



NATURAL CAPITAL AND THE RULE OF LAW

PROCEEDINGS OF THE ADB
SECOND ASIAN JUDGES SYMPOSIUM
ON ENVIRONMENT 2013

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3–5 December 2013
Manila, Philippines



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Foreword

The Asian Development Bank (ADB) is committed to realizing environmentally sustainable growth in Asia and the Pacific, as highlighted in its long-term vision, Strategy 2020. Strategy 2020 emphasizes good governance and capacity development as one of the drivers of change, and supports strengthening legal, regulatory, and enforcement capacities of public institutions with regard to the environment. Working with judiciaries in the region and building the capacity of judges as environmental decision makers is of utmost importance in this regard.

Judges play a crucial role in upholding and strengthening the rule of environmental law—particularly in developing and implementing progressive environmental jurisprudence. Judiciaries thus provide a key pillar of support in promoting and addressing challenges to environmental governance.

The Asian Judges Network on Environment (AJNE) is a platform that has been specifically created to support the work of Asian judges. The decision to form the AJNE was made following the first Asian Judges Symposium in 2010, which culminated with judges calling for the creation of a network to foster closer ties among judiciaries and to facilitate knowledge sharing on environmental matters, such as effective environmental adjudication and enforcement in the region.

This Second Asian Judges Symposium marks the launch of the AJNE. The themes of this symposium are Natural Capital and the Rule of Law. These are key issues of concern to the judicial members of the AJNE and significant components of effective environmental governance in Asia.

The AJNE operates at both the regional and subregional levels, supporting information and experience sharing among senior judges of the Association of Southeast Asian Nations (ASEAN) and the South Asian Association for Regional Cooperation (SAARC).

The ASEAN Chief Justices' Roundtables on Environment have been held annually since 2011. They provide a forum for judiciaries to discuss and share knowledge on environmental justice across the region. Chief Justices' Roundtables have been co-hosted by ADB and the Supreme Courts of Cambodia, Indonesia, Malaysia, Thailand, and Viet Nam. Similarly, ADB has co-hosted Chief Justices' Roundtables with the judiciaries of a number of SAARC countries, including Bhutan, Nepal, Pakistan and Sri Lanka.

Specifically, the ASEAN Chief Justices' Roundtables have resulted in participant judiciaries committing to further capacity building for environmental judges and environmental law students; strengthening or implementing special rules of procedure for environmental cases; building on or establishing environmental courts, tribunals, or benches; and developing programs

for environmental specialization such as environmental judges certification processes. Each consecutive roundtable not only continues to build upon and further refine these commitments but also provides a platform for reporting on the progress of these commitments in each jurisdiction.

The SAARC Roundtables have also resulted in similar progress, with chief justices and senior judiciaries becoming aware of, and increasingly concerned about, the environment, and in particular, challenges posed by climate change and illegal wildlife trade. They have observed the regional impacts of illegal wildlife, forestry, and fishery trades as transnational organized crimes, and that the judiciary and legal profession must contribute to addressing these threats to sustainable development. The SAARC judiciaries have also reaffirmed their continuing commitment to the promotion of environmental protection, as well as climate change mitigation and adaptation through more effective jurisprudence in South Asia.

ADB publishes each of the roundtable proceedings on the AJNE website and remains committed to developing additional knowledge products.

ADB has also been assisting the national governments of a number of countries in the region on strengthening the rule of environmental law by working with the judiciary, enforcement agencies, and law and policy makers. This work addresses specific environmental challenges and provides tailored in-country environmental law and policy technical support.

The events held under the auspices of the AJNE have resulted in increased efforts to protect natural capital and strengthen the rule of environmental law in Asia, which is essential to the inclusive and sustainable economic growth of our region. ADB is committed to continuing to work with Asian judiciaries in leading efforts to further progress environmental governance frameworks.

Christopher H. Stephens

General Counsel

Office of the General Counsel

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ADB is grateful for its continued partnership with the Supreme Court of the Philippines. Chief Justice Maria Lourdes P. A. Sereno, together with Justice Diosdado M. Peralta, Justice Presbitero J. Velasco Jr., and the other members of the court, have shown great leadership in pioneering environmental justice through the rule of law. Thanks are likewise in order for the Philippine judiciary, particularly the green court judges who have graced the symposium with their distinguished presence.

The rich discussions in the breakout sessions would not have been possible without the guidance and wisdom of the session chairs: Greg Alling, Justice Rachel Pepper, Judge Merideth Wright, and Peter Wulf. ADB also acknowledges the rapporteurs for each session: Brenda Jay Angeles-Mendoza, Francesse Joy J. Cordon, Camille Lantion, and Maria Cecilia T. Sicangco.

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ADB is greatly honored with the presence of the symposium's distinguished speakers and guests who were responsible for making the sessions and resulting discussions, as well as this accompanying publication, rich with invaluable information.

This record of the proceedings was initially prepared by Dr. Kala Mulqueeny and Camille Lantion, and completed by Brenda Jay Angeles-Mendoza. Maricelle Abellar, Edith Creus, Briony Eales, Toby Miller, Principe Nicdao, Teri Temple, and Maricris Tobias provided their technical inputs in the finalization of this material.

Abbreviations

ADB	Asian Development Bank
AECEN	Asian Environmental Compliance and Enforcement Network
AJNE	Asian Judges Network on Environment
ASEAN	Association of Southeast Asian Nations
ASEAN-WEN	ASEAN Wildlife Enforcement Network
BMTA	Bangkok Mass Transit Authority
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CTI-CFF	Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security
DENR	Department of Environment and Natural Resources—Philippines
EIA	environmental impact assessment
EPA	Environmental Protection Agency of the United States
FAO	Food and Agriculture Organization
GDP	gross domestic product
GLOF	glacial lake outburst flood
GMS	Greater Mekong Subregion
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
Lao PDR	Lao People's Democratic Republic
MOU	memorandum of understanding
NEPA	National Environmental Policy Act
NGO	nongovernment organization
PEC	Planning and Environment Court—Australia
PHILJA	Philippine Judicial Academy
PRC	People's Republic of China
REDD	Reducing Emissions from Deforestation and Forest Degradation
SAARC	South Asian Association for Regional Cooperation
SEA	strategic environmental assessment
SLAPP	strategic lawsuit against public participation
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
WWF	World Wide Fund for Nature

Executive Summary

In December 2013, the Asian Development Bank (ADB) hosted the Second Asian Judges Symposium on Environment: Natural Capital and the Rule of Law, in cooperation with the Supreme Court of the Philippines, the United Nations Environment Programme (UNEP), WWF, the United States Agency for International Development (USAID), and Freeland. The Second Asian Judges Symposium reinforced and continued the headway in the First Asian Judges Symposium, the Association of Southeast Asian Nations (ASEAN) Chief Justices' Roundtables, and the South Asian Association for Regional Cooperation (SAARC) Judicial Roundtables to advocate environmental justice through the rule of law by building judicial capacity in environmental adjudication. In further concretizing these efforts, the Second Asian Judges Symposium consolidated the progress made from the past conferences with the launch of the Asian Judges Network on Environment (AJNE), a platform to share developments on the environment, particularly through legislation, landmark decisions, and specialized courts among the judiciaries in Asia and the Pacific.

In line with the AJNE's mandate to facilitate access to resources on environmental issues, the Second Asian Judges Symposium enabled interdisciplinary discussions with resource persons and participants who are members of the executive, legislative, and judicial branches of the government as well as various organizations, the academe, and the legal profession in different jurisdictions. Notably, members of judiciaries from Australia, Afghanistan, Bangladesh, Bhutan, Brazil, Cambodia, Costa Rica, India, Indonesia, the Lao People's Democratic Republic (Lao PDR), Malaysia, Myanmar, Nepal, New Zealand, Pakistan, the Philippines, Sri Lanka, Thailand, and the United States participated in the Second Asian Judges Symposium. Considering that this worldwide participation indicates that the environment occupies a prominent space in the rule of law discourse, the Second Asian Judges Symposium advanced the concept of natural capital to further underscore the gravity of environmental degradation and destruction. Natural capital integrates an economic perspective within the rule of law to provide a more holistic picture of the consequences of any activity that impacts the environment. As a result, incorporating natural capital in any decision-making capacity allows for more informed decisions in pursuit of environmental protection.

Natural capital refers to the stock of assets comprising both natural resources and the ecosystem services that they provide. These services include, among others, provisioning sources; regulating services that, for instance, assist with climate regulation and carbon sequestration; supporting services such as nutrient cycling; and cultural services that capture the benefits of human relationships with ecosystems. The degradation and destruction of natural resources necessarily result in the loss of these vital ecosystem services. In its *Environment Operational Directions, 2013–2020*, ADB recognizes the importance of conserving natural capital to ensure that ecosystems carry out services necessary for poverty reduction and creating green economies. ADB, in cooperation with WWF, has translated this recognition into action by concentrating efforts to

protect four crucial ecosystems in Asia and the Pacific: (i) the Coral Triangle, (ii) the Heart of Borneo, (iii) the Greater Mekong Subregion, and (iv) the Living Himalayas.

Initiatives to integrate natural capital in decision making highlight the role of good environmental governance in upholding the rule of law. By launching the AJNE, ADB recognizes that the judiciary, as guarantors of the rule of law, carries out environmental justice through developing environmental jurisprudence, which in turn inspires other branches of government as well as civil society to do their part in protecting the environment. Moreover, ADB builds on the strength of the AJNE with its ongoing support of the ASEAN Chief Justices' Roundtables and SAARC Judicial Roundtables, which continue to advance the role of the judiciary in their respective jurisdictions. The Supreme Court of the Philippines, one of the participating judiciaries of the ASEAN Chief Justices' Roundtables, promulgated the *Rules of Procedure for Environmental Cases* in pursuit of its constitutional mandate to preserve and protect the environment. Similarly, the UNEP carries out its commitment in upholding the environmental rule of law through enhancing capacity for the members of the legal profession and law enforcement officials.

The Second Asian Judges Symposium was opened by a distinguished group of leaders from ADB and its development partners: Takehiko Nakao, ADB President; Maria Lourdes P.A. Sereno, Chief Justice of the Supreme Court of the Philippines; Young Woo-Park, UNEP regional director and representative for Asia and the Pacific; and Vincent S. Perez, chair of WWF Philippines. In his welcome remarks, President Nakao affirmed ADB's commitment to natural capital and the rule of law by highlighting the role of environmental governance in socioeconomic development. He emphasized the important role of the judiciary in strengthening environmental governance and enforcement within the rule of law through policy and jurisprudence. Chief Justice Sereno, in her opening speech, explained the importance for the judiciary to share information and best practices about common environmental issues in the region. She urged judiciaries to clarify difficult areas of law so that courts can become effective vehicles for environmental enforcement. Mr. Woo-Park, for his part, discussed the emerging trends for the rule of law and sustainable development, and UNEP's initiatives in this area. Mr. Perez described the need to recognize natural capital and pointed to the judiciary's role in recognizing the value of natural capital when interpreting environmental laws.

Session 1 provided the context of the symposium by highlighting the progress of the ASEAN Chief Justices' Roundtables and SAARC Judicial Roundtables leading to the launch of the AJNE. Justice Tan Sri Abdull Hamid bin Embong of the Federal Court of Malaysia traced the developments of the ASEAN Chief Justices' Roundtables held annually since the inaugural Roundtable in December 2011. The Jakarta Roundtable produced the Jakarta Common Vision for ASEAN judiciaries, placing emphasis on the leadership of the members of the senior judiciary to address environmental issues in their respective jurisdictions. The Melaka Roundtable marked the agreement of the ASEAN chief justices and other members of the senior judiciary to develop a memorandum of understanding (MOU) among their judiciaries. The Bangkok Roundtable brought to the forefront a proposal for each country to form its own permanent secretariat for succeeding roundtables to ensure continuity. Similarly, Lahore High Court Justice Syed Mansoor Ali Shah recounted the progress of the SAARC Judicial Roundtables, held annually since August 2012. The South Asia Conference on Environmental Justice highlighted the necessity for capacity building in environmental law and produced the Bhurban Declaration. The Second South Asia Judicial Roundtable on Environmental Justice reinforced past conference discussions for the exchange of laws, jurisprudence, and experiences among the judiciary and resulted in a draft MOU.

Session 2 presented the symposium's thematic focus on natural capital and its significant role in rule of law initiatives. Natural capital highlights ecosystem services and recognizes their economic value. In 1997, economists provided a global value of \$33 trillion for natural capital. The Economics of Ecosystems and Biodiversity (TEEB) estimated that while the preservation of the world's ecosystem services would require an annual investment of \$45 billion, the value returned would be \$5 trillion. The Heart of Borneo stores 3 billion tons of carbon. The Mekong River is a source of food and income for 60 million people and carries a value of up to \$4 billion. Seven major rivers run through the Himalayas, and these rivers are a source of fresh water to 1 billion people. The Coral Triangle's reefs are a source of food, income, and storm protection for 120 million people. ADB and WWF have estimated that Asia and the Pacific consumes 90% more than its capacity to regenerate annually. To ensure sustainable economic growth, the effective enforcement of laws on natural capital can reverse trends in unsustainable use. In this regard, judiciaries in Asia and the Pacific face immense challenges.

Session 3 provided an overview of the challenges confronting green benches. Justice Anwar Zaheer Jamali from the Supreme Court of Pakistan shared that while challenges arise in cases where court decisions are not properly implemented, continuing mandamus enables the court to address this gap to protect the environment. Justice Dato' Hasan Lah from the Federal Court of Malaysia shared that the 13 specialized environmental courts in Malaysia include one specialized court with jurisdiction over environmental criminal cases for each state. Associate Justice Diosdado M. Peralta from the Supreme Court of the Philippines gave an overview of the *Rules of Procedure for Environmental Cases*, highlighting its innovative aspects. Justice Slaikate Wattanapan, Presiding Justice of the Supreme Court of Thailand, identified the evaluation of damages as a challenge in adjudicating environmental cases. He recounted that a working task force has been established to develop procedural rules for environmental cases to enable the judiciary to meet the challenges ahead. Justice M. Enayetur Rahim from the Supreme Court of Bangladesh expressed that the constitutional right to life anchors the protection of the environment. He identified environmental courts and the environmental appellate court as the courts with jurisdiction over environmental cases, with the addition of mobile courts that have the power to shut down factories or impose penalties. Justice Praksah Osti of the Supreme Court of Nepal discussed the court's orders for the constitution of committees when scientific questions are at issue and continuing mandamus to require concerned agencies to report to the Court.

Session 4 provided an overview of natural capital's ecosystem services and the rule of law. Jeffrey A. McNeely, former chief scientist for the International Union for Conservation of Nature (IUCN) and current member of the UNEP International Resource Panel, distinguished human infrastructure from nature to show that balancing the two allows adaptation to climate change. Antonio A. Oposa Jr., president of the Laws of Nature Foundation in the Philippines, advocated for the rethinking of the environment and development. In a video message, Dr. J. B. Ruhl of the Vanderbilt School of Law identified challenges facing the judiciary, considering the ecological and geographical complexity of natural capital, the need for clarity on duties and remedies to property owners, and possible conflicts over the respective jurisdictions of different legal authorities. Justice Adolfo S. Azcuna, chancellor of the Philippine Judicial Academy (PHILJA), shared the latest knowledge product of the Supreme Court of the Philippines, the *Citizen's Handbook on Environmental Justice*.

Session 5 focused on forest ecosystems. World Resources Institute's Andika Putraditama recounted Global Forest Watch, which aims to provide free, real-time forest information using

remote sensing technology and satellite images. Ritwick Dutta from the Legal Initiative for Forest and Environment in India discussed a case involving a proposal to set up a major mine on worshipping grounds of local tribal villagers. The Supreme Court of India recognized the cultural rights of the villagers over the proposed mine site. Julian Newman, director of the Environmental Investigation Agency, identified the difficulties in prosecuting violators belonging to higher levels of illegal logging operations. Mas Achmad Santosa of the Presidential Anti-Judicial Mafia Task Force in Indonesia highlighted his country's efforts to improve integrity within the enforcement chain. Justice Adalberto Carim Antonio, judge titular, Court of Environment and Agrarian Issues in Brazil, highlighted the value of the Amazon and identified problems with enforcement of environmental laws. Judge Divina Luz Aquino-Simbulan of the Regional Trial Court, City of San Fernando, Pampanga, Philippines, discussed her experience in ordering violators of the Revised Forestry Code to plant trees as a condition for probation.

Session 6 highlighted mountain and upland ecosystems. Tariq Aziz of the Living Himalayas Initiative stressed the importance of managing the rain-fed water from the rivers of the Eastern Himalayas, where hydropower will play a significant role in development. Archana Chatterjee from IUCN India office focused on high-altitude wetlands, pointing out that interference potentially impacts the progress of the wetlands' ecosystem through its different stages. Nima Om from the Ministry of Agriculture and Forests in Bhutan discussed her country's legislation on land use. Archana Vaidya discussed glacial lake outburst floods in India and the necessity for appropriate response systems. Ananda M. Bhattarai, judge, Court of Appeal, Nepal, highlighted cases where the Supreme Court issued a direction for the government to develop environmental policies in areas with existing gaps in the law.

Session 7 shed light on issues regarding freshwater ecosystems. Jeffrey A. McNeely this time cited the limited water supply in Asia as the pretext for future conflicts and the judiciary's challenge to strike a balance between costs and benefits in water disputes. Deborah Smith, United States (US) magistrate judge, District of Alaska, discussed environmental legislation in the US. She shared Alaska's experience, where oil companies pay royalties to the state government, and the interest goes to each citizen annually. Justice Syed Mansoor Ali Shah, High Court of Lahore, Pakistan, discussed the *Ravi River* case, where, through a court-ordered process that resembled mediation, the government agreed to a cost-effective and homegrown solution to clean the river. Presbitero J. Velasco Jr., associate justice of the Supreme Court of the Philippines, discussed the ongoing application of continuing mandamus to enforce the court's judgment ordering several government agencies to rehabilitate Manila Bay. Associate Professor Mingqing You of Zhongnan University of Economics and Law, Wuhan, People's Republic of China, discussed his country's stand-alone green courts that exercise jurisdiction over civil, criminal, and administrative cases, as well as green courts with collegiate panels comprising of judges with expertise in environmental law.

Session 8 focused on coastal and marine ecosystems. Eleanor Carter, a former marine program director, identified issues concerning overfishing and destructive fishing. Peter Wulf, a member of the Commonwealth Administrative Appeals Tribunal, discussed cases in Australia that highlight the importance of international cooperation in marine fisheries and showed how domestic issues lead to international issues. Patrick Duggan from the US Department of Justice referred to the fact that the US requires knowledge that resources are illegal in order to prosecute environmental crimes and, for this reason, the relationship between the US and supplier nations is critical in sharing information on illegal transactions that could involve multiple countries. Justice Saleem Marsoof from the Supreme Court of Sri Lanka highlighted a pending case on sand-mining

operations, where the court continues to supervise its mines bureau to prevent illegal sand mining. Justice Dato' Hasan Lah from the Federal Court of Malaysia recounted that cases relating to the environment concern common law claims such as nuisance and negligence.

Session 9 concentrated on issues regarding biodiversity loss, protected areas, and enforcement. Clarissa C. Arida, director at the ASEAN Centre for Biodiversity, identified the drivers of biodiversity loss. Professor Lye Lin Heng, director of the Asia-Pacific Centre for Environmental Law, referred to the importance of clearly defining prohibited acts, citing Singapore's Endangered Species (Import and Export) Act of 2006. Justice Hima Kohli from the High Court of Delhi, India, discussed the National Green Tribunal's expedited relief in environmental disputes. Justice Alexandra Alvarado Paniagua, *jureza coordinadora*, Tribunal Agrario Nacional Costa Rica, highlighted the recognition of ecological possession in case law, which allows the court to consider evidence of environmental management to dispute land abandonment.

Section 10 provided a discussion on biodiversity loss and illegal wildlife trade. Theresa Mundita S. Lim, director of the Protected Areas and Wildlife Bureau (now Biodiversity Management Bureau) of the Department of Environment and Natural Resources in the Philippines, identified documentation problems with fictitious consignees as a challenge to the prosecution of illegal wildlife trade cases. Ed Newcomer from the US Fish and Wildlife Service, Office of Law Enforcement, discussed Operation Wild Web that targeted internet transactions of illegal wildlife trafficking to showcase international cooperation between the US and ASEAN members. Justice Tan Sri Abdull Hamid bin Embong this time discussed evidentiary challenges in prosecuting wildlife cases. Chief Justice Qazi Faez Isa of the Balochistan High Court in Pakistan highlighted increased penalties in environmental cases.

Session 11 shed light on climate change impacts on key ecosystems. Naderev M. Saño, commissioner of the Climate Change Commission in the Philippines, focused on the latest report of the Intergovernmental Panel on Climate Change (IPCC) on the unequivocal warming of the climate system. Lory Tan, chief executive officer of WWF Philippines, identified alarming trends, including the rise of sea surface temperatures, ocean acidification, sea level rise, and frequency of extreme weather conditions. Peter Wulf cited causation issues in climate change litigation. Chanokporn Prompinchompoo from the Faculty of Law, Ramkhamhaeng University in Thailand, discussed environmental cases in her country that are related to climate change.

Session 12 focused on planning, permitting, and environmental impact assessment (EIA). Iain Watson from the Environmental Operations Center, Greater Mekong Subregion (GMS) identified good practices in Southeast Asia and other Asian countries for the EIA, where national requirements for safeguard systems approximate those required by multilateral development banks. Peter King, head of the Asian Environmental Compliance and Enforcement Network (AECEN), provided a comprehensive discussion of EIA legislation around the world. Terry Ridon, party-list representative, House of Representatives, Philippines, discussed litigation acting as the check to ensure that the EIA process functions effectively in the Philippines. Judge Richard Jones, District Court and Planning and Environment Court (PEC) of Queensland, Australia, highlighted the PEC's success on the treatment of expert witnesses. Justice Ashraf Jehan from the Sindh High Court of Pakistan recounted the Environmental Protection Tribunal's experience in issuing orders to curb environmental law violations and punish those responsible.

Session 13 consisted of several breakout sessions that dealt with specific aspects of natural capital and the rule of law. The first two groups discussed the substantive and procedural challenges experienced or anticipated in judicial decision making on issues of natural capital, such as those relating to their understanding of the concept of natural capital and the corresponding issues on expert and scientific evidence and evidentiary rules. The third group examined current innovations for judicial decision making and how natural capital can assist in determining remedies, sanctions, and penalties, including in promoting restorative justice. The last group talked about existing strategies for strengthening the judges' capacity to decide natural resource cases, with recommendations for resisting threats to corruption and promoting integrity. Finally, the groups discussed ways of deepening and strengthening cooperation among the various judiciaries through the AJNE.

The closing session highlighted recommendations for moving forward. Justice Peralta proposed that the symposium tackle the issue of establishing an international tribunal that would hear issues on climate change in Asia and the Pacific. Justice Marsoof made suggestions for the mechanics of the AJNE, delineating responsibility for what is uploaded to the head of the judiciaries, with ADB to act as the moderator. Khamphanh Sitthidampha, President of the People's Supreme Court of the Lao PDR, identified the need for training and translating law particularly for judges in his country. Chief Justice Isa expressed the importance of the AJNE's continuity. Justice Tshering Wangchuk, Supreme Court of Bhutan, committed to advocating for training and establishing a green bench in Bhutan.

Symposium Highlights

Day 1

Opening Session

Welcome Remarks

Takehiko Nakao, President of the Asian Development Bank (ADB), welcomed all the participants to the Second Asian Judges Symposium on Environment: Natural Capital and the Rule of Law. He announced that the symposium also marked the formal launch of the Asian Judges Network on Environment (AJNE). He acknowledged the support of ADB's partners in the symposium, notably the Supreme Court of the Philippines, the United Nations Environment Programme (UNEP), WWF, the United States Agency for International Development (USAID), and Freeland. He then discussed the theme of the symposium and ADB's commitment to it, the AJNE, and his thoughts for moving forward.

First, President Nakao affirmed ADB's commitment to natural capital and the rule of law by emphasizing the essential role of good governance in sustainable economic development. He identified the attributes of good governance—such as accountability, transparency, predictability, and participation—to highlight how the rule of law is integral to each attribute. He recognized the significant role of the judiciary in championing the rule of law through both economic development and the conservation of natural capital to make way for inclusive, sustainable economic growth. He then focused on natural capital as covering everything in the natural environment, living and nonliving, which is fundamental to the health and well-being of human societies. He highlighted that natural capital includes the stock of our natural ecosystems that provide a free flow of valuable goods or services, such as wildlife, forests, water, and air. He further emphasized that natural capital recognizes the value that ecosystems provide, including the provisioning services, such as the production or provision of food and fiber; and regulating services, such as water purification and climate regulation.

President Nakao next discussed ADB's support for ecosystem conservation and environmental governance. He referred to ADB's *Environment Operational Directions, 2013–2020*, which outlines the objectives for helping Asia and the Pacific conserve natural capital and protect ecosystem services. He pointed to the importance of regional cooperation, citing examples of ADB's work in the Coral Triangle region, which involves six countries actively seeking to conserve their environmental and economic resources;¹ and the Greater Mekong Subregion Core Environment Program and its Biodiversity Conservation Corridors Initiative, which aims to reduce biodiversity

¹ Indonesia, Malaysia, Papua New Guinea, the Philippines, Solomon Islands, and Timor-Leste.

loss in the Mekong countries.² To strengthen environmental governance, he remarked that ADB works with the Asian Environmental Compliance and Enforcement Network in enhancing regional environmental protection agency capacity. He noted, for example, ADB's assistance in providing Environmental Impact Assessment (EIA) and enforcement training in Sri Lanka. Finally, he emphasized that ADB works with developing member countries to strengthen national laws and regulations on the environment, land, resettlement, and indigenous people. He illustrated ADB's recent work with Mongolia on a new eminent domain law that includes full social protection provisions in line with ADB's safeguard policy.

Second, President Nakao talked about how ADB's *Environment Operational Directions* supports the AJNE, particularly considering the judiciary's role in strengthening environmental governance and enforcement within rule of law systems to promote justice and develop jurisprudence. He traced the origins of the network to the First Asian Judges Symposium in July 2010, hosted by ADB, the Supreme Court of the Philippines, UNEP, and other partners. In this first symposium, he recounted that the participants, including over 110 members of the senior judiciary, called for the creation of a network to institutionalize cooperation.

President Nakao related that this recommendation led to partnerships and ADB's ongoing support of a series of judicial roundtable conferences in Southeast Asia and South Asia, respectively, through the ASEAN Chief Justices' Roundtables on the Environment, in partnership with the judiciaries of ASEAN's 10 member countries; and the South Asia Judicial Roundtables on Environmental Justice. He remarked that, from ADB's perspective, the roundtables have charted a regional vision for Asian judiciaries to contribute to Asia's immense environmental challenges, and each roundtable has been accompanied by concrete national commitments to advance the judiciaries' contribution to environmental protection and the rule of law within their jurisdiction.

He then highlighted the achievements of participating judiciaries since the roundtables commenced, including the following: (i) in the Supreme Court of Indonesia, the decree to certify specialist environmental judges on the environment; (ii) in the Federal Court of Malaysia and the Supreme Court of Pakistan, the establishment of environmental courts and judicial training on the environment; and (iii) in the Supreme Court of Sri Lanka and the Supreme Court of Viet Nam, commitments in moving forward. In addition, he pointed out that ADB has established an online interface for the AJNE to maintain the network's progress outside of the roundtables and other face-to-face meetings, and to provide a platform to share landmark environmental judgments. Further, he highlighted ADB's support for members of Asian judiciaries to attend key global conferences, including the World Congress on Justice, Governance, and Law for Environmental Sustainability, and the 16th Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Third, President Nakao recognized the judiciary's leadership in preserving natural capital and upholding the rule of law among the law enforcement communities as well as the general public. In moving forward, he welcomed partnerships between ADB and the various judiciaries to further the judicial role on the environment, as it relates to ADB's work. He encouraged the participants to consider concrete recommendations for this role and for the AJNE, particularly in preserving natural capital and strengthening cooperation among judiciaries in Asia and the Pacific on the environment.

² Cambodia, the PRC, the Lao PDR, Myanmar, Thailand, and Viet Nam.

Opening Remarks

Maria Lourdes P.A. Sereno, Chief Justice of the Supreme Court of the Philippines, in her opening remarks, explained the importance for the judiciary of sharing information and best practices across the region concerning common environmental issues. Although she recognized the judiciary's leading role in the development of environmental jurisprudence, she gave equal emphasis on the role of political and administrative agencies of governments in creating policies and managing resources, particularly in responding to climate change and extreme natural events. She then referred to the 2012 WorldRiskReport,³ which places countries in Asia and the Pacific high on the list of global disaster hotspots. She stressed that the Philippines ranked third on the list and related that the country would take many years to recover from the devastation of Typhoon Haiyan.

Chief Justice Sereno emphasized that the increasing collaboration of the various judiciaries within the AJNE underlines the significance of the judicial role. She pointed to the need for a common resolution to further strengthen the common values that judiciaries of various legal systems have to uphold. She then identified the different facets of the judicial role: (i) ensuring the enforcement of regulations, (ii) interpreting laws with clarity and consistency, and (iii) ensuring that court processes provide access to justice. She recounted that the Philippine judiciary responded to many of these concerns when the Supreme Court promulgated the *Rules of Procedure for Environmental Cases*. She highlighted some prominent features of the rules, such as the relaxed rules on standing, provisions for citizen suits, and the reaffirmation of intergenerational responsibility in *Oposa v. Factoran*;⁴ environmental protection orders; and the writ of continuing mandamus to ensure compliance with court orders over a longer period of time.

Chief Justice Sereno observed that after pioneering these initiatives and taking a progressive environmental stance, the Supreme Court faces many new issues. *First*, she shared that the courts face the difficult task of determining whether issues involve policy or legal questions. She cited the Constitution of the Philippines, which gives the President the power to enter into mining agreements “according to the general terms and conditions provided by law, based on real contributions to the economic growth and general welfare of the country.”⁵ She then referred to a case before the Supreme Court, which identified the issue of whether the mining law upholds the Constitution, considering the taxes and revenues that have been historically generated from mining activities. She recognized the complexity in this case and noted that the issue relates to the power of Congress to determine economic and fiscal policies, and includes questions on the extent of the wealth from resource use to which people, especially those living in areas hosting the mine operations, are entitled as a matter of right.

Second, Chief Justice Sereno pointed out issues in the assessment of scientific evidence and the application of the *precautionary principle* as incorporated in the rules of procedure, “that when human activities may lead to threats of serious and irreversible damage to the environment that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that threat.”⁶

³ Led by the Alliance for Development Works, United Nations University, and The Nature Conservancy, this report assesses the countries that are most at risk from natural hazards.

⁴ GR No. 101083, 30 July 1993.

⁵ Art. XII, Sec. 2, 1987 Constitution of the Republic of the Philippines.

⁶ Rule 1, Sec. 3(f), Supreme Court of the Philippines, *Rules of Procedure for Environmental Cases*.

She then referred to a recent case before the Court of Appeals in which the issue was whether to prevent the planting of genetically modified eggplants in different testing sites across the country. She identified one key question as when to apply the precautionary principle, specifically at which stage of the scientific inquiry, and asked whether the precautionary principle poses a barrier to the advancement of science. She observed that at this point, when the principle has yet to attain conceptual precision, courts might encounter difficulties in applying the principle in a nonarbitrary manner. She also noted that risks to economic growth and to the environment should undergo further studies. She then proposed that the judiciary should start evaluating the capability of the environmental courts to objectively evaluate scientific and economic evidence presented before them.

Third, Chief Justice Sereno noted issues regarding the powers of local governments and national agencies in the use of natural wealth. In another case before the Supreme Court, a province claims its equitable share in the fees collected by a government agency from water service providers. The province argues that most of the water that is fed to the water reservoirs for the capital region comes from its watersheds. In a different case, the court determined whether it was the national government agency or a local government unit which had the authority to grant quarrying permits.

Fourth, in addition to analyzing natural capital in terms of its inclusion in measuring a nation's wealth, Chief Justice Sereno pointed out that natural capital must also be scrutinized in terms of the legal rights and obligations of governments and private entities involved in its preservation, utilization, and renewal.

Finally, Chief Justice Sereno finally urged the Philippines and other judiciaries facing similar questions to continue to clarify these difficult areas of law in avenues like this symposium. She noted that such clarity is important for the courts to be effective vehicles for environmental enforcement.

Young Woo-Park, regional director and representative for Asia and the Pacific at UNEP, discussed the emerging trends for the rule of law and sustainable development. He stated that environmental sustainability is integrated with the rule of law within the United Nations (UN) system. Earlier in the year, the UN Rule of Law Coordination and Resource Group included UNEP and other relevant agencies within its mandate. In February 2013, its Governing Council adopted the term "environmental rule of law." Following this symposium, UNEP will hold the First Asia and Pacific International Colloquium on Environmental Rule of Law in Malaysia, with the objective of enhancing the environmental capacity of the legal and enforcement communities. UNEP's regional studies, which consolidate more than 200 regulatory instruments, have shown the global emergence of a new generation of environmental laws and regulatory practices that support resource efficiency and promote a green national economy. Command-and-control regulatory measures are combined with integrated management and eco-efficiency to focus on intervention and convert resource constraints into economic opportunities. These measures improve resource efficiency by shifting financial resources to green investment and the development of clean technology. Examples include the People's Republic of China's (PRC) Circular Economy Promotion Law; Japan's Reduce, Reuse and Recycle; and the Republic of Korea's Low Carbon and Green Growth Framework Law.

Dr. Woo-Park stated that financial and economic incentives are now increasingly used as a means to recognize the value of natural resources or natural capital. These include, among others, tax

exemptions for research and development of new green solutions, subsidies, feed-in-tariffs, emissions trading, and credit sinks. However, he stressed that the environmental rule of law needs to be strengthened throughout the entire enforcement chain. The judiciary plays an important role as the guardian of the environmental rule of law.

Dr. Woo-Park concluded that UNEP continues its efforts in developing key environmental treaties and norms. UNEP's Global Judges Programme, instrumental in ensuring the judiciary's sensitivity to environmental issues, was the basis for the 2002 Global Judges Symposium on the Rule of Law and Sustainable Development held in Johannesburg on the eve of Rio+10. UNEP is committed to continuing these efforts, declaring at the World Congress on Justice, Governance, and Law for Environmental Sustainability that "environmental sustainability can only be achieved in the context of fair, effective and transparent national governance arrangements and rule of law."

Vincent S. Perez, chair of WWF Philippines, a board member of WWF International, and former Secretary, Department of Energy, Philippines, discussed the need for recognizing natural capital. Mr. Perez referred to natural capital as the "stock of assets and resources that provide ecosystem services such as food, water, timber, crops, and even the absorption of human waste, not just municipal waste, but what we expel as carbon dioxide." He argued that making green economies a reality requires the maintenance of biodiversity as well as forest, freshwater, coastal, and marine ecosystems. In Asia and the Pacific, ADB and WWF have focused their efforts on maintaining four key ecosystems: (i) the Coral Triangle, (ii) the Heart of Borneo, (iii) the Greater Mekong Subregion (GMS), and (iv) the Living Himalayas. The Coral Triangle houses a major concentration of biodiversity and marine life, where 120 million people depend on these resources. Exports from this ecosystem generate \$3.8 billion a year. The Heart of Borneo, with 22 million hectares, constitutes the largest contiguous forest area in Southeast Asia, where tourist revenue amounts to \$1.2 billion annually. This ecosystem is vulnerable to deforestation, logging, and mining. The GMS comprises the world's largest inland fisheries, with 60 million people depending on this ecosystem. While its resources are valued at \$1.5 to \$4 billion annually, threats to this ecosystem include major dams that disrupt mainstream flow, wildlife trade, and a fragmented landscape. The Living Himalayas are a source of freshwater for 1 billion people and face threats from nature, such as floods and droughts, as well as agricultural expansion and hydropower projects.

Mr. Perez explained that the growing population in Asia and the Pacific of more than 3.5 billion people creates an oversized human footprint that exceeds the capacity of the land to absorb consumption. This footprint requires room for infrastructure, necessitates absorption of the waste created, and imposes carbon emissions. He cited Laguna Lake, the largest freshwater lake in the Philippines, where agricultural waste created by ponds and fish pens has impeded the natural flow of the water, and which on occasion has affected flooding in Metro Manila. He further cited the Living Planet Index, published by WWF, which reports an alarming decline of 64% in the ecosystem of the Indo-Pacific area due to habitat destruction and degradation. Ecosystem decline over the past 2 decades is accordingly a result of the conversion of primary forests to agricultural lands. The disruption of the natural flow of rivers, caused by water storage for agriculture, domestic use, and hydropower, is responsible for lower agricultural yields, a decrease in freshwater fish, and reduced access to clean drinking water. The exploding regional urbanization leads to a forecast wherein, by the year 2050, cities are expected to be the residence of two out of every three persons. Globally, the population is now consuming on average, 50% more than what the earth is capable of producing each year. In Asia and the Pacific alone, this consumption rate is 80% more than what the region has the capacity to produce.

Mr. Perez pointed out that the judiciary has a key role in recognizing the value of natural capital in the interpretation of environmental laws. The issues that confront the judiciary may include, for example, whether a coal plant should be built in Palawan, the latest UNESCO heritage site,⁷ or whether a major dam should be built upstream in a river, where diverting the flow of the natural water affects irrigation downstream. He cited a 1995 public interest case before the Supreme Court of India as an example of the judiciary valuing the natural capital of clean air. He explained that in this case, the court ordered all buses to be replaced with or converted to compressed natural gas by a specific date. The court then imposed penalties for each diesel bus in circulation, and ultimately, there were no more diesel buses in New Delhi. He cited this case to emphasize the judiciary's role in ensuring that the population lives within the limits of what natural capital can absorb, while maintaining the balance between commercial growth and public good.

Introductory Session

Session 1

Asian Judges Network on Environment (AJNE) Updates

Bindu Lohani, vice-president for knowledge management and sustainable development at ADB, and session chair, traced the development of efforts to protect the environment, referring to the 1972 Stockholm Conference and the next 2 decades that witnessed the emergence of environmental laws, regulations, and standards. He stressed the need for enforcement to complement the existing volume of rules, regulations, and laws already in place. He concluded by citing the importance of enforcement mechanisms.

Tan Sri Abdull Hamid bin Embong, a justice at the Federal Court of Malaysia, provided an overview of the ASEAN Chief Justices' Roundtable on Environment. He recounted that in July 2010, ADB with UNEP hosted the First Asian Judges Symposium on Environmental Decision Making, the Rule of Law, and Environmental Justice. Since the Johannesburg Global Judges Symposium, the First Asian Judges Symposium constituted the largest gathering of Asian judges together with other stakeholders from the legal professions in Asia, attended by around 50 judges and 110 participants, and proposed the establishment of the AJNE. In December of the same year, ADB provided technical assistance to support the AJNE as well as the ASEAN Chief Justices' Roundtable. He considered the roundtable to have provided the chief justices of the supreme courts of ASEAN with the opportunity to develop a common vision for cooperation on the environment among their respective judiciaries.

Justice Embong further recounted that, in December 2011, the First ASEAN Chief Justices' Roundtable on Environment, organized by ADB and the Supreme Court of Indonesia in cooperation with UNEP, was held in Jakarta, Indonesia. The Jakarta Roundtable, with Chief Justices and members of the senior judiciary from Cambodia, Indonesia, the Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam, resulted in the Jakarta Common Vision for ASEAN judiciaries. The Jakarta Vision aims to (i) serve as a platform for sharing information on ASEAN's common environmental issues among members of the senior judiciaries, (ii) highlight the leadership among ASEAN chief justices and members of the senior

⁷ United Nations Educational, Scientific, and Cultural Organization.

judiciary in initiating action on these issues among the judiciary and the legal profession, and (iii) sustain the cooperation among the members of ASEAN's senior judiciaries on these issues. The Jakarta Roundtable marked the announcement of the Chief Justice of the Supreme Court of Indonesia of the judiciary's adoption of a decree on environmental certification of judges. Justice Embong recounted that the Jakarta Roundtable presented the opportunity to learn about the green courts in the region, particularly those in Indonesia, the Philippines, and Thailand. He cited the Jakarta Roundtable as the catalyst for the Chief Justice of the Supreme Court of Malaysia to commit to developing what are currently the green courts.

In December 2012, the Second ASEAN Chief Justices' Roundtable on Environment was held in Melaka, Malaysia. The Melaka Roundtable reinforced the objectives of the Jakarta Roundtable: to share information on common environmental issues and to continue cooperation on these issues. It further highlighted the judiciary's leadership in the rule of law on environmental justice and the development of environmental jurisprudence. While recognizing the differences in their respective legal systems, members of the senior judiciary shared information on environmental issues and rules of procedure in environmental arbitration. The chief justices and members of the senior judiciary agreed to form a working group to develop a draft memorandum of understanding (MOU) among ASEAN judiciaries. The acting Chief Justice of the Federal Court of Malaysia recounted the adoption of environmental courts in Malaysia and the Malaysian judiciary's training on the environment in the same year.

In November 2013, the Third ASEAN Chief Justices' Roundtable, hosted by the Supreme Administrative Court of Thailand, was held in Bangkok, Thailand. In addition to addressing current environmental issues, the Bangkok Roundtable focused on procedural law in environmental cases, where issues include access to environmental justice, interim relief measures, alternative dispute resolution, and the execution of judgments. The Bangkok Roundtable brought to the fore a proposal for each country to form its own permanent secretariat to the roundtables to ensure continuity. Justice Embong concluded by emphasizing the need for continuing effort and cooperation in working toward the betterment of the environment.

Syed Mansoor Ali Shah, a justice of the Lahore High Court in Pakistan, provided an overview of South Asia's progress on environmental justice, looking to current legislation and the structure of the court, among others, as indicators of whether environmental changes are taking place. He cited ADB's initiative for environmental justice and the development of good governance through the First Asian Judges Symposium, initially serving as the platform for interaction and exchange of views that would eventually become the AJNE. He described that, on a subregional level, the same initiative was first undertaken in Pakistan, marked by the chief justice's offer to host the first environmental conference in Bhurban, Pakistan. In 2010, the Committee for Enhancement of Environmental Justice was created, consisting of five judges from the high courts and headed by the Chief Justice of the Supreme Court.

In 2012, the South Asia Conference on Environmental Justice, organized by the Committee for Enhancement of Environmental Justice, was held in Bhurban, Pakistan. The Conference further defined environmental justice and emphasized collaboration and information sharing. It highlighted the necessity of capacity building in environmental law through the training of judges and its inclusion in the law school curriculum. In Pakistan, judicial academies are currently developing a curriculum for judges that stresses environmental law and science. The conference

also marked the announcement of green benches in Pakistan, consisting of one each in the five high courts, as well as 133 green benches in district courts nationwide.

In August 2013, the Second South Asia Judicial Roundtable on Environmental Justice was held in Bhutan. It reinforced the discussions regarding the importance of AJNE continuing the exchange of laws, jurisprudence, and experiences among the judiciary. The roundtable set forth the need for a benchbook for judges as a source of information on the laws in the region. The roundtable echoed the discussions in Pakistan to build judicial capacity. Justice Shah then pointed to the development of the roundtable discussions, which came out with the Bhurban Declaration and a draft MOU, and expressed the hope to have the draft MOU signed in Sri Lanka the following year to further move the agenda forward.

Justice Shah highlighted three important developments since the first symposium. *First*, the formal launch of the AJNE ensures that discussions on common environmental issues are continued and innovations are shared. *Second*, judicial training in handling environmental issues is emphasized. *Third*, the development of green benches in different countries furthers environmental protection. Justice Shah reiterated the need to strengthen environmental justice and to continue to address environmental challenges in the Asian region.

Session 2

Natural Capital and the Rule of Law

Overview of the Symposium: The Network, Natural Capital, and the Rule of Law

Kala K. Mulqueeny, principal counsel at ADB, provided an overview of the symposium. She discussed ADB's commitment to the AJNE; the scope of the AJNE, including subregional cooperation; and how ADB works with the AJNE in localizing international environmental law.

First, Dr. Mulqueeny pointed out that ADB's commitment to working with the judiciary is affirmed in ADB's Strategy 2020, which highlights its commitment to the environment and governance as well as the improvement of environmental law enforcement. Considering that Strategy 2020 contains additional commitments to invest in natural capital and the AJNE, natural capital and the rule of law constituted the theme of the Second Asian Judges Symposium. The focus on the senior judiciary recognizes the significance of the judicial role in championing environmental rights and justice. The senior judiciary accomplishes this in the development of jurisprudence and the issuance of rules or directions for lower courts in the adjudication of cases. The judiciary's work in the AJNE serves as an inspiration for other branches of government, such as the ASEAN legislators, to make the same commitment.

Second, Dr. Mulqueeny recounted the AJNE's development, beginning with the events leading to the call for the network and advancing to its growth in the region. ADB's involvement in environmental justice in the rule of law commenced before the inception of AJNE. It started with the Supreme Court of the Philippines's invitation to ADB and other development institutions to comment on the draft of what was eventually promulgated as the *Rules of Procedure for Environmental Cases*. Moreover, members of the Supreme Court of Indonesia were then in the process of developing specialized courts for environmental cases and approached ADB about a

study of the same in other parts of the world. In line with these events, ADB organized the First Asian Judges Symposium on the Environment in 2010, where judges called for a network that would enable them to continue to share their experiences face to face, and for the development of an online interface. The AJNE is a direct result of this call, with the website accordingly launched as www.asianjudges.org.

Dr. Mulqueeny explained that the AJNE, which includes subregional networks, operates at a regional level. The Chief Justice of Indonesia invited chief justices around ASEAN to discuss environmental challenges, and this invitation culminated in the Jakarta Roundtable in 2011. In the succeeding year, Malaysia hosted the second roundtable establishing green courts and training. In November 2013, the third roundtable was held in Bangkok, Thailand. Similarly, South Asia held conferences in Pakistan and Bhutan. In this Second Asian Judges Symposium, representatives of the judiciary from Australia, Brazil, the People's Republic of China, Costa Rica, Fiji, Mongolia, New Zealand, and the United States were present.

AJNE has made significant progress. The Jakarta Roundtable resulted in the Jakarta Common Vision to establish green courts, develop environmental procedure, cooperate with law schools to promote the environment in the curriculum, and coordinate with bar associations. The Bangkok Roundtable presented the recommendation to establish working groups within all judiciaries and called for a reporting process in order to measure progress according to the Jakarta Common Vision every year. ADB has produced publications of these proceedings and continues to commit to the development of other knowledge products.

Through the AJNE, Asian delegations attended international events such as the Global Forum on Law, Justice and Development, which enabled the sharing of developments regarding the work done in Asia. In 2012, an Asian delegation also attended the World Congress on Justice, Governance, and Law for Environmental Sustainability.

Third, ADB has worked to help judges on the localization of international environmental laws. ADB's work in this area concerns international conventions and cooperation with enforcement officials to identify international obligations and the resulting national implications for judges. ADB's work includes, for example, the Convention on Biological Diversity and CITES to combat wildlife crime.

The AJNE website is a platform to share the developments across the region. Dr. Mulqueeny urged the participants to share information on landmark judgments, innovations on environmental law, environmental courts, and other novel accomplishments by the judiciary through the AJNE. The AJNE tracks these developments in various jurisdictions, including the Philippines' promoting access to environmental justice, Indonesia's integrated environmental enforcement, and the establishment of green courts.

Video Presentation: Natural Capital

Dr. Mulqueeny introduced a video presentation on natural capital prepared by ADB, Freeland, National Geographic, and WWF. She stated that linking natural capital with the rule of law is challenging because the former is an economic concept, while the latter is a broader, general concept. ADB, however, affirms the importance of linking the two.

The video presentation began with an overview of natural capital. The presentation demonstrated that natural capital is fundamental to health and well-being. It is nature's provision of wealth that is deposited in nature's bank. Instead of using only the interest, humans have started to deplete the principal natural assets that underpin this wealth. The assets that make up natural capital include land, air, water, and the panoply of the living and nonliving environment. Natural capital provides ecosystem services and the concept recognizes the economic value of these services. Healthy ecosystems provide the provisioning, regulating, supporting, and cultural services.

The video showed that, in 1997, economists provided a global value of \$33 trillion for natural capital. Thirteen governments agreed that it was necessary to analyze the economic benefits of biodiversity, costs of its loss, and costs of both action and inaction. This recognition led to The Economics of Ecosystems and Biodiversity (TEEB), an initiative that seeks to link the economy with ecology and show the relationship between ecosystem services and their importance to human well-being. This initiative estimated that while the preservation of the world's ecosystem services would require an annual investment of \$45 billion, the value returned would be \$5 trillion.

