and programs to document Tausug culture and history. Over the past five years, infrastructure investments in Sulu totaled Php 6 billion, but projections indicate a further Php 27 billion would be required to meet the region's development needs. The loss of BARMM funding could stall progress, leaving gaps in critical infrastructure and services.

Socially, Sulu has seen a reduction in poverty. Its poverty rate dropped from 64 percent to 14 percent, largely due to the combined efforts of the ARMM and BARMM in recent years. Roads, scholarships, and extended services have been instrumental in improving living conditions. However, Sulu's exclusion could reverse these gains, leading to potential economic stagnation and social unrest.

The exclusion raises concerns about the broader stability of the BARMM. Critics warn that this decision could set a precedent, allowing other provinces or municipalities to opt out, thereby threatening the region's cohesion. The ruling also reopens debates about the balance between local autonomy and regional solidarity, raising critical questions about the future of the Bangsamoro peace process.

The Supreme Court's decision, as it was immediately executory, carries far-reaching implications. While efforts to support Sulu's development continue, the exclusion has introduced uncertainty, not only for the Tausug people but also for the integrity of the BARMM as a whole. The Bangsamoro identity, forged through shared struggles and aspirations, now faces a critical test of resilience.

OPEN FORUM

The participants' sentiments about the plebiscite results, the Sulu province exit from BARMM, and the Supreme Court decision centered around the critical role that Tausugs have played in the formation of legislation around the region. Thus, a number of questions directed to the panelists focused on what would be in store for BARMM and Sulu, separately.

Dr. Adiong summed up points around his presentation, referring to the prioritization of development for Sulu by the BARMM Parliament. Given their exclusion from BARMM, the reduction in development funds from BARMM may be a contributor to the recurrence of unrest.

Addressing another question, the Sulu exclusion could also be an avenue for self-determination in the region through discussions of the Banga-sug identity. The identified drawback, however was the limitation of identity within the framework of the local government administration. The region may be greatly impacted by the lack of autonomy in creating laws appropriate for their norms and cultures.

On the other hand, Dr. Batongbacal's discussion about the plebiscite results revealed the limitations of the considerations for plebiscites and ratification. The votes were counted, initially at the regional (ARMM) level, which resulted to the ratification of the BOL in its early years. The Supreme Court's acceptance of discernment of votes at the provincial level could have greater implications. The very strict and formalistic approach on the plebiscite and Supreme Court decisions may not have considered the social and economic implications.

Offering his opinion about the possible creation of another autonomous region, Dr. Batongbacal referred to Article X of the 1987 Philippine Constitution where we "can have only two autonomous regions," one being in the Cordillera and the other in Muslim Mindanao, which limits possibilities at this point.

PLENARY PANEL 5

Biodiversity and Marine Conservation in Sulu

Moderator: Prof. Pepito R. Fernandez, Jr.

SHALLOW WATER MARINE BIODIVERSITY OF THE SULU ARCHIPELAGO AND A WALLACEAN AND LINNEAN SHORTFALL CHALLENGE

Benjamin Vallejo, Jr., PhD
Professor of Environmental Science
University of the Philippines Diliman

The Sulu Archipelago, an ecologically and historically significant region in the Philippines, stands as a vital zone for marine biodiversity and trade. Known for its abundant marine resources, the area has been a center for pearling activities since the late 19th century. Historical records from as early as 1870 detail the prominence of pearling in the region, with concerns about overexploitation surfacing as early as 1916. The archipelago is particularly notable for its rich diversity of marine mollusks, with 1,153 coral reef mollusk species recorded in Sulu and Tawi-Tawi, representing 16.47 percent of the Philippines' marine mollusk biodiversity and 25.1 percent of its coral reef mollusk species.

Biodiversity Shortfalls: Linnean and Wallacean Gaps

Despite the richness of its marine ecosystems, the Sulu Archipelago faces significant biodiversity information shortfalls:

Linnean Shortfall

This refers to the gap between the number of species formally described in scientific literature and the actual number of existing species. Many species in the region remain unidentified or undescribed.

Wallacean Shortfall

This highlights the incomplete understanding of biodiversity distribution across spatial and temporal scales. Gaps in data on species' habitats, population trends, and environmental pressures hinder effective conservation planning.

Museum Collections and Online Databases

Global natural history museums house vital data on the marine biodiversity of the Sulu Archipelago. These include collections from institutions such as the Academy of Natural Sciences of Philadelphia, the British Museum of Natural History, and the California Academy of Sciences. Recent studies and assessments have advanced knowledge of the region's marine species. However, the need for a comprehensive evidence synthesis and a critical review of existing data remains pressing.