The video showed how Asia and the Pacific serves as home for many of the world's biodiversity hotspots. Over the past 10 years, governments have cooperated to preserve key ecosystems within the region: the Heart of Borneo, the Mekong River, the mountains in the Himalayas, and the Coral Triangle.

All of these ecosystems are accordingly at risk. ADB and WWF have estimated that the region consumes 90% more than it can regenerate annually. Globally and across the region, critical threats to these ecosystems include habitat destruction, pollution, overconsumption, overpopulation, and climate change. The United Nation's (UN) estimate of the global destruction of ecosystems is at least \$6.6 trillion with the cost expected to increase annually to approximately \$28 trillion by 2050. In Asia and the Pacific, forest ecosystems are at risk mainly from fires, poor forestry practices, and uncontrolled logging activities. From 2000 to 2007, the region lost 80 million hectares of forest cover, and in 10 years, forest fires caused a loss of 10 million hectares. The East Asian timber trade is valued at \$17 billion, and the annual cost of forest loss is valued at \$4.5 trillion. The Himalayas, a mountain and upland ecosystem, is at risk from increasing population, haphazard infrastructure development, and a low investment in conservation. Although Asia and the Pacific has 38% of the world's renewable freshwater resources, the largest share in the world, the region has the lowest available water per capita. Coastal and marine ecosystems are threatened by destructive fishing practices that have reduced fish stock and affected marine biodiversity. The value of unregulated fishing is between \$10 and \$23 billion annually. Coastal development and the unsustainable use of resources have caused the loss of 50% of coral reefs in Southeast Asia and threaten 70% of the Philippines' coral reefs. Moreover, the organized transnational illegal wildlife trade, with profits of up to \$10 billion annually, imperils biodiversity and was responsible for the death of about 1,000 rangers in the last 10 years. Furthermore, climate change intensifies other environmental impacts on ecosystems, causing, for example, increased storm intensity, receding glaciers, and species extinction threats.

The video emphasized that a more widespread understanding and coordinated action for the effective enforcement of laws on natural capital can reverse this decline. The environment needs the capacity to sustain future economic growth together with human well-being. As guarantors of the rule of law, chief justices and members of the senior judiciary in Asia and the Pacific are faced with the challenge of leading the legal profession, enforcement officials, and the public in

the efforts to preserve natural capital. In this regard, the video illustrated how the Chief Justice of Malaysia, Tun Arifin bin Zakaria, directed the establishment of environmental criminal courts and instructed the Malaysian judiciary to apply the strongest penalties appropriate to cases involving wildlife crime.

Dr. Mulqueeny then explained the agenda for the symposium. The discussions on natural capital in various ecosystems are framed through three lenses: (i) from the perspective of scientists, economists, and conservationists, who would discuss the state of a particular ecosystem from an environmental perspective and the corresponding economic values in that ecosystem; (ii) from the perspective of lawyers and members of the judiciary, who would discuss laws that are relevant to the particular ecosystem; and (iii) from the perspective of the participants, who would have the opportunity to share their views on the judicial role in the context of the relevant ecosystem. The discussions will begin with an overview of ecosystem services. They will then address forest, mountain, and freshwater ecosystems individually. The discussion of biodiversity loss will be framed through the lens of protected areas and the illegal wildlife trade, followed by discussions of EIAs and climate change.

Dr. Mulqueeny further explained that the symposium has set aside the opportunity to further discuss these issues in four breakout sessions. The purpose of these sessions is to identify the substantive law issues on natural capital and the ways in which the judiciary can contribute to its preservation. Moreover, these are geared toward finding ways for the judiciary to strengthen the AJNE and ensure continuity with future cooperation. The first two sessions relate to the challenges in judicial decision making on natural capital issues, with the first session taking up issues of substantive law and the second session covering evidentiary rules. The third session takes up innovations for decision making in the judiciary. It examines whether natural capital can help with remedies, restorative justice, and sanctions. The fourth session deals with strengthening the capacity to decide environmental cases. It looks in particular at how to resist threats to integrity in the chain of enforcement and the judiciary.

Session 3

Green Benches

Rachel Pepper, a justice of the Land and Environment Court in New South Wales, Australia, chaired this session. She introduced her court as a specialist green court existing since 1979. She divided the session into two parts: (i) green benches and environmental rules, and (ii) judicial innovation and environmental cases.

Anwar Zaheer Jamali, a justice of the Supreme Court of Pakistan and chair of the Court Committee on Enhancing Environmental Justice, discussed green benches and environmental jurisprudence in Pakistan. He first highlighted the importance of environmental issues and recognized the need to protect natural resources. He noted that Pakistan's unique geographic attributes and population of 180 million have implications on the environmental issues it faces. He then identified the Pakistan Environmental Protection Act of 1997 as the comprehensive law that addresses these issues. Justice Jamali further related that the green benches in the high courts and the Supreme Court hear environmental cases as a single member, division, or larger special bench, depending on the issues at hand. He attributed the strength of Pakistan's judicial system and the development of environmental courts in part to education, with the introduction

of environmental law as a compulsory subject in the law school curriculum, and with special training for judges who hear environmental cases in the provincial judicial academies and at the federal level.

Justice Jamali discussed landmark environmental jurisprudence in Pakistan. *First*, he cited *Shehla Zia v. Wapda*,⁸ in which the Supreme Court of Pakistan held that the fundamental right to life of every citizen includes a clean atmosphere and an unpolluted environment. *Second*, he referred to a similar case in which the court held that the right to clean drinking water was a fundamental right that must be safeguarded.⁹ *Third*, Justice Jamali discussed the *New Murree Project* case, which involved the destruction of 5,000 hectares of forest for a housing project.¹⁰ He emphasized that the court enjoined the project to eliminate disturbance to the environment, particularly considering the annual rainfall in Islamabad. *Fourth*, he cited a recent case that involved the government's plan to build a tunnel through Margalla Hills near the outskirts of the capital.¹¹ He recounted that the project, while currently at a standstill, is subject to further hearing. Justice Jamali also noted that other environmental issues before the Supreme Court include the mismanagement of sewage and waste disposal, such that the drainage of waste into the sea adversely affected the mangroves and coastal area.

Justice Jamali said that the environmental tribunals established under the Pakistan Environmental Act of 1997 do not have *suo moto* powers to accept a case on their own initiative.¹² In this regard, he observed that this limitation prevents the tribunals from taking cognizance of cases even with a finding of a glaring violation of environmental law. However, he pointed out that the Supreme Court, in the exercise of its *suo moto* powers, could address the inaction as a result of this jurisdictional limitation. Justice Jamali explained that in addition to the green benches in the high courts and the Supreme Court, 133 district and session judges have jurisdiction to hear environmental cases. Moreover, he remarked that approximately 1,000 magistrates have jurisdiction to hear minor offenses in various environmental laws. Justice Jamali noted that although Pakistan has over 79 laws that favor the environment, the judiciary faces challenges from the proper execution of judgments as well as the lack of cooperation and coordination from the parties concerned. In these instances, he shared that continuing mandamus has enabled the courts to ensure the effective implementation of its decisions to protect the environment.

Justice Jamali ended his presentation by sharing some lessons from Pakistan's experience with the green benches. Among these are (i) the environment or nature is the silent necessary party in environmental cases; (ii) judges need to have a fair understanding of the environment, environmental law principles, and environmental science; (iii) environmental issues traverse other disciplines, thus requiring the courts to bring in expertise from other professions to effectively resolve environmental cases; (iv) proceedings of green benches are less adversarial and more inquisitorial, consultative, participatory, inclusive, and mediation-oriented; (v) environmental cases may require a rolling review or continuing mandamus to ensure compliance with the court's ruling; and (vi) courts need to use internationally recognized environmental law principles, such as the *polluter pays* principle and the *precautionary principle*, in adjudicating environmental cases.

⁸ PLD 1994 Supreme Court 693.

⁹ *General Secretary Salt Miners Labour Union v. The Director, Industries and Mineral Development*, Punjab.

¹⁰ *Suo Moto* Case No. 10 of 2005.

¹¹ *Suo Moto* Case No. 20 of 2007.

¹² *Suo moto* is a Latin term which means "on its own motion."

Dato' Hasan Lah, a judge of the Federal Court of Malaysia, provided an overview of Malaysia's green courts. He recounted that in September 2012, the judiciary designated 13 Sessions Courts as specialized environmental or green courts in Malaysia. He noted that as a result, every state in Malaysia has one green court, which exercises jurisdiction specifically over environmental criminal cases. He added that Malaysia has 38 statutes that apply to environmental issues. Justice Lah then explained that the green courts aim to (i) improve access to justice, (ii) expedite the resolution of environmental criminal cases, (iii) harness expertise in environmental issues, (iv) closely monitor environmental cases, (v) develop environmental jurisprudence, and (vi) increase public participation and confidence in environmental cases.

He discussed that from September 2012 to October 2013, the green courts disposed 313 of the 418 environmental cases on the court docket, with 89% of these cases disposed of in less than 6 months. He proceeded to report that the majority of these cases involved offenses under the Environmental Quality Act of 1974 on pollution of air and inland waters as well as waste disposal. He then emphasized that the judges presiding over the green courts have at least 10 years of experience in their field and are required to attend courses and seminars on environmental laws.

Justice Lah provided a discussion of Malaysia's sources of environmental law, which include the laws enacted by the Parliament and state legislative assemblies. He explained that the Constitution of Malaysia grants the federal and state governments both legislative and administrative powers to address environmental issues. He observed that this division of power led to a somewhat piecemeal approach to environmental legislation, considering that different agencies enforce various environmental management aspects.

Justice Lah then recounted that after the UN Conference on Human Environment held in Stockholm in 1972, Malaysia introduced the Third Malaysia Plan, its first environmental policy directive, and enacted the Environmental Quality Act of 1974 as the primary law on pollution control. He traced the amendments of the Environmental Quality Act, beginning in 1985 with the introduction of EIAs for large-scale development projects. The law was further amended in 1996, 2007, and 2012 primarily to strengthen environmental law enforcement. The 1996 amendments relate to (i) the increase in penalties for environmental law violations, (ii) the expanded scope of the prohibition against emissions, (iii) the power to issue a prohibition order to prevent an industrial plant from operating or releasing pollutants, (iv) the requirement for environmental auditing, (v) the creation of an environmental fund, and (vi) the court's power to order payment of damages. The 2007 amendments relate to (i) the increase in the penalty for offenses involving scheduled wastes; and (ii) aside from the liability of company directors already in place, the liability of the chief executive officer. Finally, the 2012 amendments refer to (i) strengthening the EIA, (ii) providing for a more proactive enforcement mechanism to prevent projects from harming people's health and the environment, (iii) the power to issue stop-work orders on projects that cause environmental damage, and (iv) increased fines for environmental crimes.

Justice Lah then highlighted other important environmental laws. *First*, he remarked that the Fisheries Act of 1985 provides for the establishment and management of marine parks to protect and conserve marine ecosystems, particularly coral reefs. He reported that Malaysia currently has over 40 islands protected under the Act. *Second*, he cited the Protection of Wildlife Act of 1972, applicable only to Peninsular Malaysia, which protects wildlife reserves or sanctuaries by requiring government permits to enter these areas. He explained that this law prohibits, among others, the disturbing, cutting, or removing vegetation in a wildlife reserve or sanctuary; and killing

or taking an animal or bird in a wildlife sanctuary, unless with a special permit for certain animals or birds. *Third*, he referenced the National Forestry Act of 1984, which provides for the management and conservation of forests. Justice Lah specified that this law defines a forest management plan in accordance with the principle of sustainable yield. He added that the act authorizes the government to designate land as a permanent reserved forest. Concluding, Justice Lah confirmed that Malaysia works hard to fulfill its treaty obligations on the environment.

Diosdado M. Peralta, an associate justice of the Supreme Court of the Philippines, presented the salient provisions of the *Rules of Procedure for Environmental Cases* in the Philippines. He recounted that on 28 January 2008, the Supreme Court issued Administrative Order No. 23-2008 to designate first- and second-level courts as environmental courts, consequently paving the way to strengthening the enforcement of environmental laws. He traced the development of the rules, beginning in 2009, when the Supreme Court organized several consultation meetings with all stakeholders on the effective enforcement of environmental laws. He remarked that the court then appointed a subcommittee, chaired by then-Chief Justice Reynato S. Puno, to finalize procedural rules with specific application to environmental cases. The subcommittee submitted these rules to the court *en banc* for deliberation, and on 13 April 2010, the court promulgated the rules of procedure. Justice Peralta highlighted that the rules, taking effect on 29 April 2010, apply to civil, criminal, and special civil actions before all courts involving the enforcement or violation of environmental laws and other related regulations. He identified its objectives: (i) to protect and promote the constitutional right of the people to a balanced and healthful ecology; (ii) to provide a simplified, speedy, and inexpensive procedure to enforce environmental rights and duties; (iii) to introduce and adopt innovations and best practices in the enforcement of environmental laws; and (iv) to enable the court to monitor and ensure compliance with court judgments in environmental cases.¹³

Justice Peralta continued his discussion on the rules, giving emphasis to its special features. *First*, he turned to the provision on citizen suits, which allows any Filipino, on behalf of present and future generations, to initiate legal action for the enforcement of rights and obligations in environmental laws.¹⁴ He pointed out that citizen suits liberalize *locus standi* and affirm intergenerational responsibility in *Oposa v. Factoran*. He discussed that in this case, the Supreme Court upheld the standing of representatives of minors and generations yet unborn to seek redress from the court for deforestation activities, even without personal damage to them.

Second, Justice Peralta discussed the writ of *kalikasan*, unique to the rules, to redress violations involving environmental damages of a certain magnitude. He clarified that the writ of *kalikasan* is available to (i) natural or juridical persons, (ii) entities authorized by law, (iii) people's organizations, (iv) nongovernment organizations, and (v) public interest groups accredited by or registered with a government agency.¹⁵ He further explained that the respondents could be a public official or employee, private individual, or private entity.¹⁶ He related that only the Court of Appeals and the Supreme Court could take cognizance of a petition for the writ of *kalikasan*, because both have territorial jurisdiction over the entire country. He then cited the *West Tower* case, which involved an oil leak in a condominium, as the first case in which the Supreme Court issued the writ.¹⁷ He

¹³ Supreme Court of the Philippines, *Rules of Procedure for Environmental Cases*, Section 3, Rule 1.

¹⁴ *Id.* Section 5, Rule 2.

¹⁵ *Id.* Section 1, Rule 7.

¹⁶ *Id.* Section 1, Rule 7.

¹⁷ *West Tower Condominium Corp., et al. v. First Philippine Industrial Corp., et al.*, G.R. No. 194239, 21 May 2011.

elaborated that the case led to the temporary closure of a pipeline transporting fuel from one province to Manila.

Third, Justice Peralta remarked that the rules adopted the writ of continuing mandamus, which the Supreme Court issued in *Metropolitan Manila Development Authority v. Concerned Residents of Manila Bay*.¹⁸ He added that the court's introduction of continuing mandamus in Philippine jurisprudence was inspired by the use of continuing mandamus in India's jurisprudence.¹⁹ He distinguished the two types of mandamus in the Philippines. In ordinary mandamus, the court commands a public official to perform a legal duty, and the official's compliance with the court's order satisfies the judgment. He then emphasized that with continuing mandamus, such as in the *Manila Bay* case, the Supreme Court commanded government officials to clean the bay, which would take a significant amount of time. In addition, Justice Peralta noted that the rules provide an ancillary remedy, a temporary environmental protection order, in a petition for a writ of continuing mandamus or for a writ of *kalikasan* as well as an ordinary complaint for damages. He explained that the court could issue the temporary environmental protection order in cases of extreme urgency to prevent grave injustice, irreparable injury, or the degradation of the environment and to stop the respondent from performing the acts subject of the complaint while the case is pending.

Fourth, Justice Peralta turned to protection from strategic lawsuit against public participation (SLAPP) in the rules. He noted that some states in the US have anti-SLAPP statutes. He then pointed out that in asserting their environmental rights, parties might face legal actions to possibly preempt the enforcement of environmental laws; for this reason, the rules make available a remedy for SLAPP suits. He clarified that SLAPP suits refer to civil, criminal, or administrative actions that harass or otherwise stifle any legal recourse that a party may take or has already taken to enforce environmental laws. He explained that SLAPP suits might be brought against any person, institution, or government. He added that in the event that the court affirms the defense of SLAPP in a civil action, it could award damages and costs of the suit as well as order the dismissal of the SLAPP suit.

Finally, Justice Peralta discussed the precautionary principle and consent decrees in the rules. He pointed out that both concepts were borrowed from foreign jurisdictions. On the former, he referred to Chief Justice Sereno's earlier discussion on a recent case involving the precautionary principle.²⁰ On the latter, he remarked that the court could issue a consent decree to approve the agreement between the parties to settle the dispute based on public policy to preserve and protect the environment. In conclusion, Justice Peralta reported that since the rules became effective, 28 petitions for the writ of *kalikasan* are pending before the Supreme Court, while 25 are pending before the Court of Appeals. He also added that over 1,000 civil and criminal cases on violations of environmental rules are pending before the trial courts. He related that the number of environmental cases before the courts indicate that the rules benefit the population and reflect an increased awareness of their environmental rights and obligations.

Slaikate Wattanapan, presiding justice of the Supreme Court of Thailand, discussed the specialized environmental courts in Thailand. He initially traced the events that led to the

¹⁸ G.R. Nos. 171947-48, 18 December 2008, 574 SCRA 661.

¹⁹ *M. C. Mehta v. Union of India* (1987) 4 SCC 463.

²⁰ *Greenpeace Southeast Asia (Philippines), et al. v. Environmental Management Bureau of the Department of Environment and Natural Resources*, CA-G.R. SP No. 00013, 17 May 2013.

establishment of the environmental division in the Supreme Court of Thailand in 2005. He recounted that following the cooperation and sharing of information between the judiciaries in Australia and Thailand, a meeting was held in Bangkok in 2003 which concluded with the recommendation for Thailand to set up specialized environmental courts. He remarked that an assessment further reinforced this recommendation, finding that specialized environmental courts would enhance the administration of justice. He then highlighted that the principal objectives in the establishment of the Supreme Court's environmental division were to (i) create awareness on environmental cases among the members of the judiciary, and (ii) ensure that the adjudication of environmental cases accounts for the true nature of environmental problems. He further observed that after the establishment of the Supreme Court's environmental division, the Court of Appeals and lower courts followed the Supreme Court's lead.

Justice Wattanapan proceeded to outline the recommendation of the President of the Supreme Court on environmental cases. *First*, he explained that environmental cases involve issues concerning (i) acts, rules, and regulations on the environment, natural resources, hazardous substances, and pollution; (ii) rights concerning natural resources and biodiversity; and (iii) the constitutional right to live in a safe and healthy environment. He clarified that the recommendation departed from the narrow civil procedure interpretation of the requirement of injury in standing to sue. He elaborated that in the event of the destruction or deterioration of natural resources and the environment, the recommendation applies a presumption of injury to any person with a domicile. He added that such a person has the option to bring a suit for injunction or restoration before the court.

Second, Justice Wattanapan emphasized that the recommendation of the President of the Supreme Court urged judges to utilize expert evidence in the determination of damages in environmental cases. He specified, for instance, the court's possible consideration of the right to future medical care in awarding damages, such as in a case where a person suffers an injury due to exposure to poisonous substances. He also identified the need to create a system of registration for environmental experts that would assist the court with their expertise. On other evidentiary issues, Justice Wattanapan discussed that the recommendation directs the courts to consider, among others, the EIA; the possible effects on natural resources, ecosystems, health, and future generations; and the precautionary principle. *Third*, Justice Wattanapan remarked that the recommendation points out the remedies available in environmental disputes, including the favorable alternative of negotiations and mediation, interim measures for protection, and rehabilitative measures.

Justice Wattanapan moved on to his observations on environmental cases. *First*, he pointed out that in the last 7 years, the Supreme Court decided approximately 2,000 environmental cases. He said that 97% of these decisions resolved criminal cases other than violent demonstrations relating to the environment; the remaining 3% resolved civil cases. He attributed the overwhelming number of criminal cases to appeals of lower court judgments on the imposition of heavy penalties for environmental law violations. Illegal logging, for example, carries a penalty of imprisonment for up to 20 years, which is comparable to the penalty in drug trafficking. *Second*, Justice Wattanapan explained the difficulties in determining the monetary amount in awarding damages. He related the recommendation of the President of the Supreme Court to consider ecosystem services as part of the value of natural resources. He then made the recommendation to address how to evaluate environmental damages in the next symposium.

In conclusion, Justice Wattanapan underscored the Supreme Court's commitment to strengthen the judicial process in adjudicating environmental cases. He reported that the court set up a task force to develop new rules of procedure for environmental cases and anticipated that this initiative would enable the judiciary to meet the challenges ahead.

M. Enayetur Rahim, a justice of the Supreme Court of Bangladesh, gave a presentation on innovations in environmental jurisprudence in Bangladesh. He prefaced his presentation with a brief overview of environmental issues, observing that although Bangladesh has laws and regulations to protect and preserve the environment, they are vitiated by the lack of effective enforcement. However, he emphasized that the Supreme Court of Bangladesh issued various directions and rendered several judgments to ensure the protection and preservation of the environment.

Justice Rahim remarked that most of the environmental cases in Bangladesh fall under public interest litigation, where individuals and organizations bring suits as community representatives. He noted that the courts recognize this right to sue on behalf of others in public interest litigation. He referred to an example in 1994 on air pollution and noise, in which the Supreme Court held that the constitutional right to life includes the right to a safe and healthy environment. Moreover, he cited *Dr. M. Farooque v. Government of Bangladesh*,²¹ in which the court held that life is a fundamental right that includes the protection and preservation of the environment, public health, and safety.

Justice Rahim then discussed environmental jurisprudence in Bangladesh. *First*, he cited the *Metro Makers and Developers Limited* case in which the Bangladesh Environmental Lawyers Association sought to restrain a company from filling a site in a flood flow zone, a low land area that operates as reservoir of flood and rain water. He added that the court emphasized the government's duty to protect this natural drainage system for the enjoyment of the general public rather than for private ownership or commercial purposes. *Second*, Justice Rahim commented on another case where the Bangladesh Environmental Lawyers Association filed a writ to enjoin the use of mechanized excavators to protect three rivers.²² He pointed out the Supreme Court's recognition of the need to strike a balance between development and the protection of the environment. However, he emphasized that in case of doubt, the court prioritized the protection of the environment over economic interest.

Third, Justice Rahim discussed a case on the protection of the Buriganga River, in which the Supreme Court issued directions for the concerned parties, mostly from the tanning, dyeing, and textile industries, to adopt adequate measures to control pollutants discharged into the river. He noted that various newspapers reported the pollution in the river, and the court further ordered the petitioner and concerned respondents to report their progress in implementing the directions. In its review of these reports, the court considered the consequences of closing the industries responsible for the pollution to be (i) the loss of work or (ii) the loss of the river and water source in the city of Dhaka. When faced with these circumstances, the court issued directions for the industries in the red category, such as the concerned tanneries, to install effluent treatment plants and relocate to another site. *Fourth*, Justice Rahim recounted that in yet another case, Human

²¹ WP 891 of 1994 (2001.07.15).

²² Writ Petition No. 4958 of 2009, Judgment on 14 January 2010.

Rights and Peace for Bangladesh commenced action to protect four rivers.²³ He recounted that, in this case, the Supreme Court ordered the government to set up a commission of experts, the National River Protection Commission, to ensure that all rivers in the country are free from any encroachment or pollution, properly managed and protected, and developed to restore their navigability.

Fifth, Justice Rahim highlighted a landmark judgment in which the Supreme Court cancelled a lease agreement between the government and private persons in order to protect the seashore and coastal land.²⁴ He reiterated that the court held the safety of the people to be supreme. In conclusion, Justice Rahim pointed out that the law in Bangladesh provides for a mobile court that has the power to initially shut down any factory or impose penalties.

Praksah Osti, a justice of the Supreme Court of Nepal, provided a discussion on the Nepali judiciary's commitment to environmental justice, the conservation of natural resources, and the protection of the environment. He traced the beginnings of environmental jurisprudence in Nepal to as early as the 1950s, when the Supreme Court of Nepal meted out penalties to offenders taking part in illegal logging and illegal fishing practices. He remarked that the Supreme Court further strengthened environmental jurisprudence in the 1980s, when the court held that the constitutional right to a dignified life includes the right to live in a clean and healthy environment.²⁵ In the following decade, the court referred to the Convention on Biological Diversity, the Ramsar Convention, and other sources of international law on the environment and human rights. He added that the court applied the principle of public trust, the polluter pays principle, the precautionary principle, and sustainable development. Further, he shared that aside from granting compensation to affected persons, the court issued mandamus and directed the concerned agencies to (i) develop pollution standards, (ii) establish treatment plants, (iii) protect rivers and ponds, and (iv) protect religious sites.

Justice Osti observed that the judicial role as an environmental guardian is necessary, noting that over the past 20 years, the Supreme Court has handed down several landmark judgments to carry out this objective. He referred to a case in 2012 and discussed the following pronouncements of the Supreme Court: (i) that the present generation's consumption of natural resources should not jeopardize the future generation's consumption needs, and (ii) that the present generation must respect the right of the future generation to live in a clean environment. He pointed out that the court also adopted several innovations to protect the environment, such as creating committees to provide assistance in the study of scientific issues, leading to the court's order to develop policy and laws; and issuing continuing mandamus to monitor the concerned agencies' compliance with the court's order through periodic reports.

Justice Osti turned to the Nepali judiciary's commitment to monitor developments in environmental law, particularly within the region. He related that the Nepal Treaty Act makes international conventions a part of domestic law. He further stressed that the judiciary keeps in mind the role that the Constitution of Nepal and other laws have entrusted to it. He asserted that judicial innovations in dispensing environmental justice find guidance in the concern to uphold the duty to protect the environment for both the present and future generations. In considering

²³ Writ Petition No. 3503 of 2009, Judgment 21 March 2010.

²⁴ Writ Petition No. 1207 of 2009, Judgment 9 September 2010.

²⁵ *Surya Sharma Dhungel v. Godavari Marbles*, NKP Golden Birthday Issue 2052, p. 169.

that many scientific and policy issues arise with the application of environmental law, Justice Osti pointed to the Nepali judiciary's commitment to continue learning and to collaborate with national and international institutions as well as other stakeholders to protect the environment and ensure sustainable development.

Justice Pepper then opened the floor for questions. Chief Justice Qazi Faez Isa of Pakistan asked Justice Peralta about the meaning of *kalikasan*. Justice Peralta explained that *kalikasan* is the Filipino term for nature, such that the writ of *kalikasan* translates to the writ of nature. He elaborated that the *Rules of Procedure for Environmental Cases* provides that in filing the petition for the writ of *kalikasan*, the petitioner commences a special civil action to expedite cases involving the degradation of the environment. Unlike in the procedure for ordinary civil cases that requires a party to file a complaint and the opposing party an answer, the rules require the petitioner seeking the writ to attach evidence and the list of witnesses to the petition. The rules require the respondent to file an answer to the petition along with supporting evidence within a non-extendable period of 15 days. Once the parties make these submissions before the Supreme Court, for instance, the issues are consolidated, and the court could then refer the case to the Court of Appeals for the reception of evidence. Justice Peralta reiterated that the writ of *kalikasan* is only available in cases where the extent of the damage transcends political boundaries within the Philippines. He explained that for this reason, only the Supreme Court or the Court of Appeals in their exercise of national jurisdiction could take cognizance of a petition for the writ of *kalikasan*.

A participant pointed out that each sector generally has its own experts, such that the fisheries sector would have experts separate from the mining sector. She then addressed a question to Justice Wattanapan on the process of expert registration before the Thai courts. Justice Wattanapan clarified that this was only beginning in Thailand. He said that while the registry should include all types of experts, the type of expertise needed in a particular case arises in the resolution of the dispute. He related that the registration of different types of experts calls for an accumulative approach, noting that a general registration increases the number of experts in the registry. However, he mentioned that this approach constitutes only a starting point, considering that it is still too early to make an assessment of the registration system's success.

Justice Adolfo S. Azcuna of the Philippine Judicial Academy (PHILJA) asked Justice Rahim about the mobile courts in Bangladesh. Justice Rahim elaborated that the law in Bangladesh provides for mobile courts. He remarked that once a person submits a complaint before the court, the court could then move to the concerned site. He added that after inquiry, in the event that the court makes an initial finding that a certain company did not use an effluent treatment plant or that there is the possibility of pollution, the court has the power to (i) impose a fine and (ii) depending on the case, order the closure of the company for failing to comply with laws on pollution.

Session 4

Natural Capital: Overview of Ecosystem Services and the Rule of Law

Dr. Mulqueeny, as session chair, provided an overview of ecosystem services and the rule of law, highlighting that the next three keynote speakers would present the value of ecosystem services from the economic, ecological, legal, and judicial perspectives.

Jeffrey A. McNeely, a former chief scientist at the International Union for Conservation of Nature (IUCN) and current member of the UNEP's International Resource Panel, opened his keynote presentation by recounting the recent publication of his book, *Wealth of Nature, Ecosystems, Biodiversity, and Human Well-Being*, and proceeded to highlight the issues at the forefront of science and environmental law.

Professor McNeely began with a comparison of the characteristics of human infrastructure and nature's infrastructure. *First*, he pointed out that while humans themselves build human infrastructure, nature builds its own infrastructure without any human intervention. *Second*, he noted that the recent tragedies from natural disasters highlight the fragility of human infrastructure, and that preventing its destruction consumes all types of resources; in contrast, nature's infrastructure adapts to change. *Third*, he identified the high costs of building human infrastructure, while nature's infrastructure delivers services to the human population at no cost other than possibly the opportunity costs in being converted into other products. He concluded that understanding both human and nature's infrastructures gives an alternative perspective of the values that nature provides to the population. However, the task of balancing human infrastructure with nature is a challenge. He emphasized that the population needs nature, together with human infrastructure, to provide a response to extreme natural disasters. Providing this response and further adapting to changing conditions are particularly relevant to climate change, which continue to dictate this need.

Professor McNeely proceeded with a discussion on biodiversity, qualifying that scientists continue to widely debate its exact meaning. He shared the general view that biodiversity has three levels: genetics, species, and ecosystems. *First*, Professor McNeely pointed out that genetic diversity refers to differences within the same species. He mentioned that India had up to 40,000 varieties of rice, which have been modified or cross-bred to produce the different kinds of rice available today. He also pointed out how modern biotechnology leads to discoveries of new and valuable genes, such as a key discovery in the hot springs of Yellowstone National Park. He briefly recounted that one scientist looked for microorganisms that lived in these hot springs to assist him in the reproduction of DNA through the polymerase chain reaction. This single discovery is now worth at least \$200 million per year, with the legal issues focusing on which party—the national park or the pharmaceutical company—has the right to this money. He anticipated that the judiciary would face similar issues in the coming years. *Second*, Professor McNeely remarked that many people link species diversity generally with biodiversity. *Third*, he identified examples of ecosystem diversity, such as agricultural land, mountains, forests, and rivers. He then pointed to the numerous benefits of biodiversity that help make agriculture and other sectors productive and profitable, including, among others, controlling pests, cycling nutrients, pollination, and producing healthy soils. He added that as biodiversity helps the forest, the forest in turn provides ecosystem services to the population.

Professor McNeely then examined the different types of ecosystem services: (i) provisioning services, (ii) regulating services, (iii) supporting services, and (iv) cultural services. *First*, he explained that provisioning services often carry a price tag, considering that individuals can sell these services and determine their value. He said that the implication here is that provisioning services occupy a higher level of priority than regulating services, such as climate regulation, that already occur for free. However, he pointed out that this perspective is beginning to change, with, for instance, the UN's initiative in developing countries, Reducing Emissions from Deforestation and Forest Degradation (REDD). He added that governments have already made investments

in order to avoid deforestation. *Second*, he talked about deforestation, particularly because the forest provides, among other services, climate regulation, carbon sequestration, and nutrient cycling. He added that these are examples of how biosynthesis enables carbon storage. Finally, he explained that cultural services refer to how individuals relate to ecosystems. He cited the Millennium Ecosystem Assessment, a series of publications in 2005 representing the work of around 1,300 scientists, which classifies cultural services as ecosystem services. He went on to explain that the manner in which individuals relate to an ecosystem includes how they relate to where they live and how they feel about the places they visit, including the willingness to pay to visit a national park or simply the desire to visit a place for the happiness it brings. He added that cultural services represent symbols of value to different communities, such as the giant panda in the People's Republic of China, tigers in India, and the monkey-eating eagle in the Philippines.

Professor McNeely proceeded to discuss the reasons for conserving biodiversity. He explained that findings in science correlate the loss of species to the reduction of ecosystem services, but also link the restoration of biodiversity to the restoration of ecosystem services. He further pointed out that the richest areas of biodiversity often deliver the most ecosystem services to the population. He stressed the link between ecosystem services and human well-being, including security, basics for a good life, health, good social relations, and freedom of choice and action, and asserted that they remain extremely valuable even without any monetary association. He reiterated that the restoration of ecosystem services is possible and mentioned four different types of ecosystems that had gone through a process of restoration.

Professor McNeely then analyzed the value of ecosystem services by considering the different ways that economists assign values to them. He emphasized that the total economic value considers the tradeoffs in different types of values. This total economic value is not simply a matter of adding individual values in order to arrive at a total. The determination of the value of a forest involves assessing all the values of the ecosystem services that it provides, including, among others (i) provisioning services from trees, (ii) carbon storage, (iii) capacity for holding biodiversity, (iv) ability to retain water, and (v) ability to prevent landslides. Professor McNeely then referred to *The Economics of Ecosystems and Biodiversity*,²⁶ a series of publications in 2010 that consolidates the work of a group led by Pavan Sukhdev, a banker for Deutsche Bank in Germany. TEEB examined the values of biodiversity and ecosystem services; these values include the following: (i) for coral reefs, depending on the type of ecosystem service involved, from around \$115,000 to over \$1 million per hectare, per year; (ii) for tropical forests, depending on their use and management, an estimated \$6,000 to \$16,000 per hectare, per year; and (iii) for the loss of forests, \$2.5 trillion per year. He added that his presentation (in the session on freshwater ecosystems) would focus on the ecosystem services that water provides, valued at an estimated \$7 trillion per year. He recounted that ecosystem valuation considerations should include, for example, the service of natural hazard regulation, and remarked that although the tsunami in 2004 proved to be devastating, the areas protected by mangroves and coastal vegetation suffered significantly less damage than areas that were cleared for shrimp ponds.

In conclusion, Professor McNeely emphasized that the key to healthy ecosystems relies on the right balance between human infrastructure and nature. He referred to Nepal as an example, where people value their ecosystems by managing them in a sustainable and productive manner.

²⁶ The Economics of Ecosystems and Biodiversity (TEEB). 2010. The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A synthesis of the approach, conclusions and recommendations of TEEB.

Dr. Mulqueeny then opened the floor for questions and comments. Chief Justice Isa asked for a clarification on the references to price and value, and pointed out the danger of putting a price tag on each resource. He made an analogy to an Indian proverb on the realization that an individual cannot eat money after, for example, catching the last fish, and he related that money could not compensate the complete loss of a particular resource.

Professor McNeely clarified that his references to value focus on the things that are valuable to humans for the happiness they bring rather than their monetary value in a sale. For example, he finds value in tigers because they make him happy. He explained that he wanted tigers to continue to live in nature, and he also does not want to sell them. He concluded that economics and values are not the same. Dr. Mulqueeny added that economic value is only one value, and other values include aesthetic and intrinsic values, such as the values in cultural services. She remarked that economic value is also broader than price or cost.

Antonio A. Oposa Jr., president of the Laws of Nature Foundation in the Philippines, gave a presentation to inspire a paradigm shift in the ways of thinking about the environment and development. He began with a story of how the first shoe was invented as an analogy for the conservation of natural resources, to point out that a crisis catalyzes a change in thinking. He shared that although a crisis poses a danger, it simultaneously presents an opportunity. He related that the shift in wasteful use to wise and sustainable use requires a marked departure from the existing operating system. He then emphasized that changing the operating system requires a rethinking of two key elements: the environment and development.

First, Atty. Oposa presented a way to think of the environment, that the environment is life, and the sources of life are land, air, and water, which appropriately form the acronym LAW. He used the analogy of the human body to explain that LAW symbolizes the vital organs of the earth, such that the absence or destruction of one equates to no life. He then drew the following parallels: (i) trees and forests make up the heart and lungs of the earth, and the absence of these resources simply translates to no oxygen; (ii) land and soil are the skin and flesh of the earth, which are essential for food; and (iii) the sea and rivers represent the bloodstream of the earth. He reiterated the value of forests from earlier presentations, which highlighted forest ecosystem services such as carbon sequestration. He further pointed out that poisoning the soil means poisoning food. Atty. Oposa emphasized that the internalization of the sources of life paves the way to protect, restore, and conserve LAW. As a result, anything else that follows becomes easy, including judgments and decisions of the courts. He went on to stress that the LAW is the foundation of all economies and, therefore, the capital of all economic activity. He further related that common sense dictates the use of only the fruits of this capital and not the capital itself.

Second, Atty. Oposa discussed that the current concept of development, as it refers to developed and developing countries, runs counter to the definition of economy or the efficient use of resources. He pointed out that 16% of the global population consumes 80% of the world's resources, and the same countries throw away, rather than eat, food worth billions of dollars every year. He observed that developed countries consume and waste more than developing countries, and this lifestyle is neither sustainable nor possible with only one earth. He then reasoned that developing countries should not follow this model of development because of its inefficiency, and further recommended that the distinction between developed and developing should be disregarded to avoid any association with one being inferior to the other. Instead, he suggested that developed countries should be called over-consuming countries, while developing countries

should be referred to as low-consuming countries, in order to bring a change to meanings and therefore mind-sets.

Atty. Oposa identified the objectives of the laws on natural resources and the environment. He related that the law on natural resources provides for permits and places limits on the amount of resources taken out of the environment. He remarked that environmental law then slows down the use of resources, such as (i) forestry laws that prevent the destruction of forests, (ii) laws on fisheries to protect the fish as a source of both food and livelihood, and (iii) laws on toxic and hazardous waste to protect the population from being poisoned. He emphasized that, similar to cardiopulmonary resuscitation (CPR) for the vital organs of life, LAW needs its own CPR through conservation, protection, and restoration. The rational ability of human beings allows natural capital to continue to be a source of life and prevents it from becoming a sink. Atty. Oposa compared the laws on natural resources and the environment with the laws of nature. He pointed out that the former rewards the right and punishes the wrong, while the latter only provides for consequences. Violations of the laws of nature, such as cutting down a tree, bring far-reaching consequences, like erosion and landslides, that continue long after the life of the violator. He called the accumulated violations of the laws of nature and the consequences the “climate crisis.” He then shared his personal experience in the wake of the devastation left by the climate crisis, which demolished his own home and the School of the SEAs.²⁷

Atty. Oposa then turned to the judicial role. He remarked that although judges are passive recipients of the cases that lawyers bring to court, the members of the judiciary nevertheless have a vital role in the protection of the environment. He made the following observations: (i) meting out the appropriate penalties to violators of environmental law in many cases does not change the irreparable damage already done, and (ii) due process requirements can make the entire legal process tedious. However, he said that a progressive judicial mind-set can uphold the rule of law at the same time that it advances the cause for the environment. As an example, he referred to the landmark case of *Oposa v. Factoran*, which cited the constitutional right to a balanced and healthful ecology to uphold the concept of intergenerational responsibility and the standing to bring suit on behalf of children and future generations in the exercise of this constitutional right. He also referred to the *Manila Bay* case, where the Supreme Court ordered the concerned government agencies to clean up the bay. He then turned to the question that confronts the Philippine judiciary in this case as well as the other cases before them, that is, how to ensure the effective implementation and execution of court orders and decisions.

Atty. Oposa highlighted that the climate crisis inspires concrete action. He pointed out that emissions from transportation make up 50% of all greenhouse gases; however, only 2% of the population own motor vehicles, and the remaining 98% also have no access to a proper sidewalk. As a result, 126 lawyers sent a notice to sue to the concerned government agencies to (i) jumpstart a road-sharing movement on the basis of Executive Order No. 774,²⁸ and (ii) demand the equal sharing of the roads between both owners and non-owners of motor vehicles, with the addition of sidewalks, bicycle lanes, and greenery. He stressed that social justice and the equal protection of the law entitles those who do not own motor vehicles, or 98% of the population, to share the

²⁷ Atty. Oposa established the School of the SEAs (Sea and Earth Advocates) in the shores of Bantayan Island in central Philippines.

²⁸ This refers to the law reorganizing the Presidential Task Force on Climate Change. Section 9 of the law directs the Philippine Department of Transportation and Communications to lead a task group on fossil fuels to reform the transportation sector.

roads. In addition, he planned to further the road-sharing movement by filing a petition for the writ of *kalikasan* on the following grounds: (i) social justice and equal protection, (ii) deprivation of the right to life without due process of law and ecological homicide, and (iii) violation of the atmospheric trust.

In conclusion, Atty. Oposa stated that the economy grows through nature as its capital. He urged the participants to seek change in the world armed with vision and action, because they hold the power to make the laws work and use the legal profession to contribute to environmental causes.

J. B. Ruhl, a David Daniels Allen Distinguished Chair in Law, co-director of the Energy, Environment and Land Use Program at the Vanderbilt School of Law in the US, provided a video presentation on the ways to integrate natural capital and ecosystem services in the collective paradigm of environmental law. He recognized that many countries already have laws on the management and conservation of natural resources, generally with the aim of protecting environmental values. However, he qualified that natural capital expands the scope of legislation and recognizes the economic value that ecosystem services provide to the population. He then framed the issue on the integration of natural capital and environmental law, posing the key question of how to manage and conserve natural resources while considering the additional basis of economic value within the rule of law. Dr. Ruhl referred to his work on this very subject that was ultimately embodied in the publication of his book, *The Law and Policy of Ecosystem Services* (2007).²⁹ He asserted that the law must operate from three key foundations: (i) the nonlegal context of natural capital, specifically its ecology, geography, and economics; (ii) existing regulations and norms, such as property rights; and (iii) a framework to advance natural capital and ecosystem services into action.

In this context, Dr. Ruhl proceeded to identify three key challenges facing the judiciary and the legal process in its entirety. *First*, he pointed out that ecological and geographical complexities are inherent in natural capital resources and the entire delivery system of ecosystem services. He illustrated that wetlands, for example, provide ecosystem services to clean water. He explained that the wetlands deliver water through an aquatic resource system, covering the distance between the wetlands ecosystem and the population over a period of time. He related that for this reason, protecting the ecosystem service translates to protecting the entire delivery system rather than only the wetlands. He added that the complexities here have implications on property rights, such as the ownership of the ecosystem by the owner of the wetlands; on cities and towns; or on the general public.

Second, Dr. Ruhl discussed the implications of natural capital on the existing legal regime. He identified the potential sources of law that could govern natural capital and ecosystem services, such as constitutions, treaties, statutes, agency rules, and legal doctrines in property, torts, and contracts. He then traced the progression of issues on this subject, including (i) the allocation of rights and duties on natural capital and ecosystem services, such as whether the owner of coastal dunes has the duty to maintain them for the benefit and protection of inland property owners; (ii) legal remedies for injuries pertaining to natural capital or the delivery of ecosystem services; and (iii) the possibility of the application of doctrines like nuisance and public trust. Generally, the most difficult aspect of integrating natural capital and ecosystem services into the existing legal framework on the environment is that many laws predate these new concepts. Thus, he

²⁹ J. Ruhl, S. Kraft, and C. Lant. 2007. *The Law and Policy of Ecosystem Services*. Washington, DC: Island Press.

considered the difficult questions that courts would face, specifically on (i) constitutional and statutory terms, (ii) questions of first impression on new laws, (iii) the extent of agency discretion, and (iv) property and contractual rights. He also identified recurring issues that the courts could encounter in the context of natural capital and ecosystem services, such as (i) standing to seek redress for injuries to natural capital and ecosystem service delivery, (ii) standards for pleading and evidence, (iii) the parties required to discharge the burden of proof, and (iv) remedies for violations.

Third, Dr. Ruhl prefaced his examination of judicial innovation with a brief discussion of laws and regulations in the US. He remarked that while the US Constitution protects property rights, it is silent on the protection of the environment. However, he qualified that recent federal laws and regulations recognize natural capital, such as (i) the Farm Bill of 2008, which gives the Department of Agriculture the power to establish natural capital markets; (ii) a rule from the Environmental Protection Agency in 2008, which requires decisions on wetland mitigation to take into account the value of ecosystem services; and (iii) a rule from the Forest Service in 2012 that requires plans for the use of national forests to take into account the value of ecosystem services.

Dr. Ruhl then discussed recent jurisprudence from US state courts on common law property rights that align with the concept of natural capital. *First*, he cited *Palazzolo v. State*, in which the court denied a developer's claim for the unconstitutional taking of property without just compensation.³⁰ In this case, the developer sought a permit to fill a coastal pond in order to build homes in the area, and the state agency denied the permit. The court held that (i) filling the pond would create a public nuisance, and thus the developer had no property right to fill the pond; and (ii) the pond filters and cleans runoff, such that an ecological disaster to the pond would be a nuisance. *Second*, he referred to *Avenal v. State*, in which the court denied the oyster farmers' claim for the taking of property.³¹ In this case, the oyster farmers leased public submerged lands, and they alleged that the state's project to restore coastal wetlands would affect them, but the court held that (i) under public trust, the state has a duty to protect the wetlands; and (ii) the wetlands provide a barrier from hurricanes and storms. He concluded that in both decisions, the court recognized the ecosystem services respectively of the pond and wetlands.

Dr. Ruhl agreed that the judiciary has a significant role in the development of environmental jurisprudence, particularly in the consideration of natural capital and ecosystem services. He remarked that the courts would impact the understanding of economic values in natural resources through their decisions on (i) property rights and duties; (ii) remedies; (iii) interpretations of constitutions, statutes, and regulations; and (iv) standards for judicial review.

Adolfo S. Azcuna, chancellor of the PHILJA and former justice of the Supreme Court of the Philippines, gave a presentation on the judicial role in natural capital. He began his discussion with an emphasis on the courts' role of protecting fundamental rights. He remarked that judges, as the fundamental guardians of liberty, are non-majoritarian, because they are not elected to office. Thus, he related that the best protection for the minority, who are the ones most likely to experience violations of fundamental rights, lies with the courts.

Justice Azcuna then provided his insights on the constitutional right to a balanced and healthful ecology as a member of the Constitutional Commission that drafted the 1987 Philippine

³⁰ 2005 WL 1645974 (Super. Ct. R.I., 5 July 2005).

³¹ *Avenal v. State*, 886 So.2d 1085 (La. 2004).

Constitution. He recounted that in the deliberations for this provision, the committee ultimately regarded this constitutional right as a right that belongs to the people rather than to nature. As a result, he quoted that the Constitution now provides that “[t]he State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature.”³² He emphasized that the Constitution expressly provides for this right as a fundamental right. Moreover, he pointed out that in *Oposa v. Factoran*, the Supreme Court of the Philippines held that this right is self-executory and thus enforceable in courts without need of legislation.

Justice Azcuna proceeded to discuss his submission that the court continues to occupy the ideal position to protect fundamental rights. He noted that while this task is common to the judiciaries of the region, various instruments are available to judges. These include (i) green courts or specialized environmental courts, (ii) special writs and other remedies, (iii) rules of procedure, (iv) benchbooks, and (v) declarations and principles. As an example, the Philippines has a number of laws, in addition to the Constitution, to protect the environment. He highlighted the importance of sound environmental governance in protecting the environment. He also emphasized strengthening judicial capacity and training judges to further understand the dynamics of the law in order to promptly fulfill the judicial role to protect the environment. He cited *Oposa v. Factoran* to emphasize intergenerational responsibility and point out that protecting the environment benefits both present and future generations.

Justice Azcuna remarked that the symposium presented the opportunity to share different approaches to meet old and new challenges with the addition of natural capital and ecosystem services. He said that the new concept of ecosystem services comes from the sources of life and identified the provisioning, regulating, supporting, and cultural types of ecosystem services. He noted that aside from the resource itself, the services derived from the resource work for the benefit of the population. He then referred to a recent decision of the Supreme Court of the Philippines to illustrate the judiciary’s challenges in the way forward, such as finding balance while protecting the environment and ecosystem services. He described one case where the issue was whether to allow the privatization of Angat Dam and permit its sale at a public auction to a foreign bidder. He noted that while natural resources belong to the state, the court held that capturing water makes it disposable. The court made a distinction between the water running down a river as opposed to the water put into a dam. According to the court’s decision, the former cannot be subject to disposal, while the latter is subject to disposal.

In conclusion, Justice Azcuna presented the *Citizen’s Handbook on Environmental Justice*, a publication of the PHILJA under the Supreme Court, which contains resources for environmental enforcement in the Philippines, including (i) major statutes on the environment, (ii) a directory of the relevant government institutions in the enforcement of environmental rights, and (iii) a guide to the *Rules of Procedure for Environmental Cases*.

Dr. Mulqueeny then opened the floor for comments and questions. Justice Rahim shared that a 2011 amendment to the Constitution of Bangladesh expanded the state policy to include the protection of the environment and biodiversity.

³² 1987 Constitution of the Philippines, Article II, Section 16.

Patrick Duggan, a trial attorney from the US Department of Justice, asked all the panelists about the way to preserve ecosystem services in Southeast Asia without resorting to monetizing them in a market. He noted that this approach differs from the approach in many Western countries, which assigns monetary values to commodities in trades and markets. He further observed the great difficulties in assigning these monetary values. In response, Justice Azcuna pointed out that Asian culture puts more emphasis on the community. He expressed a preference for the community to enjoy the fruits of nature rather than subjecting the same to trade in markets. He further shared his insight that humans, as stewards of the earth, should share its fruits with the other living beings on the planet. He concluded by expressing his support for a way to enjoy the fruits of the earth without commercialization. Professor McNeely discussed two examples of ecosystem services, based on his work with Thailand's Department of National Parks, Wildlife, and Plant Conservation. The first case referred to an example of a nonmonetary market, where a group of villagers agreed to help extinguish fires to gain access to the forest. Another case was where the villagers set up a payment scheme for ecosystem services involving water. The villagers placed their payments in a fund, and the community decided how to spend it. He concluded that the opportunity to use a resource lends itself to the question of how to compensate this opportunity cost.

Dr. Ananda M. Bhattarai, a judge of the Court of Appeal in Nepal, asked Professor McNeely about the payment for ecosystem services by making two observations. *First*, he remarked that in Nepal, the people contributed to the development of nature's infrastructure, such as through building terraces on farmland. *Second*, he suggested that if upland users restrain their activities in order to maintain the quality of the water as it flows downstream, then perhaps they should receive payment for such efforts. He recommended bringing this discussion into the legal discourse and developing the law on this subject, to recognize and support the innovative strategies that some, such as farmers in remote areas, already employ. Professor McNeely shared two examples of communities sharing ecosystem services. *First*, he recounted his experience from working in Nepal for 2 years. The villagers had their own system of sharing water, considering that farmers had different uses for it. He observed that this system indicates the villagers' understanding of ecosystem services without any explicit reference to the term. *Second*, he recalled his work in Indonesia and spoke of the *subak* system, a traditional water management system in Bali. He observed that this cultural design of sharing water developed even without taking part in a market.

Chief Justice Isa asked Atty. Oposa whether there was any hope in improving the state of the environment considering the track that humanity is on. Atty. Oposa noted that according to science, humanity has passed a certain tipping point. He referred to a map, which indicated that Asia would face erratic and severe weather conditions. However, he expressed hope in adaptation, innovation, and resilience.

Dr. Mulqueeny summarized the session, then asked the panel to share their closing thoughts on the role that the judiciary could play in protecting natural capital. Professor McNeely referred to Darwin's theory of evolution, which many interpret as the survival of only the strongest and smartest, but that actually asserts that the survivors are those who best adapt to change. He observed that the planet is undergoing a time of rapid change, and humans need to be smart about how to adapt. He looked to the law as one of the instruments that humans can use to adapt to the fast-coming changes in the years ahead. Atty. Oposa highlighted that other than the laws of man, there is only the law of life, that is, the laws of the land, air, and water. Justice Azcuna

expressed his support for the AJNE and looked forward to sharing concerns and solutions in the succeeding sessions.

Session 5

Forest Ecosystems

Roberto V. Oliva, the executive director of the ASEAN Centre for Biodiversity, chaired the next session. Atty. Oliva introduced the ASEAN Centre for Biodiversity as an intergovernmental organization formed by the 10 member countries of ASEAN.³³ This organization looks to the judiciary as partners in fulfilling its mandate concerning biodiversity. As a background for the session, he explained that the forests of Asia are situated in the six mega-diverse countries of the People's Republic of China (PRC), India, Indonesia, Malaysia, Papua New Guinea, and the Philippines. Atty. Oliva pointed out that 3.879 billion people, or 60% of the earth's population, depend on these forests and other natural resources.

Andika Putraditama, an outreach officer from the World Resources Institute, provided an overview of the state of forests in Asia and the Pacific and their economic value to advance a more sustainable agenda. Mr. Putraditama introduced the World Resources Institute as an organization focusing on the environment and the economy. Currently, one of the World Resources Institute's projects focuses on shifting the expansion of palm oil production from forested land into other land.

Mr. Putraditama explained that the definition of what constitutes a "forest" finds great relevance in determining forest cover. A different methodology and its corresponding definition provide a different image of what happens on the ground. He clarified that the data presented use the definition of a "forest" from the *Global Forest Resources Assessment 2010* report from the Food and Agriculture Organization (FAO), based on land use. The presentation focuses on only 20 countries.³⁴ Among these, the PRC has the most forest area, followed by Australia and Indonesia. Globally, however, the four countries with the most forest are not countries in Asia and the Pacific.³⁵ The 2010 FAO data show that most countries lost forest areas with the exception of the PRC, Indonesia, and Viet Nam. The bigger picture is conveyed in the data showing the primary forest left. While the PRC added 50 million hectares of forest because of its reforestation program, the addition did not make up for the biodiversity lost.

He then referred to a study using another methodology that defined "forest" by tree cover percentage, with trees defined as vegetation taller than 5 meters. The study shows that Asia and the Pacific lost 26 million hectares of forest from 2000 to 2012. Globally, a loss of 20,000 hectares of forest occurs in a day, which equals to a loss of 1,140 football fields every hour.

Mr. Putraditama elaborated that the forest's contribution to the gross domestic product (GDP) does not capture its real value in the economy, as the value of the ecosystem services the forest provides are not accounted for. The determination of this value, involving a series of assessments,

³³ Brunei, Cambodia, Indonesia, the Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam.

³⁴ Australia, Bhutan, Cambodia, the PRC, Indonesia, India, Japan, the Republic of Korea, the Lao PDR, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Papua New Guinea, the Philippines, Sri Lanka, Thailand, and Viet Nam.

³⁵ Based on the 2010 *Global Forest Resources Assessment*, the four countries with the largest forest area are Brazil, Canada, the Russian Federation, and the US.

will prove to be difficult, but not impossible. The forest serves as a regulator for the climate as well as water quality and provides habitat for wildlife. Payment for such ecosystem services helps in putting a value on forests as natural capital. Market incentives already used around the world for valuing ecosystem services include carbon credit, biodiversity and genetic compensation, commodity certification, and watershed services.

Mr. Putraditama provided an estimate of how much the forest is worth based on a study of the value of ecosystem services around the world. He noted that the estimate averages one-third of the value in Professor McNeely's presentation and qualified that he adjusted the value in the 1994 study to reflect today's value. The forest in Asia and the Pacific, at 731 million hectares, is valued at \$1.46 trillion per year, as compared with the forest's contribution to the GDP valued at \$1.18 billion. Thus, natural capital has a value greater than GDP contribution, and accounting for natural capital provides an additional basis to manage the forest.

Mr. Putraditama ended his session by describing the World Resources Institute's flagship project, Global Forest Watch, which aims to provide free, real-time forest information. The project uses remote sensing technology and satellite images. The most powerful feature of Global Forest Watch is its platform, a crowdsourcing system where people can submit stories and pictures to the website to provide ground-level information on the state of forests. The project provides a road map that alerts the public to potential losses of the forest. Its use of satellite technology allows, for instance, the assessment of a forest before a concession is given by the government. As Global Forest Watch enables monitoring in real time, it allows for faster action in forest protection.

Ritwick Dutta, a lawyer from the Legal Initiative for Forest and Environment in India, discussed cases in India where the concept of natural capital finds relevance. He stated that since December 1996, there has been a forest bench in the Supreme Court of India. The court interpreted the word "forest" according to its dictionary meaning, rather than limiting its scope within the confines of the Forest Conservation Act, which applies only to the forest owned by the government. The court stated that "forest" as defined should apply to land irrespective of ownership and classification. The result was continuing mandamus, and the court dedicated at least 1 to 2 days a week to hearings for matters concerning the forest. Furthermore, the court passed numerous orders to protect the forest and required its approval to be secured in the event of any removal of trees.

Mr. Dutta shared the insight that the court's involvement in policy issues reflects a reference to ecosystem services. The court reasoned that the national forest policy has the flavor of a statute, and for this reason, the implementation of its policy is subject to review. A landmark judgment outlined the major reasons for why much of the forest was diverted, for instance, toward the mining industry and dams. The conclusion was that the forest was free of cost and at the disposal of the government. For this reason, the court incorporated international and local reports to put a value to the forest so that the agency diverting it had to make payment. The payments recovered from the diversion of the forest had to be put in a special fund used only for forest conservation and protection. The intention of allotting cost to the forest was to reduce forest diversion. Unfortunately, the cost allotted to the forest was a fraction of its real cost.

Mr. Dutta then discussed a recent case involving a proposal to set up a major mine for bauxite to export aluminum. Local tribal villagers opposed the proposal, because the hill where the mine was to be set up was for worship. The court allowed the mining company to pursue its proposal,

pointing to the need to balance environment with sustainable development even if a small number of people may suffer. However, the court awarded the villagers payment of the present net value of \$50 million as compensation for the forest. The decision was met with huge protest. In 2013, the court was forced by circumstances to review its judgment. It recognized that the diversion of the forest and its corresponding net present value did not account for the cultural rights of the villagers. The court further directed that the local tribal villagers should decide whether to allow mining and whether the diversion of forest lands affected their cultural rights. The villagers voted against mining, leading to the expectation that the government would cancel the mining lease.

Mr. Dutta concluded by discussing the state of the forest in India and the challenge for the judiciary ahead. At present, the fund for forestation is \$5 billion. However, the rate of deforestation has continuously increased over the past years. The government diverts 333 acres of forest every day. The result leaves more funds, but less forest. Mr. Dutta pointed to a recent judgment of the court that recognized the need to review the public trust doctrine, the polluter pays principle, and the principle of sustainable development, as these principles seemed to be consistent with an anthropocentric approach. The court acknowledged that a more species-centric, eco-centric approach may find application, because reducing everything to monetary terms may not find social acceptance.

Atty. Oliva opened the floor for questions to Mr. Dutta. The following questions were asked: (i) whether the forest bench hears cases filed by public interest litigants or decides matters *suo moto*, (ii) whether there is a specialized bench for sharing water between states, and (iii) what the role of the Supreme Court is in the Union Carbide/Bhopal case. *First*, Mr. Dutta answered that courts seldom use *suo moto* powers, recounting that in the last 20 years, there may have only been one or two cases where such powers were invoked. *Second*, the 1956 Interstate River Water Disputes Act formed interstate water dispute tribunals, and appeals go to the Supreme Court. The reason that environmental courts have no jurisdiction over water-sharing disputes between states is because this issue is viewed as separate in itself rather than as an environmental issue. Finally, Mr. Dutta responded that the Supreme Court's role in the Union Carbide/Bhopal cases was unfortunate.

Julian Newman, a director from the Environmental Investigation Agency gave a presentation about illegal logging and illegal forest clearance. He introduced the Environmental Investigation Agency as a nongovernment organization based in London that aims to curb environmental crime. He provided a definition of illegal logging, which is when "timber is harvested, transported, or sold in violation of national laws." Cases of illegal forest clearance include the conversion of forest to plantations, particularly for palm oil, and hydropower dams for mining. The improper issuance of permits results in over-logging or logging outside the prescribed area.

The income generated by illegal logging sheds light on the extent of the problem. Citing INTERPOL reports, he maintained that illegal logging generates profits of \$30 billion annually for criminal organizations. Moreover, the UN Office on Drugs and Crime estimated in 2012 that the illegal timber trade ranks second among revenue generators for criminal gangs.

Although there is no international framework for forests, Mr. Newman discussed that many countries have a legal framework for the regulation of logging or conversion. The PRC and Viet Nam, for instance, apply strict controls on the logging industry. Other countries, such as Indonesia and the Lao PDR, have a log export ban to control trade. He stated, however, that

there is no reciprocity for these laws in other countries. Consumer economies like Australia, the European Union, and the US have legislation that makes the importation of illegal timber an offense. Furthermore, CITES protects timber species.

Mr. Newman provided examples of areas where laws were ineffective, attributed to a weakness in the law itself, improper enforcement, or a combination of both. He cited the log export ban in the Lao PDR, which has a caveat in the law that provides for a special quota to well-connected individuals or companies in the exportation of logs. Improper enforcement thus allows violators who make the most money, found in the upper echelons, to escape liability. He further cited that in Indonesia, logs from a tree species used for flooring were smuggled on a huge scale. These logs, around 100 years old, were traded for an estimate of \$150 to be made into products. Every month, 300,000 cubic meters were exported, which translates to 15 cargo ships leaving Indonesia every month. The Environmental Investigation Agency found a coordinated criminal syndicate was responsible for this operation, with members from Singapore; Hong Kong, China; Jakarta; and the PRC behind the trade. As a result, in 2005, the Indonesian government stopped the illegal trade with 1,000 enforcement personnel. Out of the 186 suspects named, only 8 people were sentenced from the lower level of the operation. The problem, though not as large as in the past, is still ongoing. Recently, a mid-ranking police officer in Indonesia was reportedly found to have \$150 million in his bank account for over 5 years, much of which was sourced from illegal logging.

In another example, a tree that grows in the Mekong area experienced a surge in demand in 2006 with an asking price of \$50,000 per cubic meter. Unlike the previous example that was traded on a wide scale, this example represents an endangered species. While timber is protected in national laws and CITES, these situations persist. In Thailand, the extent of the money involved in illegal logging has caused shootouts between loggers and security forces.

Mr. Newman further explained that illegal forest clearance involves the conversion of forest for agricultural infrastructure projects. In Indonesia, for instance, land was illegally cleared for palm oil plantations without the proper permits. Such instances create conflict with communities due to the destruction of their traditional livelihood.

Mr. Newman concluded with recommendations to address these problems. Weak laws need to be reviewed and made effective. Courts would benefit from the use of ecosystem services to present the true value of what has been lost, expert witnesses, and the experiences of affected communities. Finally, because many of the crimes in question are cross-border, cooperation is necessary.

Mas Achmad Santosa, deputy head of the President's Delivery Unit for Development Monitoring and Oversight (UKP4) and a member of the Presidential Anti-Judicial Mafia Task Force of the Government of Indonesia, discussed environmental enforcement and challenges on governance, as well as the responses of the Indonesian government. He cited that from 2000 to 2010, the FAO reported an annual net loss of Indonesia's forest area at 498,000 hectares. In 2011, Greenpeace International reported that Indonesia lost 1.08 million hectares annually. From 2003 to 2006, the Ministry of Forestry estimated forest loss of 1.17 million hectares annually. From 2009 to 2011, the ministry reported forest loss of 450,000 hectares annually. In the 32 years preceding 2011, Indonesia lost 40 million hectares of forest, an area equivalent to the combined area of Germany and the Netherlands. Currently, the rate of forest loss is decelerating.

He provided a global overview showing that Indonesia has the third-largest area of peatland, following parts of Canada and the Russian Federation.³⁶ Indonesia also ranks third for the most peat carbon stock.³⁷ Furthermore, Indonesia is the largest peat emitter in the world.

Mr. Santosa referred to the then Indonesian President's 2009 Pittsburgh G-20 Summit statements regarding Indonesia's objectives for reducing emissions:³⁸ (i) to reduce emissions by 26% by 2020, (ii) to improve the emission reduction capability by up to 41% with international support, and (iii) to shift from a net emitter to a net sink forest status by 2030.

The major source of greenhouse gas emissions in Indonesia comes from forestry and peatland at 60%. Other sources of emissions include energy and transportation, industry, waste, and agriculture. In this regard, Mr. Santosa emphasized that the development of the Reducing the Emissions from Deforestation and Forest Degradation (REDD), which considers the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks (REDD+), is relevant.

He said that Indonesia faces challenges with illegal permits, corruption in the permit process, business violations, and communities having only minimal access to forest areas. These issues are a result of Indonesia's current legal framework that gives the government wide discretion in designating areas for non-forest activities and granting permits to concessions without the proper checks and balances. Laws and regulations in various sectors overlap in some areas while having loopholes in others. Moreover, these laws and regulations are not consistent with principles of good governance, particularly with transparency in the permitting process and programs. The law also does not support those who depend on the forest for survival, including the designated custom-based society of *masyarakat hukum adat* (indigenous and tribal peoples).

Mr. Santosa explained that the challenges in enforcement lie with limited capacity and capability. There is a need for creative enforcement in forest-related crimes, where prosecutions must take advantage of laws prohibiting corruption and money laundering. In this regard, he suggested that intellectual offenders should be prosecuted in addition to the physical or field offenders. The nexus between politics and business potentially prevents effective enforcement. Laws imposing corporate criminal liability are rarely enforced. In addition, there are difficulties in the assurance of a clean and independent judiciary to support enforcement.

He discussed how the Indonesian government has responded to these challenges. In December 2012, high-ranking officials from the Attorney General's Office, the National Police, the Ministry of Environment, the Ministry of Finance, and the Financial Intelligence Unit signed a memorandum of understanding (MOU) to enhance law enforcement coordination to support sustainable resources management and implement REDD+. The MOU resulted in the issuance of a joint regulation on a multidisciplinary approach in handling cases of forest-related crimes.

According to Mr. Santosa, the implementation of enforcement initiatives marks progress. To address widespread corruption within the judiciary, a special task force was established to curb

³⁶ Hans Joosten and Wetlands International. 2010. *The Global Peatland CO₂ Picture*. Wetlands International and Greifswald University.

³⁷ Footnote 36.

³⁸ G-20 is a group of finance ministers and central bank governors from 20 of the world's largest economies. It was formed in 1999 as an international forum for member nations to discuss key issues related to the global economy. The Indonesian President referred to was Pres. Susilo Bambang Yudhoyono.

forest-related crimes. The task force consisted of the REDD+ Task Force and the Ministry of Development, Supervision, and Oversight, the Assistant General's Office, the police, the Ministry of Forestry, the Financial Intelligence Unit, the Ministry of Finance through its tax agency, and the Ministry of Environment in coordination with the Corruption Eradication Commission. In addition, the commission actively promotes the prevention of corruption within forest institutions. The Supreme Court also implemented a program for the certification of judges that specialize in environmental cases. The National Strategy on Anti-Corruption likewise outlines the plans for improving integrity within the enforcement chain.³⁹ The multidisciplinary approach to enforcement is further endorsed in government internal regulations, such as prosecution guidelines in the Attorney General's Office.⁴⁰ In addition, corporate criminal liability guidelines for judges and prosecutors have been the subject of joint training sessions.

He conveyed that the efforts of the Joint Enforcement Task Force, which adopts a multidisciplinary approach in fighting forest-related crimes, has led to the conviction of one offender for imprisonment of 2 years. Other cases, including cases in Riau, Aceh, and West Kalimantan, are currently under investigation.

Mr. Santosa concluded by identifying critical aspects in promoting integrity in environmental justice. The Corruption Eradication Commission facilitated a joint agreement to prevent corruption in natural resource governance among 12 government agencies, witnessed by the president and vice-president. The Ministry of Development, Supervision, and Oversight's protection of integrity in the enforcement process is necessary. Government officials must strengthen the commitment to combat corruption, deforestation, and forest degradation, as well as promote green growth and reduce greenhouse gas emissions. Periodic internal monitoring, evaluation, and public reporting are critical. Civil society must monitor the integrity of the judicial process. Finally, the consistent implementation of the multidisciplinary approach in enforcement is key.

Adalberto Carim Antonio, a judge titular of the Court of Environment and Agrarian Issues, and an auxiliary judge of the President of the Tribunal of Justice of the Estate of Amazonas in Brazil, discussed the farming reality of the Amazon. He described the Amazon rainforest, one of the earth's most biodiverse areas, as home to 10% of all mammals and 15% of all known land-based plant species. There are as many as 300 species of trees in an area measuring 10,000 square meters. The Amazon rainforest is also home to around 220,000 people from 180 different indigenous nations. They depend on the rainforest for food, shelter, tools, and medicines, and the rainforest plays a significant role in their spirituality.

Justice Antonio further described the value of the Amazon. The Amazon holds potential as the source of botanically derived medical cures, ecotourism, bioprospecting from its biological resources, and hydropower production. He referred to the World Bank estimates of the amount that families in some European countries would pay to preserve the Amazon annually. However, the deforestation in the Amazon produces effects that cannot be monetized. The Amazon rainforest provides the ecosystem services of soil formation, water cycling, climate regulation, biodiversity conservation, nutrient retention, hydrological services, disease regulation, carbon sequestration, pollination, nontimber forest products (including, among others, oil, fibers, rubber, aromatics, and medicine), recreation and ecotourism, and cultural services.

³⁹ Presidential Regulation No.55/2013.

⁴⁰ SeJa No. 013/A/JA/12/2012.

The Amazon rainforest is important to the economy. In the third quarter of 2013, industry in the Amazon region expanded by 16%. The healthy state of the economy in the Amazon is directly related to the lack of pressure on the largest tropical forest on earth with industrial activity from a green economical production zone.

The Amazon rainforest is also rich in minerals. Justice Antonio described that in the *nióbio* reservations alone, there are around 82 million tons of minerals. This mineral source is sufficient to address the world demand for the next 400 years and would be valued at an estimated \$1 trillion.

He proceeded to state that, as a source of timber, the Amazon provides income opportunities to a significant portion of its population. However, the timber industry's migratory nature and inadequate husbandry pose problems. Public policies and the enforcement of environmental law have slowed the deforestation rate in recent years.

Justice Antonio further depicted Brazil as a major producer of soy, corn, sugar, coffee, oranges, cotton, and beef. Although it is a highly industrialized country, the economic downturn of 2008 has caused it to return largely to exporting agricultural products.

He pointed to the cattle business as the leading cause of deforestation in the Amazon. Power landowners of *fazendas*, which are farms or ranches belonging to these individuals, place pressure on the government to secure more grazing land. The deforestation in the Amazon has been associated with 2.7 billion tons of carbon dioxide emissions. Deforestation from soybean production generated 29% of emissions, and deforestation from cattle ranching accounted for the remaining 71% of emissions. The impacts of this deforestation also include, among others, loss of biodiversity, modified global climate, and loss of water cycling.

Justice Antonio then cited Brazil's Forest Code, the Código Florestal Brasileiro, which included many provisions from prior legislation. The Forest Code requires the maintenance of forest cover on 80% of rural properties in the Amazon, 35% in the Central Savanna region, and 20% in the remaining areas of the country.

He considered the enforcement of the Environmental Crimes Law (Law 9.605/98) as ineffective in protecting most forests in the Amazon due to a lack of coordination among government authorities responsible for imposing punishments. In addition, penalties that are not related to addressing environmental damage are instead applied.

Justice Antonio finally gave recommendations to address Brazil's enforcement challenges. He proposed that the actions of the authorities in the enforcement chain must be integrated. A portion of the fines from environmental law violations must be directed to the repair of environmental damage, inspection, and control. Specialized environmental courts must be established in areas that are most environmentally vulnerable. Members of the judiciary should take courses concerning environmental law and the multifaceted aspects of environmental impacts.

The Constitution of Brazil devotes an entire chapter to environmental protection, and Article 225 provides that the public has the duty to protect the environment for present and future generations. It is thus critical to raise public awareness on environmental issues. He also proposed

the dissemination of environmental information to the public through environmental comic books that are affordable and easy to understand.

Atty. Oliva opened the floor for comments. Professor Lye Lin Heng of the Asia-Pacific Centre for Environmental Law encouraged the judiciary to consider creative sentencing. She acknowledged the number of Indonesian corporations under prosecution and made three observations. *First*, heavy fines may not constitute a sufficient deterrence in cases where offenders have the financial resources to pay. *Second*, the amount of the fine should correspond to the damage caused. *Third*, on the question of where offenders should serve their sentence, the judges may want to consider imprisonment to be served in a place with burning forests to allow the offender to feel the impact of his violation. Atty. Oliva added that haze is a major concern among ASEAN countries. Mr. Santosa deferred comments to the members of the Indonesian judiciary.

Peter King of the Asian Environmental Compliance and Enforcement Network pointed to the transboundary impact of the PRC's logging ban in 1998, set in place following the floods at the time. Despite the logging ban's effects on supply in the PRC, the demand for forest products did not decrease. In Myanmar, massive areas of forest were destroyed to meet this unceasing demand. He also identified a second aspect of this problem, that illegal logging is accompanied by a combination of other illegal activities. Illegal logging in Myanmar, for instance, was a cover for opium transport and illegal mining for gemstones. He asked what the legal remedy is to regulate both sides of supply and demand. Mr. Newman recounted that two of the major consumers of timber in the world, the US and the European Union, have addressed the demand side by enacting legislation to prohibit the importation of illegally logged timber.

Divina Luz P. Aquino-Simbulan, a judge of the Regional Trial Court in the city of San Fernando, Pampanga, Philippines discussed her experience as a presiding judge of a green court in the Philippines. The cases filed before her court were all criminal actions in violation of the Revised Forestry Code.⁴¹ Section 77 of the code prohibits the cutting, gathering, collection, removal, or possession of forest products from any forest land, alienable or disposable public land, or private land, without authority. The same section imposes penalties that rely on the Revised Penal Code's provisions on theft and depend on value. The penalties include government confiscation of the tools used and the illegal forest products. The Revised Forestry Code grants the Department of Environment and Natural Resources (DENR) the power to confiscate and dispose of such products. It also provides informants with a reward of 20% of the proceeds from confiscated products.

Judge Aquino-Simbulan recounted a criminal case involving six accused that was transferred to her court. The accused in this case were charged with cutting 300 trees measuring 35 cubic meters in Mount Arayat, in violation of the forestry law. The maximum imposable penalty was 10 to 12 years. DENR valued the trees at P91,000. Two DENR employees and a police investigator were witnesses. The defense moved to quash the information, which the court denied. After the accused were arraigned, the parties marked their evidence during pretrial. The court conducted an on-site inspection in Mount Arayat, 30 kilometers away from the court, and found that all the evidence, including cut trees and charcoal, were missing. Based on the testimony of the DENR officials, the court found that they could not bring the illegally cut logs to their office due to the distance of the place of commission of the crime. Moreover, DENR did not have the space to

⁴¹ Presidential Decree (P.D.) No. 705 as amended by P.D. No. 1559 and Executive Order (E.O.) No. 277.

store this evidence. As such, the prosecution was unable to preserve its evidence and moved to dismiss the case. The court had no other recourse but to dismiss the case due to lack of evidence. Judge Aquino-Simbulan stressed that judges are limited to the cases brought to the court, and effective prosecution requires the cooperation of civil society and the executive branch.

In another criminal case filed before her court, Judge Aquino-Simbulan described how six accused were charged with cutting, gathering, and collecting 89 fully grown mango trees worth P4.45 million located on a private land at the foot of Mount Arayat. Unlike in the last case, the penalty impossible here was 20 years, which resulted in a recommendation for no bail. The defense nonetheless filed a petition for bail, and the court scheduled the arraignment of the accused. The defense then moved for pretrial so that the accused could plea bargain and plead guilty to illegal logging. The prosecution recommended 6 years of imprisonment for the two accused who were caretakers and 4 years for the other four accused. The prosecution agreed to the plea considering that the landowner did not pay the salaries of the two accused, the proximity of the planted trees impaired their capability to bear fruit, and the caretakers hired the other four accused. They applied for probation, and the court issued the order on the condition that they plant at least three trees every month in Mount Arayat until the end of the probation period. Probation orders in all other cases attached this condition. Additionally, the Parole and Probation Office and the Department of Agriculture cooperated to educate offenders in these cases.

Atty. Oliva opened the floor for questions. Justice Peralta gave a few remarks on the case before Judge Aquino-Simbulan's court, where the lost evidence resulted in the dismissal of the case. Justice Peralta pointed out that the *Rules of Procedure for Environmental Cases* promulgated in 2010 address such problems. The rules provide that photographs authenticated by a competent witness are admissible evidence, and the disposal of the evidence must be done in accordance with the rules. When the *corpus delicti* or evidence seized from the offender is not presented in court, the court will acquit the accused. However, the rules allow any person with personal knowledge of what is depicted in the photograph, such as the photographer or a person present at the time the photograph was taken, to testify as to the photographs' accuracy in depicting the confiscated evidence. The rules then avoid the harm of a dismissal on the grounds that the confiscated evidence has been lost. Judge Peralta added that it is unfortunate that the case was pending when the rules did not yet exist, because if such a case happens now, it will not be dismissed prematurely.

A question was addressed to Judge Aquino-Simbulan about the remedy in cases where the prosecution was intentionally hiding matters during trial. In Bangladesh, the court can send this matter to the bar council. Judge Aquino-Simbulan recounted that in cases where the prosecutors have seemingly erred, she has the prerogative to call their head of office in the Department of Justice, belonging to the executive branch, to take the appropriate action. She added that while these officials may also be reported to the Supreme Court as a member of the bar, as a matter of courtesy, a referral to the head of office gives the latter the opportunity to address such issues.

Mr. Patrick Duggan highlighted Mr. Newman's reference to illegal logging and its connections to Mafia-type activities. He asked the panel whether trafficking and smuggling cases involving those who did not actually cut the logs would go to a green court or a court of general jurisdiction. Justice Antonio answered that jurisdiction belongs to the specialized environmental courts. Brazil now has five state environmental courts and seven federal environmental courts, and the judiciary is being strengthened with more states looking to set up these specialized courts. Mr.

Dutta related that in India, green tribunals have jurisdiction only for civil cases, and criminal cases are tried before the district and criminal courts.

Session 6

Mountain and Upland Ecosystems

Irum Ahsan, counsel at ADB, chaired the next session, which shed light on the gravity and intensity of mountain-related issues. She introduced the session by showing how the mountains serve many purposes, with the most important being related to water. Considering that the world's major and minor rivers begin in the mountains, almost half of the entire population depends on this mountain water. The Himalayan range covers 1,800 miles in South Asia. However, climate change causes degradation and the destruction of this ecosystem. An alarming 67% of the Himalayan glaciers are retreating. She emphasized that while the impacts of climate change are unavoidable, damages can be managed and mitigated.

Tariq Aziz, a leader from the Living Himalayas Initiative of WWF International, provided an overview of the Himalayas, focusing on the Eastern Himalayas. He referred to a recent study by WWF and other researchers, which reported the discovery of more than 300 new species of flora and fauna in the Himalayas within the last decade. He stressed the need to regard the importance of water in the Himalayas as more than 600 million people depend on all the rivers and all the water that flows out of this mountain range.

Mr. Aziz said that glaciers and snow melt account for only around 12% to 18% of the water coming out of the Himalayas. Between 80% and 90% of the water in the mountains' rivers comes from rain. The basin in the Ganges is predicted to have a slight increase in rainfall, and the Brahmaputra is predicted to experience an increase in runoff and have no significant change in precipitation. While the amount of water is predicted to be as much as it ever was, the problem lies in obtaining appropriate quantities of water throughout different seasons. In this regard, managing the rain-fed water that makes up 80% to 90% of the available water resource is important.

He continued by describing how the Himalayan region has witnessed development, the impacts of climate change, and water stress. Hydropower will play a significant role in the region, because in the next 15 to 20 years, this region is projected to produce over 50,000 megawatts of power. The current situation in the region brings attention to glacial melt, which results in seasonal variations in water. Nepal, for instance, experienced power outages due to the absence of water in its rivers. Many other rivers have lost their catchment areas and do not have enough watersheds to continue water flow. In addition, water stress leads to greater environmental and social risks. If this water stress is not properly addressed, the region will be confronted with major conflicts for water.

Considering that the Ganges River and the Brahmaputra River hold three countries together, Mr. Aziz explained that the problem with the rivers is undeniably regional. The region's governments as well as major land and water users need to be involved to address this.

He further explained that forest ecosystems rich in biodiversity trap water from rain. Over a period of time, the forest releases this water into the mountain rivers. This water, in turn, helps generate energy, and thus becomes more critical with the growth of hydropower. Thus, hydropower, along with food and livelihoods, are vital issues.

He also maintained that the provision of ecosystem services, particularly under changing environmental conditions, relies on the greater capacity of native vegetation. On average, biologically diverse ecosystems store carbon more efficiently. The provision of more ecosystem services requires more species and rich biodiversity.

He mentioned that, in 2011, four countries signed a memorandum of understanding to establish a regional framework of cooperation for securing natural freshwater systems, food, biodiversity, and energy.⁴² However, this success needs to be translated into action on the ground. Good science is necessary to support law enforcement, and this data helps judges make informed decisions. However, such information is lacking in the region.

Mr. Aziz informed the delegates that WWF has invested in taking data to the stakeholder level on the ground in the Eastern Himalayas. WWF has looked to the Natural Capital Project's models for conservation that rely on integrated valuation.⁴³ According to him, biophysical and economic models are necessary for more information. Additionally, investments must be guided in the right direction to achieve better returns for ecosystem services. Bringing capacity to the region should make use of science to strengthen arguments in support of ecosystem services.

Archana Chatterjee, a project manager at IUCN's India office, likewise discussed mountain ecosystems in the Himalayas, but focused primarily on high-altitude wetlands situated at 3,000 meters and above. Ms. Chatterjee referred to the Ramsar Convention, which defines wetlands as "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters."⁴⁴ The Himalayan region has the richest high-altitude wetlands in the world. The transboundary nature of many of these wetlands highlights the need for regional cooperation in their management. The region does not have a large population, and the population shares a strong cultural link with the wetlands. Furthermore, the unique biodiversity in the wetlands is critical.

Ms. Chatterjee explained that the Himalayan region is home to all the major rivers in Asia, and the wetlands serve as a natural infrastructure. The wetlands act as buffers by holding waters that come down from the glaciers like a sponge. They then function as reservoirs by releasing this water slowly. Several species of migratory birds, fish, and mammals, in addition to humans, depend on the wetlands for sustenance.

Aside from providing local goods and services, she explained how the wetlands provide important downstream goods and services such as tourism. The tourists arrive at a time when the wetlands are active, unlike during the rest of the year when they are frozen and experience low activity levels. Thus, proper management of the wetlands strikes the balance between tourism and carrying capacity.

The wetlands' ecosystem progresses through different stages, comprising open water, aquatic marshes, wet meadows, shrub swamps, and largely forested wetlands. Each stage provides

⁴² Bangladesh, Bhutan, India, and Nepal agreed upon this framework of cooperation during the 2011 Climate Summit for a Living Himalayas held in Bhutan.

⁴³ The Natural Capital Project—a partnership among WWF, The Nature Conservancy, University of Minnesota, and Stanford University—works to provide decision makers with tools to assess the true value of the services that ecosystems provide.

⁴⁴ Ramsar Convention, Article 1.

different goods, services, and biodiversity. Different types of pressure—from human threats, for instance—interfere with these services. This interference potentially changes the character of the wetlands. She illustrated how mining activity, for example, may change a marsh to an open water system. The result is a loss of the carbon storage capacity as well as the other goods and services that the marsh provides.

Ms. Chatterjee explained that the wetlands are embedded in several global programs and discourses. The Millennium Development Goals' Target 7 promotes environmental sustainability. Rio+20's "The Future We Want," Aichi Targets, and the Green Economy support wetlands protection. She argued that existing thought processes need to bring this discourse into the mainstream.

In conclusion, she stressed that the wetlands, an important component of the natural infrastructure of mountains, are integral to water infrastructure, which in turn is necessary for development. The water systems crisscross and have links to everything. As a result, these water systems must be viewed not only at the national level but also regionally at the basin level. The project Ecosystems for Life recognizes the importance of regional cooperation and works toward the better management of the water system between India and Bangladesh. Additionally, ecosystem valuation tools need to be better integrated in decision making. The wetland ecosystems in mountains, which serve as buffers, are different from the wetland ecosystems in plains, and both need to be managed accordingly.

Nima Om, a senior legal officer at the Ministry of Agriculture and Forests in Bhutan, discussed pasture governance and natural resource management in Bhutan. Within her country's context, natural resource governance refers to state and private ownership. "State ownership" includes mineral resources as well as government-reserved forests that encompass, among others, plants, animals, boulders, soil, and sand. On the other hand, "private ownership" refers to private registered land, including the trees that naturally grow or were planted on that land.

Ms. Om recounted that 1953 marked Bhutan's first national legislation on land use. The Land Act of 1979 then superseded the land use law. After the Ministry of Agriculture reviewed the Land Act of 1979, the National Assembly enacted the Land Act of 2007 (Land Act). In 2011, after democratization, the Ministry of Agriculture reviewed the Land Act anew. The ministry submitted a land bill to Parliament in 2012, but the latter deferred it until further instructions. Hence, the Land Act continues to be the relevant law on land use.

In Bhutan, pastureland encompasses both grazing land and improved pasture. Grazing land refers to either vegetative land with the potential for animal grazing or land with edible plants that are not harvested. Improved pasture is sown, and includes exotic forage.

Ms. Om explained that prior to the Land Act, an individual or community had the right to register pastureland. The government then imposed grazing fees and allowed the interdistrict migration of cattle. Holders of pasture rights were also allowed to exercise the following rights: (i) to use protection against trespassing and encroachment subject to the customary rights to the animals' path and water, (ii) to apply to convert the land to private ownership in cases where the rights holder's cultivable land is insufficient, and (iii) to be compensated in cases where the government designates pastureland to those without land. Furthermore, the pastureland could be leased with government approval.

She described how the Land Act changed pasture rights. The right to ownership was annulled with the nationalization of pastureland. Pastureland thus reverted to the government as government land and government reserve forest areas in the urban and rural areas, respectively. The Land Act required government approval of its lease to the general public. It allowed the lease to be annulled in cases where (i) farmers disowned livestock after 180 days; and (ii) highlanders, that is, farmers completely dependent on rearing livestock, abandoned their domicile.

The Land Act gave preference to previous rights holders, and individuals and communities who had owned pastureland, in the lease. Herd size and the possession of livestock formed the basis of the lease, with the exception of the lease given the highlanders. The Land Act granted compensation to previous rights holders based on their registered area of ownership and prohibited the following acts after the lease: (i) subleasing, with the exception of highlanders; (ii) using the land for purposes other than for pasture; and (iii) building permanent structures.

Furthermore, the Land Act intended improvements in many areas. The law was supposed to remedy the limited access of livestock farmers to pastureland that was traditionally owned by elite families or monastic bodies and grant equitable access to this land. It aimed to enhance livestock production and create income opportunities for livestock farmers in rural areas. It had the objective of improving fodder and cattle breeds to increase production with less cattle, as livestock farmers had traditionally depended on local cattle breeds that produced less. This objective also sought to put less pressure on the environment.

Ms. Om discussed several consequences of the Land Act. The nationalization of pastureland had disposed of the permit fees imposed on pasture rights holders, so for roughly the past 6 years, pasture rights holders did not have to pay these permit fees to the government. The law was, however, only partially implemented because of concerns raised regarding the prohibition of interdistrict migration after 2018. The prohibition would prevent migration from highland to lowland areas and thus restrict other income opportunities to livestock farmers. The Land Act resulted in the concentration of cattle in limited areas of pastureland, causing an adverse environmental impact. After nationalization, concerns were raised about encroachment conflicts between previous rights holders and new users. As the law was only partially implemented, rights of ownership were annulled without the grant of the mandated compensation. Finally, highlanders have keenly felt the economic pressures associated with paying the lease fees, which added to their hardships.

In brief, Ms. Om pointed out that the Land Act faces administration and implementation issues. After the law became effective, the ministry was supposed to lease the pastureland, but it has not occurred for the past 5 to 6 years. The main concern here is whether the pastureland that may be leased in a particular district is sufficient to grant livestock farmers equitable access to it.

Archana Vaidya, a managing partner at the Indian Environment Law Offices in India, discussed glacial lake outburst floods (GLOFs) in the context of India. She described the Himalayan region as a home to 15,000 glaciers and over 8,000 glacial lakes with more than 200 classified as potentially dangerous. She explained that GLOFs occur when glacial lakes discharge millions of cubic meters of water and debris within a short span of time, consisting of only a few hours. Considering that the response time is extremely limited, systems need to be in place to ensure action. Several factors trigger GLOFs, such as sudden heavy rains that inundate lakes. In June 2013, Uttarakhand experienced this phenomenon with unprecedented flooding, costing huge life and property losses.

Ms. Vaidya then focused on the Himalayan region in India, which she described as home to more than 7,000 glaciers and around 550 glacial lakes. In addition, many glaciers outside of India surround the country. In India, glaciers and glacial lakes are situated in the northern states of Himachal Pradesh and Uttarakhand, as well as the northeastern state of Sikkim. The state of Himachal Pradesh is home to an estimated 2,554 glaciers and 156 glacial lakes, 16 of which are classified as potentially dangerous. She referred to an ongoing study of IIT Mumbai, undertaken in the last 47 years, which identified around seven new glacial lakes in the Chandra-Bagha Basin of Himachal Pradesh. Additionally, a glacial lake in Sikkim was classified as potentially very high risk. These four states have all experienced GLOF-related catastrophes, which resulted in casualties in the mountain ecosystem followed by the downstream areas.

As natural capital, mountain ecosystems provide provisioning, regulating, supporting, and cultural services. They contribute directly and indirectly to economies in the mountains and those downstream. Although few studies look at the value of ecosystem services in the mountains, she cited some studies that have determined the ecological value of soil per hectare.

Ms. Vaidya stated that India does not have a specific law that uses a holistic approach in addressing the needs of the mountain ecosystem. Existing legislation, sectoral policies, and the EIA process, which considers the proposed work and its monetary value, do not account for mountain sensitivities. However, she cited the National Environment Policy of 2006 as a policy instrument that recognizes the susceptibility of mountain ecosystems to anthropogenic shocks, which indicates an understanding that mountain sensitivities need to be incorporated in the regulatory framework. Moreover, the National Environment Policy, among others, adopts land use planning, watershed management, and best practices for the construction of infrastructure in the mountains. Furthermore, in 2008, India's Prime Minister released eight national missions through the National Action Plan for Climate Change. One of the missions aims to sustain and safeguard the Himalayan ecosystem through proper management and policies.

She illustrated how the Uttarakhand floods show the inadequacy of the existing regulatory framework to address the needs of the mountain ecosystem. In June 2013, heavy rains filled Chorabari Tal, a glacial lake situated less than 4 kilometers upstream from Kedarnath. The glacial lake then burst. This GLOF, together with a cloudburst, resulted in an unprecedented flood causing losses of 6,000 lives and an estimated 30 billion rupees. The aftermath of the flood brought public interest litigation for court intervention to prevent epidemics and to ensure fair distribution of aid and compensation. The National Green Tribunal, which comprised members of the judiciary and experts, initiated an expansion of a petition before it to ask the state government of Uttarakhand and India's Ministry of Environment and Forest about development paradigms. The Supreme Court ordered a cumulative EIA for present hydroelectric power projects. The court also ordered the government to stop the issuance of further clearances and review any approval granted for these projects.

However, Ms. Vaidya countered that although GLOFs threaten the mountain ecosystem and the communities downstream, glacial lakes potentially provide water storage used for agriculture and forest-related livelihoods. She concluded by stating that the regulatory challenge in the road ahead is to put a system in place to reduce the risk of GLOFs and the vulnerability of nearby communities, and make use of the potential benefits of glacial lakes. Physical interventions, constant scientific monitoring of glacial lakes, and early warning systems assist in accomplishing these objectives. Furthermore, she looked to the Supreme Court, which has ensured that

environmental justice is carried out through a vibrant environmental jurisprudence. The Supreme Court has turned to the Constitution and used judicial legislation to fill the gaps in executive action and legislation.

Ananda M. Bhattarai, a judge in the Court of Appeal of Nepal, focused on the legal framework of Nepal concerning natural capital and upland ecosystems and discussed four relevant cases. As a background, he stated that out of the estimated 80 million people that call the Himalayas home, 26 million people live in Nepal. The Supreme Court of Nepal has the power of judicial review, and lower courts exercise limited jurisdiction over public interest litigation.

Dr. Bhattarai first discussed the *Bis-Hazari Lake* case, which involved the protection of a wetland under the Ramsar Convention.⁴⁵ Nepal is home to 242 wetlands, which cover an expanse of 743,563 hectares and make up around 5.06% of Nepal. He said that the Supreme Court had occasion in this case to determine whether channeling water into the wetland and flushing it out was proper. An EIA was not conducted and the existing conservation plan was not consulted. As this case raised many scientific questions, the court ordered the government to undertake an EIA and create a comprehensive plan to protect the wetland.

The second case he discussed concerned the protection of Churia Hills, situated in the northern end of the Indo-Gangetic plain of the Himalayan region. Although the Churia region experienced heavy deforestation, an intensive community forestry program brought about the gradual regeneration of the forest. However, in many parts of the region, recent times have witnessed the excavation of stones, boulders, and gravel from riverbeds and surrounding areas. Moreover, hundreds of crusher industries in the region have experienced economic prosperity. This brings context to the public interest petition filed before the Supreme Court.⁴⁶ In this case, the impact of the excavation had not undergone any systematic study. While parliamentary committees collected some reports, these were hardly comprehensive. The court ordered the government to create an expert committee to review this matter and allowed it to proceed when relying on the committee's recommendation.

The third case cited by Dr. Bhattarai raised issues about landscape, fragmentation, and the conversion of agricultural land to one with a nonagricultural purpose. Nepal's terrain is largely mountainous; only an estimated 20% of the land is arable. For this reason, planning for sustainable land use is necessary. In the *Chandeswari Karmacharya* case, the issue of the conversion of agricultural land for housing purposes was brought to the Supreme Court.⁴⁷ The excavation of land for this conversion caused road subsidence and the drying up of springs. The destruction of agricultural lands and the leveling of hills threatened lives. Further, the development of high-rise buildings unfavorably impacted the aesthetic of historical places. Traffic congestion, among other problems, became the result of such unplanned urbanization. He explained that the court recognized the absence of a land use policy applicable to urbanization. The court further acknowledged impacts of land fragmentation and changes in land use on the environment and the population. Considering that the arable land in Nepal is limited, the court identified the need for a policy on land use regarding food production, housing, and infrastructure. The court held that the government has the duty to include a policy for sustainable land use management.

⁴⁵ *Dhananjaya Khanal v. Prime Minister and Cabinet Secretariat*, SC, Volume on Public Welfare, Second Part (2066) Vol. 2 at p. 54.

⁴⁶ *Narayan Prasad Devkota v. Prime Minister and Cabinet Secretariat and others*, NKP 2067 DN 8521, p. 2053.

⁴⁷ *Chandeswari Karmacharya v. Ashok K.C.*, NKP 2068 DN 8731 p. 2004.

Moreover, the court held that this duty includes ensuring legislation for land use, zoning, and long-term planning. Finally, the court ordered the government to develop policies on land use and housing that account for natural and human-induced risks.

The fourth case that he discussed involved the livelihoods of people in protected areas. The 17 protected areas in Nepal make up 19.42% of the country. Human settlements are located in and around parks in one of the protected areas. In the *Bajjudding Minya* case, the petitioners sought compensation for the destruction of their crops in the parks, which were ravaged by wild animals.⁴⁸ The petitioners commenced action even without a law that provided for compensation. Nonetheless, the Supreme Court held that the state, as the keeper of wild animals, was liable for the damage that the animals caused. The court held that the state cannot cite the absence of a law to forgo its obligation when human survival and security are threatened.

Taking off from the prior presentation on Bhutan's pastureland, Dr. Bhattarai asked whether the relevant laws cater to the needs of local communities and whether these laws respect user rights irrespective of ownership. Domestic laws accordingly need to be harmonized to protect the entire Himalayan region. Legislation on the forest, water resources, and biodiversity makes use of different parameters in its application to the Himalayan region. This lack of coherence needs to be addressed through the development of laws that are just, fair, and reasonable.