Efforts to digitize and curate marine biodiversity information are essential. A digital national biodiversity database and a BARMM-specific biodiversity database would serve as critical tools for fisheries management and the establishment of marine protected areas. This would also assist the National Museum of the Philippines in managing data for marine invertebrate species.

Historical Contributions and Territorial Context

The historical context of marine research in the Sulu Archipelago is enriched by contributions from figures such as Almirante Claudio Montero Gay, who modernized the Armada Española and conducted hydrographic surveys in Philippine waters. These surveys, which informed the territorial delimitation

of the Philippines, remain critical in asserting the country's claims in the West Philippine Sea. Notably, Montero's work included the cruise of the Castilla in Bajo de Masinloc, Zambales, establishing it as part of Philippine territory.

International Connections: Museo Historia Natural de Ferrol

The Museo Historia Natural de Ferrol in Galicia is a notable international connection. It houses over 3,000 shells collected from the Philippines and Cuba. Donated by the San Roman family in 2003, this collection includes valuable historical data, particularly from hydrographic and bathymetric studies conducted under Almirante Claudio Montero Gay.

The Way Forward

The Sulu Archipelago's marine biodiversity is a critical resource requiring urgent and strategic conservation efforts. Key needs include:

1. Digital curation of natural history collections
2. Enhanced collaboration with international museums to repatriate data
3. Development of a national and regional biodiversity database to support sustainable management of marine ecosystems

Through these measures, the Philippines can bridge critical biodiversity knowledge gaps while safeguarding its marine resources for future generations.

THE BIOLOGICAL PRODUCTIVITY OF THE SULU ARCHIPELAGO: CURRENT CONTRIBUTIONS AND FUTURE POTENTIAL

Wilfredo L. Campos, PhD
University of the Philippines Visayas

The Sulu Archipelago stands out as one of the Philippines' most productive fishing grounds, significantly contributing to the country's fisheries sector. Despite its relatively small geographical footprint, it accounts for 25.6 percent

of the nation's total fisheries production. This remarkable productivity is rooted in the region's unique marine and physical characteristics.

Factors Supporting High Productivity

The archipelago's geography and oceanographic features are key to its abundant marine resources:

1. Extensive Continental Shelf: This provides a vast area for marine habitats and fisheries activities
2. Archipelagic Structure: Shallow and narrow straits between islands facilitate strong tidal flows
3. Year-Round Upwelling: Nutrient-rich subsurface water is brought to the surface, sustaining high plankton levels
4. Sibutu Passage Dynamics: Internal waves in this area further enhance nutrient availability, supporting marine biodiversity and productivity

These factors contribute to consistently high chlorophyll concentrations, a proxy for plankton abundance, which drives year-round fisheries productivity

Seaweed Cultivation

The Sulu Archipelago and Tawi-Tawi are the heart of the Philippines' seaweed industry, contributing 42.6 percent of national seaweed production between 2015 and 2021. This makes the country one of the top global producers, accounting for approximately 4 to 5 percent of total seaweed output.

The nutrient-rich waters resulting from upwelling provide an ideal environment for seaweed farming. However, to sustain and enhance this industry, there is a pressing need for:

1. Support for sustainable farming practices
2. Improved production quality
3. Development of regional processing and manufacturing hubs
4. Abundance of Small Pelagic Fish Stocks

5. Small pelagic fish, such as sardines and mackerel, are among the most significant contributors to fisheries in the region. These fish thrive in the nutrient-dense waters, feeding on the abundant plankton.

The Sulu Archipelago, together with Zamboanga City, accounts for 32.2 percent of the Philippines' small pelagic fish catches. Despite this abundance, local storage and transport infrastructure remain inadequate, leading to missed economic opportunities for local communities. Commercial fishing vessels, primarily based in Zamboanga City, dominate operations in the region, often encroaching into municipal waters. This highlights the need for better management and enforcement of fishing regulations.

Reef Fish Resources

The Sulu Archipelago boasts some of the richest reef fish biomass and diversity in the Philippines:

1. Species Diversity: The area has the highest species richness, critical for biodiversity conservation and fisheries sustainability.

2. Biomass: Surveys from 2010 to 2019 reveal that many reefs have over 50 percent of their reference biomass values, indicating significant untapped potential.

3. Commonly harvested species include parrotfish, grouper, rabbitfish, snapper, and lobster, contributing 12.8 percent of the total catch. This figure likely underestimates the true potential of reef fisheries in the region.