Although the judiciary has already recognized many principles, Dr. Bhattarai stressed that these need to be internalized within judicial discourse. The *principle of common but differentiated responsibility*, for instance, applies at both the regional and domestic levels. This principle considers, among others, the differing needs of urban and rural settings, more developed and less developed areas, and highlands and lowlands. The Biodiversity Convention highlights the *principle of reasonable cooperation*, and many mountainous regions incorporate this principle within their respective legal framework. Moreover, the emerging *principle of accounting and payment for ecosystem services* has much potential for domestic application. The development of this principle is timely for natural resource management and improving livelihoods.

Dr. Bhattarai concluded by emphasizing the need to bring the poor mountain communities, and other communities that depend directly on natural resources, into the legal and judicial development discourse.

Ms. Ahsan then opened the floor for questions. A question was asked regarding the garbage in the Himalayas region, left from expeditions in Nepal. Mr. Aziz acknowledged that garbage in the mountains is an important issue and referred to the mountains in the Western Himalayas as an example. In Bhutan, all mountains are sacred, and for this reason, mountaineering is not allowed. Tourists and the armed forces have left behind garbage in the mountains, and efforts have been made to address this problem. In Mount Everest, garbage was brought down to the base camp, with the metallic pieces used to make a statue. Almost 10 years ago, a major expedition cleared several tons of garbage from the mountains, which was subsequently laid out for the public to see. Despite efforts and upcoming regulations, the problem of garbage requires more action.

Referring to the cases discussed from Bangladesh, India, and Nepal, Mr. Mahbubey Alam asked whether ADB would compile these cases for the members of the legal profession in this

⁴⁸ *Bajjuddin Minya and Others v. Prime Minister and Cabinet Secretariat and Others, SC, Volume on Public Welfare*, Second Part (2066) Vol. 2, p. 324.

region. Ms. Ahsan referred to the objective of the AJNE to share knowledge within Asia and remarked that the AJNE's website contains a compilation of relevant laws. However, the AJNE's compilation of case law depends on ADB's partner judiciaries, which provide access to their respective jurisprudence. Although some judgments from a few jurisdictions are already posted on AJNE's website, making more judgments available online from different jurisdictions relies on the support of AJNE members.

Professor McNeely made a reference to those living in the more remote parts of the mountains in Asia for hundreds of years, who have their own traditional types of law. He asked how the judiciary resolves conflicts between traditional law and modern law, considering that the latter works better for the government but not necessarily for the people living in these areas.

Dr. Bhattarai remarked that the law's general orientation is from the top down, such as the Indian Forest Act, which has similarities with the laws in Pakistan, Bangladesh, and Nepal. Although these laws were intended for the plains, it must be noted that the same applies to Nepal's mountainous region. Nepal experienced heavy deforestation in its mountains. In the 1990s, Nepal passed new legislation recognizing user rights, community forest management, and the right of the community to all revenue as a result of their management. As a result, the forest was regenerated in the mountains. Dr. Bhattarai stressed that empowering people through recognizing their rights and traditional knowledge results in a positive impact.

Addressing the issue of reconciling traditional practices with the laws of the government, Dr. Bhattarai responded from two perspectives. *First*, in a matter before the Supreme Court of Nepal, the court has the power to declare the concerned law void and issue a directive to the government to evolve a new law upon review of these traditional practices. *Second*, in a matter before the lower courts, the issue may remain as such as the lower courts do not exercise jurisdiction over prerogative writs.

Ms. Vaidya recounted that India has specific laws to address remote forest areas inhabited by indigenous peoples who have their own customary laws and system of living. The government did not force the indigenous peoples to be brought into the mainstream, because the system recognized their identity. The collective mandate of the *Panchayat* (Extension to Scheduled Areas) Act, Forest Rights Act of 2008, and the Biodiversity Act recognize the rights of indigenous peoples. Thus, activities for development in these areas occur with the consent and participation of the indigenous peoples as stakeholders. Like the case that Mr. Dutta discussed in his presentation where indigenous peoples rejected a proposed mining site, the Supreme Court of India had to review its previous decision in favor of the proposal under changed circumstances. Similarly, the government recognizes the rights of indigenous peoples who live in scheduled areas.

Ms. Chatterjee reiterated that laws have to be tailored to the needs of the wetland ecosystem in the mountains, which have different needs than ecosystems in the plains. She cited Ladakh and similar mountain areas as an example where homestays are available to lessen the environmental footprint left by tourists. However, to obtain a government subsidy for the homestay, the homeowner is required to have a room with an attached flush toilet. In Ladakh, however, the community generally has a limited number of toilets, and few have them attached to their home. As a result, the local community cannot access the government subsidies intended to benefit them. Efforts to import flush toilets and have them installed created another set of problems. This example highlights the need for regulations to fit the specific context of the concerned community.

Symposium Highlights

Day 2

Session 7

Freshwater Ecosystems

Alphonse Kambu, programme officer at the United Nations Environment Programme (UNEP) Division of Environmental Law and Conventions, chaired this session. He outlined the order of discussion in the session, beginning with the state of freshwater ecosystems, followed by the relevant laws and enforcement issues in this context, and concluding with the role of the judiciary.

Jeffrey A. McNeely, a former chief scientist at the IUCN and current member of UNEP International Resource Panel, began his presentation with a reference to the Himalayas, Asia's water towers, discussed in Session 6. To emphasize the value of water, he pointed out that any mission for Mars aims to search for life and thus water. Considering that water equals life, he noted the great difficulty in assigning a price to water. He remarked that nearly every sector of society depends on water, and he reiterated that the value of the ecosystem services that water provides is \$7 trillion annually.

Professor McNeely discussed the impacts of capturing water through engineering. He identified the existence of approximately 40,000 large dams in the world, adding that the number is higher for small dams. Building dams in the Mekong region has an impact on the ecosystems around it, such that it affects, for instance, the water that flows into Cambodia. Moreover, the Mekong Delta depends on this freshwater flow in order to prevent salt water from going up the river. He pointed out that problems would occur with dams capturing water, which would then result in less water in the Mekong. The estimated value of ecosystem services here is between \$2,000 and \$13,000 per hectare annually. Controlling water through irrigation greatly increases rice productivity, so that ultimately, irrigation and surplus agriculture enable civilization.

Professor McNeely provided the estimated value for inland wetlands or natural systems as \$1,000 to \$45,000 per hectare annually. He emphasized that wetlands provide many beneficial services for the population. One such benefit, also important to climate change, is the storage of 37% of the terrestrial carbon pool. The mangroves between India and Bangladesh are worth up to \$215,000 per hectare annually, particularly because they provide protection against storm surges that these countries are vulnerable to.

He pointed to the limited water supply in Asia as a cause for worry, with many parts of Asia, including India and the northern part of the People's Republic of China (PRC), seriously affected. Projections of water consumption in Asia indicate that it is by far the biggest consumer of water

and that this trend will continue. He continued to identify water issues, particularly the availability of freshwater in Pakistan. In addition, Professor McNeely related that floods and droughts pose other serious problems. He recounted that in 2011, the flood in Thailand resulted in damages amounting to \$45 billion. The floods damaged large factories built on floodplains, which, if left alone as natural wetlands, would have provided more control. Asia has had the world's most floods by far, and he expected these events to get worse. In another example, a 2011 drought in the PRC caused an estimated \$2.5 billion in damages. He asserted that climate change intensifies these challenges, leading to difficulties in predicting the supply of water.

Professor McNeely shared his insight that in the coming years, the judiciary would face conflicts over water. He remarked that conflicts would involve issues on ownership as well as the rights and duties over water. He pointed to the possibility for questions as to the division of water coming down a river, the party entitled to its benefits, and the party responsible for the costs. He concluded that the judiciary would have the task of striking the balance between costs and benefits in these water disputes.

Deborah Smith, a state magistrate judge from the District Court of Alaska, provided an overview of environmental laws and their enforcement in the US. She began her presentation by outlining the history of the public trust doctrine, which Roman courts used to protect waterways and which many court systems use today to protect the common use of natural resources. The US Constitution, drafted in the late 1700s when resources appeared to be limitless, is silent on environmental protection or the right to enjoy the environment. However, she qualified that the US Constitution does protect interstate commerce and individual property rights.

Judge Smith proceeded to discuss the Constitution of Alaska, drafted in 1959, which addresses the environment in Section 3, Article 8, providing that, "[w]herever occurring in their natural state, fish, wildlife and waters are reserved to the people for their common use."⁴⁹ She related that this provision translates to a concrete example of resources belonging to the people, such that oil companies pay royalties to the state government for extracting oil from Alaska. She remarked that these payments finance the state government, which also directs the excess to a fund for future use. Moreover, she pointed out that each citizen in Alaska receives the interest annually, with dividends amounting to \$800 to \$1,200 in the last few years. Thus, she concluded that citizens have great interest in the management of these resources.

Judge Smith then discussed three laws: the National Environmental Policy Act (NEPA), the Rivers and Harbors Act, and the Clean Water Act. *First*, she explained that the NEPA set up national environmental policy goals. She added that the NEPA also set up the procedure for the Environmental Impact Assessment (EIA), such that before any major action, for instance, the grant of a permit for a mine or the construction of a dam, federal agencies have to consider the action's adverse impacts on the environment. She referred to an example in Alaska, where the proposal for Pebble Mine already generated controversy at the outset of the assessment process. She recounted that the controversy stemmed from the proposed mine location, which was next to the headwaters of Bristol Bay and home to salmon hatcheries.

Judge Smith emphasized that the thrust of the NEPA is to offer protection against uninformed government decisions and require agencies to consider alternatives that cause less environmental

⁴⁹ She also cited Section 16, Article 8 of the Constitution of Alaska, which refers to the non-divestment of the right of every person to the use of waters, their interest in lands, or improvements affecting either, except only in certain conditions.

damage. She further outlined two of the key features that make it effective: the requirement for the Environmental Impact Statement (i) to provide the opportunity for public comment through its public disclosure and (ii) to grant citizens standing to sue an agency, pursuant to the Administrative Procedures Act,⁵⁰ for judicial review of the Environmental Impact Statement System. She added that similar to the NEPA, 85 countries, including Cambodia, Indonesia, the Lao PDR, Nepal, the Philippines, and Viet Nam, have laws that require the completion of an Environmental Impact Statement before major government actions. Moreover, before granting credit for major infrastructure projects, many multilateral lending agencies require project proponents to undertake analysis analogous to the NEPA requirements.

Second, Judge Smith explained the purpose of the Rivers and Harbors Act, which is to avoid interference with navigation in US waters. The law prohibits the discharge of most refuse into navigable waters without a permit from the Secretary of the Army. Over time, the courts have defined “navigable waters” broadly to cover any tributary connected with a physically navigable waterway. The law focuses on specific, individual discharges.

Third, Judge Smith then explained that the Clean Water Act, enacted in 1972,⁵¹ aims to eliminate pollution from rivers and lakes using a two-pronged attack. In addition to requiring permits for the discharge of pollutants, the law also sets quality standards for the waters receiving this discharge of pollutants. Judge Smith identified the law’s requirement for monthly reports on the discharge and the resulting water quality. She then pointed out that although states are primarily responsible for the enforcement of federal regulations, the law also gives enforcement powers to the US Environmental Protection Agency (EPA) and the Department of Justice. The law provides for criminal penalties as well as administrative and civil penalties. In addition to charges under the Clean Water Act, the prosecution may bring criminal charges for false statements, fraud, or obstruction of justice. She noted that offenders who intentionally pollute waterways also frequently falsify the requisite monthly reports, which indicates a consciousness of guilt and results in these additional charges.

Judge Smith concluded with a discussion of the ways to enforce US environmental laws: through government action, citizen suits, and common law suits. *First*, she recounted that the EPA establishes regulations and standards for the discharge of pollutants in water. She enumerated the EPA’s enforcement mechanisms, which include administrative compliance orders and administrative penalties, the pursuit of civil actions in court particularly for egregious cases, and criminal investigations.

Judge Smith then emphasized the perspective that imprisonment is a major driver in calling attention to environmental regulation and the incentive to self-regulate. She related that a charge of negligence under the Clean Water Act is a criminal misdemeanor. She cited a case in Alaska, *US v. Hanousek*,⁵² where the defendant faced the charge of negligently discharging oil into a river. The defendant supervised a rock quarrying expedition, which involved lifting boulders over an oil pipeline initially protected by dirt and railroad ties. She added that the protective measure was discontinued such that when a boulder fell on the pipeline, oil erupted and polluted the river down the mountain. On the defendant’s appeal to the US Supreme Court to question the standard of negligence under the act, the Court held that negligence was ordinary negligence and

⁵⁰ 5 U.S.C. §§ 701–706.

⁵¹ 33 U.S.C. §§ 1251–1387.

⁵² 176 F.3d 1116 (9th Cir. 1999).

referred to *Black's Law Dictionary*. She remarked that the defendant was sentenced to 6 months of imprisonment, 6 months in a halfway house, and a supervised release also over 6 months.

Second, in continuing to discuss enforcement, Judge Smith noted that many legal commentators agree that the capacity of citizens or nongovernment organizations to bring citizen suits against federal agencies to compel their performance of acts required by law strengthens environmental enforcement. Finally, she pointed out that common law suits still play an important role in filling the gaps in enforcement. She related that these cases rely on theories regarding contract law violations, negligence, nuisance, and the public trust doctrine as private parties pursue the resolution of their environmental disputes.

Syed Mansoor Ali Shah, a justice of the High Court of Lahore in Pakistan, discussed environmental justice in Pakistan through the case of the Ravi River. Initially, he provided a short background on the river, which stretches 720 kilometers from India to Pakistan. He shared that the city of Lahore developed on the river's banks, and the river is culturally and historically important to the community. He added that the river attracts tourists, and, more importantly, the residents use it as a freshwater source. He emphasized that the pollution in the river is a serious issue, reaching levels that practically make it a sludge carrier. Mainly attributed to the careless disposal of large amounts of industrial effluents as well as agricultural and municipal wastewater, the pollution had resulted in the loss of 42 species of fish.

Justice Shah recounted that sitting on the green bench of Lahore High Court, a constitutional court, he presided over a public interest litigation petition involving the Ravi River in which the petitioner, the Public Interest Litigation Association of Pakistan, sought access to clean drinking water on the basis of the constitutional right to life as the right to an unpolluted, clean life. He made a distinction between the constitutional court and the environmental tribunals under Pakistan's environmental laws, clarifying that the constitutional court allows greater flexibility in pursuing judicial innovations. Justice Shah then appointed an *amicus curiae*,⁵³ from which he ordered the creation of the Ravi River Commission, a commission of experts. The experts were from various disciplines, including members of civil society, representatives of the chamber of commerce, economists, lawyers, scientists, international nongovernment organizations, and government officials. He adopted continuing mandamus or a rolling review to facilitate a resolution to the problem.

Justice Shah remarked that the government had negotiated with foreign consultants since 1995 for the cleanup of the Ravi River. He added that the government considered installing a waste treatment plan, among other solutions, but ultimately did not pursue the proposal due to the lack of funding. He further stressed that the proposals under consideration cost billions of rupees.

Justice Shah then issued terms of reference to the Ravi River Commission to propose a road map for the restoration of the river's natural ecology. He eventually encountered a bioremediation project, which relied on constructed wetlands, as a solution. The project called for setting up ponds on the banks of the river to allow polluted water to flow through a set of plants that worked to clean the water. He added that bioremediation looked to microorganism metabolism, plants,

⁵³ *Amicus curiae* literally means "friend of the court" or someone who is not a party to the case but is asked, usually by the court, to provide information that bears on the case. In the *Ravi* case, this consisted of WWF, the IUCN, local NGOs, universities, and environment experts.

and enzymes in the removal of pollutants from the water, and these resources were available at the National Agricultural Research Centre in Islamabad. The pilot project required over 50 acres of land for 10 cusecs of wastewater. Justice Shah emphasized the importance of the judicial role at this stage of the process. He recalled that after deliberations with the Ravi River Commission, conducted like a mediation, the government agreed to the pilot project, estimated at 50 million rupees. He noted that this cost was much less than the billions proposed earlier, and in addition, WWF Pakistan offered to pay the commission's operating expenses.

Justice Shah identified the key aspects of environmental justice carried out in the Ravi River case. He noted that unlike in ordinary cases with adversarial proceedings, the proceedings in this case were aimed at creating a solution. He observed that the case of the Ravi River involved participatory justice with all stakeholders and allowed experts to work with the government to build consensus. In addition, to reinforce an inclusive approach with public participation, Justice Shah ordered the publication of a notice in newspapers to outline the solution of the river's cleanup. The publication provided an opportunity for comments, and the public supported this solution. He noted that through green mediation, the solution was homegrown and consequently cost-effective.

Justice Shah discussed that the case adopted a constitutional and fundamental rights approach in the protection of nature. He looked to natural capital to serve as a helpful tool for future discussions regarding monetary figures. He pointed out that the flexibility in the proceedings here made finding a sustainable solution possible. In this regard, he added that an adaptation approach needs to be considered in decision making, particularly with climate change issues. In sum, Justice Shah highlighted that in addition to a non-adversarial and pro-adaptation type of approach, a process that is expeditious as well as innovative and unconventional is likewise integral to upholding the environmental rule of law.

Presbitero J. Velasco Jr., an associate justice of the Supreme Court of the Philippines, discussed the case of *Metropolitan Manila Development Authority v. Concerned Residents of Manila Bay* and its application of continuing mandamus. He recounted that in this case, the Supreme Court of the Philippines ordered 10 executive government agencies to restore and preserve Manila Bay's water quality at SB level, a technical term that indicates the safe level for contact recreational activities such as swimming. He then provided an overview of the magnitude of the cleanup, considering that the bay measures 1,990 square kilometers, with a coastline stretching 190 kilometers. He added that 17 cities in Metro Manila, with a population of 12 million people, as well as five provinces, all discharged wastewater directly, or eventually, into the bay, making it comparable to a giant sewer.

Justice Velasco emphasized that in the *Manila Bay* case, the Supreme Court issued continuing mandamus for the first time to avoid administrative inaction and ordered the heads of the concerned government agencies to submit quarterly progress reports on the bay's cleanup. The court created the Manila Bay Advisory Committee to oversee the implementation of the decision. The court further ordered the agencies to follow a reporting format to facilitate the committee's assessment of key performance indicators. The committee held quarterly meetings with the agencies to address any concerns and problems in complying with the bay's rehabilitation.

Justice Velasco cited the *Rules of Procedure for Environmental Cases*, which codified the writ of continuing mandamus after the *Manila Bay* case. He clarified that in a continuing mandamus

case, the only respondent is the government. He further remarked that continuing mandamus seeks to redress unlawful neglect in the performance of a duty required by law or the unlawful exclusion of another from enjoying legal rights. He maintained that courts retain jurisdiction over the respondent until the latter fully satisfies the judgment. Again referencing the *Manila Bay* case, he attributed the necessity for continuing mandamus to the perpetual nature of the court's order to restore and maintain the bay's water quality to SB level.

Justice Velasco proceeded to discuss Rule 8 of the Rules of Procedure for Environmental Cases on continuing mandamus. The rule exempts the petitioner from paying docket fees. The rule further provides that the petitioner can be any citizen, which reflects the court's liberal approach to *locus standi*. Justice Velasco explained that the petition may be filed before the regional trial court, Court of Appeals, or Supreme Court; if the petition is sufficient, the court would issue the writ and require the respondent to submit comments on the petition. The court then has the discretion to expedite the proceedings and, in appropriate cases, issue a temporary environmental protection order. He identified the summary nature of the proceedings for continuing mandamus, adding that the court must resolve the petition within 60 days from its submission. Moreover, the court has the authority to order the submission of periodic reports as well as to monitor compliance by itself, with the assistance of a commissioner, or through the concerned government agency. Upon the execution of the judgment, the petitioner could submit comments, and the court could hold the respondent in contempt for failing to accomplish any assigned tasks.

Justice Velasco said that continuing mandamus is an example of the court's control over the execution of its judgment. It is an effective tool to continuously monitor and exact compliance, compel the performance of legal duties, and prevent administrative inaction in environmental protection. Justice Velasco then recounted his experience as the chair of the Manila Bay Advisory Committee, where he found the concerned government agencies to be cooperative and prompt in their submission of quarterly reports. In addition, he observed that most of the agencies stayed on track with the timelines set and expressed enthusiasm in the search for effective solutions. He noted that the court was not inclined thus far to hold some of the underachievers in contempt.

Justice Velasco concluded that in the Philippines, the courts are given ample latitude in the execution of judgments in environmental cases. He cited the Philippine Constitution, the Rules of Court, and the Rules of Procedure for Environmental Cases as the legal basis for continuing mandamus as essentially the exercise of the court's power to give full effect to its judgment. He elaborated on his reference to the Rules of Court, which provides that in the implementation of its decision, the court could issue subsequent resolutions and orders necessarily included in its judgment. Justice Velasco concluded with the recommendation to fully utilize continuing mandamus until a more effective judicial mechanism to execute judgments in environmental cases is adopted.

Mingqing You, an associate professor at the Environmental and Resources Law Institute, Zhongnan University of Economics and Law in Wuhan, PRC, discussed inland water protection and green benches in the PRC. He began by providing context for the state of the PRC's water resources. He compared the northern and southern parts of the PRC, remarking that the former has a dry climate, while the latter has plenty of rainfall. He shared that both areas experience water shortages, even in the south because of water pollution and seasonal rainfall variations.

Professor You outlined the PRC's court system, which includes the Supreme People's Court at the national level as well as local and specialized courts. He enumerated three different local court levels: (i) the Higher People's Court at the provincial level, (ii) the Intermediate People's Court at the municipal level or its equivalent, and (iii) the Basic People's Court at the district level or its equivalent. He explained that the specialized courts include military courts as well as the 10 maritime courts, of which only the Wuhan Maritime Court exercises jurisdiction over inland water. Professor You then remarked that since 2007, 39 green courts sit in over 15 provinces. In addition to stand-alone green courts that exercise jurisdiction over administrative, civil, and criminal cases, he also mentioned green courts with collegiate panels consisting of judges designated to hear environmental cases. He further asserted that the establishment of these courts puts an emphasis on environmental protection.

Professor You continued his presentation with a discussion of the judiciary's numerous roles in the protection of inland water. *First*, he recognized that the judiciary hears administrative, civil, and criminal cases, including disputes where private parties challenge the actions of administrative agencies such as the issuance of permits. *Second*, he emphasized the judiciary's capacity to develop innovations in the interpretation of the law as well as its role in the development of the law. He referred to the public interest litigation clause provided under Article 55 of the Civil Procedural Law, which can be a springboard for this. Finally, he highlighted the judiciary's role in raising public awareness for environmental issues.

Professor You then analyzed this judicial role through an example of a case that involved a large-scale pigsty. Before the pigsty was set up, the concerned environmental protection agencies approved the EIA for it. However, after this EIA approval, the operator did not set up the facilities for environmental protection, resulting in the pollution of the groundwater and a nearby reservoir. Since the reservoir served as the villagers' source of drinking water, they reported the pollution to the environmental protection agency. After investigation, the agency imposed a fine and directed the pigsty to cease operations. Professor You shared that the agency had not generally resorted to litigation, but in this instance, it filed a civil claim for damages seeking the following reliefs: (i) enjoining activities that cause pollution, (ii) payment for the reservoir's pollution treatment facilities and the costs of its operation for 1 year, (iii) payment for monitoring costs as a result of this incident, (iv) payment of expert fees in their evaluation of restoration costs, and (v) payment of legal fees. The environmental court granted all reliefs sought with the exception of the payment for monitoring costs. On appeal, the appellate court affirmed the environmental court's decision.

Professor You shared his insight that the case might have had a different outcome if heard before an ordinary court rather than an environmental court. *First*, before an ordinary court, the agency might not have the standing to sue in a civil action for damages. *Second*, the claims before an ordinary court would be more specific, as opposed to the broader claims before an environmental court. *Third*, in addition to the plaintiff's heavy burden to prove his claims before an ordinary court, presenting the expert evidence necessary to evaluate the pollution and assess damages would be costly.

Professor You further highlighted that the environmental courts have adopted innovations in sentencing for environmental crimes. He noted that in cases of illegal logging, the environmental court, rather than meting out a penalty of imprisonment, could order the offender to plant and take care of trees. The offender's family members could plant the trees themselves and report their actions to the court for consideration in whether to grant the offender probation. Professor

You concluded his presentation by expressing that the addition of the green benches would make the work for environmental protection much easier.

Dr. Kambu opened the floor for questions and comments. Dr. Ananda M. Bhattarai pointed to the water shortage issue and referred to the human rights discourse, particularly that of socioeconomic rights, to possibly extend the discussion on the right to live in a clean, healthy environment. He asked the panel for comments on whether courts have applied the logic of minimum core and the prioritization of rights in natural resource management cases to provide more protection for the poor and marginalized.

Attorney General Mahbubey Alam from the Ministry of Law, Justice, and Parliamentary Affairs of Bangladesh addressed his question to Justice Shah, asking where much of the pollution in the Ravi River comes from, considering that the river originates in India and flows through Pakistan. Justice Shah remarked that as a major part of the river is in Pakistan, its own industries as well as its population contribute to the pollution.

Fiona Connell, principal counsel at ADB, requested Justice Shah and Justice Velasco to comment on the administrative burden, particularly with regard to costs, that appears to accompany the issuance of a writ of continuing mandamus and its possible implications on the court's limited resources. Justice Shah commented that among the hundreds of thousands of cases before the courts in Pakistan, only a limited number involve continuing mandamus, adding that this is an indication that any additional costs, if at all, are negligible. He further remarked that additional costs would become a problem with many cases involving continuing mandamus, but the status quo does not reflect this.

Justice Velasco noted that in the Philippines, the implementation of the *Manila Bay* decision involving continuing mandamus would entail more expenses than the execution of judgments in ordinary cases. He reiterated that in the *Manila Bay* case, the Supreme Court ordered the rehabilitation and preservation of the bay such that its waters are fit for swimming and other recreational activities. Because the execution of this judgment is perpetual, the court will need to devote much time to its implementation. He added that the Manila Bay Advisory Committee's tasks take time, including holding quarterly meetings, meeting with a technical working group, evaluating periodic reports, and consulting experts.

Judge Smith commented that the offender frequently bears the costs in the US, where they form either part of the agreed settlement or the conditions of probation in criminal cases. A condition of probation, for example, might require the offender to pay the costs of an outside expert to certify whether the offender actually fulfills the conditions of probation. She referred to one case in Alaska, where the offender had to bear the cost of \$40 million to fulfill the condition of probation requiring the establishment of a nationwide environmental management system. She also cited the *Exxon Valdez* case in Alaska, in which some nongovernment organizations (NGOs) had the task of monitoring the waters. In the same case, she specified that scientific efforts received money to remedy the damage incurred.

Justice Velasco added to his response and clarified that the polluter must pay so that the offender bears the costs in the execution of a judgment in an environmental case. According to the Rules of Court, the court could order another party to perform the acts that the judgment requires of the defendant. The defendant would bear the costs in this case. Moreover, he referred to the

Rules of Procedure for Environmental Cases, which also provides that the court could require the defendant to contribute to a trust fund created for the expenses in the execution of the judgment.

Attorney General Alam addressed his questions to Professor You, asking for clarification on the proper forum for appeals from the environmental courts in the PRC. He also asked whether the Supreme People's Court of the PRC has heard an environmental case on appeal. Professor You remarked that environmental courts are usually in the basic court and intermediate court levels such that appeals are respectively directed to the Intermediate People's Court or the Higher People's Court. Professor You pointed out the difficulties in appealing to the Supreme People's Court due to the costs of appeal. He also emphasized that environmental courts adopt participatory decision making, where judges invite all stakeholders, including government agencies and NGOs, to take part in the trial, and as a result, parties do not usually resort to filing an appeal.

Mr. Tariq Aziz remarked that different sets of users benefit from the waters of the Ravi River, and one set actually profits from it. He characterized that this set of users exemplifies the opposite of the polluter pays principle, because they use the river's services without paying for it. He then asked Justice Shah whether these users could fund the river's cleanup. Justice Shah noted that the residents of the city are the river's beneficiaries. However, he qualified that a class that makes a profit from the river, if any, must be identified. Justice Shah then turned to Ms. Saima Amin Khawaja, an advocate in the Lahore High Court and one among the *amicus curiae* in the *Ravi River* case, for additional comments. Ms. Khawaja remarked that an investigation identified the industries polluting the river. Justice Shah recounted that the polluting industries were directed to install treatment plants, consistent with the polluter pays principle. He commented that the government, with funds from taxpayers, is the best entity to advance payment for the river's cleanup, because the government is already part of the system.

Professor Lye Ling Heng discussed *Cambridge Water Co. Ltd. v. Eastern Counties Leather plc*⁵⁴ to highlight challenges on issues regarding the foreseeability of damages in environmental law. This case involved a tannery, which used a chemical that spilled in minute amounts into the groundwater. Scientific experts agreed that the chemical had infiltrated the ground and contaminated the water supply in Cambridge County after 9 months. The case discussed common law tort principles such as nuisance and negligence as well as the doctrine in *Rylands v. Fletcher*.⁵⁵ Professor Heng commented that the judgment, which held that the tannery company was not liable, included the criteria that the damage must be foreseeable. She further noted that the case did not discuss the precautionary principle. Professor You then pointed out that as counsel, arguing that damages are foreseeable is difficult in the event that an industry complied with administrative and EIA requirements. Justice Velasco added that in the Philippines, the law provides that a party's liability includes the probable and necessary consequences of his tortuous act.

Judge Danilo S. Cruz from the Regional Trial Court of Pasig, Philippines, asked Justice Velasco about the timetable for Manila Bay's rehabilitation. Justice Velasco identified the task assigned to the Metropolitan Waterworks and Sewerage System to set up more wastewater treatment facilities. He added that its two concessionaries committed to completing at least 60% of this task by 2037. Justice Velasco recounted that establishing the wastewater treatment facilities has led to many problems. He explained that several sampling stations are set up throughout the

⁵⁴ 1 All ER 53 (1994).

⁵⁵ 3 LR HL 330 (1868).

bay, which covers 1,990 square kilometers; some sampling stations reveal improved water quality, while others have not seen the same result. He said that it would probably take several more years for the water from a certain portion of the bay to be fit for swimming.

Attorney Antonio A. Oposa Jr. stressed the importance of the climate crisis, as it leads to, for instance, ocean acidification. He urged the judiciary to keep this climate crisis in mind in the adjudication process.

Justice Diosdado M. Peralta asked Justice Shah whether mandamus in Pakistan is directed against public officials or private individuals. Justice Peralta discussed that in the Philippines, mandamus commands a public official to perform an act required by law because the official negligently or willfully failed to perform this act. He referred to the *Manila Bay* case to illustrate that mandamus is directed against public officials to clean the bay and not against private individuals. Justice Shah provided context to continuing mandamus in Pakistan, characterizing the same as a judicial innovation. He elaborated that it refers to the court's rolling review and involves a series of orders, even including daily incremental orders, to ensure that the case keeps moving until a particular result is achieved. Justice Shah commented that traditionally, all writs are issued against public authorities, and in the *Ravi River* case, the government has the primary responsibility over the river. He shared his insight on the importance of rectifying matters in cases involving the utilization of the public domain.

As a final question, Justice Peralta asked Professor You about public interest litigation and whether court proceedings are investigative or adversarial in the PRC. Professor You recounted that the work of the PRC's environmental courts brought attention to public interest litigation. He remarked that this development led to the amendment of the Civil Procedural Law in 2012 for the addition of a provision on public interest litigation. He cited Article 55 of the Civil Procedural Law, which provides that certain administrative agencies and other organizations have the legal standing to bring suit for public interest claims, including claims involving pollution or an action for damages to a large number of consumers. Professor You added that civil cases now undergo what are more like adversarial court proceedings, unlike the investigative court proceedings in the past. He further remarked that in the green courts, the proceedings, aside from being participatory, are closer to being adversarial.

Session 8

Coastal and Marine Ecosystems

Maria Lourdes Drilon, a senior natural resources economist at ADB's Transport, Energy, and Natural Resources Division, chaired this session on coastal and marine ecosystems in Asia and the Pacific.

Eleanor Carter, an independent consultant and former marine program director at Rare,⁵⁶ provided an overview of the economic value and state of the coral and marine ecosystems in Asia and the Pacific. She first clarified the scope of her presentation, which highlights the critical marine ecosystems of coral reefs, mangroves, and sea grasses. She further emphasized the importance of these ecosystems, that while they cover less than 1% of the ocean floor, they nonetheless serve

⁵⁶ <https://www.rare.org>

as the breeding area for more than 25% of the world's marine life. She also cited the region's significance to marine ecosystems: (i) throughout the globe, Asia and the Pacific has the highest coral reef diversity and productivity; (ii) Southeast Asia has the highest population dependency on reef systems; and (iii) the Coral Triangle has one-third of the world's coral reefs.

Ms. Carter then related natural capital to these critical marine ecosystems, beginning with the fisheries and food security they provide. Coral reef fisheries in Southeast Asia generate an estimated \$2.4 billion annually. In the Coral Triangle, these resources directly support the livelihoods of approximately 120 million people while also providing indirect support to over 370 million people. These resources account for more than 11% of the capture fisheries exported globally and make up between 1.0% and 6.8% of the GDP of the six countries of the Coral Triangle. Fisheries and marine products provide 36% of Asia and the Pacific's protein needs and 80% of the protein needs of those in the rural areas. She pointed to small-scale or artisanal fishers as contributing to the majority of fisheries catch; in Indonesia, for instance, artisanal fishers extract 95% of all harvest, often using smaller vessels that fall under the regulatory level of licensing requirements.

Ms. Carter pointed out that these ecosystems attract tourism due to their marine biodiversity. Reef-associated tourism accounts for up to 30% of national export earnings in some countries in Asia and the Pacific. Annual tourism revenue generates an estimated \$18 billion in the Coral Triangle and \$258 million in Indonesia and the Philippines.

Ms. Carter then discussed the role of marine ecosystems in providing carbon sequestration, which in turn improves resilience against climate change. Although this area remains unexplored, marine ecosystems sequester carbon more than the majority of terrestrial ecosystems. Many discussions regarding carbon credit for terrestrial systems exist, but discussions for marine ecosystems on blue carbon and potential carbon credit are just beginning. Thus, she asserted that Asia and the Pacific has great potential in utilizing this financing mechanism.

Ms. Carter emphasized that in addition to coral reefs, mangrove ecosystems underwater and on the water's edge act as buffers from storm surges. Under water, a coral reef wall absorbs between 75% to 95% of wave energy before it gets to land; consequently, the degradation of these ecosystems allows the wave energy to hit the coastline directly rather than being absorbed out at sea. As a result of these damaged ecosystems, coastal erosion along the Gulf of Thailand and the Andaman Sea has caused an estimated loss of \$156 million of real estate. She further referred to the Philippines and Indonesia, where shoreline protection has an estimated annual value of \$782 million.

Finally, Ms. Carter called attention to the new area of finding medicinal properties in marine ecosystems. She pointed out that some scientists suggest that this likelihood is 300 to 400 times greater than terrestrial ecosystems. She added that Japan has started investing an estimated \$1 billion into research for this area.

Ms. Carter then focused on the status of natural capital. She illustrated that these marine ecosystems are currently in rapid decline, with 75% of coral reefs under threat and 20% of global mangroves destroyed. Some scientists predict that this impact might lead to the collapse of all global fisheries by 2048. The threats considered most severe are in Asia and the Pacific, where 95% of coral reefs include a classification of a "high" or "very high" threat to 50% of these reefs.

The threats to these ecosystems have resulted in the exponential reduction in fish catches since the 1950s.

Ms. Carter identified the major threats to marine ecosystems: habitat removal and destruction, pollution, sedimentation, overfishing, destructive fishing, and climate change. *First*, she described overfishing and destructive fishing practices as being the highest threat to reefs and associated habitats in Southeast Asia. Current estimates indicate that blast fishing will cause an estimated loss of \$570 million worth of reefs over the next 20 years. She then identified the reasons for overfishing and destructive fishing, beginning with the implications of regulatory measures such as licensing requirements. These measures do not apply to artisanal fishers, resulting in their lack of management. Enforcement mechanisms to monitor sustainable catch quotas are nonexistent in many places, considering the difficulties in determining the appropriate quota and the absence of the necessary institutional support to monitor the same. Additionally, the many protected areas in Asia and the Pacific established to restock natural capital have no effective management. *Second*, Ms. Carter remarked that the levels of habitat removal and destruction for development are alarming, specifically referring to the extraordinarily high levels of mangrove destruction. In Asia and the Pacific, the analysis of anticipated net benefits and losses from 2002 to 2022 shows that the accrued financial loss would be far beyond any potential benefits of the utilization levels in the region.

She concluded her presentation with recommendations to sustain natural capital, as it is critical for the health and livelihoods of the population. She pointed to the necessity for an appropriate legal framework to close the gap between legislation and its enforcement. She related that her own experiences as a field practitioner working with fishing communities and local governments showed that closing this gap is necessary to support the environment in some rural and remote areas.

Video Presentation: Coral Triangle

Ms. Drilon introduced a video presentation showing the efforts of the Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security (CTI-CFF) across Asia and the Pacific, involving Indonesia, Malaysia, Papua New Guinea, the Philippines, Solomon Islands, and Timor-Leste. She added that Fiji and Vanuatu also joined the CTI-CFF. She further pointed out that ADB financed the CTI-CFF together with, among others, the Global Environment Facility, UNDP, and UNEP.

The video presentation highlighted the magnitude of the resources in the Coral Triangle that support hundreds of millions of people. It then described the threats to the Coral Triangle, including overfishing as well as illegal fishing practices. These practices include bottom trawling, blast fishing, and the use of poison. It further enumerated the other threats to the Coral Triangle's survival, including industry pollution, urban development, agriculture, and mining. Furthermore, the presentation identified impending climate change threats such as the increase in the acidity levels and temperature of ocean waters as well as the alteration of global weather patterns.

The presentation showed profitable alternatives to harmful fishing practices as well as the adoption of traditional and new methods of sea protection: (i) a viable business project in Bali, Indonesia on the export of tropical reef fish for aquarium hobbyists, (ii) fishing without the use of poison, (iii) the designation of certain areas as off-limits to fishermen, and (iv) the designation of guardians to patrol the seas. It conveyed the importance of fish breeding grounds to an entire

industry, which tens of thousands depend on for livelihoods and millions depend on as a vital food source. In addition, the presentation related that tourism in the region attracts \$18 billion annually. It referred to Puerto Princesa, Philippines, as an example, where the replanting of mangrove forests produced an increase in marine and bird life, tourism, and sustainable fishing.

The presentation then discussed that the six governments of the region launched the CTI-CFF in Bali, Indonesia in 2007, and further strengthened their commitment to regional partnership and action in Manado, Indonesia, in 2009. In addition, it identified that ADB, in partnership with the US, Australia, the Global Environment Facility, and international conservation organizations, supported programs and solutions. Considering that the protection of the Coral Triangle's natural capital would cost far less now than in the future, the presentation concluded with an emphasis on the immediate need for investment, education, and a commitment to action for a sustainable means of livelihood.

Peter Wulf, a barrister at law, scientist, and member of the Commonwealth Administrative Appeals Tribunal in Australia, discussed legal regimes for land-based pollution in the marine ecosystem, marine disposal, and illegal fishing as related to hot pursuits. He remarked that land-based pollution, accounting for 70% of marine and coastal pollution, comes from either a single point or is diffuse. He compared these two sources, observing that pollution from a single point is relatively easy to regulate, while pollution from diffuse sources is more difficult to regulate. He illustrated that point-source pollution, such as that released from a pipe, could be regulated through permits on the amount of the release, whereas diffuse-source pollution occurs cumulatively. He elaborated that the most prevalent diffuse-source pollution results from rainfall runoff where, as water flows, it picks up pollutants, including sediments, clearing, and vegetation, and moves them into rivers, which subsequently impacts the ocean at catastrophic levels. Mr. Wulf then cited the UN Convention on the Law of the Sea (UNCLOS), which contains state obligations on enacting the relevant legislation and enforcement. He qualified that difficult issues arise in cases where pollution has a cumulative or transboundary impact.

Mr. Wulf continued his presentation by moving to marine disposal and referencing the 1996 Protocol to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter. He related this issue with his experience as a member of the tribunal in a case concerning the marine disposal of a former Australian navy vessel in 2010.⁵⁷ The Government of Australia granted a permit to sink the vessel pursuant to its Sea Dumping Act of 1981. Initially, environmental groups were concerned that the vessel contained polychlorinated biphenyls (PCBs). However, an inspection of the vessel confirmed removal of the wires containing PCBs and their housing. In the trial, the applicants raised the issue that the vessel contained lead paint. Mr. Wulf recounted that the original permit required monitoring for 5 years, but during trial, an expert stated that a vessel's impact would only be known sometime between 6 to 20 years. The tribunal ultimately allowed the sinking of the vessel after the removal of lead paint. In addition, the sinking of the vessel was delayed to ensure that a pod of dolphins was protected from the noise of the process. He further emphasized that the maintenance of a vessel is among the critical conditions in continual enforcement.

⁵⁷ *Re: No Ship Action Group Incorporated and Minister for Environment Protection, Heritage and the Arts and the State of New South Wales* [2010] AATA 702.

Mr. Wulf proceeded to discuss illegal fishing. Estimates show that 20% of seafood worldwide is caught illegally, resulting in economic losses that could be worth up to \$23 billion annually. He added that the scope of illegal fishing includes 25 million metric tons of fish. Asia and the Pacific is a relatively open and unregulated area, where the catch from illegal fishing is among the highest. The lack of financial capacity to regulate illegal fishing among governments across the region remains an issue. However, he reported that the Regional Plan of Action to Promote Responsible Fishing Practices including Combating Illegal, Unreported and Unregulated Fishing is in place. He added that Australia, Indonesia, Papua New Guinea, Singapore, Thailand, and Viet Nam have tracked illegal fishing pursuant to the regional plan.

Mr. Wulf gave two examples of enforcement of marine fisheries in Australia. The first highlights an aspect of international cooperation. An Australian fisheries patrol vessel, the *Southern Supporter*, spotted an illegal fishing vessel, the *South Tomi*, in Australia's exclusive economic zone, targeting the Patagonian toothfish. The *Southern Supporter* commenced hot pursuit under Article 111 of the UNCLOS, which covered a distance of 6,100 kilometers from the Heard Island and McDonald Islands to South Africa. He emphasized that international cooperation involving Australia, France, and South Africa led to the capture of the *South Tomi* as well as the sale of the catch.

The second example shows how domestic issues could lead to international issues. The *Volga*, a Russian vessel, was 400 meters inside Australia's exclusive economic zone when Australia spotted it and 200 meters outside of it when Australia arrested the vessel. As a result, three crew members faced charges, with large bonds set for them and the vessel. The Russian government argued before the International Tribunal on the Law of the Seas that the bonds were unreasonable. Ultimately, the tribunal upheld this argument, and Australia had to release the vessel; however, Australia retained the catch.

Patrick Duggan, a trial attorney at the Environmental Crimes Section of the US Department of Justice, highlighted the necessity for international cooperation in ensuring the prosecution of environmental crimes. He remarked that the demand for seafood such as swordfish, bluefin tuna, shrimp, prawns, crab, and lobster has increased. Similarly, he pointed out that the demand for coral art, jewelry, and the mining of marine resources has also increased. He then cited the US Lacey Act (False Labeling of Fish, Wildlife or Plants); the Lacey Act (Trafficking of Illegal Wildlife, Fish, and Plants); the Endangered Species Act; the Anti-Smuggling Statute; and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which form the basis for the prosecution of importing illegal marine resources to the US. In order to prosecute these offenders, there must be knowledge that extracting these resources are illegal in their country of origin. He remarked that the judges, prosecutors, and environmental organizations of Asia have a significant role to play in acquiring this information and sharing it in the symposium and other conferences.

Mr. Duggan emphasized that the relationship among the US and supplier nations is critical in sharing this information, considering that one illegal transaction could possibly involve up to five countries. An illegal transaction can move through the following stages: (i) catching fish in the seas of one country, (ii) shipping fish before processing in a second country, (iii) processing fish in a third country, (iv) shipping fish to a fourth country where it then becomes a consumer good, and (v) shipping fish to the consumer in a fifth country. He pointed to the necessity for the US, as a consumer country, to have detailed knowledge regarding the supply chain given the difficulties in discerning the difference between legal and illegal fish. He added that catching fish could also be

legal during one month and illegal in the next month. Thus, Mr. Duggan recognized the likelihood that illegal fishing could involve a paperwork violation, where the offender made false statements regarding the time or weight of the catch. For this reason, he emphasized the importance for the members of the judiciary to treat these paperwork violations in the same manner as actual illegal resource extraction.

Mr. Duggan then discussed how the US Department of Justice's Environmental Crimes Section experienced success with international cooperation in Operation Black Gold, which involved rare black coral (CITES Appendix II) found in Asia and the Pacific. Two nationals of Taipei, China purchased black coral in Taipei, China then shipped it to Hong Kong, China. The processing of the black coral occurred in St. Thomas, part of the US Virgin Islands, before its subsequent sale all over the world. Cooperation with law enforcement agencies from four or five different countries enabled the US to stop these illegal shipments. The US Fish and Wildlife Service Forensics Laboratory identified the illegal black coral as such. The two nationals of Taipei, China were arrested in the US, eventually pleaded guilty, and received penalties of imprisonment for 51 months and fines totaling \$5.62 million.

Mr. Duggan further cited the landmark case of *US v. Bengis* as an example of restitution accorded to countries harmed from illegal trading of resources.⁵⁸ The case involved a shipment of stolen lobster from South Africa into the US. Ultimately, the US gave the money from the imposed fines to South Africa and its natural resource agencies.

Mr. Duggan reiterated the necessity for the US and supplier nations to maintain strong relationships in order to ensure free-flowing information. He encouraged judges, prosecutors, and other stakeholders to bring any international issues regarding the protection of resources to the attention of the Environmental Crimes Section, US Department of Justice.

Saleem Marsoof, a judge at the Supreme Court of Sri Lanka, discussed the judicial role from the perspective of Sri Lanka. He began with an overview of the environment in Sri Lanka consisting of forests and beaches, among others, all with rich biodiversity. Sri Lanka has an area of 65,610 square kilometers and a coastline measuring approximately 1,585 kilometers. It has 45 estuaries, 40 lagoons, 103 rivers, 51 natural waterfalls, and reefs that cover an area of approximately 68,000 hectares. In 2004, a tsunami caused extensive losses and destruction in Sri Lanka, where nearly 50,000 people lost their lives. He said that the proper management of the coastal ecosystem, including the mangroves, could have reduced the tsunami's devastating impact. He added that cyclones occur regularly in Sri Lanka and also cause damage.

Justice Marsoof identified Sri Lanka's environmental laws, which include: (i) the Coast Conservation and Coastal Resource Management Act, (ii) the Fauna and Flora Protection Ordinance, (iii) the State Lands Ordinance, (iv) the Mines and Minerals Law, (v) the Fisheries and Aquatic Resources Act, (vi) the National Environmental Act, and (vii) the Sri Lanka Land Reclamation and Development Corporation Act. In his discussion of the court system and environmental cases in Sri Lanka, he remarked that the Magistrates Court exercises jurisdiction over criminal cases. He cited *Karunaratne v. Boteju*, where the defendant, in facing a charge of violating an ordinance that prohibited the removal of stones and other substances from a beach,

⁵⁸ 631 F.3d 33 (2d Cir. 2011).

claimed that sand was not included in the prohibition.⁵⁹ On the defendant's appeal before the Supreme Court, the court held that the seashore's common use could not be impeded. Justice Marsoof further explained that the Court of Appeal exercises supervisory jurisdiction over the administrative decisions of other agencies. He referenced *Amarasinghe and Others v. The Attorney General and Others*, which involved the Colombo–Katunayake Expressway that would cut across a forest.⁶⁰ The Court of Appeal's decision held that weighing the advantages against the disadvantages of the expressway was outside of its functions. He then pointed to the Supreme Court's decision, which held that the case concerned a fundamental right, such that the Court of Appeal should have directed the case to the Supreme Court with exclusive jurisdiction over fundamental rights matters. He added that the Supreme Court awarded damages to the affected parties.

Justice Marsoof made two observations regarding judicial decisions. *First*, he cited Article 27(4) of the Constitution of Sri Lanka, which provides for the fundamental duty to "protect, preserve, and improve the environment for the benefit of the community." He shared that the courts interpret this fundamental duty broadly to include the right to life and the right to a healthy environment. *Second*, he emphasized that the courts apply the doctrine of public trust in cases involving corruption and abuse of power. He stressed that the courts would not tolerate abuse of the public trust, considering that all branches of government hold power subject to this trust for the benefit of the people.

Justice Marsoof pointed out that the Supreme Court has a green bench, where a case regarding sand mining operations on rivers is pending. In this case, the petitioner alleged a violation of his right to equality after the government issued an order against him for illegal mining and excluding from the order the others doing the same. The court denied the petition, issued continuing mandamus, and continues to supervise the Mines and Minerals Bureau as well as the police to prevent illegal sand mining. In conclusion, Justice Marsoof reiterated the call to protect the population's one and only earth.

Dato' Hasan Lah, a judge at the Federal Court of Malaysia, gave a presentation on the judicial role in Malaysia. He remarked that Malaysia, rich in biodiversity, has a coastline that stretches to 4,800 kilometers as well as one of the largest continental shelf areas. He shared that marine pollution mainly comes from land-based and vessel-based sources. In this regard, he identified the relevant legislation in the regulation of marine pollution: (i) the Environmental Quality Act of 1974; (ii) the Exclusive Economic Zone Act of 1984; (iii) the Merchant Shipping Ordinance of 1952; (iv) the Merchant Shipping (Oil Pollution) Act of 1994; and (v) the Fisheries Act of 1985. In turn, he related that the government agencies responsible for the enforcement of these laws include the Department of Fisheries, Department of Environment, Marine Department, and the Malaysian Maritime Enforcement Agency. Furthermore, he added that Malaysia has specialized environmental courts, which exercise jurisdiction over environmental criminal cases.

Justice Lah observed that Malaysia's environmental jurisprudence involves a limited number of civil cases arising from common law causes of action such as nuisance and negligence. He cited *Wahab bin Ibrahim and Ors v. AET Tanker Holdings Sdn Bhd*, involving an oil spill from the collision of two vessels in the Singapore Straits.⁶¹ He recounted that 249 plaintiffs, among whom

⁵⁹ 7 NLR 127.

⁶⁰ [1993] 1 Sri LR 376. He also cited *Public Interest Law Foundation v. Central Environmental Authority* [2001] 3 Sri LR 230.

⁶¹ [2012] MLJU 1007.

were unlicensed fishermen, brought a claim for loss of income and damages under the Merchant Shipping (Oil Pollution) Act of 1994 against the registered owner of one of the vessels. He identified the issue as whether the oil spill impacted marine resources that led to a loss of income for several months. The evidence adduced in trial included the independent technical report of the International Tanker Owners Pollution Federation Limited in London, which provided that the light crude oil spilled would likely evaporate quickly. He added that the report assessed the quantity and movement of the spilled oil and thus considered the 5-day fishery restriction as probably longer than necessary. Justice Lah then turned to the trial court's decision, which held that aside from the report, no evidence suggested the endangerment of marine resources or the contamination of seafood. The court dismissed the claims of the unlicensed fishermen, but found for a 5-day loss of income in the remaining claims.

In conclusion, Justice Lah stressed the importance of the judiciary's role in increasing access to environmental justice and strengthening its own capacity in deciding environmental cases. He emphasized that the judiciary is key in championing the other pillars of justice toward credible rule of law systems that have integrity and promote environmental sustainability.

Ms. Drilon opened the floor for questions. Attorney General Alam of Bangladesh pointed to the necessity for international cooperation to stop illegal fishing in the Bay of Bengal. Mr. Wulf said that he could not comment on South Asia specifically, but he did suggest the potential to develop coordination similar to the existing body in Southeast Asia, which provides assistance with illegal fishing. He added that Australia and New Zealand are also proactive in supplying vessels for assistance.

On a related note, Mr. Wulf raised concerns on the costs of high seas pursuits. He referred to the Solomon Islands, which has a navy vessel that remains unused due to a lack of funds for fuel. Ms. Carter further contributed to the discussion with a comment on the costs of ground enforcement and the capture of violators, recounting that the fuel required for the boats used in enforcement is expensive. She also pointed to protected areas in Indonesia to illustrate that while a site might cover one million hectares with a population of 100,000, it might likely have a local fisheries district office with a four-member staff. She added that staff members need to be accompanied by a police officer to make an arrest, and the delay results in the loss of the chain of evidence. Moreover, she emphasized that the officer's budget is not enough to even cover the fuel necessary to go to any site. Ms. Carter further shared that international organizations with a special interest in particular areas fund the majority of cases that go on to be prosecuted in Indonesia, and she reflected that this practice does not appear to be sustainable or desirable.

Aleta Nuñez, a faculty member at the De La Salle University College of Law, Philippines, asked Mr. Duggan about the restitution in the black coral case and *US v. Bengis*. Mr. Duggan discussed the two different ways that restitution occurs. *First*, he explained that in a case with a guilty plea and no trial, the prosecutor and the defendant determine the mechanism for the payment of restitution. He referred to the black coral case and recounted that the prosecution worked directly with the defendants to determine where payment would go, such as to a university for coral degradation research. *Second*, he remarked that in a case that goes to trial, the judge sentences the defendant and orders restitution. He illustrated that in *US v. Bengis*, the subject of the appeal was this very issue, where the prosecution sought \$59 million in restitution, ultimately payable to South Africa. He shared that ultimately, the defendants made payment to the US Marshal Service, which

then transferred this payment to the environmental protection agency that would have received the proceeds had the illegal lobster been confiscated and sold at auction in South Africa. He reiterated the importance of coordination and cooperation, where South Africa communicating its property rights to the US paved the way for this result.

Mr. Duggan discussed an additional legal issue in the US relating to the Philippines, noting that US vessel pollution cases often involve Filipino sailors as whistleblowers. He remarked that US judges have the power to order payment to whistleblowers who provide evidence of pollution and crimes. He recalled one recent instance in which the offender paid approximately \$250,000 to a Filipino sailor who reported the crime concerned.

Session 9

Biodiversity Loss, Protected Areas, and Encroachment

Marlene Oliver, a commissioner at the Environment Court of New Zealand, chaired this session. She began with an introduction of the New Zealand Environment Court, a specialist court of record since 1996, which consists of judges and technical experts from a range of disciplines including, among others, biological sciences, environmental management, local government management, engineering, surveying, and landscape architecture. She outlined the order of discussion for the session, beginning with the state of biodiversity, followed by the relevant laws, and concluding with the role of the judiciary. She then asserted that environmental decision making involves uncertainty and the future, such that it ultimately requires the consideration of risk predictions and the probabilities of adverse impacts. She concluded that while the role of the judiciary in upholding the rule of law remains the same, environmental decision making would call for more value judgments that account for these aspects.

Clarissa C. Arida, director, Programme Development and Implementation of the ASEAN Centre for Biodiversity, gave a presentation on the state of biodiversity in Asia. She first pointed out that biodiversity encompasses three levels: (i) ecosystems diversity; (ii) species diversity; and (iii) genetic diversity. She attributed the degradation of ecosystems to human activities and pointed to the substantial, irreversible loss of biodiversity. She cited the *Millennium Ecosystem Assessment Report of 2005* to show the decreasing provisioning services from biodiversity resources, including fiber, timber, cotton, wood fuel, genetic resources, biochemicals, medicines, and freshwater.

Ms. Arida pointed out that in Asia, biodiversity supports 3.8 billion people, which accounts for 60% of the total population and around 70% of the poor. At the same time that Asia has experienced rapid economic development, it has also faced increased biodiversity loss. She emphasized that the world did not meet the 2010 biodiversity target set out in the Convention on Biological Diversity. The existing biodiversity pressures are very high, which lead to ecosystem degradation, decreased species populations, increased risk of extinction, and the erosion of genetic diversity.

She identified agriculture and infrastructure development as causes of habitat loss and degradation, which, in turn, exert very high pressure on biodiversity. She related that the world has experienced the following losses: (i) 100 million hectares of forest from 2000 to 2005, (ii) 20% of sea grass and mangrove habitats from 1970 to 1980, (iii) a 38% decline in the quality of coral reefs since 1980, and (iv) a decrease in 95% of the wetlands in certain areas. Ms. Arida recognized that

many environmental protection efforts focus on mangroves as the first line of defense against natural disasters due to climate change. She pointed out that over 60,000 square kilometers of the region's surface area are covered by more than 52 species of true mangroves, some of which are critically endangered or endangered. She attributed the degradation of mangroves mainly to deforestation due to demand for fuel and materials for housing, in addition to the conversion of mangroves to commercial fish or prawn ponds, as in the Philippines. Furthermore, Ms. Arida shared the prediction that by the end of the century, climate change would likely be a dominant driver of biodiversity loss. In Asia, as much as 50% of biodiversity and 88% of coral reefs are at risk. She also pointed to the devastation from typhoons, the threats to species and habitats, and the spread of disease.

Ms. Arida identified the threat of invasive species as another driver of biodiversity loss, with the source being increased global travel and trade. She remarked that the overexploitation of wild species further drives biodiversity loss, citing the UN Office on Drugs and Crime data that \$2.5 billion is the value of illegally traded wildlife in East Asia and the Pacific. She also referred to the effort of the Wildlife Conservation Society of Singapore in identifying the reason for the illegal trade of wildlife, that the trade yields a high profit while risking minimal punishment.

She emphasized that protected areas, including national parks, prove to be an effective tool in saving biodiversity. She referred to UNEP's World Conservation Monitoring Assessment of 2013 to report that Asia has over 7,000 protected areas occupying an average of an estimated 16% of the land area. She added that protected area management practitioners reinforced these efforts at the Asia Parks Congress, held in Japan in 2013, by focusing on the effective management of these areas. Furthermore, she cited World Bank Wealth of Nations data to point out that protected areas are part of natural capital estimates with timber, cropland, energy, and mineral resources.

Ms. Arida referenced the Aichi Biodiversity Targets, which provide the framework for effective and immediate action to stop biodiversity loss by 2020. She noted that while protected areas are increasing, she asked whether these areas are subject to effective management and whether the efforts against the illegal wildlife trade take place within them. She identified that the strategic plans for biodiversity include the following objectives: (i) to mainstream biodiversity through sectors, plans, and programs; (ii) to reduce direct biodiversity pressures as well as promote sustainable use; (iii) to protect ecosystems, species, and genetic diversity; and (iv) to improve the benefits from biodiversity and ecosystem services. She related that the last objective highlights the connection between biodiversity and poverty reduction. Although she recognized the progress in meeting biodiversity targets through community-based management, innovative financing, and community benefit-sharing, Ms. Arida maintained that these efforts are insufficient. She stressed the urgent need for a concerted effort to continue changes in consumption patterns, improve capacity, provide access to justice, and ensure effective governance.

Professor Lye Lin Heng, director of the Asia-Pacific Centre for Environmental Law and vice chair of the IUCN Environmental Law Academy, National University of Singapore, provided an overview of constitutional protection for the environment, multilateral environmental agreements relating to conservation, and protected areas. She identified the following such agreements: (i) Convention on Biological Diversity, (ii) Ramsar Convention on Wetlands, (iii) CITES, (iv) Convention on Migratory Species, and (v) UNCLOS. Both the Convention on

Biological Diversity and the Ramsar Convention require setting up protected areas. In addition, national laws for protected areas include (i) property laws, such as those for wildlife ownership; and (ii) from a broader perspective, other laws that protect natural resources, ecosystems, and species. She emphasized that good protected areas management ensures the involvement of indigenous peoples.

Professor Heng shared that ASEAN has no hard laws on biodiversity. She recounted that in 1985, six ASEAN member countries signed the ASEAN Agreement on Nature and Natural Resources, but with ratification from only three member countries, the agreement did not enter into force. She then identified two soft laws: (i) the ASEAN Declaration on Heritage Parks of 1984, revived in 2003 and leading to the declaration of over 30 ASEAN heritage parks; and (ii) the Memorandum of Understanding on ASEAN Sea Turtle Conservation and Protection of 1997.

She proceeded to discuss the legal issues with regard to the ownership of wildlife. She remarked that common law generally accords ownership to the landowner, but the ownership of wildlife also depends on its capture and possession. She then related the question of what constitutes wildlife to a case that involved a camel in a zoo that bit a child. The court's decision held that an animal's country of origin and not its fierceness determines whether it is wild.

Professor Heng then identified the key issues in legislation for protected areas. She pointed out that conflicts in national laws occur with the passage of new legislation at different times, changes in administration, the overlapping jurisdictions for different authorities, and inconsistency with penalties. She reiterated the importance of partnerships with indigenous peoples in the management of protected areas. She then emphasized the need to consider for legislation the six categories of areas protected by the IUCN, which classify the areas according to their management purpose. Professor Heng recognized that the main principles for legislation on protected areas first focus on conservation, considering that habitat loss is a major concern. She then outlined the following recommendations for protected areas legislation: (i) to state the objectives in the law with clarity in order to guide the management of protected areas; (ii) to provide measurable targets within a time period; (iii) to leave the designation and removal of protected areas with the highest possible government authority; (iv) to promote the voluntary conservation of lands; (v) to ensure land tenure rights and to recognize the possible application of customary laws to allow local communities to participate in the management of protected areas; (vi) to promote access to justice and public participation in pursuit of good governance; (vii) to identify buffer areas and ecological corridors; (viii) to adopt the ecosystem approach, land use planning, and EIA laws; (ix) to clearly identify the enforcement authorities; (x) to determine the severity of penalties according to their capacity to deter violations of the law; and (xi) to consider the review of evidentiary standards to ensure effective prosecution.

Professor Heng cited Australia's Environment Protection and Biodiversity Conservation Act as good law for a protected areas system. She highlighted the objectives of the act, which embody the best principles of (i) protection of the environment, (ii) ecologically sustainable development, (iii) biodiversity conservation and heritage conservation, (iv) the recognition of international environmental responsibilities, and (v) the recognition of the rights of indigenous peoples and the promotion of their biodiversity knowledge. She pointed out that the act is comprehensive, as it applies to terrestrial and marine areas. She added that Australia's Kakadu National Park is a good example of joint management.

Professor Heng moved on to highlight two examples of how legislators drafted the law. *First*, she cited *Leatch v. National Parks and Wildlife Service and Shoalhaven City Council*, which involved a proposal to build a road into an environmentally sensitive area.⁶² In this case, the submission of a fauna impact statement did not clarify the proposed road's impact on two endangered species, the giant burrowing frog and the yellow-bellied glider. She pointed out that the local authority had a license to take the species. Moreover, the relevant law here defined taking as a significant modification of the environment, considering that the traditional notion of taking focuses on the capture of an animal. She remarked that ultimately, the Land and Environment Court applied the precautionary principle and denied the local authority's right to build the road.

Second, Professor Heng referred to an example of legislation requiring improvement in its drafting. She recounted that in 1989, Singapore passed a law to implement CITES,⁶³ which prohibited the sale of any listed species without a permit. She emphasized that the law should have prohibited the sale of scheduled specimens instead, because species refers to the entire group. In one extreme case, the offender had 16,200 sea turtle eggs and faced a charge of only one offense under this law. She added that the offender did not even receive the maximum fine, because he was a first-time offender. She noted that although the Endangered Species (Import and Export) Act of 2006 subsequently repealed this law, the act retained the reference to scheduled species. However, a clarification of the term occurred in Parliament. In conclusion, Professor Heng recommended removing the ceiling for fines and penalizing the offender with a fine worth several times the value of the confiscated item.

Hima Kohli, a judge from the High Court of Delhi in India, discussed the judiciary's role in conserving the forests and protected areas of India. Through a video conference call, she related that environmental considerations are integral to Indian culture, such that the principles of conservation and the sustainable use of natural resources formed part of Indian scriptures dating from over 3,000 years ago. She pointed to the Indian Forest Act in 1865 as paving the way for current environmental legislation, which includes (i) the Indian Forest Act of 1927, (ii) Wildlife (Protection) Act of 1972, (iii) the Forest (Conservation) Act of 1980, (iv) the Environment (Protection) Act of 1986, (v) the Biological Diversity Act of 2002, (vi) the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forests Rights) Act of 2006, and (vii) the National Green Tribunal Act of 2010.

Justice Kohli referred to the Constitution of India, which mandates the government and citizens to protect and improve the environment. The judiciary has interpreted the constitutional right to life to include the right to a clean and healthy environment. In addition, she remarked that improving access to justice involved adopting a more liberal approach to legal standing. She also observed that writ petitions constitute a majority of the cases under public interest litigation.

Justice Kohli emphasized that India's forests provide vital ecosystem services and safeguard biodiversity. The forests, which cover approximately one-fifth of the Indian peninsula, are home to an estimated 500 species of reptiles, 2,100 species of birds, 30,000 species of insects, and more than 15,000 species of plants. India's 683 protected areas take up an estimated 5% of its total area, and include 102 national parks, 520 wildlife sanctuaries, 57 conservation reserves, and 4 community reserves. She then emphasized the need for more action to meet the objective for at

⁶² (1993) 81 LGERA 270, Land and Environment Court, NSW.

⁶³ Endangered Species (Import and Export) Act of 1989.

least 30% of the land to be under forest, even with the government's efforts toward afforestation and reforestation.

Justice Kohli then discussed the forest conservation case of *T. N. Godavarman Thirumulkpad v. Union of India*, where the Supreme Court of India issued directions to stop all ongoing activities in any forest without the government's prior approval.⁶⁴ The decision resulted in the following events: (i) stoppage of sawmills and plywood mills; (ii) the suspension in the felling of trees in some forests; and (iii) the prohibition of interstate transportation of timber from the seven northeastern states to other states. In addition, she pointed out that the court issued directions to (i) other states to stop the felling of trees, and (ii) state governments to initiate the proper action against perpetrators of illegal felling. Justice Kohli remarked that through continuing mandamus and requiring government agencies to report their efforts, the court monitored the implementation of its orders. She added that in 2005, the court's directions led to a sanction on the maintenance of forests.⁶⁵ Furthermore, in 2006, the court held that the Forest Policy of 1998 must give way to environmental stability and ecological balance to uphold the constitutional rights to equality and life.⁶⁶

Justice Kohli proceeded to discuss other Supreme Court decisions on the environment. *First*, she cited *Goa Foundation v. State of Goa*, in which the Bombay High Court held as mandatory the permit to lease forest land for a nonforest purpose, such as to set up an iron ore beneficiation plant.⁶⁷ In October 2012, the Supreme Court banned mining activities in Goa. However, the ban was recently relaxed, with the e-auction of iron ore stocked prior to the ban. Moreover, Justice Kohli remarked that the Supreme Court required project proponents to secure up to four government clearances relating to the environment, wildlife, forestry, and coastal zone regulations. She emphasized that these clearances all have separate processes. The court also required proponents of projects within 10 kilometers of any national park and sanctuary to secure a clearance from the National Board of Wildlife. Justice Kohli then referred to an example of public interest litigation, in which the Supreme Court banned tourism in core areas of tiger sanctuaries in light of the tiger population's diminishing numbers. In October 2012, the court lifted the ban to allow tourism in at least 20% of these areas. She also pointed out that the government issued guidelines on tiger tourism and conservation to the concerned states.

Justice Kohli turned to the role of the national green tribunals, which provided expedited relief in environmental disputes over the past 3 years. She cited *Rohit Chaudhry v. Union of India & Ors.*, where the tribunal ordered the closure of polluting industries within the "no-development zone" of the Kaziranga National Park as well as its surrounding area.⁶⁸ She pointed out that the indifference of the concerned government authorities led to the imposition of fines to be used for conservation purposes. She added that the tribunal recently enjoined the construction of a road that would have cut through the Asola Bhatti Wildlife Sanctuary. On a related note, she remarked that the Ministry of Environment and Forests constituted a standing committee which, to minimize the impact of infrastructure in national parks, on core tiger habitats, and in wildlife sanctuaries in protected areas, issued guidelines for (i) prohibiting construction of new roads,

⁶⁴ (1997) 2 SCC 267.

⁶⁵ AIR 2005 SC 4256.

⁶⁶ 2006 (1) SCC (1).

⁶⁷ AIR 2001 Bom. 318.

⁶⁸ Application No. 38/2011.

(ii) banning night traffic and adhering to speed limits, (iii) establishing no-honking and no-litter zones through conservation areas, and (iv) limits for the height of power lines.

In conclusion, Justice Kohli recognized that the complex interplay between development and the environment makes the responsibility to work toward sustainability even more imperative. She highlighted the necessity to redefine the course of action in the challenges moving forward, particularly considering that there is only one earth.

Alexandra Alvarado Paniagua, a judge (*jueza coordinadora*) at the Tribunal Agrario Nacional in Costa Rica, discussed the judicial challenges with regard to biodiversity and protected areas in Costa Rica. She explained that although Costa Rica measures only 51,100 square kilometers, it is home to 5% of the world's biodiversity. She remarked that in 2008, the Environmental Performance Index ranked Costa Rica fifth in the world for conservation. Justice Alvarado pointed out that Costa Rica achieved economic growth while protecting the environment at the same time. She illustrated that in 1986, Costa Rica had (i) a GDP per capita of more than \$3,000, (ii) a population of 2.7 million, and (iii) 21% forest cover. In comparison, in 2012, Costa Rica had (i) a GDP per capita of over \$9,000, (ii) a population of 5 million, and (iii) 52% forest cover. She elaborated that Costa Rica achieved these developments through, among others, the rule of law, transparency and accountability, property rights, democratic government, a strong judiciary, consumer regulations, free press, and education. Furthermore, Justice Alvarado specified that Costa Rica designated an estimated 20% of its territory as protected areas, including forests, wetlands, and marine ecosystems.

Justice Alvarado recognized that the judiciary faces challenges in protecting the forest and biodiversity, particularly amidst a rising population. She emphasized, however, that these challenges provide the judiciary with the opportunity to (i) be proactive, (ii) interpret multiple sources of law, (iii) render judgments that educate the public, (iv) consider environmental law through a preemptive lens, (v) make determinations with the assistance of scientific and technical evidence, and (vi) grant protective measures. Justice Alvarado then discussed cases that relate to these challenges, beginning with a case on land titles in protected areas. To secure a title for land in this area, the concerned party must prove their right to the land before its designation as a protected area. In addition, she mentioned the requirement for native tree species to be planted in protected areas along riverbanks as well as the prohibition against cutting down forests or vegetation in these areas. She also explained ecological possession, which considers evidence of environmental management and other acts of property conservation as possession of land. She then referred to a criminal case where the court absolved the accused from responsibility in draining a wetland for biofuel production and pointed out that another type of action before a different venue would have likely attributed responsibility. Justice Alvarado concluded her presentation by reiterating the responsibility to preserve the planet.

Commissioner Oliver opened the floor for questions. John Boyd commended Costa Rica's achievements with land titling as well as producing maps designating each tree's characteristics, including its age, condition, size, and type. He asked Justice Alvarado how these were accomplished. Justice Alvarado pointed to ecological possession, which recognizes the right of the people to conservation. She added that the government pays for conservation activities through, for instance, the national forestry financing fund.

Session 10

Biodiversity Loss and the Illegal Wildlife Trade

Douglas Goessman, director of field operations at the Asia's Regional Response to Endangered Species Trafficking (ARREST) Program, Freeland, chaired this session and started with a brief introduction of a video presentation on the state of the illegal wildlife trade, produced by ADB, TRAFFIC, and WWF.

Video Presentation: Combating the Illegal Wildlife Trade

The video presentation introduced the illegal wildlife trade as one of the top transnational organized crimes in the world. The presentation specified that the illegal wildlife trade generates up to an estimated \$10 billion annually for the trafficking of animals and animal parts, and up to \$26.5 billion per year with the addition of illegal fishing and timber. The presentation further stated that the wholesale slaughter of animals in the illegal wildlife trade led to the following: (i) killing of tens of thousands of elephants every year, (ii) only 3,200 tigers remaining in the wild, (iii) a 5,000% increase in rhino poaching in South Africa from 2007 to 2012, (iv) 40,000 to 60,000 slaughtered pangolins in 2011, (v) illegal importation of tens of thousands of humphead wrasse in the PRC, and (vi) illegal killing and trafficking of millions of tropical fish and other marine species every year. The presentation identified Asia as a hotspot for illegal wildlife trafficking due to the skyrocketing demand for wildlife products from within Asia and other continents all over the globe, such that (i) the transport of illegal ivory and rhino horn occurs regularly from Africa to Asia, and (ii) millions of illegal sharks in Asian markets are from Asia and Latin America.

The presentation then focused on the dangers of the illegal wildlife trade to security, leading to the deaths of over 1,000 park rangers in the line of duty over the last decade. It pointed out that the rangers face poachers who are former soldiers trained in combat and armed with high-powered rifles, automatic weapons, and other equipment fit for warfare. As a result, the illegal wildlife trade threatens species in the natural world, local communities, and economies at both local and national levels.

The presentation assessed wildlife crime as low risk and high profit due to (i) weak enforcement of both international and national regulations, (ii) lack of effective prosecution, and (iii) low penalties. In addition, the presentation identified other aspects that continue the perpetration of wildlife crime: (i) lack of political support to enforce the law and prosecute crimes; and (ii) bribery or intimidation of authorities, which undermines the government process. Considering the immense scale of the illegal wildlife trade, the presentation pointed to the need for a serious and immediate response of the same magnitude. The presentation concluded with current efforts to combat wildlife crime, including (i) the commitment of ADB to work collectively with national governments to raise awareness and strengthen enforcement, and (ii) the issuance of directions by Malaysia's Federal Court Chief Justice Tun Arifin bin Zakaria to establish environmental criminal courts to hear wildlife cases and for the judiciary to treat wildlife crimes with the utmost severity.

Theresa Mundita S. Lim, director of the Protected Areas and Wildlife Bureau⁶⁹ of the Department of Environment and Natural Resources, Philippines, gave a presentation on the enforcement of wildlife laws in ASEAN, particularly focusing on the Philippines. She recounted that the Philippines, as a party to CITES, acted on its commitment to the convention when, in June 2013, authorities destroyed five tons of ivory smuggled into the country from 1996 to 2009. She further remarked that the illegal wildlife trade uses the Philippines as a transit country, and the smuggled ivory originated from Tanzania, Uganda, and Zambia.

Director Lim pointed out that all 10 ASEAN members are parties to CITES. She explained that although ASEAN covers only 3% of the world's land surface, it nevertheless has 20% of the world's species, with Indonesia, Malaysia, and the Philippines known for their rich biodiversity. She added that out of the 25 biodiversity hotspots that house the most endangered species, seven are in Southeast Asia. She identified illegal wildlife trade as one of the greatest threats to biodiversity in Southeast Asia, which also affects local communities that depend on wild plants and animals for subsistence. She assessed that Southeast Asia has a twofold role in the illegal wildlife trade: (i) as an exporter or a source, and (ii) as an importer or consumer. In addition, she related that Southeast Asia is a transit point as well as an end point in illegal wildlife trade routes, spanning Africa, Asia, and Australia.

Director Lim related that ASEAN countries recognize the need for a networking mechanism to address the illegal wildlife trade and referred to the ASEAN Statement on CITES in 2004. She then recounted that the launch of the ASEAN Wildlife Enforcement Network (ASEAN-WEN) occurred in 2005, at a special meeting for ASEAN ministers in Bangkok, Thailand. The law enforcement agencies from the ASEAN countries form part of the ASEAN-WEN, the mechanism for information exchange and cross-border collaboration in combating the illegal wildlife trade. She added that in 2007, the ASEAN-WEN established a program coordination unit in Bangkok. She further relayed that the key achievements of the ASEAN-WEN from 2007 to 2011 include the training of at least 2,000 people from 100 agencies and coordination in the confiscation of more animals.

Director Lim cited the laws relevant to the illegal wildlife trade in the Philippines. *First*, she referred to the Wildlife Resources and Protection Conservation Act of 2001 (Republic Act No. 9147), which regulates the collection, possession, transport, trade, use, and release of wildlife. She pointed out that this act prohibits the killing of wildlife, except for research and other authorized purposes. She also noted that the severity of the penalties depends on the crime committed and the category of the species affected, ranging from (i) imprisonment of 5 days to 12 years, and (ii) fines of P200 to P5 million. *Second*, Dr. Lim cited the National Integrated Protected Areas System (NIPAS) Act (Republic Act No. 7586), which designates the protected biodiversity areas within the Philippines. She identified that the NIPAS Act prohibits the collection of species within protected areas. She emphasized that an offender can be charged with a violation under the act and a separate violation under the Wildlife Resources and Protection Conservation Act. She further noted that the act provides the following penalties: (i) imprisonment from 1 to 6 years, and (ii) fines from P5,000 to P500,000. *Third*, Dr. Lim referenced the National Caves and Cave Resources Management and Protection Act of 2001 (Republic Act No. 9072) in recognition of the natural evolution of unique species, including bats and birds, in caves. This act provides the

⁶⁹ The Protected Areas and Wildlife Bureau was recently renamed as the Biodiversity Management Bureau to represent its expanding responsibilities, particularly on biodiversity conservation.

following penalties: (i) imprisonment from 2 to 8 years; and (ii) in cases involving the destruction of the cave ecosystem, the costs of restoration or rehabilitation.

She next discussed wildlife enforcement in the Philippines by identifying national enforcement mechanisms, including (i) deputized wildlife enforcement officers; (ii) wildlife traffic monitoring units, which patrol strategic air and seaports; (iii) the Philippine Operations Group on Ivory, a special task force on the illegal ivory trade; and (iv) wildlife rescue centers that manage confiscated wildlife through a disposition program. She then shared trends on enforcement, noting that confiscation peaks particularly during the Christmas season. She added that documentation problems with fictitious consignees lead to fewer prosecuted cases than the number of confiscations. The Philippines continues its partnerships notably with Freeland, the US Department of Interior, and the environmental NGO *Tanggol Kalikasan* (Defense of Nature) in building enforcement capacity.

Director Lim concluded by pointing out that the Philippines faces numerous enforcement challenges. It is difficult to determine the legitimacy of traders due to the increase of wildlife trade through the internet. Resources are inadequate to investigate well-organized crime syndicates. Finally, she noted that wildlife prosecutors sometimes lack awareness in the challenges of combating the illegal wildlife trade, which prevents the effective prosecution of some cases.

Ed Newcomer, a special agent and concurrent deputy resident agent in charge at the US Fish and Wildlife Service, Office of Law Enforcement, provided an overview of illegal wildlife trafficking through the internet. He compared the traditional model of the illegal wildlife trade with the current trend, first noting that traditionally, wildlife products from Asia went to the major consumers in the US and Western Europe. While this trend continues, there is a new trend of wildlife being trafficked from the US, Mexico, and Canada to Asia, particularly the PRC. Mr. Newcomer emphasized that the internet adds to this complicated web of wildlife trafficking routes, because it allows these illegal transactions to be completed easily, fluidly, and instantaneously. As a consequence, there is a need for international collaboration to combat illegal wildlife trafficking.

Mr. Newcomer recounted that the US aggressively targeted the illegal wildlife trade on the internet with the launch of Operation Wild Web in 2012. The US Fish and Wildlife Service invited law enforcement officers from all over the US and other countries, including ASEAN countries, to participate in the operation. All participating countries agreed to three operational rules: (i) to run the operation on the same dates, within a 2-week period in July 2012; (ii) to call cases Operation Wild Web for uniformity; and (iii) to coordinate the release of information to the media in order to maximize public awareness of the issues in the operation. He added that the coordinated media release would deter individuals from committing wildlife crime with examples of authorities apprehending offenders. Furthermore, he pointed out that the numerous cases under the operation would attract more media attention than a single case.

Mr. Newcomer differentiated Operation Wild Web from other US law enforcement operations, which typically rely on a single leader to dictate the mechanics of the operation to a team of subordinate leaders and a field crew. He remarked that in Operation Wild Web, the team leader in the US facilitated communication and coordinated the media release among the seven teams in the country, while participating countries complied with their own national laws and policies. Although both the US teams and their international partners operated independently, they all coordinated on time, message, and effort. As a result, in 2 weeks, Operation Wild Web led to 150 confiscations of illegal wildlife, which essentially translated to the apprehension of

150 individuals engaged in online illegal wildlife sales. The US Fish and Wildlife Service tracked the coordinated media release, which received 335 million hits online within 48 hours, and calculated that without the coordinated media release, the advertising costs for the operation would have been \$109,000. He then asserted that the savings here represents free advertising to spread the agency's message and mission, which is an important consideration in the face of budgetary constraints.

Mr. Newcomer highlighted the cooperation among law enforcement, prosecutors, and the judiciary in Operation Wild Web. He recounted that the US Fish and Wildlife Service Office of Law Enforcement briefed the US Attorney's Office on the purpose and efforts under the operation. In turn, the US Attorney's Office informed judges in the areas of the operation to expect requests for warrants and the likelihood of the simultaneous filing of many charges related to the same case. He recounted that this information gave judges an overview of the operation and the reasons for carrying it out. Finally, he pointed out that the media revealed the message of the operation to the public, and specifically to traffickers, that the internet is not an unregulated venue for illegal transactions.

In conclusion, Mr. Newcomer encouraged the participants to contact the US Fish and Wildlife Service Special Agent Attaché to Southeast Asia for US law enforcement issues.

Tan Sri Abdull Hamid bin Embong, a justice of the Federal Court of Malaysia, discussed environmental cases and the role of the judiciary in Malaysia. He prefaced his presentation with the comment that Malaysia currently has a limited number of wildlife cases. He added that environmental issues and courts are generally new to the Malaysian judiciary. He recounted that after ADB introduced green courts to Malaysia in December 2011, Chief Justice Tun Arifin bin Zakaria immediately committed to establishing green courts. Justice Embong then outlined the three stages of the Malaysian judiciary's response to environmental issues, beginning with the establishment of the green courts in September 2012. He recounted that the judiciary is now at the second stage of its response, providing judicial training to create greater awareness for environmental issues. He looked forward to moving on to the third stage of this response, to maintain an active and responsive judiciary in the protection of the environment and particularly wildlife. Justice Embong then enumerated the objectives of the green courts: (i) to improve access to justice, (ii) to provide speedy resolution of environmental cases, (iii) to develop expertise in the relevant fields, (iv) to monitor environmental cases, (v) to set strong precedents in environmental jurisprudence, and (vi) to increase public participation.

Justice Embong remarked that in all of its 14 states, Malaysia has 95 green courts, comprising 42 sessions courts and 53 magistrates' courts. He explained that these green courts exercise jurisdiction over cases pertaining to 38 acts and ordinances, as well as 17 regulations, rules, and orders. He further elaborated that the chief registrar issued Practice Direction No. 3 of 2012, which provides that (i) that the magistrates' courts in Sabah and Sarawak dispose of their cases within 3 months, and (ii) the magistrates' courts in Peninsular Malaysia and the sessions courts dispose of their cases within 6 months. He then reported that since the designation of the green courts in September 2012, the sessions courts had disposed of an average of 90.2% of 405 cases within the required 6-month period. In addition, he reported that the magistrates' courts disposed of all of their 54 cases within the required period.

Justice Embong proceeded to discuss the issues and challenges before the Malaysian judiciary. *First*, he shared that public interest litigation is limited in Malaysia due to the conservative

approach to legal standing. He cited *Ketua Pengarah Jabatan Alam Sekitar & Anor. v. Kajing Tubek & Ors and Other Appeals*, in which the Court of Appeal held that the approach to legal standing “depends upon the economic, political and cultural needs and background of individual societies within which a court functions, which fluctuates from time to time within the same country shorn of statute laws.”⁷⁰ Second, Justice Embong remarked that the prosecution of wildlife crime faces issues on evidence. He referenced *Moslimin Bin Bijato & 2 Ors. v. Public Prosecutor*, in which the court dismissed the case because the prosecution did not present expert evidence in identifying the subject matter of the charge as the carcass of a deer and not another animal.⁷¹ Third, Justice Embong referred to the case of Anson Wong, popularly known as the lizard king. Justice Embong recounted the history of the case, in which (i) the sessions court sentenced Wong to 6 months of imprisonment for smuggling boa constrictor snakes; (ii) on appeal, the High Court increased the sentence to 5 years’ imprisonment; and (iii) on appeal again, the Court of Appeal reduced the sentence to 17 months. Justice Embong elaborated that the Court of Appeal modified the High Court’s decision because it held that the High Court’s finding on the manner of packing the snakes had no bearing on the charge of smuggling snakes.

Justice Embong then identified the challenges in wildlife enforcement. He pointed out that most of the offenses under the Wildlife Conservation Act of 2010 involve illegal hunting. He shared that the Department of Wildlife and National Parks reported approximately 460 to 470 arrests, but he also noted the limited number of prosecuted cases. He specified that enforcement problems include the lack of personnel and public awareness, as well as issues in the collection of evidence.

In conclusion, Justice Embong shared that the Malaysian judiciary participated in a number of training programs, including some in collaboration with ADB. He added that judicial outreach programs, which include visits to national parks, create greater awareness of environmental protection. He reiterated that the environment’s survival is key to the population’s survival.

Qazi Faez Isa, chief justice of the Balochistan High Court in Pakistan, provided a discussion on environmental cases and the role of the judiciary in his country. He first introduced Pakistan as the home to 5 of the 14 highest mountain peaks worldwide. He added that the changes in elevation throughout Pakistan, from sea level to K2, the second-highest mountain peak in the world, show the country’s diversity. He elaborated that Pakistan has nine distinct ecological regions with wildlife that includes around 6,000 plants, 188 mammals, 666 birds, 174 reptiles, 525 fish, and 20,000 insects.

Chief Justice Isa pointed out that Pakistan, as one of the most populous countries in the world, faces the challenge of protecting these natural habitats. He then identified the relevant laws that address this challenge: (i) the Trade Control of Wild Fauna and Flora Act of 2012, which implements CITES; (ii) the Animal Quarantine (Import and Export of Animal and Animal Products) Ordinance of 1979; (iii) and the Imports and Exports (Control) Act of 1950. Moreover, he remarked that Pakistan’s provinces have similar legislation. Chief Justice Isa observed that the penalties in these laws are nominal, citing the following examples: (i) in the Balochistan Wildlife Protection Act of 1974, imprisonment has a maximum of 2 years; (ii) in the Balochistan Sea Fisheries Ordinance of 1971 where the penalties depend on the gravity of the offense, imprisonment ranges from 1 to 3 years, while fines range from \$1,000 to \$6,000; and (iii) the

⁷⁰ 1997 3 [MLJ] 23.

⁷¹ [2011] MLJU 1061.

Forest Act of 1927 and the Balochistan Forest Regulation of 1890 have nominal fines, such that the penalty for an offense relating to one protected tree species is a fine of \$50 and imprisonment for 1 year. He shared that one inch of a tree trunk's thickness develops over 60 years, and there are trees around 2,000 to 3,000 years old. In this regard, he asserted that value and money are not interchangeable, considering that there are some things that are priceless.

Chief Justice Isa remarked that traditionally, judges hear cases involving offenses against persons or property ultimately to dispense justice to the victim. In contrast, environmental crimes have no obvious victim. In environmental crimes, judges face the constraints of having to apply the nominal penalties in the law. He asserted that changing this slap-on-the-wrist approach to more appropriate sentencing requires changes in the maximum penalties that the law prescribes. Chief Justice Isa proceeded to discuss cases that present innovations in this area. One case involved the illegal felling of a number of trees. The High Court held that each individual tree felled constituted a separate offense. He pointed out that the High Court's ruling was a departure from the offender being initially fined as if having committed only one offense. Chief Justice Isa referred to another case, where a convicted offender, guilty of illegal fishing, applied to the High Court for the return of the fishing net used in perpetrating the crime, on the basis that his livelihood depended on it. Chief Justice Isa recounted that the High Court ordered the public destruction of the fishing net, holding that the offender should not earn his livelihood with the net.

Chief Justice Isa discussed other innovations in jurisprudence. He observed that the requirements for legal standing in public interest litigation are virtually nonexistent in Pakistan. He added that in constitutional cases, legal standing requires the concerned party to be an aggrieved person. However, he pointed out that this requirement has not interfered with the progress of any case due to the liberal approach to legal standing. Chief Justice Isa also recalled a case, in which he served as counsel, involving a multinational corporation extracting water from an aquifer. He recounted that the case provided the opportunity to introduce the public trust doctrine for the first time in Pakistan.

Chief Justice Isa pointed out that the Constitution of Pakistan allows the use of Islamic provisions, and he remarked that the conservation of water is central to the faith. In this regard, he asserted that the judiciary must use concepts that the populace can relate to, because part of the judicial role is to educate the public on, for instance, environmental issues. He added that judges have the opportunity to address these issues in their judgments with the other issues confronting the country, such as security issues in Pakistan.

Chief Justice Isa then made recommendations to sensitize prosecutors and judges to environmental issues and relevant legislation, beginning with seminars and conferences. He noted that in 2011, for instance, the Balochistan High Court hosted a conference on environmental law. He recommended creating syllabi, particularly for law schools and judicial academies. He highlighted education beyond the classroom by referring to the memorandum of understanding between the Balochistan Judicial Academy and WWF, which led to field trips for judicial officers to get a better understanding of environmental issues. He emphasized the need to include everyone in the efforts toward environmental protection. He elaborated that the Balochistan High Court has provided access to its environmental judgments online with links to the Committee for Enhancing Environmental Justice.⁷² He further stressed the importance for judges presiding

⁷² <https://bhc.gov.pk>

over courts of first instance, which deal with environmental cases more frequently than appellate courts, to be aware of amendments to the law. He added that the challenge here is to ensure that the latest resources are available, considering that Balochistan is in a remote area of Pakistan.

Mr. Goessman opened the floor for questions. Dr. Mulqueeney referred to Malaysia's inherited history from Britain in the challenges to *locus standi*. She then asked Justice Embong whether these issues would be reconsidered in light of Chief Justice Isa's progressive environmental mandate, noting that a liberalized approach to *locus standi* has superseded this history. Justice Embong replied that precedents could change with the right case at the appropriate time.

Breakout Session 1

Group A. Challenges in Judicial Decision Making on Issues of Natural Capital: Substantive Law

Session Chair: Peter Wulf, Member, Commonwealth Administrative Appeals Tribunal

Rapporteur: Brenda Jay Angeles-Mendoza, Environmental Lawyer, Environmental Law, Justice and Development Program, ADB

In its first breakout session, Group A discussed substantive law and its implications for the adjudication of natural capital issues. The group began their discussion by identifying issues in adjacent jurisdictions for freshwater ecosystems, initially with riparian rights and the equitable uses of transboundary waterways situated in Bangladesh, India, and Pakistan. Similarly, the group's discussion referred to equitable water use in the Mekong River and its implications on Thailand, while relating these issues to the construction of dams as well as the emergence of hydropower in Asia. The group proceeded to identify the pollution of transboundary waterways as another issue. On the release of toxic waste, the group's discussion clarified that the issue involves transboundary aspects when parties release pollutants to, for instance, coastal waters between jurisdictions. The group identified proper disposal and the implications of contractual relationships as relevant issues on this subject. In continuing to discuss transboundary pollution, the group also identified issues on haze.

The group went forward with the discussion by taking on evidentiary issues, particularly on causation, focusing on water pollution. The discussion related water-use issues to questions on the proper allocation of water rights. The group then turned to difficulties in attributing responsibility in the context of the cumulative impact of water use, particularly from a diffuse perspective as opposed to a point-source perspective.

On the issue of compensation for damages caused to the environment, the group discussed the difficulties in compelling foreign corporations to pay assessed fines. The group also discussed the difficulties in seeking compensation for the grounding of foreign vessels, for instance, in Tubbataha Reef in the Philippines. The group then raised questions on available remedies, including proceedings before domestic courts or international tribunals, as well as bilateral agreements among the parties concerned.

On the transboundary aspects of environmental crimes, the group's discussion focused on evidentiary issues for identifying and preserving evidence in the chain of custody. The discussion

included a reference to cases in Nepal regarding the smuggling of the Tibetan antelope, which pointed to the need to identify the fur that belongs exclusively to this particular antelope. In addition, the group discussed the involvement of multiple jurisdictions in the commission of an environmental crime and the need for cooperation among them. In this regard, the discussion considered an example spanning three different countries: (i) the offender is a national of Country A, (ii) the offender commits the offense in Country B, and (iii) authorities apprehend the offender in Country C.

The group proceeded to raise issues on the different legal frameworks in various countries and the resulting implications on environmental protection. The group discussed Costa Rica's protection of whales and the difficulties of enforcement in this area when encountering policy differences with another country. The group then discussed transboundary issues that have great implications on the Philippines. In reference to marine ecosystems, the group discussed that the Philippines is no longer a gem of fisheries due to illegal fishing, depriving local communities of their past livelihood. Additionally, the group discussed the illegal shipment of coral and illegal logging in the Philippines, such that the country is no longer full of trees as it was 100 years ago. The group further identified the common thread among these issues: that in the context of climate change, the loss of corals and trees, in addition to the loss of mangroves, exacerbate natural disasters. The discussion then turned to the ban on new mining agreements in the Philippines. The group discussed erosion from ongoing magnetite mining operations along the Philippine coastline, qualified as a transboundary issue with respect to the foreign vessels that enter Philippine waters to acquire magnetite sand. The discussion also reiterated an earlier presentation in the symposium that identified the Philippines as a point of shipment in the illegal ivory trade route from Africa to the PRC. The discussion subsequently identified that the Philippines faces issues on the equitable use of, as well as sharing the profits from, mineral and other resources in the country.

The group proceeded to discuss the countries that recognize the precautionary principle and the doctrine of public trust. The group discussed that Pakistan and the Philippines recognize the precautionary principle. The group then identified Bangladesh and Bhutan as having substantive law on public trust.

The group turned to a discussion on standing and access to courts particularly for public interest cases. The discussion revealed that in Nepal, the court awarded interim monetary relief to address access to justice issues. The group moved on to discuss Costa Rica's liberal approach to standing in environmental cases. The discussion looked at Malaysia's conventional approach to standing. The group noted the similarities between Australia and the Philippines on their liberal approach to standing, as well as Bangladesh's and Pakistan's liberal approach to standing. The group noted the court's *suo moto* powers in Pakistan, which takes this approach further by enabling the court to take cognizance of matters on its own. The discussion proceeded to relate standing to Thailand's constitutional right to a healthy environment. The discussion also included Thailand's experience prior to the existence of this constitutional right, where in a case involving the destruction of a beach, the Supreme Court held that members of the affected local community did not have standing to bring suit.

The group concluded with a brief discussion on the question of the proper party, such as an independent committee, to determine the value of natural capital in a project for development. The discussion recognized the concern for avoiding the undervaluation of natural capital.

Group B. Challenges in Judicial Decision Making on Issues of Natural Capital: Expert and Scientific Evidence and Evidentiary Rules

Session Chair: Justice Rachel Pepper, New South Wales Land and Environment Court

Rapporteur: Maria Cecilia T. Sicangco, Legal Research Associate, ADB

In its first breakout session, Group B began its discussion with issues on the valuation of natural capital, particularly on the value of damages. The group discussed that environmental economists use widely different assumptions on, among others (i) the applicable social discount rate, (ii) the extent of liability when intergenerational equity is part of the analysis, and (iii) the differences in wealth between the risk creator and the risk bearer. Nonetheless, the group recognized that the value of natural capital should not be limited to the value of the asset. The group discussed that natural capital should reflect the value of the services that the asset provides, particularly because the asset provides recurring services. The group illustrated this point with the example of stealing a butterfly, such that the valuation here must incorporate (i) the value of the butterfly itself; and (ii) the important role the butterfly plays in the ecosystem as a pollinator, a food source, and an indicator of the ecosystem's well-being.

The group then tackled issues on expert testimony. *First*, the group discussed that jurisdictions deal with this issue differently, considering that the more activist jurisdictions allow the court to appoint its own expert or panel of experts and do not rely on the parties' proffer of expert evidence. The discussion turned to India as one example of such a jurisdiction, which adopted this approach over the last 10 years. The group looked at one occasion in which a court-appointed committee in India designated a group of experts to determine the net present value of forests. The discussion also included a reference to another case, in which the Supreme Court of India, on the basis of a court-commissioned panel report, banned mining in the two states where it was the main economic activity. The discussion further included the court's finding in this case, that mining had a negative social value on balance. The group noted that these commissions or expert panels operate on the basis of consensus, where, for example, their expert members complete a joint report. The group considered the experience of India, noting the Supreme Court's constitutionally mandated judicial power to render complete justice, interpreted to mean that the court is not strictly bound by statutes and procedural rules as lower courts are. The group recognized that with this expanded judicial power, the Supreme Court reversed several lower court judgments to ultimately favor the public interest litigant.