Challenges and Opportunities

While the Sulu Archipelago's marine resources are abundant, their full potential remains underutilized due to various challenges:

1. Inadequate Infrastructure: Improved storage and transport facilities are essential for reducing post-harvest losses.

2. Overfishing: Encroachment into municipal waters by commercial vessels threatens sustainability.

3. Tourism and Development Pressures: The region's inaccessibility has historically protected it from reckless exploitation, but lessons from other parts of the Philippines should guide sustainable resource management.

Conclusion

The Sulu Archipelago's exceptional marine productivity, biodiversity, and fisheries potential make it a cornerstone of the Philippines' blue economy. With careful management, enhanced infrastructure, and sustainable practices, this region can continue to thrive while providing long-term benefits to local communities and the nation.

CONSERVATION PRACTICES, COMMUNITY PARTICIPATION AND ELITE CAPTURE: MARINE CONSERVATION IN PRACTICE IN THE SULU SEA

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Initiatives for Marginal Seas of South and East Asia

Territorialization and Its Impact on the Bajau Laut in the Sulu-Sulawesi Seas

Marine conservation initiatives in the Sulu-Sulawesi Seas, particularly in Sabah, Malaysia, have introduced territorialization practices that profoundly affect the Bajau Laut, a historically nomadic maritime community. While these efforts aim to preserve biodiversity and marine ecosystems, they often overlook the socio-economic and cultural realities of the Bajau Laut, leading to conflicts between conservation goals and community needs.

Conservation and Territorialization in Sabah

Sabah's marine biodiversity hotspots have become focal points for conservation through initiatives such as the Tun Mustapha Park and Tun Sakaran Marine Park. These efforts are crucial for protecting marine ecosystems but have imposed strict no-take zones and expanded state boundaries that limit the Bajau Laut's access to traditional fishing grounds and mobility.

Territorialization has disrupted the Bajau Laut's traditional way of life, eroding their geographical space and access to essential resources. Immigration controls further marginalize this community by restricting their movement across maritime borders and failing to acknowledge their historical connections to the region's waters.

Pathways to Stability for the Bajau Laut

Despite these challenges, the Bajau Laut have sought pathways to adapt and stabilize their lives:

1. **Integration through Islam:** Conversion to Islam has provided cultural and social integration within Sabah's broader society, creating a sense of belonging and mitigating some aspects of marginalization.

2. **Livelihood Diversification:** Tourism has emerged as an alternative livelihood, offering new economic opportunities. However, the ecological impact and long-term sustainability of tourism as a primary income source remain uncertain.

Nonetheless, eviction and displacement remain prevalent, underscoring the fragility of the Bajau Laut's socio-economic stability.

Mixed Reactions to Sedentarization: Voices from Semporna

In Semporna, where sedentarization efforts are most pronounced, the Bajau Laut face mixed outcomes. Many report experiencing systemic discrimination and exclusion from education and essential services, further entrenching their marginalization. Volunteer initiatives have offered some relief, providing educational and social support. However, these efforts are insufficient to address the systemic challenges faced by the community.

Conclusion: The Tragedy of Territorialisation

The conservation-driven territorialization of the Sulu-Sulawesi Seas exemplifies Hardin's Tragedy of the Commons, where state control or privatization of shared resources often excludes marginalized communities from decision-making processes. For the Bajau Laut, informal claims to marine resources and

traditional territories are disregarded, leading to their disenfranchisement and displacement.

To balance biodiversity conservation with the rights and well-being of the Bajau Laut, policymakers must adopt inclusive strategies that recognize and incorporate community ownership, traditional knowledge, and equitable access to marine resources. Only through such approaches can the dual goals of marine conservation and socio-economic justice be achieved.

OPEN FORUM

The first question raised revolved around market encounters, indigenous knowledge, and social media promotion. A participant from the Cordilleras raised four main concerns. Firstly, regarding the seaweed industry and the blue economy, they expressed surprise at the abundance of seaweed products in Tawi-Tawi compared to Luzon, where many consume Korean seaweed. They questioned how to facilitate economic growth in areas with low demand and suggested exploring market encounters between different regions, citing the example of Baguio City and Davao. Secondly, the speaker addressed the spread of information about indigenous knowledge and the discrimination faced by indigenous people like the Igorot, hoping that tertiary education would strengthen curricula with comparative local history. Thirdly, they emphasized the need to maximize social media for promoting publications and information beyond conference attendees by including social media promotion in funding.