The group continued their discussion of the more activist jurisdictions, pointing out that in the Philippines, the Rules of Court allow courts to appoint an expert as *amicus curiae*, though not a witness for any of the opposing parties. The discussion identified the judge's full control over the proceedings at all times, with the authority to (i) set the parameters of the *amicus curiae*'s testimony; (ii) ask questions for clarification; and (iii) engage the expert witness in a discussion, irrespective of whether the expert appears in his capacity as *amicus curiae* or as a witness presented by a party litigant. The group then shifted to a discussion of the more traditional common law systems, such as the systems in Australia and the US, where judges exert very little control over the proceedings. The group observed that the judiciaries in these jurisdictions are limited to the control that party litigants exert in presenting their respective cases. However, the discussion noted that judges in the US have some leeway in their authority to appoint special masters who will then work with the parties. Ultimately, the group concluded that the nature of

the judicial system determines the extent of the legal framework's flexibility. The group observed that investigative systems leave more room for judicial creativity, while adversarial systems more often relegate the judge to a passive receiver of evidence.

Second, the group discussed issues on the admission of expert testimony. The discussion included a reference to *Daubert v. Merrell Dow Pharmaceuticals*,⁷³ in which the US Supreme Court set the following standards for admitting expert testimony in federal courts: (i) the judge must ensure that the scientific expert testimony truly proceeds from scientific knowledge; (ii) the expert's testimony must be relevant to the task concerned and must rest on a scientifically reliable foundation; (iii) in order for a conclusion to qualify as scientific knowledge, the proponent should demonstrate that it is derived from the scientific method; and (iv) to establish the validity of scientific testimony, the court should consider, among other factors, whether the theory is testable, has undergone peer review, and is generally accepted by the scientific community. The group noted that the judge's understanding of the concept of natural capital directly impacts the criterion for relevance. The group observed that if the judge holds a narrow view, the judge would most likely pin valuation on the basis of the asset's immediate value, without incorporating the value of the present services it provides and the future services it will provide. On the other hand, a judge who understands the broader implications of the natural capital orthodoxy would most likely integrate the intergenerational aspect and the ecosystem-wide effects of an action into his or her decision. The discussion further elaborated upon this point with an example of a criminal case for oyster poaching. In this example, the group discussed that a trained judge would make the following considerations in determining the appropriate fine: (i) the current value of the poached oyster; and (ii) the monetary value of the resulting changes in the ecosystem, such as changes in the sea temperature.

The group then turned to a discussion on the experience of the Philippines in the admission of expert testimony. The group recognized the requirement in the Philippines for the qualification of expert witnesses as such before their presentation. The discussion included an explanation of this requirement, that the party must show the expert acquired special knowledge on the subject matter of the testimony by either (i) the study of recognized authorities on the subject, or (ii) practical experience. The discussion further noted that an expert's qualifications could be the subject of cross-examination. The group then observed that this qualification requirement underscores the importance of judicial training, such that the judge must understand the science in order to make the following determinations: (i) whether the expert is qualified, and (ii) the effects of the expert's testimony on the substantive issues of the case.

The group proceeded to discuss the impartiality of experts, which is an issue in several jurisdictions. The discussion included Australia's experience, where due to the small pool of experts, the same persons testify and their personal biases soon become apparent. The discussion further noted that in cases with an established conflict of interest, the experts are blacklisted from testifying. The group discussed similar issues on impartiality in the US. The discussion referred to a reptile trafficking case, in which the defendant called on an expert to testify that the species in the case was not endangered. The discussion related that ultimately, the judge did not allow the expert to testify, as it later appeared that the expert ran a political lobbying group with a goal to eliminate all restrictions on wildlife trading.

⁷³ 509 US 579 (1993).

The group moved to the experiences of India and the Philippines. The group discussed that in India, court-appointed experts are usually professors or belong to prestigious scientific institutes. The discussion included the observation that these commissions are considered public sector work where, aside from a stipend, experts do not receive additional remuneration. The group further noted that incidentally, this type of set-up facilitates efficiency. The group also discussed that in the Philippines, public interest litigants primarily consult a list of government experts, who are presumably more objective, before turning to the private sector. The discussion included anecdotal accounts in both India and Philippines, which indicate that private persons are very reluctant to appear as expert witnesses before courts.

On who bears the costs of engaging experts, the group's discussion revealed varied practices across jurisdictions, transferring these costs to one of the following parties: (i) the losing party, (ii) parties bear their own costs, or (iii) taxpayers. The group discussed that in the Philippines, experts appearing as *amicus curiae* testify *pro bono*.⁷⁴ The group noted that the rendition of expert testimony in India is public sector work. It was noted that an expert engaging in public sector work receives an annual salary, with only travel costs paid by the state. The group related that other countries do not have a special provision in this regard. In the US, in cases where the prosecutors foresee that a case will hinge on a battle of the experts, they opt not to proceed due to budget constraints and instead explore alternatives such as mediation.

In the final stage of their discussion, the group arrived at several key recommendations. The group pointed to the necessity for judicial training, so that judges (i) comprehend the relevance and broader implications of the evidence presented; and (ii) gain a more nuanced appreciation of the case itself. The group suggested that education must cover a wide array of topics, and at the very least, require a basic understanding of finance, accounting, science, and economics. The group illustrated that, for instance, the lack of understanding of the concept of natural capital restricts judges from considering evidence that would otherwise be relevant. In this regard, the group recommended continuing education programs for judges and referred to the US Judicial Center and the Philippine Judicial Academy (PHILJA) as examples. The group also suggested that judiciaries across jurisdictions would benefit from a registry of experts, with, among others, the following information: (i) names of the experts; (ii) cases in which the experts were called to testify; (iii) the party who sought the testimony, or alternatively, the judge who commissioned the expert; and (iv) the subject matter of the proceeding.

The group then discussed instructive examples from various jurisdictions to reformulate the traditional judicial framework toward more flexibility in conducting trials. *First*, the group discussed that in Australia and India, joint expert statements stating the matters on which the experts agree and disagree help narrow down the issues and set the parameters for contested matters. The group recognized that having experts from opposing sides reach agreements at an early stage in litigation limits possible interference from lawyers and parties as well as preserves the experts' candor with the court. *Second*, the group suggested "hot-tubbing"⁷⁵ on the presentation of concurrent evidence to extract more evidentiary concessions and to limit the issues. The group discussed that in Australia, hot-tubbing occurs when the experts from opposing sides sit together in the witness box and answer together. The discussion included anecdotal accounts that suggest

⁷⁴ *Pro bono* is a Latin phrase for professional work undertaken voluntarily and without payment or at a reduced fee as a public service.

⁷⁵ Hot-tubbing refers to "concurrent expert evidence." It involves experts from the same discipline, or sometimes more than one discipline, giving evidence at the same time and in each other's presence.

that experts are more willing to compromise when sitting together with a peer. *Third*, the group highlighted the importance of a pretrial conference to save time on litigation. The group discussed that in the Philippines, the judge meets the parties prior to the trial to set the parameters of the case. The discussion further noted the judge's authority to call all the witnesses before the trial to limit the issues and ascertain the matters for witness testimony.

The group continued to discuss examples for a more flexible judicial framework focusing on evidence. *First*, the group pointed to the need to relax the rules with respect to object evidence. The group turned to an example in the Philippines, where a party no longer needs to produce the instrument used in an environmental crime in court to prove possession, because a photograph of the same, duly authenticated by witness testimony, is sufficient. *Second*, the discussion included a recommendation to shift the burden of proof to accommodate a more flexible concept of natural capital. The group qualified that the recommendation does not apply to criminal cases, in which the standard of proof is beyond reasonable doubt. However, the group noted that the recommendation could apply in the sentencing portion, where a party could prove the extent of damage with a lower standard of proof, such as clear and convincing evidence. The discussion concluded with the insight that clear and unambiguous laws and standards eliminate any gray areas and consequently the need for expert evidence.

Group C. Innovation for Judicial Decision Making: the Idea of Natural Capital to Assist in Determining Remedies, Restorative Justice, Sanctions, and Penalties

Session Chair: Professor Merideth Wright, Distinguished Judicial Scholar, Environmental Law Institute and Pace Law School, former Judge, Vermont Environment Court

Rapporteur: Francesse Joy J. Cordon, Legal Research Associate, ADB

In its first breakout session, Group C began its discussion with remedies and penalties in cases on natural capital. The group discussed that the penalties for environmental law violations are too low. The discussion referred to the legal system in the state of Vermont in the US, where the establishment of environmental courts served a twofold purpose: (i) to recover the violator's economic gains; and (ii) to link the penalty with the profit gained from the commission of the environmental crime, ultimately to ensure that a violation of the law carries a greater financial burden than compliance.

The conversation then turned to Sri Lanka, where the maximum penalties for imprisonment and fines are too low to deter environmental crimes. However, there was discussion of recent legislation in the country that includes extended coverage with the use of "specimen" rather than "species," and that defines "sustainability." The discussion noted the power of the courts in Sri Lanka to (i) impose restorative penalties on the basis of the damage caused, and (ii) exercise fundamental rights jurisdiction pursuant to the 1978 Constitution. The group discussed the amendment of the Coast Conservation Act (Act No. 57 of 1981) and the management of the coastal region under the Coast Conservation and Coastal Resource Management Department. In cases filed before the department, parties may appeal the department's orders to the minister of coast management. Moreover, the group discussed that the government could use the Coast Conservation Fund to reward informers of environmental law violations. The discussion further added that in Sri Lanka, police officers have the power to enforce environmental laws and make warrantless arrests.

The group moved to a discussion on the Philippines, where the courts can order the payment of actual, moral, and exemplary damages, including legal interest, for acts or omissions arising from contract, tort, and delict or crime. The group discussed that the determination of actual damages includes: (i) unrealized profit, (ii) loss as a result of the natural and probable consequences of the violator's act, and (iii) loss in the value of natural capital affected by the violator's act or omission. The discussion noted that in these cases, evidence for damages includes (i) convincing evidence to prove that damages were actually suffered, and (ii) expert evidence to establish unrealized profit. The discussion further referred to restorative justice under the Rules of Procedure for Environmental Cases, which provide that environmental courts could (i) require the violator to submit a program of rehabilitation or restoration as well as shoulder all costs, and (ii) order the violator to deposit money in a trust fund for restoration of the affected area.

The group then discussed the *Manila Bay* case in the Philippines. The discussion included the observation that this case is an example of how the issuance of continuing mandamus addresses inaction of government officials. It was further noted that in the issuance of continuing mandamus, the courts have following powers: (i) to retain jurisdiction over the case; (ii) to order government officials to perform their respective duties in restoring, protecting, and preserving the environment as well as to submit periodic reports; and (iii) in the event that government officials do not comply with court orders, hold these officials in contempt. The group then raised concerns on whether the court's issuance of continuing mandamus encroaches on the powers of other branches of government. The discussion then addressed these concerns with a reference to the *Manila Bay* case, in which (i) the concerned government agencies, as the parties to the case, are bound by the decision of the Supreme Court of the Philippines; and (ii) the decision is the court's execution of a final judgment, which is within the scope of its judicial power.

The group shifted to a discussion on Lao PDR, which does not yet have environmental courts. The discussion included the stages of environmental law enforcement: (i) police officers collect information on environmental crimes and forward their files to prosecutors; (ii) after studying and summarizing the case files, prosecutors submit a statement or order before the criminal court; and (iii) the court decides the case. The discussion also noted the powers of the court to appoint a committee of experts to make an initial assessment of the facts of the case, which the court can then consider in deciding the case and in ordering the payment of damages and specific performance.

The group then considered the experience of the Maldives. The Maldives does not yet have an environmental court, tribunal, or bench, or special rules on procedure for environmental cases. However, the following relevant laws were identified: (i) the Constitution of the Maldives allows the courts to exercise jurisdiction over cases involving environmental protection, considered as a fundamental right of the people; (ii) pursuant to the Environmental Protection and Preservation Act of 1993 (Act No. 4/93), the fundamental Maldives environmental legislation, the legislature enacted other environmental laws and issued regulations; (iii) various EIA regulations were issued in 2012; (iv) the penal code provides for penalties such as imprisonment, the banishment of an offender from one island to another, and fines; and (v) civil procedure frequently applies to the environmental cases in litigation. The group proceeded to discuss that the Supreme Court of the Maldives allows the filing of public interest litigation, although an environmental case classified as such has yet to be filed. It was noted that aside from national and local legislation, courts are mandated to apply best practices and soft international law in promoting fundamental rights laws. Moreover, the discussion included the powers of the courts to (i) issue temporary or

permanent interim orders to enjoin the violation of environmental laws, (ii) impose fines ranging from MVR500,000 (or \$32,500) to MVR100,000,000 (or \$650,000) in environmental crimes, and (iii) order the confiscation of the objects of the crime.

The group continued with a discussion on the experiences of Brazil, India, and Myanmar. The discussion on Brazil pointed out that in the Amazon, there are mandatory night schools for violators to learn the basic principles of nature. Generally, these violators avoid recidivism and become advocates of environmental conservation and understanding. The discussion also referred to a case in 1997, in which a convicted poacher of Amazonian manatees faced either a penalty of imprisonment or to feed the manatees for a year; he subsequently became a leading wildlife advocate. It was further noted that the establishment of environmental courts was met with much success despite initial apprehension from the locals. The group turned to India's experience in having one of the most active judiciaries. The discussion included the insight that India's judicial legislation serves as one of the most important pillars of its society. The discussion also noted that India's courts have the power to order payment of the net present value of the damage caused. The group then shifted to a discussion on Myanmar's experience. Myanmar's environmental legislation has not yet been enforced, because the implementing rules have not yet been formulated and adopted. However, the discussion also recognized that this environmental legislation, once implemented, imposes penalties for the violation of any order or directive issued under this law.

The group assessed the profile of violators of environmental laws and shared aspects of enforcement relevant to this profile. The discussion included the observation that the poor on the front line, occupying the lowest level in the hierarchy of environmental law violators, are often the only ones penalized. The discussion also identified a possible distinction between two types of violators: (i) those who do not care about the environment and intentionally cause damage to it, because their only goal is to earn money; and (ii) those who violate environmental laws to earn a living for their survival. The discussion then included the recommendation for the enforcement of anti-money-laundering laws and other ancillary legislation to ensure that criminal masterminds, and not only those in the front lines, are penalized. The group further discussed specific examples in the Philippines: (i) courts can garnish funds without an order from the Anti-Money-Laundering Committee; and (ii) offenders sentenced to imprisonment of not more than 6 years can apply for probation, and the court can grant probation subject to conditions that the offender must comply with.

The group proceeded to discuss the assessment of damages in cases on natural capital. The group initially discussed the consideration of unjust enrichment in the determination of damages. The discussion included an example in Sri Lanka, in which the application of unjust enrichment filled gaps in laws. The group then considered the challenges in quantifying damages monetarily. The discussion included the following observations: (i) in the Philippines, judges can order the payment of temperate or moderate damages if parties cannot prove damages with certainty; (ii) in Sri Lanka, parties have the option to file personal injury cases; and (iii) even with a study on the economic costs of people's choices, there is a problem of attaching costs to a particular tree or organism.

The group further discussed the need for expert evidence on damages and other issues in cases on natural capital. The discussion included examples from the following countries: (i) in Australia, hot-tubbing occurs when expert witnesses testify in court together; and (ii) in India, parties file

hundreds of cases before the National Green Tribunal, and experts from various backgrounds are available to support the court. The group concluded the discussion with recommendations relating to experts: (i) to set up a permanent multidisciplinary group of experts, and (ii) to equally distribute expert fees between opposing parties.

Group D. Strengthening Capacity to Decide Natural Resource Cases, and Resisting Threats to, and Promoting, Integrity against Corruption

Session Chair: Greg Alling, Independent Judicial Reform Specialist, Consultant, ADB

Rapporteur: Maria Camille G. Lantion, Legal Research Associate, ADB

In its first breakout session, Group D discussed natural capital and its role in capacity building for environmental decision making as well as the fight against corruption. The group began with a discussion on the concept of natural capital and highlighted several perspectives on the concept, such as linking natural capital to humans as stewards of the earth. The discussion referred to an example in the Philippines, in which fishing communities in Batanes complete a special ritual before commencing fishing activities. The discussion also included the doctrine of public trust and the problem of the common pool, noting that an individual cannot be prohibited from using the common pool but has no exclusive right to its use.

The group considered the need for the equitable allocation of the costs and benefits in the protection of natural capital. The discussion included the economic focus on goods and services, which leads to projections that revolve around profits without accounting for the costs of damage to the environment. The discussion then turned to an appreciation of the ecosystem services, where planting mangroves, for instance, is more desirable than installing an expensive system to clean water. The group also discussed the difficulty in assessing the value of ecosystem services.

The group proceeded to examine the context within which to use the concept of natural capital. The group discussed that judicial decisions face legislative constraints when the laws only contain general references to the environment and natural resources. Due to the limitations in applying legislation without any references to natural capital, the discussion included the suggestion to use the concept of natural capital as a tool to educate the public about the significant value of ecosystems and their interdependencies. Moreover, the discussion raised the significant role of policy makers in incorporating the concept of natural capital in legislation.

The group continued to discuss the judiciary's role in interpreting the law while having a broader understanding of the concept of natural capital. Although the discussion reiterated that environmental law dictates the sanctions for its violations, the group also discussed the possibility for judges to render decisions in light of the broader perspective that natural capital provides. The discussion referred to a case on the violation of the Forestry Code of the Philippines, in which the court ordered the planting of trees as a condition of probation. The discussion included the insight that fines are inadequate to address violations involving nonrenewable natural resources, which require a long time to regenerate.

The group then turned to a discussion on the capacity-building initiatives of the judiciary regarding environmental laws and natural capital. The discussion referred to the PHILJA initiatives, with the assistance of its development partners, in the creation of a multisector training module on the

environment. It was noted that the first day of the module focused on environmental legislation while the second day covered the *Rules of Procedure for Environmental Cases*. The attendance of judges and lawyers, including prosecutors and public defenders, as well as enforcement officials from the Department of Environment and Natural Resources (DENR), the National Bureau of Investigation, and the Philippine National Police marked the success of the module. The discussion went on to include that despite PHILJA's lack of funds for additional training modules, the next series of modules was funded by DENR. The discussion also covered PHILJA's launch of an information education campaign initially for marginalized sectors and people's organizations to encourage the use of the *Rules of Procedure for Environmental Cases*.

The group continued to discuss training, moving on to Thailand's experience with capacity building. Judicial training in Thailand involves providing environmental courses for judges, which includes sending them to other countries, and similarly, inviting judges from other countries, for instance, Bhutan and the Lao PDR, to attend training in Thailand. On a related note, the group shared their appreciation for the symposium and the resulting exposure to the various aspects of environmental issues. In this regard, the discussion included the recommendation for training to include more background on science.

The group concluded with a discussion on strengthening integrity to prevent and eliminate corruption. The discussion covered Indonesia's approach to the protection of natural resources, accomplished in conjunction with efforts to eliminate corruption. The discussion highlighted the current administration's agenda to prevent corruption in Indonesia, including yearly action plans with periodic monitoring and the requirement to submit reports. The discussion also referred to the judiciary prioritizing anticorruption initiatives. Furthermore, the discussion included other mechanisms to fight corruption in Indonesia: (i) financial intelligence units identify violators, and (ii) citizens have the right to complain about the required submissions of government officials on financial reports.

The group then looked to a discussion of Thailand's experience, where the problem of corruption within the judiciary and cases concerning natural resources is less pressing as compared with cases concerning narcotics. The discussion covered Thailand's judicial commission, whose membership consists of the President of the Supreme Court as the chair and other members elected from other parts of the country. The discussion also included Thailand's experience that the information that judges themselves provide allows most of the cases involving corruption within the judiciary to be acted upon.

The group made recommendations to address and eliminate corruption. The discussion recognized that considering that the different judiciaries already have codes of conduct, the focus should shift to the implementation of these codes. In this regard, the discussion highlighted that one of the strongest ways to monitor corruption is through peers. The discussion also included a suggestion to emphasize the independence of a judicial commission that, together with the Supreme Court in that particular jurisdiction, will make a formidable combination to ensure that ethics are respected. The discussion further cited the Bangalore Principles of Judicial Conduct to guide the judiciary, and one suggestion included the addition of a principle for the environment to form part of ethical considerations.

Symposium Highlights

Day 3

Session 11

Climate Change Impacts on Key Ecosystems

Preety Bhandari, an advisor at the Climate Change Unit of Asian Development Bank (ADB), framed the discussion of the next session with a brief overview of the key aspects of the United Nations Framework Convention on Climate Change (UNFCCC). Ms. Bhandari recounted that in 1994, the UNFCCC, ratified by 195 countries, entered into force. She referenced Article 2 of the UNFCCC as the article often quoted in climate change negotiations for providing the objective of the convention:

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

Ms. Bhandari explained three critical points contained in the objective. *First*, she related anthropogenic interference with the purpose of the negotiations, to determine ways to reduce the human impact as well as the carbon footprint on the climate system. *Second*, she referred to the importance of allowing sufficient time for ecosystems to adapt. *Third*, she pointed out that countries must not compromise economic development, but instead ensure that this development is carried out in a sustainable manner.

Ms. Bhandari commented that Article 3 of the UNFCCC also refers to the precautionary principle, which highlights the view that scientific uncertainty should not be used as an excuse for inaction. She added that the UNFCCC espouses principles of equity and sustainable development. She further observed that equity, insofar as it concerns common but differentiated responsibility, is central to the negotiations regarding the respective capabilities of each country.

Ms. Bhandari shared her view that the aspirational divisions within the groups of developing countries and the Group of 77 (G77),⁷⁶ while at the same time addressing climate change

⁷⁶ The G77 is a group of developing countries that articulates and promotes the collective economic interests of its members within the UN system.

issues, constitute a moot point. She pointed to the weakened distinction between developed and developing countries, as set out in 1992 at the time of the agreement for the UNFCCC, due to significant changes of economic circumstances over the last decades. However, she recognized that these changes lend another challenge to the negotiations and efforts to arrive at a new agreement. Ms. Bhandari related that while expectations place the conclusion of the new agreement in 2015, the outcome of the conference in Warsaw suggests, at best, that the negotiations have only taken incremental steps in this direction.

Ms. Bhandari cited Article 4 of the UNFCCC as addressing the commitments of different groups to mitigate climate change. She referred to these commitments as including the reduction of emissions as well as provisions for finance, technology, and capacity building. She remarked that Article 4 recognizes the special circumstances faced by developing countries, including small islands and least-developed countries, as well as economies in transition.

Ms. Bhandari acknowledged that the architects of the UNFCCC accounted for countries' different realities and aspirations, and, for this reason, the different variables that countries currently face add to the complexity of addressing climate change. She concluded that this context informs issues related to climate change and legal liability as well as the legal framework of the convention in its entirety.

Naderev M. Saño, a commissioner at the Climate Change Commission in the Philippines, provided an overview of the state of climate change. Commissioner Saño cautioned that a delayed response would set back the region's efforts to achieve sustainable development and to eradicate poverty.

Commissioner Saño referred to ADB's identification of the numerous reasons for the vulnerability of the region. He pointed out that much of the population, being concentrated in low-lying coastlines stretching hundreds of thousands of kilometers, leaves many communities vulnerable to climate change. In addition, he remarked that the increase in extreme weather and forest fires threatens the export industries that make Asia one of the world's biggest sources of forest products. He recognized that although Asia has undergone rapid economic growth in recent decades, the incidence of poverty has nevertheless remained high. He placed emphasis on the poor as the most vulnerable sector and thus at the forefront of the climate change battle.

Commissioner Saño reported that current numbers reveal the trends for an increase in the global mean temperature, a decrease in rainfall for Asia, and a steady rise of sea levels. He cited the most recent report of the Intergovernmental Panel on Climate Change (IPCC), which found an unequivocal warming of the climate system. Commissioner Saño characterized the IPCC as a careful organization that provides a conservative perspective of the current situation, and he remarked that even with such an approach, the IPCC provided this compelling and alarming overview. He reported the IPCC's findings that, since the 1950s, much of the observed changes have no precedent. As measured since the 1850s, the last 3 decades have been successively warmer than the preceding decades. He qualified that accurate measurements of temperature were nearly impossible to record before this time, which marks the invention of the thermometer.

Commissioner Saño continued to report the IPCC's findings that (i) the Greenland and Antarctic ice sheets lost mass, (ii) glaciers worldwide continue to retreat, and (iii) the Arctic sea ice and the northern hemisphere's spring snow continue to decrease. He cited the IPCC again in reference

to the rate of sea level rise, which, since the mid-19th century, has exceeded the mean rate of the past 2 millennia.

Commissioner Saño related that the atmospheric concentration of greenhouse gases, which includes carbon dioxide, has increased to unprecedented levels. He stressed that the current population represents the first generation of humanity to breathe air containing carbon dioxide concentrations of more than 400 parts per million.

Commissioner Saño cited the IPCC's finding that since the mid-20th century, human influence is classified as "extremely likely" to be the dominant cause of global warming as observed. He referred to the "extremely likely" label as one found at the end of the classification spectrum, considering that science cannot guarantee absolute certainty. He emphasized that this classification is the closest equivalent to the conclusion that the cause of climate change is human influence.

Commissioner Saño looked to sustained reductions of greenhouse gas emissions to limit climate change. He qualified that even if the world ceases all carbon dioxide emissions, most aspects of climate change would remain for many centuries. He referred to the increased trends in the intensity and frequency of heat waves, droughts, and tropical cyclones, which were responsible for extensive human loss and loss of livelihoods as well as damages to property. He pointed out that the Philippines experienced this devastation recently through Typhoon Haiyan, considered the strongest storm in recorded history.

Commissioner Saño recounted the projection for the annual global mean temperature by the end of this century to rise over 4 degrees Celsius. Additionally, he referred to the projection for the mean sea level to increase to 70 centimeters. Over the next couple of decades, Asia is expected to witness increasingly drier weather. He pointed to global warming as likely to cause a decline of rice yields by 50%. Commissioner Saño gave emphasis to the potential economic cost of inaction or of adopting a business-as-usual approach to emissions. He reported that this projected cost to Southeast Asia alone by the year 2100 is an annual loss of 7% of its GDP, or more than twice the world average. Keeping these projections in mind, Commissioner Saño described Asia as the most vulnerable region to climate change, which in turn requires the region to go to extraordinary lengths of adaptation. He expressed that one implication of this vulnerability is that it further widens the gap between the rich and poor, creating a higher incidence of poverty in the region and posing an even greater challenge for social and human development.

Commissioner Saño remarked that since the 1970s, the population's demands have exceeded the capacities of ecosystems to provide for humanity. He looked to the Global Footprint Network, which undertakes ecological accounting, to provide the rate of human consumption of natural resources and ecosystem services in 2008, measured at 1.5 times faster than the earth's capacity to renew them. He pointed out that this rate is double the consumption rate from 1960, when the population used an estimated 75% of the earth's capacity. He stated that the indicators for this decline would see the increased costs for everyday items like food and water while inversely witnessing the decrease in the value of economic assets that depend on such low-cost inputs.

Commissioner Saño then posed the question of whether policy makers, government officials, and members of the judiciary still have the opportunity to meet these challenges with a timely

response. He answered in the affirmative, finding inspiration from the innovative activities resulting from the synergy among the different branches of the government and the private sector, including civil society. He expressed confidence that this synergy would lead these sectors to take bold steps toward stronger leadership and political will.

Commissioner Saño recognized that the population is only at the start of the tremendous work in pursuit of sustainable development. He stressed that the incorporation of climate change in policy making and jurisprudence is a continuing objective in order to truly achieve climate-resilient communities.

Lory Tan, chief executive officer and vice chair of the board of WWF Philippines, discussed natural disasters in the context of climate change. Mr. Tan first referred to a 2009 study that he presented before ADB on the Coral Triangle and climate change, substantiated with the scholarship of 20 experts and 300 peer-reviewed articles, and commissioned by WWF and the University of Queensland. Mr. Tan identified the study's findings of six scenarios and stressed that all have already occurred: (i) the persistence of El Niño, resulting in difficulties with predictions; (ii) the rise of sea surface temperatures to 4 degrees Celsius; (iii) the occurrence of ocean acidification, which renders, for instance, shrimp without the ability to develop their skins, or oysters their shells; (iv) the rise of sea levels; (v) the increased frequency and intensity of tropical cyclones; and (vi) the common occurrence of extreme weather conditions such as rainfall and thus river flow, floods, and droughts.

Mr. Tan characterized the manifestations of climate change as nonlinear, locally specific, and highly variable. He recounted that over the last 5 years, observed trends include the unprecedented rise of atmospheric carbon dioxide levels and echoed Commissioner Saño's presentation in this regard. He also pointed to the following trends: (i) bell curve temperatures shifting to the right or toward more hot and extremely hot weather, (ii) the frequency of El Niño, (iii) higher temperatures than the mean in the last century, (iv) a northern hemisphere warmer than its counterpart in the south, (v) the shift of the intertropical convergence zone away from the equator, (vi) Arctic sea ice melting to half of what it had been just 30 years ago, and (vii) intensified rain and storms. Mr. Tan reiterated that sea levels do not rise at an average but rather occur when heat creates moisture in mountains and valleys. He recounted Commissioner Saño's account of the types of storms that the population faces and expressed his agreement with the commissioner's statement that these weather conditions would only get worse before getting better.

Mr. Tan cited a study of WWF Philippines and the Bank of the Philippine Islands, *The Business of Adaptation*, concerning 12 Philippine cities over the last 3 years. He pointed to urbanization as the reason for the study's focus on cities. He then referred to an estimate which provides that by mid-century, up to 70% of the population in Asia and the Pacific would live in cities. He remarked that this estimate, in effect, reflects a concentration of risk, where more people live inside rather than outside the region.

Mr. Tan referred to the United Nations Environment Programme (UNEP) and its identification of forced migration as one of the most significant indirect impacts of climate change. He pointed out that forced migration occurred recently with the onset of Typhoon Haiyan in Tacloban, Philippines. He further referred to regional and global estimates of the number of people who would be forced to move—as many as 400 million people within Asia and the Pacific, and by mid-century, a billion people throughout the globe.

Mr. Tan identified that the other indirect impacts, which parallel the six scenarios he discussed earlier for climate change, involve health, including both the resurgence of old diseases and the emergence of new ones. He attributed resistance and resilience from these impacts to biodiversity and ecosystems, which provide balance and general defenses against the distribution of opportunists. He pointed to human activity as the dominant driver in altering natural processes at an unsustainable rate. He stated that while the population cannot place the blame entirely on climate change for these impacts, it nevertheless aggravates the human footprint.

Mr. Tan emphasized that since the 1950s, economic activities have accelerated at extreme rates. The most recent Global Footprint study revealed that the estimate for the human global footprint is 50% beyond the earth's sustainable capacity. He remarked that this estimate puts the population in ecological overshoot, manifested by the depletion of natural capital. He looked to the ecological footprint per capita and strike ratio as well as biocapacity to arrive at a ratio that reflects the population's overuse of natural capital. He identified these figures of use beyond sustainable limits as 77% in Asia and the Pacific, 117% in the Philippines, and 3,400% in Metro Manila.

Mr. Tan remarked that Asia and the Pacific would witness a future of megacities with corresponding mega-populations. He looked to this future to emphasize the importance of defining land use and, more broadly, determining how to use available resources. He also commented that the future holds major changes in the quantity and quality of water, and he advocated for resorting to multisourcing in water supply as opposed to relying on groundwater. Mr. Tan used an equation to demonstrate how essential these resources are to the population's survival. He illustrated that the absence of forests equals the absence of water, and the absence of water equals the absence of rice.

Mr. Tan observed that since most Asian cities are situated on the coastline, they are vulnerable to flooding, land subsidence, and saltwater intrusion. He pointed out that solutions exist on different levels, from building to site to city. He further highlighted that the entire population has to be a part of these solutions.

Mr. Tan called attention to food security due to the uncertainty of the future of fish and wildlife. He identified the need for the rationalization of aquaculture and agriculture. Mr. Tan then focused on energy, citing this resource as ultimately affecting the costs of living and doing business. He advocated for the introduction of an indigenous energy mix to bring stability during an unpredictable period. Mr. Tan further recommended retooling access and distribution systems, pointing to transport and telecommunications. He highlighted that 90% of the world's trade uses transport by sea, and for this reason, seaports need to be climate resilient.

Mr. Tan underscored the importance of human capital in moving ahead. He recounted his participation in a study for the Philippine government to outline available options toward a green economy. The study showed that the country's GDP growth in the last decade was directly related to resource use. He remarked that the Organisation for Economic Co-operation and Development (OECD) countries showed a gap in this area, reflecting the existence of a value added. Mr. Tan identified the need to determine a way for sustainable production using fewer resources. He again referred to the *Business of Adaptation* study, in which governance emerged

as the top driver of development. He concluded by stressing that governance is not simply equivalent to the government, because governance is the people.

Ms. Bhandari opened the floor for questions before moving on to the other presentations. Professor Koh Kheng Lian from the National University of Singapore raised the issue of human security and shared that this emerging concept, together with human rights, was the theme in a recent ASEAN conference. She remarked that unlike the rights-based paradigm of human rights, human security relies on the premise of an independent world, which then calls for a global approach, rather than a national or regional one, in addressing this issue.

Peter Wulf, a barrister at law, a scientist, and member of the Commonwealth Administrative Appeals Tribunal in Australia, discussed climate change litigation in Australia, New Zealand, and the US and this phenomenon's possible implications on Asia and the Pacific. He began his presentation by discussing what climate change litigation entails, and that these actions raise other issues in addition to climate change. He pointed out that climate change litigation is not confined to court proceedings. In Australia and New Zealand, parties bring climate change actions before tribunals that form part of quasi-judicial systems. Mr. Wulf noted that these actions undergo judicial review or a merits review. He compared the two, remarking that a judicial review of a climate change action is more difficult than a merits review of the same.

Mr. Wulf related the prior discussion on overconsumption to the US and Australia. He recounted that the US ranks second among the biggest emitters of greenhouse gases in the world, with the PRC ranking first. He also reported an increase of greenhouse gas emissions according to a statement of the US Environmental Protection Agency (EPA) in 2012. Mr. Wulf stressed that the most important issue on this subject is the heavy reliance of the US and Australia on fossil fuels. The US, with the largest proven coal resource in the world, ranks fourth among both the biggest exporters and the biggest users of coal worldwide. He identified electricity generation in the US as accounting for around 34% and transport producing 27% of its greenhouse gas emissions.

Mr. Wulf proceeded with a discussion of Australia's reliance on fossil fuels, pointing out that the country's export of fossil fuels, including iron ore, generated nearly \$50 billion. He reported that Australia is the biggest exporter of coal worldwide. He considered the significance of fossil fuel exports, remarking that the Australian economy would face a near death if it lost these exports. Australia ranks third among the countries with the largest proven coal resources. He pointed out that 37% of Australia's coal consumption is used for electricity. If Australia's coal exports were actually included in its greenhouse gas emissions, it would have ranked second in the world among the top producers of greenhouse gas emissions. He also mentioned the possibility that if mining operations actually occurred in the Galilee Basin in Queensland, Australia would export around 330 million tons of coal in a year, which is more than what the United Kingdom produces in greenhouse gas emissions.

Mr. Wulf moved on to a discussion of climate change regulation in the US. While the US does not have legislation specifically relating to climate change, parties use the Clean Air Act of 1963, as amended, to initiate climate change actions in the US. He also referred to the National Environmental Policy Act and the Administrative Procedures Act to point out that parties use these together with the Clean Air Act to bring climate change actions. Additionally, he cited the National Climate Program Act on understanding the impacts of climate change and providing for research as well as the Global Climate Protection Act on providing a coordinated approach.

Mr. Wulf proceeded to discuss climate change regulation in Australia. He pointed out that although Australia ratified the Kyoto Protocol quickly, the current administration has yet to take action in pursuit of the protocol. He reported that Australia's predominant legislation for environmental protection is the Environment Protection and Biodiversity Conservation Act 1999. He added that the Australian Constitution is silent on whether the federal government has control over environmental issues, with the exception of Section 100, which provides for interstate water use. He emphasized that the Australian Constitution has sections relating to external affairs or international agreements that could form the basis for legislation. He referred to the National Greenhouse and Energy Reporting Act 2007, which requires large businesses to report their emissions to the government. He also cited the Clean Energy Act 2011, which provides for a carbon tax, and expressed disappointment at the likelihood of the government repealing the tax due to the current administration's views on climate change.⁷⁷

Mr. Wulf then discussed that in the US, climate change litigation primarily deals with emissions. He referred to *Massachusetts v. EPA*,⁷⁸ in which 11 states, a US territory, three cities, and 13 nongovernment organizations (NGOs) brought an action against the US EPA. He added that 10 states and 19 industry groups joined the EPA. He identified the main issue in the case as whether the EPA has the authority to regulate motor vehicle emissions, while reiterating that transport produces 27% of greenhouse gas emissions in the US. On the issue of legal standing, the US Supreme Court upheld Massachusetts' contention that it could prove that the sea level rose from 10 to 20 centimeters within the last century. Moreover, the court held the Clean Air Act as allowing the regulation of pollutants that produce climate change. Mr. Wulf remarked that since this decision, many discussions have taken place as to further development in this area. He added that while the current administration has exerted efforts to enact climate change legislation, the Clean Air Act continues to be the predominant law in this area.

Mr. Wulf discussed other cases on climate change in the US. He recounted that in *American Electric Power v. Connecticut*,⁷⁹ the US Supreme Court reiterated the doctrine in *Massachusetts v. EPA*. He also referred to *Native Village of Kivalina v. Exxon Mobil Corp.*,⁸⁰ in which a community brought an action against energy producers of oil and electricity. He described how the community claimed damages from the energy producers' actions and the resulting impacts of climate change. He concluded that while this action was ultimately not successful, it provides insight as to possible future actions.

Mr. Wulf continued to discuss climate change litigation, moving on to the cases in Australia that deal with emissions, mitigation, and adaptation. He reported that Australia has seen around 50 cases on climate change, and the bigger cases were at the federal level and have not been successful. However, he noted that a number of cases before the Land and Environment Court in New South Wales have seen some success.

Mr. Wulf proceeded to discuss a case before a federal court in 2007 involving the expansion of two mines. The magnitude of the expansion would result in mining operations producing 25% of Australia's greenhouse gas emissions. He discussed the argument on one side for a chain of

⁷⁷ In July 2014, the government passed the carbon tax repeal legislation, which abolished the carbon tax to lower the costs to Australian businesses and ease cost of living pressures for households.

⁷⁸ 549 US 497 (2007).

⁷⁹ 564 US __ (2011). Docket No. 10-174.

⁸⁰ 696 F.3d 849 (9th Cir. 2012).

causation, that is, the government should consider the greenhouse gas emissions produced from mining operations along with those produced by the transport and use of the extracted coal. He followed that point with a discussion of the mining company's opposing argument, that the chain of causation ends once the coal is on a boat and shipped to another destination. Mr. Wulf stressed that the parties and the court accepted the existence of climate change. However, the court did not find a link between the actual burning of the coal and an unknown destination. The court also did not find a link between the burning of the coal and increased impacts of climate change, particularly on an area of Australia.

Mr. Wulf turned to cases in New South Wales. He remarked that NGOs brought actions on the same issues, and he reported that the courts recognized the need to consider climate change in the entire concept of ecologically sustainable development. In addition, he noted that the courts put conditions on mines for offsets of their greenhouse gas emissions.

Mr. Wulf then discussed mitigation and adaptation issues in Australia, referring in particular to *Gippsland Coastal Board v. South Gippsland Shire Council*⁸¹ and *Taip v. East Gippsland Shire Council*.⁸² He mentioned that these cases relate to the need to consider climate change and sea level rise in coastal planning schemes as well as the court's role in this issue. In both cases, the applicants successfully argued for local planning and for the state government to consider climate change and sea level rise.

Mr. Wulf cited two cases in New Zealand on climate change. *First*, he discussed *Environmental Defence Society v. Auckland Regional Council*,⁸³ where the court resolved the issue of whether climate change should be considered in the affirmative. *Second*, he called attention to *Genesis Power Limited v. Franklin District Council*,⁸⁴ in which the court held that a wind farm's contribution to climate change reduction, while small, should nevertheless be considered.

Mr. Wulf recalled the issue of climate change migration from the presentation and comments earlier. He referred to a recent decision in an immigration case, *Teitiota*. The case involved an individual from Kiribati who was about to be deported from New Zealand for staying beyond the period allowed in his visa, but who claimed to be a climate change refugee. Mr. Wulf pointed to Kiribati as one of the countries that would experience the most significant impacts from sea level rise. He remarked that while the court in the case was fairly adamant in rejecting this contention, the issue of climate change migration requires further consideration.

Mr. Wulf concluded his presentation by identifying the implications of climate change issues on Asia and the Pacific. He raised the issue of standing and posed the question of which parties are permitted to bring an action, using car manufacturers as an example. He asserted that India's change of its transport infrastructure to natural gases prompts legal and policy questions on the manufacture and use of cars in the country. He identified massive mining operations as another subject that invites issues. He referred to Indonesia, its many coal resources, and its coal-fired power stations to point out the potential for litigation concerning forest fires and transboundary issues. Finally, he asked the participants to consider the implications of haze and climate change on litigation regarding sea level rise, flooding, and local planning.

⁸¹ [2008] VCAT 1545.

⁸² [2010] VCAT 1222.

⁸³ [2002] NZRMA 492.

⁸⁴ [2005] NZRMA 541.

Chanokporn Prompinchompoo, a law lecturer at the Faculty of Law of Ramkhamhaeng University in Thailand, gave a presentation on climate change issues in Thailand as well as relevant legislation and cases on these issues. Initially, she identified the impacts of climate change on Thailand, such that it experienced floods and drought, resulting in impacts on biodiversity. She also identified increasing temperatures, rising sea levels, and impacts on coral reefs as further issues. She remarked that this scenario leads to questions on how to adapt to climate change.

Ms. Prompinchompoo outlined key areas relating to Thailand's capacity to adapt to climate change. She reported that the agriculture sector constitutes around 41% of the country's labor. She remarked that an estimated 80% of Thailand's farmland does not have irrigation, particularly in the north and northeast. She further discussed that in 2011, the estimated costs of flooding in Thailand was approximately 130,000 million baht, or around 1% of the country's GDP. She pointed out that the coastline in 23 provinces in the country stretches to approximately 3,000 kilometers and that these provinces are home to an estimated population of 12 million.

Ms. Prompinchompoo referred to the sources of Thailand's greenhouse gas emissions produced in 2000. She pointed out that the energy sector was the highest emitter of greenhouse gases, followed by the agriculture sector. She stated that the figures supporting her statement are likely to change, considering the need to add transport to the list. She then compared Thailand's greenhouse gas emissions in 2008 with other ASEAN countries, noting that Thailand's carbon dioxide emissions per capita was high relative to the others.

Ms. Prompinchompoo relayed that Thailand is a party to the UNFCCC and the Kyoto Protocol, as it ratified the former in 1994 and the latter in 2002. While Thailand does not yet have legislation that directly addresses climate change, the country introduced climate change into the National Economic and Social Development Plan. Moreover, she remarked that Thailand's Ministry of Natural Resources and Environment started to draft a master plan for climate change mitigation and adaptation for the country. The ministry also created a program, the Nationally Appropriate Mitigation Actions, to address greenhouse gas emissions in both the energy and transport sectors.

Ms. Prompinchompoo moved on to discuss Thailand's legislation and other rules on the environment. She cited the Constitution of Thailand as the basis for legal standing for individuals and NGOs to sue the government if it lacks a plan to protect the environment. Although Thailand does not have legislation specifically on air or water resources, its comprehensive environmental statute, the Enhancement and Conservation of National Environmental Quality Act of 1992, is available as the basis for actions concerning pollution. She then identified other environmental statutes including (i) the National Park Act of 1961; (ii) the Factory Act of 1992, which requires factories to adopt standards to control the discharge of pollutants into the environment; and (iii) the Land Traffic Act of 1992, which grants authority to the commissioner to provide criteria for emissions from transport on land. Additionally, she noted that the President of the Supreme Court and the President of the Supreme Administrative Court can issue recommendations to provide for rules of procedure in environmental cases.

Ms. Prompinchompoo described some of Thailand's prominent cases on the environment relevant to climate change. *First*, she discussed an action against the Bangkok Mass Transit Authority (BMTA), where NGOs and individuals alleged that the BMTA and the Pollution Control

Department neglected their legal duties. The plaintiffs complained of the black smoke emitted by the BMTA buses. The Central Administrative Court held that the BMTA failed to perform its legal duties. She added that the court ordered the BMTA to find a solution to this problem and to report emission test results every 3 months.

Second, Ms. Prompinchompoo discussed the case of Map Ta Put. In this case, the complaint alleged that a government agency violated the requirement for an Environmental Impact Assessment (EIA), which led to a factory causing air pollution in the Map Ta Put area. She remarked that the Central Administrative Court ordered the government to revoke the factory's license to operate and recognized the resulting harm to the environment, natural resources, and health of the communities. *Third*, Ms. Prompinchompoo referred to a case in Mae Moh, where local communities alleged that a plant's emissions exceeded the permissible amount of sulfur dioxide. She emphasized that in addition to the court's consideration of whether the emissions exceeded the legal threshold, the court also considered the damage inflicted.

Fourth, Ms. Prompinchompoo discussed a case where the plaintiff alleged that the defendant was negligent in storing cobalt 60, thus resulting in the plaintiff's exposure to radiation. The court ordered the defendant to pay compensation, holding that he could have avoided the harm done by taking reasonable steps for the proper storage of cobalt 60. She highlighted that this case illustrates the court's recognition of the legal standing of individuals and NGOs in asserting the right to protect the environment even without direct injury. She further noted that the case is an example of where the owner of dangerous substances has the responsibility to prevent any future harm from them.

Ms. Prompinchompoo concluded with recommendations for Thailand. She identified the need for climate change legislation while recognizing that passing legislation is difficult. She recounted that Parliament has yet to pass a law on water resources, despite being presented with a proposal for this law more than 10 years ago. However, she used this point to stress that the uncertainty in successfully passing legislation for climate change makes the role of the judiciary more significant in climate change cases, as courts have the opportunity to review and interpret existing law in these cases. As a final note, she emphasized the importance of international cooperation, particularly considering that climate change is not an isolated problem of one country, but of the international community.

Ms. Bhandari, as session chair, highlighted the key points from the presentations. *First*, she pointed out that climate changes raise questions concerning how to attribute responsibility for local impacts while considering climate change as a global phenomenon. *Second*, she called attention to the difficulties in identifying responsible parties, whether these include the government, private sector, or others in the economy. *Third*, she posed the question of whether national legal frameworks are available to address these issues of responsibility and liability in the future. She then opened the floor for questions.

Dr. Mulqueeny addressed her question to Mr. Wulf and Ms. Prompinchompoo, asking for details of the flood control cases before the Central Administrative Court of Thailand. She recalled that these cases concern the issue of whether a government agency sufficiently incorporated climate change into its plans for the water sector, keeping in mind Thailand's experience with excessive floods a few years ago. Ms. Prompinchompoo pointed to the right of public participation with regard to the government's plans on floods. She added that in relation to these

plans, the Administrative Court ordered the government to conduct the EIA again, because the government initially did not conduct an adequate EIA in all areas throughout the country. Judge Sarawut Benjakul of Thailand noted that Dr. Mulqueeny referred to the cases on the floods in Bangkok over the last 2 years, the government's action on flood prevention, and the responsibility for those affected by the floods. He stated that the cases are currently pending before the Administrative Court, and they still have to be resolved.

Mr. Newcomer spoke of the growing green technologies in the US, including the wind and solar industries, which coincidentally could have dramatic impacts on, in particular, killing wildlife. He asked the panel to share their thoughts on how the judiciary would approach a conflict between these green industries and the environment. Mr. Wulf referred to Australia's experience with wind farms and their impact on birds, primarily in coastal zones as opposed to inland areas. He discussed one case where the issue was whether the government had considered a wind farm's impact on the orange-bellied parrot, in granting approval for the farm. He recounted that the case proceeded to trial, the judge reserved his decision, and the government approved the project due to political pressure.

Professor McNeely pointed to REDD+ as one of the productive results of Warsaw and observed that not all eligible countries agreed to be part of it. While the implementation of REDD+ would certainly encounter complex issues, he pointed out that the substantial amount of funding that may apply to countries in Asia and the Pacific is an advantage. He then asked why countries hesitated to join REDD+. Commissioner Saño observed that the latest rounds of negotiations under REDD+ clarified results-based financing, important for the environmental and social safeguards in the Warsaw decision. However, he shared the reasons for the Philippines' hesitation in joining REDD+, referring to concerns for the rights of indigenous people and environmental safeguards. He reasoned that reducing emissions from deforestation and degradation is not only a matter of carbon as currency but also broadly deals with rights, particularly on tenure and the sustainable management of forests. Commissioner Saño remarked that much of the financing was happening outside of the UNFCCC and that the Philippines wanted to see a coherent system where financing occurs under the framework of the convention.

Justice Azcuna asked the panel for their thoughts on the possibility of setting up an international tribunal for climate change as an international enforcement mechanism, rather than each country attempting to remedy the problem on a piecemeal basis. Mr. Wulf supported this idea and pointed to existing discussions for an international tribunal on the environment. He stressed, however, the difficulties with causation issues in climate change litigation. Referring to the case he cited earlier in his presentation regarding burning coal at an unidentified location, Mr. Wulf asked who would be the appropriate party against whom to initiate an action: the producer of the coal, or the country who burned the coal? He recognized the difficulties in proving that, for instance, a power plant produced greenhouse gas emissions that in turn caused the sea level to rise, and ultimately causing flooding. He concluded that since climate change has an indirect impact, establishing causation is particularly difficult in these cases.

Gloria Ramos, a faculty member at the University of Cebu in the Philippines, addressed a question to Commissioner Saño, asking how to guarantee that the right of public participation is integrated in decision making. She remarked that while the Philippines has a strong legal framework for climate change, there is inconsistency between the 24 coal-fired power plants established in the country and the national commitment for sustainable energy. Commissioner Saño also recognized

the country's strong legal framework for climate change. However, he recounted that while the Philippines has a target to triple the capacity of renewable energy by 2030, the country does not have a target for coal. Commissioner Saño identified the problem as relegating conventional energy entirely to the dictates of the market, whereas renewable energy has a ceiling, considering economic consequences and market distortion. He referred to the approval of the coal-fired power plants as a function of regulation, where compliance with all requirements translates to the approval of these projects. He added that this is consequently inconsistent with the national climate change action plan and its push for renewable energy.

Commissioner Saño pointed to the ongoing policy problem on energy, reporting that just in December 2013, the Philippines faces the highest power rates in its history. He said that he believes the problem is political rather than technical. He concluded his response by expressing that strong public participation is enshrined in the 1987 Constitution and the Climate Change Act. He encouraged the participants to take initiative rather than wait to be invited to participate in any process.

Ms. Carter observed that even with a significant number of laws and policies throughout various countries, regulatory tools have been inadequate in addressing the gravity of the climate change crisis. She asked Commissioner Saño and Mr. Tan how they would want the judiciary to respond to this crisis. Commissioner Saño pointed out that addressing climate change is not limited to seeking redress before the courts, and he suggested the possibility of approaching this issue beyond the judicial realm. He made the recommendation to raise awareness in the legal profession regarding the importance of this challenge. He emphasized the symposium's objective to value natural capital, as it also makes human capital possible. Commissioner Saño further stressed that confronting climate change involves the political, social, and economic spheres. He called for cooperation in environmental cases and, in considering this ecological crisis, urged the judges to make decisions that err on the side of caution. He reiterated the need to remedy past mistakes, which resulted in exceeding ecological thresholds, in order to build resilience, particularly in Asia.

Responding to the same question, Mr. Tan referred to his involvement in a public position against the reclamation of Manila Bay. This position cited the Philippine Supreme Court's issuance of the writ of continuing mandamus to order the restoration, rehabilitation, and conservation of the bay. The position characterized the reclamation as an ecosystem alteration that is inconsistent with the court's judgment. Mr. Tan shared his insight that many cases are unsuccessful, even where the law appears to be clear, due to political circumstances. In these instances, he regarded the judiciary as the pillar providing much-needed protection from these circumstances. He concluded by reiterating that governance includes both public and private sectors, anchored with the strength of the judiciary.

Justice Pepper followed up on the mention of the rule of law, stressing that it calls for the application of only the laws that are in place. She observed that the problem arises when the laws change to make way for the negative impacts on the environment, which in turn has implications on jurisprudence. To provide an example, she referred to the government in New South Wales and its review of the Environmental Planning and Assessment Act. Justice Pepper pointed out that the government deliberately removed ecologically sustainable development and references to the precautionary principle from the act. She added that in some instances relating to mining, for example, the judges now have to first consider the economic benefits of mining rather than

its adverse consequences on the environment. She expressed that these limits were a source of frustration for a judge who would want to protect the environment or adopt a progressive view in adjudication. Justice Pepper then asked what judges could do in this instance, keeping in mind that judges are mandated to uphold the rule of law without going beyond its scope.

Mr. Tan acknowledged that judges have to make difficult decisions. However, he expressed confidence that the other sectors of society, particularly NGOs, can provide assistance to the judiciary. He stressed the importance of cooperation, considering that the population only has one future and one planet.

Session 12

Planning, Permitting, and Environmental Impact Assessment

Nessim J. Ahmad, director of the Environment and Safeguards Division of ADB, chaired this session. He started by introducing the critical role of planning, permitting, and the EIA in managing natural capital that is under threat, especially in Asia and the Pacific. Mr. Ahmad referenced a report by ADB and WWF in 2012, *Ecological Footprint and Investment in Natural Capital in Asia and the Pacific*, which outlines the trends over the last 40 years in the region, including the dramatic decline of the health of ecosystems. He added that the Living Planet Index estimates this decline at around 67% and noted that this percentage is twice the global average.

Mr. Ahmad pointed out that these findings are a cause for concern, considering that natural capital is central to livelihood sustenance, human welfare, and more broadly, ecological development. He remarked that for this reason, ADB made the investment in natural capital central to its *Environment Operational Directions 2013–2020*. In addition, for the same reason, ADB's safeguard policies include no net loss of biodiversity. Mr. Ahmad used this context to preface that the EIA serves as both a tool and a process to ensure that environmental considerations for natural capital and biodiversity are part of decision making.

Mr. Ahmad shared a positive development across the region, that in many cases over the last 30 years, ADB's developing member countries have worked on their respective EIA systems. He observed that most countries in the region now have EIA systems, which include requirements consistent with international best practices. He specified that these EIA systems include procedures for (i) reviewing significant impacts, (ii) identifying deterrents on key issues, (iii) assessments, and (iv) environmental management and planning. He identified the key features of these EIA systems as disclosure of information, requirements for consultation and participation, and independent review and approval. However, he qualified that since these are paper requirements, the real challenge is to ensure enforcement of the EIA.

Mr. Ahmad highlighted three aspects of the EIA. *First*, he related that the EIA makes way for a mitigation hierarchy, which involves a rigorous review of alternatives. He illustrated that this review is important in avoiding impacts, and where avoidance is not possible, it ensures consideration for minimization and mitigation, as well as compensation and offsets for lost biodiversity. *Second*, he emphasized the importance of coordination between the EIA and permitting processes. He made comparisons between the two, pointing out that the EIA addresses the entire spectrum of environmental issues, while restrictions in permitting often limit its application to pollution or waste management issues. He added that both have differences in the timing of the process

and the parties involved. He commented that ultimately, coordination between the EIA and permitting would ensure that the EIA informs the issuance of permits, which, in turn, would provide an enforcement mechanism for the EIA provisions in its environmental management plan. *Third*, he pointed to the EIA as a planning tool and stressed the importance of upstream planning to ensure that strategic decisions are made well in advance, before the consideration of extremely painful trade-offs. He shared the insight that since many options are lost after the identification of a project and its location, tools like the strategic environmental assessment (SEA) and land use planning are imperative.

Mr. Ahmad then outlined the objectives of the session and the order of discussion: (i) the state of the EIAs in Asia, along with a consideration of issues in planning and the permitting process; (ii) the general legal framework of the EIA and the corresponding challenges in enforcement; and (iii) the judiciary's experience in encountering these issues in the cases before the courts.

Iain Watson, senior environmental safeguards specialist at the Greater Mekong Subregion (GMS) Environmental Operations Center, gave a presentation on good EIA practices, particularly for hydropower, mining, and infrastructure, and their effects on natural capital. Mr. Watson's work focused on the GMS, but he pointed out that good practices exist in Asia. He reiterated Mr. Ahmad's comment, that national requirements for safeguard systems increasingly approximate the requirements of multilateral development banks like ADB.

Mr. Watson described the GMS's exceptional terrestrial and aquatic biodiversity, which is extremely significant to people's livelihoods. He pointed to, for example, the strong dependence on fisheries in this region. As a result, the six countries of the GMS committed to protecting natural capital through regional collaboration. He noted that strategic environmental assessments (SEAs) and EIAs are a way for countries to mainstream the environment into planning and decision making.

Mr. Watson observed that on both the subregional and national levels, energy, transport, and mining are injected with massive investments. He remarked that these sectors have the potential to produce significant impacts on natural capital that are site-specific, cumulative, and transboundary. He used hydropower development as an example to point out its significant impacts on water quality and quantity, which affect downstream users and fisheries. He related that poorly planned transport projects might cause the fragmentation of biodiversity landscapes. He reiterated the point made in an earlier presentation, that transport projects, such as new roads in remote areas, could aggravate problems of illegal logging and wildlife trade. He further remarked that leachate from mining operations raises water pollution concerns without proper controls in place.

Mr. Watson explained that the SEA, together with the project-level EIA, addresses the environmental and social considerations in sector development planning. He cited the SEA for Viet Nam's current power development plan, which outlined the potential impacts of the power generation options and recommended ways to optimize the plan. He identified other considerations for the assessment, including meeting the energy demand with a different energy mix. He pointed out the need to identify areas high in biodiversity or sites that would impact local communities to discourage the development of projects in these areas. He further remarked that the project-level EIA provides a structured process in the consideration of environmental and social impacts of proposed projects through anticipation, analysis, and disclosure. The

EIA anticipates and addresses potential problems to ensure that projects do not cause serious environmental or social harms.

Mr. Watson proceeded to identify key features of good EIA practice. He remarked that the EIA should be conducted early in planning the project, which exposes the full range of options for project design and location. He emphasized the critical role of transparency in the process and commented that the EIA must include comprehensive terms of reference to avoid overlooking any aspect that would later on cause environmental or social harm. He pointed to the necessity for meaningful public consultation and the disclosure of information with all affected parties. Furthermore, he added that the EIA must consider the full range of alternatives to avoid significant residual impacts, including, for example, a different road alignment to protect biodiversity or examining anticipated high-risk residual impacts from mining.

Mr. Watson continued to identify features of good EIA practice, particularly those relevant for natural capital. *First*, he remarked that the project must uphold biodiversity protection and sustainable natural resource management. He stressed that the project must primarily aim for no net loss of biodiversity, by either avoiding the impact or providing for offsets in cases where avoidance is not completely possible. He provided an example of sustainable natural resource management, such as avoiding projects in sensitive mangrove areas or ensuring sustainable hydropower development at the river basin level.

Second, Mr. Watson identified the need for projects to implement technologies and practices for pollution prevention and control to ensure, for instance, that the project's air emissions and effluent discharges have minimal or no impact on the environment. *Third*, he pointed out that projects must account for cumulative effects with other existing and future projects. He referred to an example of a project involving multiple hydropower schemes in the same river basin, which requires consideration of the issues in existing plans and the additional impacts that the new plans will cause. Similarly, he pointed out that a project with multiple roads crossing through biodiversity landscapes calls for the consideration of their cumulative impacts.

Fourth, Mr. Watson identified the importance of projects that support investments in natural capital through financial incentives. He focused on one such incentive where local communities participate in the management of ecosystems and receive payment, such as in the protection of a forest in a hydropower reservoir catchment. Finally, he referred to the earlier session on climate change to emphasize that projects should incorporate climate change considerations and project carbon footprints.

Mr. Watson proceeded to discuss issues in contracting and permitting. He stressed that as part of the EIA, the requirements of an environmental management plan need to be consistent with concession agreements, procurement contracts, and permits to operate. He remarked that these contracts and permits must clearly provide measures for residual environmental impacts, responsibilities for monitoring, and corrective actions. He suggested strengthening the regulatory requirement of the EIA with a contractual requirement, such as including standard environmental and social obligations as part of concession agreements. Furthermore, he recommended augmenting enforcement with penalties for noncompliance, while at the same time providing for opportunities to allow violators to come back into compliance. He concluded his presentation by stressing that the ongoing challenge is for the consistent and effective implementation of EIA requirements.

Peter King, a senior policy advisor at the Institute for Global Environmental Strategies and concurrent head of the Asian Environmental Compliance and Enforcement Network (AECEN), provided an overview of the EIA regulatory framework in various countries. He referenced the AECEN's compendium of EIA laws with relevant cases, which is a resource particularly of interest to the judiciary and available on the AECEN website, www.aecen.org.

Mr. King began his discussion with the US, the pioneer in introducing the EIA into legislation. While the rest of the world followed suit, over time, many countries made modifications according to their national circumstances. He then identified the key enforcement issue in the US: whether the adoption of a simpler EIA procedure, typically carried out within a 3-month time frame, circumvents a more detailed EIA process that requires a longer maximum period of 12 months to accomplish.

Mr. King proceeded with a discussion on Japan, which limits the EIA requirement to 13 types of projects. He identified the key enforcement issue here as the shift from assessments with a target clearance to assessments allowing best efforts to increase environmental performance. He mentioned that, interestingly, Japan has follow-up surveys that include measures to continue improvement of the project during implementation.

Mr. King remarked that Malaysia's EIA process involves three steps. The key enforcement issue here is that the project initiator is responsible for training the staff in EIA. He pointed out the distinction between Malaysia, which integrates the EIA with a health impact assessment, and Thailand, which treats both assessments separately. He also noted that EIA regulations are federal while environmental regulations are under state jurisdiction, so there can be a mismatch in scale of enforcement. Furthermore, he stated that there is an overlap between integrated planning and the EIA, which is often commissioned after the state executive committee has already approved a proposal. Public participation in an EIA is also very ad hoc, often left to the proponent to pursue. He suggested that in Malaysia, the implementation of EIA conditions and further incorporating them into contracts are among the areas that need to be strengthened in enforcement.

Mr. King moved on to a discussion of the PRC, where a comprehensive program for EIA is in place at all levels and further supplemented with other laws. He noted that the PRC's rate for the implementation and enforcement of the EIA requirements in development projects is very high. He pointed out that the PRC has an EIA review committee, which decides on those that require the approval of the Ministry of Environmental Protection. He further remarked that the law mandates the EIA for transboundary environmental impacts.

Mr. King then related that the Republic of Korea is unique in delegating the power to review EIAs to the Korean Environment Institute, associated with the Ministry of Environment. He shared the recent amendments to the EIA law, such as eliminating confusion caused by inconsistencies in the framework law on environmental policy and the EIA law, use of strategic and small-scale EIA, and acceptance of public opinion in the EIA process. He added that the country now requires EIA evaluators to undergo a national examination for certification, and that this requirement might find relevance in a number of other countries.

Mr. King further discussed that in the Philippines, the Environment Management Bureau of the Department of Environment and Natural Resources is responsible for EIAs, and this responsibility is decentralized to regional offices. The EIA regulations in the country emphasize prevention,

where one needs to gather information prior to implementation in order to make an informed decision about a proposed project. He commented that the EIA process here is complicated.

Mr. King moved the discussion to the European Union and referred to a directive that makes a distinction between mandatory EIAs for projects that are harmonized throughout the European Union and those that are subject to the discretion of the member states. He mentioned that all member states were instructed to implement a SEA directive covering plans and programs by 2004. He elaborated that in 2009, an amendment to the directive included the addition of projects related to the transport, capture, and storage of carbon dioxide. He related that this development is relevant to the climate change issues discussed in the previous session.

Mr. King observed that while some jurisdictions provide for transboundary EIA systems, these provisions are relatively rare. He pointed out that transboundary impacts are among the issues that confront the judiciaries. However, he reiterated that almost all countries in Asia and the Pacific require an EIA. He added that national legislation, regulations, and mandated procedures on EIA have gradually improved over time.

Mr. King then recounted the AECEN's objective to evaluate EIA enforcement and accomplished this goal by conducting a survey. Environmental agencies in 16 countries went through a self-evaluation process to participate in this survey. Among the challenges identified in the survey were the following: (i) loopholes often exist in projects that require an EIA; (ii) even before the conduct of the EIA, a decision to proceed has already been made; (iii) consideration of alternatives is inadequate; (iv) cumulative impacts are often not addressed; (v) conflicting interests result in noncompliance, particularly with regard to public sector projects; (vi) the experts that prepare and review the EIA have inadequate qualifications; (vii) cause and effect relationships often lack data; (viii) there is systematic underestimation of costs, especially with regard to natural capital; (ix) monitoring plans, compliance, enforcement after the environmental management plan, sanctions, prosecutions, and public participation are inadequate; and (x) issues concerning conflicting jurisdictions and high transaction costs are problematic. Mr. King pointed out that even with adequate laws in place, these findings show the numerous challenges of enforcement in Asia and the Pacific. Based on information culled from the survey results, the key regulatory impacts and obstacles primarily relate to effective implementation of EIAs and environmental monitoring and management plans, rather than their preparation.

Mr. King relayed that members of the AECEN recommended additional training in EIA in order to address existing inadequacies. He remarked that a lot of training is available online, including with the US Environmental Protection Agency, among others. He also shared that he would seek to incorporate these resources into the EIA compendium. In addition to this information, the AECEN website includes a list of its member countries, EIA laws, cases related to EIA, case studies, news articles on EIA, and other EIA resources.

Mr. King concluded his presentation with general recommendations to increase environmental effectiveness. He recommended that the EIA should be adopted at a very early stage in the process, possibly with the involvement of independent EIA reviewers to improve accountability. However, he qualified that compliance with the EIA requirements at the approval stage does not guarantee enforcement until the end of the project's life. For this reason, he recommended that EIAs should possibly include long-term and decommissioning impacts. He stressed that an EIA,

on its own, is not enough, as it needs to be reinforced with environmental protection standards, regulations, compliance, and effective enforcement.

Terry Ridon, a youth party-list representative in the House of Representatives in the Philippines, discussed the role of litigation in ensuring that the EIA process works effectively in the country. He described his early success in public interest law practice, including actions against resource extractive projects, as well as actions defending critically endangered species. He recounted the hardships of public interest lawyers faced with the loss of lives and property to fight for environmental protection. He paid tribute to the loss of a family in the southern Philippines who defended the forest and their ancestral domain against mining companies and government armed forces. Mr. Ridon asserted that environmental issues have a political nature; for this reason, he pointed to the necessity for the creation of a political movement for the environment. He looked to the contributions of environmental champions and other environmental lawyers in making significant headway in this overarching political battle for the environment.

He then recounted his experience in litigation for an action involving large-scale magnetite mining operations in the northern Philippines. He described how the petitioners—affected fishers, farmers, indigenous peoples, local government units, religious leaders, and legislators—despite their wide-ranging interests, have united in this action, which created the significant political strength needed to sue the company. He admitted that although this action did not succeed in the Court of Appeals, the political movement that accompanied the action nevertheless led to the President's issuance of an executive order in 2011 to prohibit illegal magnetite mining operations in the northern Philippines. He added that the President also ordered the government in 2012 to not approve new mining agreements until Congress has passed a new law specifying an appropriate revenue sharing scheme for mining in the country.

Mr. Ridon proceeded to discuss his previous litigation experience in another case, this time in 2012 against the Manila Electric Company concerning its plan to build a 600-megawatt coal-fired power plant in Subic Bay. The company, equipped with all the technological designs and environmental assessments, claimed that the project exceeded emission standards. However, the Philippines also gives importance to securing the rights of the indigenous peoples, which the company failed to obtain in a prompt manner. He emphasized that the local government code requires proponents to first secure the approval of the affected local government units before construction, which they did not do. In addition, he shared that the company changed its specifications of the plant's size, which affected permitting requirements under the EIA system. He remarked that he was among those who sued the company, which resulted in the appellate court invalidating the permits and contracts of the company. He further shared that the Department of Energy removed the project from the list of committed projects targeted to be delivered by 2016.

Mr. Ridon moved on to discuss efforts to save the critically endangered Philippine cockatoo in Palawan. He recounted that a huge construction company in the Philippines planned to build a 50-megawatt coal-fired power plant in the province. He asserted that since the project was proposed to be located in the middle of the cockatoo's birthing and flight path, the approval of the project would certainly lead to the cockatoo's extinction. The company completed an EIA, which did not discuss this possibility. He remarked that this omission led to the involvement of indigenous peoples and NGOs, who raised this issue with the government and advocated for the project's cancellation. These national-level efforts, coupled with protests from affected localities,

resulted in the non-issuance of additional permits, and the company ultimately decided to transfer the power plant to another location.

Mr. Ridon recognized that these types of responses and the speed at which they are accomplished are possible because environmental legal issues are integrated with current political realities. He attributed the existence of these possibilities to lawyers who pursue justice for the environmental cause. He further emphasized that public support is key for the environment to win.

Richard Jones, a judge at the District Court and Planning and Environment Court (PEC) in Queensland, Australia, discussed the judicial role in the EIA context. He began by highlighting the separation of powers in the different branches of government. He used Australia as an example, pointing out that the role of Parliament is to pass laws, while the role of the judiciary is to apply these laws and strike down those made beyond legislative power. He added that the judiciary also has the role of ensuring that the laws within the scope of power are enacted. He emphasized that the judiciary should carry out this role with independence, transparency, and accountability. In addition, he stressed that considering the volume of litigation, courts have the mandate to ensure that the conduct of litigation is fair and efficient. Judge Jones then identified the interests that the EIA law must balance: (i) the protection of the environment, (ii) the community's legitimate expectation of quality of life, and (iii) the pursuit of commercial development. He pointed to the challenge in achieving this balance, finding that these interests are often not in alignment.

Referring to the discussion on mobile courts in Session 3, Judge Jones recounted Australia's experience in hearing cases outside the courtroom. Courts in Queensland must deal with a lengthy coastline on the eastern seaboard. He qualified that although judges predominantly sit in Brisbane, the court will move its proceedings to a community with a particular interest to hear at least a part, if not all, of a case. He added that this practice applies even in the absence of a courtroom in the concerned locality, and he reasoned that the judiciary sees the significance in proceeding with litigation in the area where residents are directly impacted.

Judge Jones then discussed the proceedings in the PEC regarding the review of an administrative decision, making a distinction between a full merits review and a judicial review. He remarked that relief under a judicial review is generally narrower than relief under a full merits review. He also pointed out that a final decision in a judicial review might not achieve the best result, while a full merits review seeks to achieve the best result. He specified that the PEC exercises jurisdiction over a wide range of environmental matters, including local government decisions in town planning, as well as cultural heritage and infrastructure issues. Moreover, the PEC has the power to grant many types of relief, including denying some development applications and approving others in part subject to conditions.

Judge Jones shared a recent PEC success in the treatment of expert witnesses, considering that they have a predominant role in much of the litigation before the court. He pointed out that the PEC intervenes at a very early stage of litigation to ensure that experts are separated from their lawyers and the parties charged with payment of their fees. He elaborated that the PEC orders the experts to confer with one another well before trial is set, and further requires them to issue a joint document that identifies areas of agreement and the reasons for disagreement. Judge Jones emphasized that this separation has empowered the experts by avoiding the possibility of lawyers and parties manipulating them outside court proceedings. He identified the results of these requirements: (i) the amount of litigation has been significantly reduced; (ii) disputes that

go on to litigation have narrowed issues; and (iii) expert meetings produce a better result than those originally claimed in court by either the proponent or opponent to the development.

Judge Jones discussed the nature of court proceedings in Australia, where the adversarial system leaves parties largely in control of presenting their cases once trial begins. Parties decide whom to present as witnesses and the questions propounded to them. He observed that judges generally tend to be reluctant to intervene in this arena to avoid any impression of bias. However, he qualified that in his experience, judges are more ready to question expert witnesses in matters that have significant environmental impacts. He attributed this success to the investigative nature of the expert meetings, where the interaction of experts enables a problem-solving approach without the restrictions of the court rules of procedure. Judge Jones shared that similarly, the process for alternative dispute resolution, governed by the judicial registrar, has experienced success because it facilitates expert meetings before court proceedings begin.

Judge Jones closed his presentation with two final remarks. *First*, litigation in Australia does not presume the application of the precautionary principle. However, in appropriate cases, the presentation of evidence during trial might involve the application of the precautionary principle. *Second*, with reference to the earlier discussion regarding a case decided against the environment, judges must contend with the rule of law, so the problem may lie with the law itself rather than the decision maker. He concluded with the recommendation for conferences like the symposium to invite legislators, who have the power to do more in this area.

Ashraf Jehan, a judge from the Sindh High Court in Pakistan, discussed the judicial role in regulating applications for development projects through EIAs. She shared her insight that the environment is the silent victim in environmental cases, which calls for the court, in the pursuit of justice, to take charge by being its guardian. She recognized that generally, most countries require EIAs before undertaking major development plans. She added that environmental hazards necessitate the population's immediate attention due to humanity's extensive interaction with nature.

Justice Jehan enumerated the consequences of development that ultimately contribute to environmental deterioration, including industrialization, urbanization, rapid population increase, excessive exploitation of natural resources, destruction of biodiversity, and the disruption of ecological balance. She qualified that while scientific and technological progress have contributed to economic growth and paved the way for new inventions, the environment was adversely impacted in the process. She emphasized that for this reason, even minimal violations of environmental laws must be addressed at the earliest opportunity. She thus looked to the judiciary as having a more significant role in ensuring that development projects comply with EIA requirements. She further stressed that enforcing EIA requirements and the penalties for their violations requires a proactive, empowered judiciary with support from all other government institutions.

Justice Jehan observed that with the rapid industrialization of Pakistan's major cities comes the general public's primary concern—that companies will operate their industries at a minimum cost without regard to the environment. Although the population cannot stop industrialization in the modern world, industries have to adopt technologies and practices that are friendly to the environment. In this regard, she pointed to the importance of public awareness and education

to achieve this solution. She also emphasized the judiciary's responsibility to balance competing interests in the challenges facing the environment.

Justice Jehan proceeded to cite the laws pertinent to the environment in Pakistan, starting with Article 184(3) of the Constitution that grants *suo moto* powers to the Supreme Court. She explained that this power gives the court the authority to take cognizance of environmental violations on its own initiative, while in ordinary cases, the courts exercise jurisdiction once a party files a complaint for any violation. Justice Jehan then referred to Section 12 of the Pakistan Environmental Protection Act of 1997, which requires the project proponent to file an EIA or secure the approval of the concerned agency before the start of the project's construction or operations. She further pointed out that a Section 12 violation carries the penalties of fine or, for repeat offenders, imprisonment of up to 2 years. In addition, Justice Jehan cited the Pakistan Environmental Protection Agency (Review of IEE and EIA) Regulations of 2000, which identify the projects that require an EIA. She added that the regulations provide for the EIA process, including public participation and the Environmental Assessment Advisory Committee's approval.

Justice Jehan remarked that green benches in the Supreme Court, high courts, and district courts exercise jurisdiction over environmental law violations and other disputes related to the environment. She added that environmental protection tribunals are available at the provincial level. She further commented that the courts' expeditious resolution of cases and the promulgation of landmark decisions mark the judiciary's commitment to the environment, even in the face of legal and sociopolitical impediments.

As the chair of the environmental tribunal of Sindh, Justice Jehan recounted the tribunal's experience in issuing orders to curb environmental law violations and punish violators. She remarked that, particularly in cases concerning the cement, coal, and sugar industries, the tribunal, through continuing mandamus, monitored violations and required the concerned agencies to submit reports ensuring that they were not repeated. She also related that in cases involving buildings in congested residential areas, orders for EIAs and compliance reports served to ensure EIA implementation. She added that in the construction of bridges and roads, the requirement for an EIA also applied to the government. Justice Jehan invited the participants to reconsider their approach to the environment in light of the insights shared in the session.

Mr. Ahmad opened the floor for questions and also encouraged the participants to share their experiences with permitting, planning, and the EIA. Judge Merideth Wright from the Vermont Environmental Court called attention to the references regarding the US federal government programs and pointed out that the US experience also involves state-level innovations. She emphasized that the state of Vermont, for instance, is the only one with an environmental court. She further remarked that Vermont requires a combination of the EIA and development permit, which covers issues in addition to pollution and becomes an enforceable permit with conditions holding project applicants responsible for the commitments they make in their applications.

Mr. Duggan addressed a question to all panelists and asked about any national controls to ensure that there is no further environmental degradation after the completion of a project. He pointed out that the EIA looks at the status of the environment at the time it is conducted so that in large infrastructure projects, for example, additional considerations remain as to roads intersecting forests and the resulting traffic from these new developments. Similarly, Mr. Wulf stressed the importance of cumulative, induced, and indirect impacts in EIA law. He asked the panel, particularly practitioners and members of the judiciary, how they consider these impacts in

cases where the EIA does not effectively recognize them. Mr. Ahmad referred these questions to Mr. Watson for him to discuss his experience in the Greater Mekong Subregion (GMS) regarding the approach for environmental issues upon the completion of a project, such as the required restoration and unanticipated impacts. Mr. Ahmad pointed to the wide variety of infrastructure projects in the GMS that affect connectivity across protected areas and asked Mr. Watson to relate his response to the cumulative impacts of these projects on the environment.

Mr. Watson made the distinction between good practice and observed practice. He observed that while countries are gradually approaching good practice, this development has not been uniform. He illustrated this point with the example of road development, where good practice dictates the consideration of the following: (i) alignment to ensure that the road does not cut through biodiversity landscapes or protected areas; (ii) impacts during construction, such as noise, dust, and traffic; (iii) impacts during operations; (iv) the International Finance Corporation's *Performance Standards on Social and Environmental Sustainability* and standards for community health and safety; (v) impacts on affected communities; and (vi) signage for traffic control.

Mr. Watson identified one of the challenges in the GMS as decision making with regard to proposed roads that cut through biodiversity landscapes. He emphasized the importance of looking at, early in the planning process, ways to avoid these landscapes altogether or minimize effects. He clarified that induced development along roads includes increased access to protected areas, which in turn translates to increased access to wildlife trade. Similarly, he pointed out that increased access to the forest results in increased harvesting. He concluded that these consequences highlight the need to consider all aspects of a project, from its location to operations, and ways to control impacts.

Justice Shah identified one of the problems facing the green benches in Pakistan, that is, when the credibility of the EIA itself is in question. He noted the possibility that consultants submitting the EIA could face pressure from project proponents, and asked for perspectives on this issue from the panel and other judges. He also asked whether consultants should be held personally responsible if they make incorrect statements in the EIA.

In response, Judge Jones remarked that remedies depend on the stage that the flawed EIA is discovered. He pointed out that discovery in an early stage could result in work stoppage, but discovery during the operations stage of the development could result in a direct action against the consultant who made conclusions either negligently or deliberately as falsifications. He further suggested that unless these conclusions constituted a deliberate fraud, the consultant could face a civil action. Judge Jones concluded his response by commenting that in the event that a development is responsible for a sufficient environmental nuisance, the application of other laws would result in the development's closure until it complies with a reasonable set of conditions.

Judge Jones also related the discussion on agency approval in Pakistan to a feature of the impact assessment regime in Queensland. He pointed to the requirement for significant developments in, among others, the environment, harbors, roads, and marine areas to be referred to all relevant authorities. He added that the authorities with an interest in development have the right to be heard in the concerned proceedings.

Justice Jehan gave another response on the issue and commented that the judicial role comes into play once the court exercises jurisdiction over the filing of a complaint. She recounted that in her experience, the court checks EIA compliance through the concerned agency. She added that

the court sometimes appoints commissions to ensure that an EIA is properly done and further monitors compliance during a 3- or 6-month period in general.

Mr. Aziz shared his insight that the current EIA setup is limited to identifying the project's impact on the environment. He asked whether the EIA could additionally cover what the project would use from the environment in order to carry out its operations. He also pointed to the possibility of the concerned industry paying for what it uses from the environment rather than confining its responsibility to what it discharges. He asked for the panel's thoughts on moving the EIA in this direction. Mr. Ahmad remarked that these observations characterize the reactive nature of the EIA. He highlighted that the strategic environmental assessment comes into play at this point to account for the two-way relationship between the project and the environment with its provision of ecosystem services.

Attorney General Alam observed that Bangladesh does not have legislation equivalent to Pakistan's Environmental Protection Act. He remarked that Bangladesh does have a separate ministry that governs environmental matters, and added that one way the government regulates the environment is through the requirement for the relevant industries to obtain for their projects a certification of clearance from the concerned ministry.

Dr. Mulqueeny addressed a question to Mr. Ridon on the case concerning the coal-fired power plant in Subic Bay, where the initial EIA did not account for subsequent plans to resize the plant. She asked about the changes after the initial EIA and pointed out that the case is instructive considering that similar problems occur in the region. Mr. Ahmad added that questions arise when a project is in a state of flux, when possibly after the permitting stage, project proponents diverge from the initial plans.

Mr. Ridon provided context for the case and pointed out that the incident occurred at a time when environmental courts were not yet established in the Philippines. He qualified that, as a result, companies were generally confident in EIA approval and further engaged in shortcutting the permitting process. He recounted that although initially the proposed plant's configuration was 2x150 megawatts, the company expanded the configuration to 300 and finally 600 without undergoing the proper process. By the time the public initiated a court action, it was too late for the company to cure the defects in the permitting process with respect to configuration amendments.

Breakout Session 2

Group A. Challenges in Judicial Decision Making on Issues of Natural Capital: Substantive Law

In its second breakout session, Group A continued their discussion from the last session, which raised issues relating to how water, biodiversity movements, and air pollution, among others, impact adjudication concerning property ownership, with a particular focus on private property. The group discussed public, private, and community property in Nepal, where use right is an issue for the regulation of water resources. The group also discussed the application of the law on torts, referring to an example of the use of a stream for agricultural purposes and the implications on downstream riparian users.

The group's discussion included a judicial decision in Malaysia, which expanded the meaning of the right to life to include the right to livelihood or to earn a living. The discussion raised the issue of the implications of this expanded definition on, for example, communities who live on the outskirts of the jungle and depend on the land to live, keeping in mind Malaysia's legislation on the protection of wildlife and the prohibition on hunting protected species.

The group proceeded to discuss the definition of natural capital in light of natural resources. The discussion raised a concern of whether natural capital views nature through a capitalist or consumerist lens. The group further made the distinction that "natural resources" as a term refers to, for example, the forest, and "natural capital" refers to this resource together with the ecosystem services it provides.

The group then moved on to discuss its recommendations for the Asian Judges Network on Environment (AJNE), starting with a discussion on the resources that would benefit the judiciary. The discussion included a suggestion for a compendium or a compilation of soft law, including important statements, to be accompanied by a detailed commentary on every aspect. The group discussed the recommendation to include ADB's policies on the environment, resettlement, safeguards, etc. on the AJNE website. This point was followed by a recommendation for a compilation of environmental jurisprudence at both the national and international levels. The discussion identified an existing database of environmental jurisprudence, ECOLEX,⁸⁵ and noted that AJNE should provide a link or otherwise coordinate the network's access to this resource. The group further discussed that, in addition to a compendium, a benchbook on issues such as climate change, outlining all pertinent points with key definitions, the concerned framework, and landmark decisions, would be instructive in providing initial direction before undertaking extensive research.

The group continued to discuss recommendations to strengthen the AJNE, particularly with regard to capacity building in environmental decision making. The discussion included the recommendation to support national judicial academies with training. The group then collectively suggested expanding training to include, in addition to members of the judiciary, prosecutors and the broader legal communities, to strengthen the entire enforcement chain. The group also discussed the need to strengthen law school curricula in the area of environmental law.

The group's discussion concluded with appreciation for ADB's support of the AJNE and the hope that this support would be continued as the network moves forward. The group's closing remarks included recommendations for the network to be more conscious and responsive in addressing environmental issues.

Group B. Challenges in Judicial Decision Making on Issues of Natural Capital: Expert and Scientific Evidence and Evidentiary Rules

In its second breakout session, Group B shared recommendations to strengthen the AJNE. The group discussed the importance of training for judges, prosecutors, and other lawyers, as well as all stakeholders. The group further discussed the benefits of training, such as building on the judicial understanding of the grave nature of an environmental crime so as to prevent any carefully crafted decision from being overturned on appeal. The group then turned to recommendations for ways

⁸⁵ www.ecolex.org

to carry out the training. In this regard, the group suggested the following tools for capacity building in environmental law: (i) a video of judicial conferences broken down into shorter segments on distinct topics like deforestation, natural capital, and wildlife trade; (ii) a documentary to present a model for efficient responses to environmental challenges, such as the response to natural disasters; (iii) resources that emphasize green accounting, green economics, and other subjects to promote a progressive understanding of natural capital issues; and (iv) training from judicial academies, such as the training from the PHILJA that led to its recent launch of a benchbook on environmental law. The group's discussion on judicial academies included a suggestion for using the PHILJA as a model for the establishment of a regional body called the ASEAN Center of Excellence.

The group continued with a discussion about the creation of an advisory board composed of one representative from each country to be appointed by the chief justice in participating judiciaries. The board would advise ADB on environmental cases to include in the AJNE website, a benchbook, and training videos. The group added that the board would ensure that the training curricula reflect the progress made for the environment. The group discussed other recommendations for the board's functions: to facilitate the sharing of ideas and to push the agenda beyond meeting only once annually.

The group then raised the recommendation for creating a discussion forum with community practice networks for the AJNE. They discussed forming a closed online community to share best practices and open dialogue by initially issuing questionnaires to determine the order of discussion among topics of interest. The group's discussion included a recommendation for the forum to facilitate a twinning system, which sets up a mentorship arrangement between countries for the exchange of information. The group had concerns on finding support for the administration and funding of the forum. The discussion also recognized possible issues on security and hacking in forming the forum. The group further discussed the recommendation to create a set of ground rules for the forum, such as prohibiting the criticism of other members and other jurisdictions. In addition to the forum, the group recognized the value of face-to-face interaction in conferences like the symposium. The group's discussion included an expression of hope that countries with environmental courts will become completely transparent and create access to the pleadings filed and other case records.

The group proceeded to discuss the creation of a registry of reputable experts. They proposed the possibility of limiting it to experts with professional qualifications in order to avoid issues of credibility. The discussion further proposed the possibility of indicating the names of the experts presented in a case and the necessity of avoiding perceptions of bias on the part of the judge. The group followed this point with an example from the Philippines, where a witness is considered an expert only after being qualified as such in court. The group concluded with the recommendation to include in the proposed registry a list of resources and other sites to facilitate access to information and finding experts around the world.

Group C. Innovation for Judicial Decision Making: The Idea of Natural Capital to Assist in Determining Remedies, Restorative Justice, Sanctions, and Penalties

In its second breakout session, Group C shared recommendations for furthering the AJNE's role. The group began the discussion with recommendations for ways to conduct training and capacity-building events that span all court levels, such as undertaking two-tiered training in the

appellate courts and the local courts. The group discussed the importance of extending training and other workshops to courts of first instance and magistrates' courts, which exercise jurisdiction over environmental cases at the first instance.

The group then discussed the consideration of environmental concerns as global issues and followed this with the recommendation to hold international seminars attended by representatives from each court level in different countries. These representatives should share the information learned with their colleagues after returning home. To further encourage participation, the group discussed a recommendation for the AJNE website to relay discussions at the international level to national and local stakeholders within countries.

In relation to disseminating information, the group discussed linguistic issues and the suggestion for local seminars to be conducted in the applicable language. The group also recommended that relevant online materials be translated for the judiciary's reference. In addition, it was recommended that judiciaries provide official translations of decisions with the imprimatur of their respective chief justices.

The group turned to consideration of how to facilitate these seminars, such as the appointment of focal points for each country and reinforcing the system with a structure in place. The discussion raised an alternative suggestion for judiciaries to create committees on the environment.

The group moved to a discussion on strengthening the AJNE by delineating its purpose and functions. The group discussed the importance of clearly spelling out the AJNE's vision to improve environmental adjudication and thereby enhance environmental justice. The discussion included that the way to reinforce this vision is to create a memorandum of understanding between participating judiciaries. In addition, the group considered the suggestion for the AJNE to have a representative appointed by the chief justice for each country in order to ensure that each participating judiciary contributes. The group discussed the recommendation for participating judiciaries to forward pertinent judgments and legislation, as well as to identify *amicus curiae*, to include in the AJNE website. The group also discussed the resources that they would like to access, such as data on the economic valuation of natural resources as well as more information on natural capital.

The group continued with a discussion on the mechanics of ensuring that the AJNE effectively operates as a network. The group made the recommendation for representatives to have quarterly meetings to discuss updates, raise questions and provide timely responses, and determine ways to improve the network. The discussion highlighted the importance of having a permanent representative for each country, but left the method of coordination and the use of focal points or environmental committees to the discretion of participating judiciaries. The group's discussion further included the recommendation for ADB to appoint an administrator for the website who would coordinate with the judiciaries on their respective contributions to the network.

Group D. Strengthening Capacity to Decide Natural Resource Cases: Resisting Threats to, and Promoting, Integrity against Corruption

In its second breakout session, Group D discussed recommendations to ensure that the AJNE functions as an actual network beneficial to its members. The discussion initially covered the need for environmental law training in Afghanistan, considering that the country has been

particularly preoccupied with safety and security issues in the last 3 decades. The discussion identified the types of resources necessary to track the development of environmental law within each jurisdiction. In this regard, it was recommended that country-specific materials be included, which each country could provide, as well as materials specific to the international level. The group anticipated that the network would maintain this information exchange with the various judiciaries and continue to include resources from other branches of the government.

The group then turned to the AJNE website. The discussion recognized the need for each judiciary to be responsible for the resources and information it contributes. The discussion further included a recommendation that each judiciary provide a contact person to address questions regarding these resources and perhaps facilitate any queries for reaching a particular network member for contact. The group discussed a suggestion for the website to provide links to the official websites of participating judiciaries. They then discussed that the website needs a search tool to assist in finding, for instance, recent jurisprudence and other related resources. The discussion highlighted the recommendation for the various judicial academies to utilize the resources contributed to the network to develop training for the members of their respective judiciaries.

The group moved on to a discussion of translation. The group discussed the time involved in providing English translations for decisions and identified the need for accuracy in these translations. The discussion also included a reference to the PRC, where English translations for landmark cases and important legislation are subject to copyright. It was added that these translations are accessible through a database requiring a paid subscription.

The group emphasized that the AJNE must be more than an online network, referring to the need to have succeeding conferences to reinforce the information exchange in this symposium. They identified that one way to further strengthen the AJNE is to ensure that all levels of the judiciary participate in training, especially considering that environmental cases are distributed at all levels of the judiciary. The discussion here also included the recommendation to narrow the scope of succeeding conferences, such as adopting an alternative structure that runs parallel sessions focused on a particular case study.

The group concluded by reiterating two recommendations in the discussion: to nominate a contact person to ensure continuity and to include legislators and enforcement officials in capacity-building activities to strengthen cooperation between the judiciary and other branches of government. The group closed the session with a summary of key recommendations: (i) to meet face-to-face periodically, preferably under the auspices of ADB; (ii) to continue to receive leadership from the head of each judicial institution, particularly with regard to training; (iii) to facilitate cooperation between the various judicial academies through the AJNE; and (iv) to use technology, analogous to a cloud application, to act as a repository for the AJNE, which would then allow any member to retrieve information from the network at any time.

Session 13

Reporting of Breakout Groups

Kala Mulqueeny opened this session by reiterating the two objectives of the breakout sessions. *First*, she remarked that the breakout sessions examined the substantive and procedural issues on

natural capital to chart a path for the AJNE moving forward. *Second*, she added that the breakout sessions facilitated deeper and stronger cooperation among the various judiciaries under the umbrella of the AJNE.

Peter Wulf highlighted the key aspects of the discussion in Group A's breakout sessions. He recounted that the discussion initially clarified the concept of natural capital, with references to natural resources and ecosystem services. He shared that the discussion then tackled substantive law issues concerning the protection, use, and access to natural capital across jurisdictions. He made a reference to Bangladesh, India, and Pakistan, where riparian rights have implications on natural capital through the transboundary issues of bordering states, including, among others, pollution. He also remarked that the issues concerning water flow and its effects on Bangladesh raised additional questions regarding both water security and access to water.

Mr. Wulf reported that the discussion progressed to cover other transboundary legal issues. He pointed out that smuggling, for instance, has a transboundary criminal aspect. He further related the group's discussion on policy differences in different jurisdictions, which have implications on judicial decisions, particularly with regard to crimes committed across borders. He referred to the example of Costa Rica, which protects whales, while another country supports a different policy. Moreover, he mentioned that the group raised questions on extradition and other concerns on ensuring the prosecution of offenders moving across borders.

Mr. Wulf remarked that the group had an extensive discussion on natural haze. He shared that the discussion on this subject led to recognizing the potential need for an environmental court in Asia and the Pacific. However, he qualified that the group had questions as to how this court would be set up as a regional body.

He reported that the discussion also covered public trust and access to natural capital. He related that India, Pakistan, and the Philippines have substantive laws on public trust. He added that the group also discussed public trust in the constitutions of Bangladesh and Bhutan and shared that the group exchanged different perspectives concerning the implications of natural capital on resource access and private property. He pointed out that some nations adopt strict rules on private property and use rights. He referred to the example in the discussion of a judicial decision in Malaysia, interpreting the definition of the right to life to include a right to livelihood. He noted the open and continuous use of natural capital as compared with the use of water in nations that make distinctions between private, public, and community land. He related these issues on water use to the group's discussion on Nepal, where the judiciary faced issues on mini-hydropower projects and the broader implications of such projects on natural capital.

Similarly, Mr. Wulf recounted that the group discussed differences on legal standing and access to justice. He observed that some nations, such as Pakistan, have a relatively liberal approach to legal standing, while others adopt a strict approach. He pointed out the discussion's reference to Nepal, which makes interim injunctive relief for damages to the environment available before trial in order to give parties access to finances and enable them to bring an action before the court. He reported the group's discussion on Bhutan, where higher courts adopt a more liberal approach to legal standing. He added that the discussion referred to Bangladesh, where constitutional rights on standing are relatively liberal. He also mentioned that in Bangladesh, the Supreme Court and High Court have jurisdiction over mandamus cases.

Mr. Wulf shared the group's discussion on evidence. He recounted that on the subject of environmental crimes, the discussion focused on how to access forensic DNA analysis to properly identify the species in question. He further remarked that the group encountered differences in the recognition of the precautionary principle, with some nations recognizing the principle in some form, but other nations not recognizing it.

Mr. Wulf recounted the group's appreciation for the AJNE and discussed their recommendations to include in the network the following resources: (i) a compilation of soft laws with statements in international law; (ii) a compilation of domestic and international laws; (iii) a benchbook focusing on specific subjects; and (iv) a link to the UNEP's ECOLEX, which provides a comprehensive database on environmental law. Mr. Wulf specified that an instructive benchbook on climate change, for instance, would provide relevant international law, regional law, and short paragraphs on climate change cases. In addition to continuing the training for the judiciary, the group emphasized training for regulators, prosecutors, and other lawyers in enforcement on the actions to initiate before the courts. He concluded that the group extended their appreciation to ADB for its involvement with the AJNE and expressed the hope for ADB to continue on this path.

Responding to ADB's involvement with the AJNE, Dr. Mulqueeny shared one of the observations during the breakout sessions. She recounted that the observation stressed the importance of leaning far more on the judiciaries to create the agenda for conferences and other training events, which would strengthen the AJNE as a fully functioning network. She related that ADB's initial involvement here began when the judiciaries in Indonesia and the Philippines expressed their interest in learning about the experiences of other judiciaries on environmental issues. In moving toward further engaging the participation of the judiciaries in the network, she reiterated the recommendation arising out of the ASEAN Chief Justices' Roundtable in Bangkok to establish national working groups on the environment in each judiciary. She discussed that this recommendation included the aim to select a chair for each of the national groups to serve as the focal point for the concerned judiciary and sit on an ADB advisory board. She remarked that adopting the recommendation for an advisory board would help ADB and the AJNE to ensure that the agenda for the next conference reflects, to a far greater extent, the priority areas that the judiciaries identify.

Dr. Mulqueeny proceeded to address Group A's discussion on natural resources and natural capital. She turned to resource persons from the conservation side and requested Professor McNeely to share his comments on the following points: (i) whether natural resources and natural capital are synonymous, and (ii) whether there is an additional benefit in using the framework of natural capital in the analysis of environmental issues.

Professor McNeely qualified that he was not involved in Group A's discussion, but he commented that framing a discussion around natural capital seems to bring an economic dimension to the analysis. He remarked that in examining the different factors that governments face in decision making, economic drivers, more than ethical drivers, often comprise an important consideration in determining the allocation of the budget and the determination of policies. He shared his insight that a favorable argument in the use of natural capital as a term is that capital resonates with at least some decision makers and governments. He asserted that while there might not be a definitional difference between natural resources and natural capital, there might be a political difference between the two, so that references to natural capital allow for easier communication

among those who control the budgets and policies. Professor McNeely also shared a possible argument against the use of natural capital as a term, in that it might carry a connotation that leaves the control of natural resources to the banks rather than to the people. Professor McNeely remarked that these are points that merit further discussion.