Dr. Majid-Cooke's responded to the participant's question and raised a concern about outsiders publishing indigenous knowledge without consent and highlighted the global movement to digitalize indigenous knowledge. They suggested that indigenous communities should build their capacity to censor or comment on such publications, mentioning the United Nation's (UN) digitalization efforts as a potential avenue.

Adding to the discussion, Dr. Vallejo mentions the importance of documenting biodiversity, emphasizing that scientists from the region should lead such efforts, especially in documenting marine biodiversity. They stressed the importance of local names for species in conservation efforts and commended

the Tawi-Tawi College of Technology and Oceanography for their work on indigenous taxonomy of seaweeds.

Another participant sought clarification on the proper term to address the Sama people, noting that "Bajau" is an exonym and "Sama" is an endonym.

Dr. Majid-Cooke addressed the terminology issue, highlighting the internal debates among different groups and the political implications of identifying as "Sama" or "Bajau" in Malaysia. She explained how the term "Bajau" can be associated with being a newcomer and the desire of some settled Sama individuals to distance themselves from this label due to nation-state anxieties. In response to a question about the displacement of the non-citizen Bajau in Sabah due to conservation efforts, she mentioned relocation efforts for citizens but noted the precariousness of their situation. For non-citizens, deportation to the Philippines occurs. Dr. Cooke also discussed the economic contributions and invisibility of undocumented Bajau workers in Malaysia, the lack of government recognition, and the human rights concerns. Regarding education for Bajau children in Malaysia, she stated that most do not have access to formal schooling, with NGOs playing a significant role. Finally, addressing the question about identity and language, she acknowledged the complexities when a larger group does not accept a particular identity but noted a growing acceptance and reclamation of the "Bajau Laut" identity among the sea-living Sama.

Another delegate identifying as Sama, inquired about compensation for Badjao citizens affected by conservation efforts in Sabah, Malaysia, referencing the burning of houses. Adding to this, a fellow student-delegate also questioned the Malaysian government's actions regarding the large population of non-citizen Bajau, who lack basic rights and face exploitation despite being deported and returning. This was followed by a point raised by an audience member about identity being dictated by the state and the importance of an identity being accepted by the members of that group, citing the work of social linguist Wardhaugh.

Meanwhile, a delegate also raised concerns about the high incidence of commercial vessel intrusion into municipal waters. They questioned the need to amend the National Fishers Act and asked about actions for local government units and maritime law enforcement to strengthen enforcement.

Another participant from the education field expressed interest in education for the Bajau people in the Philippines, noting the significant population in Tawi-Tawi and seeking information on existing work or frameworks.

In his contribution, Dr. Camposano emphasized the need for transdisciplinary and collaborative approaches to address challenges in the region. They stressed the importance of humanizing social sciences and socializing natural sciences and highlighted the valuable contributions of the Sulu archipelago while noting the poverty in the region. They also considered planning a carnival in Sabah in 2025 involving Bajau and other ethnic groups.

Summarizing the afternoon discussions, the Conference director emphasized the need for a transdisciplinary perspective on conservation and sustainability, particularly on the impact on non-land-based communities like the Sama Laut due to the territorialization of the nation-state. They also discussed the identity of the Bajau, highlighting that while the name might be derogatory, communities can repossess and indigenize such terms, asserting their cultural agency.

CENTER FOR INTEGRATIVE AND DEVELOPMENT STUDIES

Established in 1985 by University of the Philippines (UP) President Edgardo J. Angara, the UP Center for Integrative and Development Studies (UP CIDS) is the policy research unit of the University that connects disciplines and scholars across the several units of the UP System. It is mandated to encourage collaborative and rigorous research addressing issues of national significance by supporting scholars and securing funding, enabling them to produce outputs and recommendations for public policy.

The UP CIDS currently has twelve research programs that are clustered under the areas of education and capacity building, development, and social, political, and cultural studies. It publishes policy briefs, monographs, webinar/conference/forum proceedings, and the Philippine Journal for Public Policy, all of which can be downloaded free from the UP CIDS website.

THE PROGRAM

As biodiversity is essential in providing the sustainable base for agriculture and fisheries and its strategic dimensions, three foci of policy research in this program include assessing 1) the nexus between fisheries, aquaculture, and environmental sustainability, 2) the effectivity of protected areas governance and ecological outcomes in the context of resiliency in global anthropogenic climate change and, 3) Policy and strategic dimensions in marine science research (MSR). These areas have all relevance to food, environment, and national security

The program framework is under the postnormal science paradigm which is what the International Science Council (ISC) and the International Network for Governmental Science Advice (INGSA) promote.

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