Justice Rachel Pepper provided a summary of the issues that emerged from Group B's vigorous discussion on expert evidence and natural capital. *First*, Justice Pepper recounted that the group identified the need to understand the precise meaning of natural capital, particularly considering the jurisdictions that tend to have stricter rules on the admission of expert evidence, such as New South Wales. She pointed out that this understanding is important to judges in their assessment of presented expert evidence. In addition to the members of the judiciary, she noted the group's discussion on the need for concerned parties, including experts, litigants, prosecutors, and NGOs, to understand the meaning of natural capital. She further discussed that the understanding of natural capital should extend beyond its definition to encompass its various components and integers, such as ecology, hydrology, green accounting, and green economics. She added that this understanding is also critical in selecting and identifying the appropriate expert.

Second, Justice Pepper referred to the group's examination of the considerations in identifying the appropriate expert. She shared that the discussion recognized the limited number of available experts in some countries. She further pointed to the need to consider whether the expert has bias, such as in cases with limited availability of expertise in the concerned field. Moreover, she noted that notwithstanding their qualifications in a particular field, experts might face constraints from other factors, where, for instance, they risk losing employment from a government agency in the event that they make a statement inconsistent with an agency's message. Furthermore, she shared that the discussion referred to examples where the experts stay away from courts due to cultural or other reasons.

Third, Justice Pepper reported that the group analyzed the number of experts necessary for litigation. She shared that the discussion raised the question of whether a court-appointed expert is sufficient or whether to allow the parties to present their own experts before the court. She referred to the practice in one jurisdiction, which has a commission of experts to resolve particular problems. She added that the discussion considered the experience of some jurisdictions, where more experts, either court-appointed or from different parties, led to longer hearings and often increased litigation costs.

Fourth, Justice Pepper discussed that the group explored the issue of the proper party to bear the costs of expert evidence. She pointed out that in the event that the losing party pays these costs, the resulting implication on public interest litigation might be negative. She observed that public interest litigation makes way for novel cases, such as climate change litigation, and the associated risk for the losing party to bear the costs might discourage such actions. She remarked that the group considered whether each party should pay their own costs. She noted that the discussion here raised questions on whether this policy would lead to frivolous and vexatious actions, which in turn hamper governments from prosecuting actions down the road due to budgetary constraints.

Fifth, Justice Pepper shared that the group considered the level at which the court should intervene during the process of introducing expert evidence. She commented that courts in some

jurisdictions intervene at an early stage to help marshal the experts as well as define and narrow the issues for them. She noted the group's questions on whether expert statements are necessary, and if so, what form they should take. She further stated that the expert may testify in court or issue a joint document such as in the Planning and Environment Court in Queensland. Justice Pepper continued to share the issues that the group identified, such as whether one expert report is sufficient or whether to resort to a joint expert report. She explained that the group looked at whether the trial judge should assist the experts in writing this report. On this issue, she shared a group member's suggestion to distinguish the role of an investigating judge, who assists the experts in collecting the evidence, from the role of a trial judge, who then hears the case. Following this point, she remarked that the group discussed the level of court intervention as depending on whether court proceedings are in an adversarial or investigative system. She added that the former is the system in many common law countries, and the latter allows more room for intervention and, consequently, creativity.

Sixth, Justice Pepper continued to discuss the group's insights on the rules of evidence and, more specifically, on the admission of expert evidence. She recounted that the group raised the following issues on this subject: (i) whether hearsay from investigators in the field who talk to witnesses can be admitted as evidence; and (ii) whether photographs or videos can serve as evidence in lieu of, for instance, the actual chainsaw or log.

Seventh, Justice Pepper turned to the group's discussion on how to present expert evidence in court. She remarked that traditionally, one party introduces expert testimony into evidence, followed by the opposing party doing the same. She commented that some jurisdictions make use of hot-tubbing or concurrent expert evidence. She shared that hot-tubbing can sometimes expedite a court hearing. Moreover, she added that at least in her jurisdiction and experience, hot-tubbing cuts costs for all parties concerned and can lead to concessions elicited from the expert witnesses that may not likely occur when subscribing to the traditional form of trial. However, she qualified that hot-tubbing might not be ideal for certain jurisdictions.

Eighth, Justice Pepper recounted that the group looked at the challenges in weighing competing expert evidence. She shared that this evaluation is easier in cases where the distinction between strong and weak expert evidence is clear. However, she qualified that this evaluation is more difficult in cases that include strong competing expert evidence from both sides. Moreover, she pointed out the possibility for conflicting expert evidence even within the same impaneled commission of experts. She further discussed the issue confronting jurisdictions that recognize the precautionary principle as to the extent that the principle finds application. She added that the discussion covered the question of the availability of other doctrines to the judiciary in evaluating expert evidence.

Ninth, Justice Pepper discussed the group's consideration of issues on the burden of proof, keeping in mind the different standards required for civil and criminal cases. She recounted the discussion on whether the existing rules of procedure, including the substantive evidentiary rules, need to be reformulated to reverse the burden of proof in some cases. She noted the potential difficulty in proving a particular development's adverse impact on natural capital. She related that this scenario highlights the question of whether it is appropriate, at least with regard to this particular example, to shift the burden of proof on the developer to prove that the project has no adverse impact on natural capital. She shared the group's general observation that not many problems emerged with the standard of proof in the civil context. She added that the

group left the standard of proof for criminal liability out of the discussion and instead focused on sentencing considerations.

After identifying these issues, Justice Pepper enumerated the group's recommendations to strengthen the AJNE. *First*, she elaborated on the group's recommendation for training or orientation for judges, prosecutors, government agencies, and other stakeholders on natural capital. She reiterated that the training or orientation should include perspectives from resource persons who are well versed in green economics, such as ecologists and accountants. She noted that the training could be conducted in various ways, including by way of the judicial academy, a compilation of videos on different topics, and documentaries. She stressed that all group members favored the dissemination of benchbooks on various topics, and she indicated the preference for a hard copy of these publications for those facing internet access issues.

Second, Justice Pepper expressed the group's support for the recommendation to create an advisory board comprising representatives from each country with ADB as its host. She shared that the chief justice of each country could appoint a representative who would then give advice in the formulation of resources, training, and other modes of capacity building. She added that the representative would ensure that the curriculum and other resources developed are contextualized, culturally specific, and appropriate for the jurisdiction concerned.

Third, Justice Pepper talked about the group's recommendation to create a discussion forum or a community practice network to share information and resources through a closed, online forum. She pointed out that while the recommendation is strong, the group recognized the practical considerations that need to be addressed. She remarked that the discussion covered the requirements needed for the forum to function, which includes a host, support, and long-term funding to avoid the forum's collapse after its initial launch.

Fourth, Justice Pepper raised the group's suggestion of mentoring between countries at a micro level, like the twinning of courts. She referred to the Land and Environment Court in New South Wales and courts in Thailand as examples of courts that had undertaken this process. She mentioned that the benefit of expanding participation in the twinning of courts is the opportunity to learn from the experiences of other judiciaries.

Fifth, Justice Pepper discussed the group's recommendation to include a list of resources on the AJNE website. She specified that this included links to other websites, such as those for participating judiciaries. She emphasized that the AJNE website should, in particular, link those judiciaries with a high level of transparency that already provide a lot of resources as well as other material online. She further discussed the group's recommendation for the addition of a good search engine that has the capacity to generate a list of countries with relevant legislation or case law after an initial topic search.

Sixth, Justice Pepper recounted the group's discussion on the possibility of creating a registry of experts as opposed to a registry of expert witnesses. She clarified that a party litigant, NGO, or a court might encounter difficulties in finding the appropriate expert in some jurisdictions. She observed that in these cases, flying in an expert residing abroad to attend a hearing is inconsistent with practical considerations. She qualified that although the group shared mixed views on the creation of such a registry, the group deemed it necessary for judges to avoid making any particular recommendation on an expert. She recognized that the appropriate process for the

selection of the experts in the registry still requires great consideration. However, she noted that including an expert in the registry could be as simple as providing a link to the case that the expert appeared in. Ultimately, she recounted that the group placed emphasis on judges staying clear of any suggestion of bias for an expert that might carry the risk of excluding others.

Justice Pepper concluded by highlighting the underlying observation from the group's discussion, that judges should use their current powers creatively to make better use of expert evidence. She remarked that this approach finds particular relevance in some jurisdictions, with emerging concepts such as natural capital to prove an economic activity's adverse impact, if any, on the environment. In cases where judicial power is inadequate to address such concerns, she presented the consideration to advocate for change at the appropriate government level to strengthen the framework for evidence.

Dr. Mulqueeny then opened the floor for comments. On the recommendation for a network discussion board, she shared ADB's concerns on its capacity to keep the network completely secure. Given these considerations, she asked for comments on how best to pursue this recommendation.

Justice Pepper recounted that Group B discussed this particular issue and requested Mr. King to reiterate his examples of existing networks as well as other forums that did not appear to have pressing concerns on security. Mr. King suggested that a secure, closed group no longer exists with the ubiquity of hackers, whistleblowers, and troublemakers. He pointed out that one way to overcome security issues is to set stringent ground rules for the actual operation of the community, such as prohibiting criticisms of individuals or excluding specific, pending cases.

Professor McNeely revisited the question on the process of selecting experts and expressed his agreement on keeping judges away from this. He then called attention to the national academy of sciences existing in most countries, such as the Commonwealth Scientific and Industrial Research Organization in Australia. He noted that upon a request for the type of expert needed for specific issues or a certain case, the board of the academy could appoint the expert or provide a list of those willing to give helpful advice.

Judge Merideth Wright highlighted the key points in Group C's breakout sessions. She explained that the group had the task of discussing innovations in remedies, restorative justice, sanctions, and penalties. She qualified that her presentation would focus on the group's discussion of innovations and judicial orders as well as criminal penalties and civil compensation. Judge Wright then pointed out that the court's inherent power to ensure that its orders are carried out generated much discussion from the group, particularly the use of continuing mandamus in some countries. She observed that collectively, the group seemed to express interest in further exploring this subject, including ways to carry out these types of orders in the future.

Judge Wright elaborated on the group's discussion on sanctions, beginning with the utility of fines as a type of restorative penalty determined on a case-by-case basis according to the damage caused rather than relying on the amount designated in a statute. She related that the group discussed interim orders as a remedy to stop the commission of violations while a case is pending, followed by how interim orders could then transition to permanent orders moving forward. Judge Wright then reported the discussion on more innovative remedies, including

a fund for whistleblowers on wildlife crime as discussed in Session 9 and a public fund set up on the basis of the public trust doctrine used to restore the environment from damages. On the subject of noncriminal sanctions, Judge Wright discussed the group's examination of innovations that appeared to change behavior successfully rather than simply taking away a low-level violator's capacity to provide for his family with imprisonment. She remarked that the group made references to two examples: (i) in the Philippines, the conditions of probation required the offender to serve as a fish warden in an area where illegal fishing occurred; and (ii) in Brazil, a wildlife offender served his sentence by feeding a manatee daily for a year and eventually became known as "the manatee man" for his newfound zeal in protecting the manatees.

Judge Wright reported that the group echoed some of the recommendations that the other groups raised earlier, such as that for a permanent group of experts to assist the court in understanding technical issues within their areas of expertise. She also pointed out that those without environmental courts in their country expressed their desire to have these specialized courts available. She further remarked that the group also discussed judicial training and considered ways to work toward the speedy disposition of environmental cases.

Judge Wright next discussed the question on how natural capital could assist judges in their determination of damages. She commented that the group seemed to share the collective understanding that judges need expert witnesses on the economics of natural capital as it relates to a specific case, ultimately to determine damages or mete out the appropriate sanctions.

Judge Wright remarked that the group's second breakout session was predominantly on how the AJNE should function, and she provided a quick rundown of the group's recommendations. She observed that the group looked at decisions, best practices, and judicial innovations on the website as helpful to the network. The group also came to a consensus that the network should go beyond a website to enable judges to interact in person. Judge Wright recounted that the group considered interaction among judges in person in events like the symposium as an opportunity to get to know one another well enough to be able to reach out individually, for instance, via e-mail, rather than resort to communication within a general discussion group exposed to security issues.

Judge Wright then reiterated Justice Shah's suggestion for the chief justice in each country to designate a judge to serve on a steering committee. Judge Wright elaborated on this with a suggestion for the committee to meet in person, perhaps quarterly or alternatively through video conference to overcome any funding limitations. She added that the designated judges would be responsible for ensuring that their respective judiciaries contribute to the AJNE website and for reporting back to the judiciaries the discussions in the committee meetings. She further relayed the group's suggestion for a permanent administrator at ADB to coordinate and facilitate any submissions related to the judges' commitments.

Judge Wright shared the group's recognition that many judiciaries use the language of their country in court proceedings. In this regard, she shared that the group identified the need for translation of resources both for the judiciaries as a recipient of these materials and from the judiciaries as a resource of the same. She stressed that her experiences in other regions have shown that both types of translations are essential to provide wider access for landmark decisions and other resources.

Judge Wright pointed to the group's call for judicial education in events like the symposium and in general at all judicial levels. She remarked that the group also engaged in a discussion regarding a panel of experts.

Dr. Mulqueeny commented that the President of the Lao PDR People's Supreme Court made the same important point about translation. She noted that translation is necessary for many of the judiciaries to access the materials that ADB has made available. She also suggested that to get at least a general sense of materials in a foreign language, a good start would be to use the translation function of the Google website. Judge Wright expressed her agreement and further shared her insight particularly as a result of her experience in judicial education in Mexico, that the translator of legal materials must have knowledge of the languages that are subject to translation as well as knowledge of the law itself. Judge Wright pointed out that translators skilled in language and the law would help to avert the confusion of concepts in different legal systems. Dr. Mulqueeny also expressed her agreement with the level of understanding that the translation needs to capture, and added that her example of the online translation system in no way supplants Judge Wright's reference to an official translation. She qualified that this online translation system is just one immediate option to access an initial and general translation as a first step.

Justice Adolfo S. Azcuna highlighted the key points from Group D's breakout sessions on the ways to strengthen environmental adjudication in natural resource cases, promote integrity against corruption, and the AJNE. He recounted that the group initially discussed natural capital by identifying its common elements, keeping in mind that the group did not have an exact definition. Justice Azcuna pointed out the group's recognition of natural capital as a new concept that would take time to bring into the mainstream. He then identified the group's consensus on the common elements of natural capital: (i) it includes the sources of life; (ii) these sources of life provide the population with food, shelter, and clothing; and (iii) in providing for the population, the sources of life and thus natural capital have value. He added that judges have the capacity to respond to the need to preserve and sustain the sources of life as natural capital through the rule of law.

Justice Azcuna proceeded to share insights from the group's discussion, that the judiciary has the task to apply the law, and the law does not include natural capital as a term. He related that for this reason, a disconnect exists between this new concept of natural capital and the mandate of the judiciary. However, he qualified that the group recognized the possibility for innovation in the protection of the environment with the suggestion to apply the law as it is while infusing the spirit of natural capital to care for the earth.

Justice Azcuna related that the next stage of the discussion tackled issues of corruption and the need to uphold integrity with regard to decision making in environmental cases. He reiterated the insights of the group's representatives from Bangladesh, Bhutan, New Zealand, and Singapore, that ethics should be injected particularly in deciding cases on the environment. Justice Azcuna noted that the group included the *Bangalore Principles of Judicial Conduct* in the discussion. He mentioned the suggestion in the discussion to consider the addition of a seventh principle aside from the existing principles of independence, impartiality, integrity, propriety, equality, and competence and diligence. He specified that this additional principle could relate to caring for the earth and the environment.

On its second breakout session on taking up recommendations to strengthen the AJNE, Justice Azcuna remarked that the group emphasized the need for judicial training on the environment.

He then turned to the comments in the discussion on the priorities for safety and survival in Afghanistan as well as the need for training on the environment. He also reported that training in the Philippines for 15 days is not enough, considering that other countries have training for a year.

Justice Azcuna recounted that the group echoed Group B's recommendation for the AJNE to continue with periodic, face-to-face meetings. He highlighted the importance for the AJNE to be a real network consisting of judges, prosecutors, and all other stakeholders of the environment, preferably under the administration of ADB. He further echoed previous endorsements of the AJNE website and discussed the protocols to access a secure network. He then elaborated on the group's recommendations for the resources that they would like to access on the website, including landmark decisions, new regulations, innovations to resolve common concerns, and other new developments. He also shared his recommendation for the AJNE to make use of technological tools and mechanisms to facilitate information storage and retrieval.

Justice Azcuna emphasized that many in the group identified a need for both leadership and training. *First*, he commented that the heads of the judiciaries or the chief justices fulfill this leadership role. As an example, he attributed the success of the training and reform programs in the Philippines to the support of the Supreme Court under the leadership of the Chief Justice. He emphasized that it is thus imperative for the chief justice in each judiciary to support reform initiatives, particularly the AJNE's initiative to protect the environment.

Second, Justice Azcuna stressed the importance of training to address the continuing need for judges, prosecutors, police, forest rangers, and all other stakeholders to strengthen their capacity for environmental decision making. He pointed to one recommendation for training, that one jurisdiction could send professors to a second jurisdiction, and the second could then send professors to a third jurisdiction. He concluded that the implementation of these recommendations would ensure that the AJNE is a real network, where the members help one another while caring for the earth.

After confirming that the participants had no additional comments, Dr. Mulqueeny consolidated the key themes from the breakout sessions. She highlighted the recommendation from groups B and C on the need for an advisory or steering committee with representatives from the different judiciaries participating in the AJNE. She expressed support for Group C's recommendation to at least include interim virtual meetings through video conference in the event that the advisory committee could not meet face-to-face. She further restated the recommendation arising out of the ASEAN Chief Justices' Roundtable in Bangkok to create national working groups on environmental law within each judiciary.

Dr. Mulqueeny then called attention to the request for a secure, online communication system for the AJNE. She pointed out that in 2002, after the Global Judges Symposium, the IUCN and UNEP set up a system for this purpose, which was eventually discontinued because of limited use. In the event that the AJNE would pursue this recommendation, she encouraged the participants to make use of the system.

Dr. Mulqueeny proceeded to stress the importance of the recommendation on translation. She further reiterated the recommendations that emphasized training: (i) twinning systems that facilitate the bilateral exchange of training between a judiciary with more expertise in environmental law and another judiciary, and (ii) the publication of a benchbook. She concluded

that while the breakout sessions generated extensive discussions on different issues, distinct common threads nevertheless emerged among all groups.

Session 14

Asian Judges Network on Environment: Moving Forward

Christopher H. Stephens, general counsel of ADB, chaired the next session and expressed his appreciation to all the participants for attending the symposium. He emphasized that all the participants are key to the success of the AJNE, and for this reason, drawing upon their comments, together with those of the panel members, would help determine the next course of action. He pointed out that this session would extend the discussion in Session 13, dedicated to reporting from the breakout sessions, to tackle the next steps in moving forward.

The general counsel explained that this session was to focus on (i) how to ensure that the AJNE conferences sustain the momentum begun in 2010 and extending to the symposium in order to pursue definitive actions, (ii) how to ensure that the symposium strengthens regional cooperation, and (iii) how to continue to strengthen the capacity of the judiciary and the legal profession as a whole on environmental law and its enforcement.

Diosdado M. Peralta, an associate justice of the Supreme Court of the Philippines, raised points of discussion that he would like the following symposium to address. *First*, Justice Peralta expressed his hope that the participants in the next symposium would decide whether there is a need for an international tribunal to hear and decide cases on climate change. *Second*, he posed the question of whether crimes committed on the high seas should be considered as crimes against the law of nations. Justice Peralta referred to the UNCLOS and the exclusive economic zones. He remarked that in the event that the offender commits, for example, the crime of illegal fishing within one country's exclusive economic zone, the same country has jurisdiction to prosecute the crime. He pointed out that questions arise when the offender commits the crime outside the jurisdiction of any particular country. In this regard, he suggested that the participants come to a consensus on considering whether environmental crimes committed outside the jurisdiction of any country constitute crimes against the law of nations, such that any country could exercise jurisdiction over the crime concerned.

Justice Peralta further recommended the consideration of adopting best practices from other jurisdictions, such as the effective use of continuing mandamus in India that was later adopted by the Philippines. He then suggested the possible application of the precautionary principle to assess whether environmental degradation exists even without scientific certainty. In addition, he recommended consideration of strategic lawsuit against public participation (SLAPP) to prevent the filing of malicious cases against public officials. Finally, he pointed to the importation of wildlife by-products into the US, which could be subject to prosecution as an environmental crime if the by-product is illegal in its country of origin. He added that the Philippines could encounter the same situation with the importation of wildlife by-products and recommended that it adopt the same practice.

In conclusion, Justice Peralta extended his appreciation for the recognition of the Philippine Supreme Court and the PHILJA in their initiative to combat violations of environmental law. He remarked that the court and PHILJA are committed to continuing these efforts. Justice Peralta

then concurred with the suggestion of Justice Azcuna, for ADB to sponsor an environmental law fellowship for PHILJA. Moreover, Justice Peralta sought ADB's assistance for building on the court's Global Distance Learning Network, which lacks the facilities to fully utilize opportunities to learn from other judiciaries and experts around the world.

Saleem Marsoof, a judge of the Supreme Court of Sri Lanka, discussed recommendations for the AJNE, beginning with formulating a vision by which the network would function. As a participant in Group C's breakout sessions, Justice Marsoof concurred with the suggestion from the group discussion for the AJNE to enhance environmental justice by facilitating collaboration, cooperation, and interaction among the various judiciaries. He observed that the AJNE has focused on courts at the highest level and recommended that the network give equal emphasis to all levels of the judiciary. He pointed out that this recommendation is important, because first-level courts hear many of the environmental cases. Justice Marsoof then commended the achievements of the judiciaries, which strengthen the AJNE. He highlighted that even without an express fundamental right provision on the environment, judiciaries have nevertheless found ways to protect it through the right to life, or, in Sri Lanka, the right to equality.

Justice Marsoof proceeded to make recommendations for the resources that the AJNE should consider. He reiterated the need to link with the judicial academes in various countries. He suggested that in addition to landmark judgments, AJNE should also include statistics, a list of experts, and links to other relevant information. Justice Marsoof also shared the recommendation for the head of every country's judiciary or their representative to take responsibility for information uploaded onto the network. He echoed the suggestion for ADB to serve as the AJNE's moderator to facilitate secure interaction among its members.

Justice Marsoof then discussed arbitration and its implications on environmental issues. He remarked that pursuant to the New York Convention, courts could intervene at the enforcement stage to strike down arbitrable awards for non-arbitrable disputes or awards against public policy. He illustrated that non-arbitrable disputes in Sri Lanka are violations of fundamental rights, and in other countries are consumer-related contract disputes. He suggested giving consideration to classifying environmental issues as non-arbitrable disputes, keeping in mind the importance of the environment to the planet. Justice Marsoof ended his discussion by concurring with the recommendation of Justice Peralta to establish a tribunal for climate change and other broader environmental issues in moving forward. He suggested that the tribunal could be set up at the ASEAN and South Asian Association for Regional Cooperation (SAARC) levels, or if possible, for Asia in general.

Khamphanh Sitthidampha, President of the People's Supreme Court of the Lao PDR, gave his presentation in Lao, with an English interpreter. President Sitthidampha expressed his appreciation for the symposium. He recognized that the state of the environment presents extensive challenges for the entire world. He emphasized that these issues exemplify the importance of using natural resources reasonably, as well as protecting and managing natural resources. He remarked that different nations and sectors respond to these issues through the symposium and other similar conferences, which provide judiciaries with the opportunity to learn from their experiences with one another.

President Sitthidampha highlighted the importance of legislation in protecting the environment through education and the punishment of violators. He referred to the need for preventive

measures, such as injunction and confiscation orders, to curb negative impacts. In addition, he enumerated other aspects that allow for a more effective response in addressing environmental issues, such as a sufficient budget, basic infrastructure, and qualified personnel. He remarked that ASEAN needs to cooperate with countries in Asia and the Pacific to have a focal point for work on the environment, including the lessons learned from the symposium.

President Sitthidampha requested assistance for the Lao PDR judiciary with regard to training and the translation of legal materials. He recognized the symposium's role in fostering cooperation among judiciaries, scholars, and other stakeholders. In this regard, he acknowledged that the symposium provided the opportunity to learn from other jurisdictions on the conservation, management, and protection of the environment as well as development. President Sitthidampha also looked to the symposium to further strengthen the AJNE and its initiatives to protect the environment.

Qazi Faez Isa, chief justice of the Balochistan High Court in Pakistan, discussed that the way forward should build on the judiciary's impartial role as the community's collective conscience. He remarked that through the symposium, the participants established relationships that need to inspire and lead to the further development of environmental jurisprudence as well as encourage innovation in the judiciary and the entire legal profession. He echoed the recommendation of Justice Marsoof on creating a vision statement for the AJNE as a way of building on the network's achievements thus far and collectively working toward environmental justice.

Chief Justice Isa reiterated the call for the AJNE to maintain an actual network outside of its website. He supported the recommendation for every judiciary to nominate a contact person or focal point to make certain that the network continues to function. He suggested that judiciaries should periodically share their most recent jurisprudence with the network, and the contact person, either the head of the participating judiciary or their representative, could assume responsibility for ensuring the timely submission of these decisions. Chief Justice Isa then referred to Pakistan's initiative to set up a similar network on a national level through the Committee for Enhancement of Environmental Justice. He specified that the committee includes a website and serves as a platform for interaction among the members of the judiciary.

Chief Justice Isa followed his point on the network with the recommendation for the AJNE website to provide a forum for members to post and respond to queries. He expressed his preference toward the provision of translation if available. He also pointed to the need for a supervisor and suggested that ADB take on this role. He recommended that the supervisor would monitor and send reminders regarding member input or call a particular member's attention to any unanswered queries addressed to him. He further suggested that the supervisor adopt a filtering process for the content published on the website to ensure uniformity in language and, if needed, clarify the terms specific to a particular jurisdiction from the member submitting the resource concerned.

Chief Justice Isa then shared his recommendation to organize the decisions posted on the AJNE website according to issues and the subject concerned. He asserted that security issues would not appear to hamper the website's purpose, considering that hypothetical queries or avoiding the use of the parties' names ensure that the facts of a particular case remain confidential. He remarked that the website, as a research tool, could give direction to a search

by providing resources on a general subject-matter query, technical or scientific background, and legal precedent. He further highlighted that the AJNE website could help minimize the practical difficulties of online research, such as having to access other websites that require a subscription.

Chief Justice Isa went on to discuss his recommendation for ADB to facilitate periodic video conference meetings among the various judiciaries. He remarked that this cost-effective measure would allow the judiciaries to share experiences as well as take questions and respond to them. He elaborated that the underlying emphasis for the conferences was to strengthen the judiciary's understanding of environmental issues on a regional level through training. He noted the significance in ensuring the involvement of all levels of the judiciary in order for training to have the greatest impact, considering that the first-level courts hear many of the environmental cases at the first instance. He further stressed that training has no substitute and highlighted the importance of taking back the information acquired from the symposium to the participants' countries.

In continuing his discussion on training, Chief Justice Isa recommended the use of predesigned educational tools to overcome the practical challenges in, for instance, securing the availability of the same resource person at different training events. Chief Justice Isa cited, as an example, Atty. Oposa's presentation and his willingness to make the same available to the participants. Additionally, Chief Justice Isa reiterated the recommendation for making available printed copies of a compilation of treaties and landmark decisions, organized according to region, sector, and issues, considering the limited internet access in some areas. He suggested that ADB consider publishing this compilation as a book and providing a soft copy to the various judiciaries for printing and local distribution.

Tshering Wangchuk, a justice of the Supreme Court of Bhutan, discussed his country's commitment to the protection of natural resources, rooted in the understanding of the environment as a common legacy and the corresponding responsibility to ensure its preservation for future generations. He recounted that the UNEP recognized this commitment by awarding Bhutan with the Champion of the Earth Award in 2005. Furthermore, WWF awarded the Fourth King of Bhutan the prestigious Conservation Leadership Award in 2006.

Justice Wangchuk pointed out that Bhutan is a recognized biodiversity hotspot as well as an endemic bird area. He cited Article 5 of the Constitution of Bhutan, which forms the basis for its policy on the protection of the environment. He remarked that this constitutional provision reflects Bhutan's commitment to environmental conservation, incorporating the public trust doctrine and intergenerational equity as well as the requirement to maintain 60% of the land surface under forest cover. He highlighted that the Constitution provides that both the government and the citizens of Bhutan are responsible for the environment.

Justice Wangchuk remarked that the symposium, as a platform for deliberation and discussion of experiences, has paved the way for the collective understanding of the necessity for natural capital. He observed that the AJNE provides opportunities for various judiciaries across the region to learn from best practices that could be further modified according to the needs of each country. He then stressed that a strong judiciary is critical for upholding the rule of law, particularly in cases where gaps in public policy lead to enforcement problems aggravated by abuse of authority and corruption.

Justice Wangchuk emphasized that the judicial role inspires public confidence by delivering justice through independence, impartiality, and fairness enunciated in principles and fundamental values as well as ethical standards. In this regard, he added that improving systems of justice should rely on judicial growth and adaptation through timely legal reforms. He went on to identify the need for planning, education, creative strategies, and advocacy as the drivers to reinforce the concept of natural capital together with effective enforcement. In conclusion, Justice Wangchuk expressed his confidence in the population's courage and ingenuity to overcome adversity. He committed to sharing the lessons from the symposium and promoting training in Bhutan.

ADB GC Stephens then opened the floor for comments. Justice Shah congratulated ADB for the launch of the AJNE and made three recommendations regarding the network. *First*, he expressed his vision for the AJNE website to serve as an online research tool that also functions as an interactive forum for judiciaries across the region. He stressed that this access to an interactive green judicial forum would set the AJNE website apart from the others that link information otherwise available through an ordinary online search. *Second*, Justice Shah proposed that the AJNE should appoint a chair to establish ownership over the network and ensure that it thrives, pointing out that the network's launch at the symposium was symbolic of its progressive development. He emphasized that the way ahead should establish the AJNE's independence and provide a separate dialogue for the network. *Third*, Justice Shah recommended that the AJNE monitor environmental jurisprudence in the region. He noted the AJNE's capacity to consolidate member contributions and analyze the judiciary's contribution in the protection of the environment and natural capital in the region. In this regard, Justice Shah suggested that the heads of the various judiciaries take ownership of the network through a memorandum of understanding to ensure that the judiciaries continue to respond and contribute information to the network. Justice Shah concluded that, ultimately, these efforts should be geared toward the publication of a benchbook consolidating the environmental jurisprudence from the region. As there were no other additional comments, the general counsel ended the session.

Closing Session

Dr. Mulqueeny introduced this final session and thanked ADB GC Stephens for giving her the honor of delivering the closing remarks on behalf of ADB. Before proceeding with her comments, she first requested Justice Peralta, the cochair of the session's panel, to deliver the closing remarks on behalf of the Supreme Court of the Philippines, ADB's cohost for the Symposium.

Justice Peralta remarked that his closing comments are an extension of his earlier presentation. He expressed his gratitude to the participants for sharing their valuable insights on natural capital and the rule of law. He thanked the partners of the Supreme Court of the Philippines in making the symposium possible, ADB, Freeland, UNEP, the United States Agency for International Development, and WWF. He expressed his appreciation for the selection of the Philippines as the venue for the symposium and commended the participants' dedication to the protection and preservation of the environment.

Justice Peralta stressed that through the support of all participants, the AJNE would achieve the noteworthy goal of strengthening collaboration and cooperation among the judiciaries in Asia and the Pacific, as well as throughout the world. He observed that the symposium provided an

opportunity for the participants to gain lessons in the law and the administration of environmental justice, resulting in the incentive to bring this newly acquired knowledge back to their respective institutions. He further shared that the participants' exchange of knowledge and insights on their respective experiences in the enforcement of environmental laws would contribute to the protection of natural capital.

Justice Peralta recognized that the consistent support for the preservation of the environment and sustainable biodiversity are part of a critical global trend. He cited the symposium as a catalyst for change and representative of the institutional readiness to make the necessary improvements. He emphasized that the protection of natural capital constitutes the preservation of life itself, considering that it is responsible for providing the population with food, water, minerals, energy, climate security, and every other aspect necessary to support life on earth. Justice Peralta then referred to the necessity for a total commitment to environmental reforms in order to introduce any needed changes at the national level. He highlighted that the time for action is now. Justice Peralta called for more international conventions and environmental campaigns to promote and safeguard a well-balanced and sustainable biodiversity. He emphasized that a healthy ecology is a birthright that should be preserved for future generations.

Dr. Mulqueeny began her closing remarks by prompting further consideration of the objective of the symposium, to explore how the judiciary can protect the environment when faced with legislative constraints that otherwise give priority to economics. She addressed this issue with an examination of the judicial role, highlighting that judges are in the position to give inspired, insightful, and visionary alignment to the rule of law. She stressed that as guarantors of the rule of law, judges provide stability for the rest of society. She reasoned that this role takes root in the legal profession's mandate to protect rights and values, which is distinct from the focus of economists on efficiency and financiers on money.

Dr. Mulqueeny then emphasized that the central point of the symposium's discussions—natural capital and the rule of law, as distinguished from natural resources and the rule of law—strengthens the discourse in the global thrust for economic values and concepts. She remarked that the symposium responds to this contemporary reality by giving the participants the tools to understand that the different ecosystems are more than, for instance, just the forest or the mountains, because they also provide ecosystem services. Thus, she related that these ecosystems fundamentally form the basis of the economy and furthermore have an economic value. With these tools, she urged the participants to hold truth to power in responding to environmental issues.

Dr. Mulqueeny proceeded to refer to the discussion in Session 4, where Atty. Oposa responded to a question asking if any hope was left for the environment in the midst of climate change and other grave issues. Dr. Mulqueeny recalled that she had wanted to contradict Atty. Oposa's response, when he said that science does not offer much hope for the environment. However, she deferred her thought knowing the dire state of the environment, which was later captured in the speakers' presentations. She pointed out that on the very morning of the symposium, the state of the environment in Asia and the Pacific got worse, with climate change further aggravating each environmental risk and threat. She restated the trends discussed in Session 11 on climate change, and said that at no other time in recorded history has the amount of carbon dioxide in the atmosphere been as great as it is now. She also reiterated that by the end of the century, the temperature would have risen four degrees. She qualified that other institutions

have projected an even higher temperature increase of up to six degrees, which would have more dramatic consequences.

Faced with these staggering trends, Dr. Mulqueeny nevertheless identified regional glimpses of hope, starting with the Coral Triangle and the regrowth of coral resulting in new fish stocks. She commended the US and Philippine governments for taking strong action by crushing illegal ivory, symbolically showing that the value of the elephant is far more important than any single financial benefit derived from ivory. She praised the World Resources Institute's technical tool to pinpoint the violators responsible for igniting fires to burn down peatland and other forests in Indonesia.

Dr. Mulqueeny gave special mention to the distinguished participants in the symposium who continue to inspire her to pursue initiatives to protect the environment. She honored the work of Mr. Santosa as the Indonesian father of environmental law, for catalyzing changes in legislation and within the judiciary as well as for his current work against corruption even at risk to his own life. She commended the work of Atty. Oposa, an eloquent speaker and articulate advocate, on intergenerational equity now enshrined in the landmark decision of *Oposa v. Factoran*. She showed high regard for his dedication to marine law enforcement, even when faced with threats to his own life and the loss of his partner in enforcement who died in the line of duty. Furthermore, Dr. Mulqueeny lauded the work of the judiciary. She gave special mention to the work of Justice Shah on the Ravi River Commission, Justice Velasco on the Manila Bay case, and Chief Justice Tun Arifin bin Zacaria of Malaysia who established green courts. She further commended the work of the Supreme Court of Sri Lanka to establish a green bench and the leadership of President Sithidampha in the People's Supreme Court of the Lao PDR on the court's initiatives for the environment.

Dr. Mulqueeny pointed to the need to collectively acknowledge the dire situation of the environment and the corresponding need for action. She remarked that the members of the judiciary have the ability to act, because judges occupy an esteemed position in society and can lead the legal profession and the public in understanding the value of ecosystems as well as the importance of the rule of law. She further encouraged the participants to share with their own judiciaries and communities the knowledge they gained from the symposium. She proceeded to extend her gratitude to ADB's development partners for the program and the individuals responsible for the symposium's success. Dr. Mulqueeny concluded by emphasizing that the population shares the same planet and the same concern for the quality of life for future generations. She thanked the participants for their valuable insights and wished them all a safe journey home.

Atty. Oposa clarified that the symposium's finale would be a collective message from all the participants. He pointed out that the word "art" is literally at the center of earth and heart. He invited at least one representative from each country to come to the front and all participants to stand up and unite in one of the most common forms of art, through music. He led the participants to sing a rendition of "What a Wonderful World," and the symposium adjourned on this note.

APPENDIX 1

Concept Note

Second Asian Judges Symposium on Environment: Natural Capital and the Rule of Law and Formal Launch of the Asian Judges Network on Environment 3–5 December 2013 ADB Headquarters, Manila, Philippines

Background

The First Asian Judges Symposium on Environment was held in 2010 at the Asian Development Bank (ADB) headquarters in Manila, cohosted by ADB, the Supreme Court of the Philippines, and the United Nations Environment Programme (UNEP). At the symposium, the Chief Justice of Indonesia and the Chief Justice of the Philippines, together with about 110 senior justices and other participants, called for an Asian Judges Network on Environment to generate knowledge on environmental challenges among judiciaries and the legal community in the region, strengthen the capacity of judges to decide environmental cases, and share experiences in dealing with those challenges through laws and cases.

In response, ADB has since then supported the senior judiciary across Asia and the Pacific, including by hosting subregional roundtables: the ASEAN Chief Justices' Roundtable on Environment in Jakarta, Indonesia (2011), Melaka, Malaysia (2012), and Bangkok, Thailand (2013); and the South Asian Justices' Roundtable in Bhurban, Pakistan (2012) and Thimpu, Bhutan (2013). It will support the subregional roundtables in Sri Lanka and Viet Nam in 2014. In 2012, ADB also supported the participation of delegations of Asian judges to the World Congress on Justice, Governance and Law for Sustainability in Rio de Janeiro, and to the Global Forum for Law, Justice and Development in Washington, DC; and cohosted the Judicial Colloquium on Biodiversity in Hyderabad, India. In 2013, ADB led in hosting the Symposium on Combating Wildlife Crime in Bangkok, Thailand.

ADB has also worked on programs with national judiciaries in Indonesia, Malaysia, Pakistan, the Philippines, Thailand, and Viet Nam. These events led to the Jakarta Common Vision for ASEAN Judiciaries, the Bhurban Declaration, a draft ASEAN memorandum of understanding, and the Bhutan Declaration. The experiences shared across the region have been collected in several publications as well as consolidated to be made available online, together with an initial collection of the environmental laws of Asian jurisdictions. With this progress, the Asian Judges Network on Environment will be formally launched at the Second Asian Judges Symposium ("Symposium").

Objectives

The Symposium aims to bring together senior judges, environment ministry officials, prosecutors, legal professionals, and civil society participants to achieve the following:

- (i) share updates on the Asian Judges Network on Environment (AJNE), and judicial innovations in cases relevant to environment and Natural Capital since the First Asian Judges Symposium;
- (ii) share information on the concept of Natural Capital and consider the state of Asia and the Pacific's key ecosystems and ecosystem services that form its Natural Capital and their economic value;
- (iii) consider the laws, and the law enforcement challenges, affecting Natural Capital in Asia and the Pacific, and the role of judges in the region in deciding cases affecting Natural Capital; and
- (iv) consider how the AJNE can promote a wider understanding among the judiciary of Natural Capital as a relevant concept for informing decision making and how the network can best serve the needs of Asian judiciaries.

Natural Capital and the Rule of Law

“Natural Capital” is the “stock of natural assets and resources,” such as “tropical forests, oceans, and mangroves, that provide ecosystem services, such as food, water, timber, pollination of crops,” flood control, and “absorption of human waste products like carbon dioxide” (ADB and WWF 2012). It is a way of understanding nature, as Natural Capital is essential to all human life and lies at the foundation of the entire economy.

Countries in Asia and the Pacific have the significant challenge of managing natural capital sustainably for long-term development. However, the voracious global and regional appetite for Natural Capital has vastly exceeded the natural environment's ability to regenerate. Overwhelming degradation of the Natural Capital in Asia and the Pacific has occurred over the past few decades, as has its ability to absorb human wastes. Some scientists claim that globally, we have crossed over the planet's boundaries for regeneration for both climate change and the degradation of ecosystem services. (Steffen et al.)

Most economists view the environment as a “subset of the economy.” In contrast, ecologists view the economy as a “subset of the environment.” Economists understand three classic factors of production in producing goods and services: land, labor, and (financial) capital. Yet, the missing piece here is ecosystems, and the services healthy ecosystems provide form much of the foundation for this economy and have economic value. In short, living on a planet of fixed size and capacity, an environmentally sustainable economy calls for the earth and its ecological systems to set the framework for economic activity. (L. R. Brown 2001).

Natural Capital provides trillions of dollars (\$33 trillion) worth of services annually in equivalent terms and constitutes food, fiber, water, health, energy, climate security, and other essential services. Both the services and stock of Natural Capital are not adequately valued in terms comparable to manufactured and financial capital (Natural Capital Declaration 2012), and this provides a real challenge for government decision makers and the judiciary interpreting and analyzing their decisions.

Effective environmental governance plays a key role in ensuring that Natural Capital is maintained or recovered. It is a function of the effectiveness of the executive, legislature, administration, and judiciary. However, while the value of Natural Capital has been reflected in some laws across Asia and the Pacific, it has been insufficiently reflected in others. Existing environmental and natural resource laws need to do more to adequately protect Natural Capital; while that is mostly a role for policy makers and law makers, interpretations by judges have some impact on the development of laws. Moreover, the effective enforcement of existing laws could do much to improve preservation of existing Natural Capital.

As participants in the AJNE have previously observed, the judiciary plays a critical role in environmental governance and the enforcement of environmental and natural resource laws, as it directly acts as interpreter of laws, arbiter of claims, and determiner of rights. It also has an indirect influence in leading the legal profession and law enforcement community toward greater recognition of the importance of effective law enforcement for these issues. Enforcement of laws relating to Natural Capital could be improved if law enforcement officers and the region's judiciary have a more widespread understanding of the economic value of Natural Capital and its contributions to development.

At the core of many disputes and conflicts over natural resources—land, water, minerals, and flora and fauna—including those that end up in the courts, are fundamental tensions between economic development and environmental protection. These tensions lie at the core of the ideological conflict between economists and environmentalists and those that adhere to the concept of Natural Capital. Natural Capital provides a framework that recognizes the economic value of ecosystem services over and above any mere aesthetic value. This concept helps judges to frame what they know about existing ecosystems and is a valuable reference point from which to determine cases affecting Natural Capital. Legal issues arising include the following:

- (i) transboundary issues involved in the exploitation of Natural Capital and the impairment or damage to ecosystem services or Natural Capital in adjacent jurisdictions;
- (ii) legal and evidentiary principles and doctrines, such as the precautionary principle, the doctrine of public trust, and the law of nuisance, affecting decision making on legal cases concerning forests, mountains and uplands, freshwater, coastal and marine ecosystems, and biodiversity;
- (iii) how the public nature of the benefits derived from Natural Capital (*res communis omnium*) impacts standing to sue, *res judicata*, and the statute of limitations;
- (iv) how the recognition of the concept of Natural Capital might affect property rights issues; and
- (v) how Natural Capital valuation assessments may allow a more accurate assessment of damages occurring to entire ecosystems.

Participants

Representatives from courts, environment ministries, prosecutor's offices, the legal profession, and civil society from across Asia and the Pacific and beyond, including Afghanistan, Australia, Bangladesh, Bhutan, Brazil, the People's Republic of China, Fiji, India, Indonesia, the Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Pakistan, the Philippines, Singapore, Sri Lanka, Thailand, the United States, and Viet Nam will share experiences on Natural Capital and its relevance to the rule of law.

Approach

This 3-day Symposium will build upon and consolidate past and ongoing work of ADB under its Environmental Law, Justice and Development Program, particularly its work to establish and strengthen an Asian Judges Network on Environment. The Symposium's overall theme is Natural Capital and the Rule of Law.

Output

The papers submitted for the Symposium will be compiled and edited as a volume for publication by ADB. Participants will be requested to provide papers and presentations prior to the Symposium. The papers and presentations submitted for the Symposium will also be uploaded to the AJNE website. The Symposium will also provide an opportunity for the consideration and adoption of an AJNE Statement on Environmental Justice based on the reports from breakout groups, together with prior statements and declarations.

Partners

The Supreme Court of the Philippines, UNEP, Freeland, and the United States Agency for International Development

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APPENDIX 2

Agenda

ARRIVAL: Monday, 2 December 2013

- 6 p.m.–8:30 p.m. **Reception**
8 p.m.–8:10 p.m. **Photo Session**

DAY 1: Tuesday, 3 December 2013

- 8 a.m.–8:30 a.m. **Registration**

OPENING SESSION

- 8:30 a.m.–8:40 a.m. **Welcome Remarks**
• **Mr. Takehiko Nakao**, President, Asian Development Bank (ADB)
- 8:40 a.m.–9:10 a.m. **Opening Remarks**
• **Honorable Maria Lourdes P. A. Sereno**, Chief Justice, Supreme Court of the Philippines
• **Dr. Young Woo-Park**, Regional Director and Representative for Asia and the Pacific, United Nations Environment Programme
• **Mr. Vincent S. Perez**, Chair, WWF Philippines, Board Member, WWF International, former Secretary, Department of Energy, Philippines

INTRODUCTORY SESSION

Track 1 – Asian Judges Network on Environment (AJNE) Updates

Chair: Mr. Bindu Lohani, Vice-President for Knowledge Management and Sustainable Development, ADB

- 9:10 a.m.–9:45 a.m. **Asian Judges Network on Environment 2010 to 2013 (Video)**
ASEAN Chief Justices' Roundtable on Environment
• **Hon. Justice Tan Sri Abdull Hamid bin Embong**, Federal Court of Malaysia
South Asian Association for Regional Cooperation (SAARC) Judicial Roundtable
• **Justice Syed Mansoor Ali Shah**, Lahore High Court, Pakistan
Q & A

Track 2 – Natural Capital and the Rule of Law

- 9:45 a.m.–10 a.m. **Natural Capital (Video)** (ADB/Freeland Foundation/National Geographic/WWF)

10 a.m.–10:15 a.m. **Overview of the Symposium: The Network, Natural Capital, and the Rule of Law**

- **Dr. Kala Mulqueeny**, Principal Counsel, ADB

Q & A

10:15 a.m.–10:30 a.m. Coffee Break

MORNING SESSION

Track 1 – Asian Judges Network on Environment Updates Since 2010

Chair: Justice Rachel Pepper, New South Wales Land and Environment Court

10:30 a.m.–12 noon **Green Benches and Environmental Rules**

- **Justice Anwar Zaheer Jamali**, Justice, Supreme Court of Pakistan; and Committee Chair, Enhancing Environmental Justice, Supreme Court of Pakistan
- **Justice Dato' Hasan Lah**, Federal Court Judge, Federal Court of Malaysia
- **Hon. Diosdado M. Peralta**, Associate Justice, Supreme Court of the Philippines

Judicial Innovation in Environmental Cases

- **Justice Slaikate Wattanapan**, Presiding Justice, Supreme Court of Thailand
- **Justice M. Enayetur Rahim**, Justice, Supreme Court of Bangladesh
- **Hon. Justice Praksah Osti**, Justice, Supreme Court of Nepal

12 noon–1:30 p.m. **Lunch**

- **Regional Tables: ASEAN Justices and SAARC Justices**

AFTERNOON SESSION

Track 2 – Natural Capital Overview of Ecosystem Services and the Rule of Law

Chair: Dr. Kala Mulqueeny, Principal Counsel, ADB

1:30 p.m.–3 p.m.

The Value of Ecosystem Services: Economics and Ecology

- **Mr. Jeffrey A. McNeely**, former Chief Scientist, International Union for Conservation of Nature and current member, United Nations Environment Programme International Resource Panel

Natural Capital and the Law

- **Atty. Antonio A. Oposa Jr.**, President, Laws of Nature Foundation, Philippines
- **Dr. J. B. Ruhl**, David Daniels Allen Distinguished Chair in Law, Co-Director, Energy, Environment and Land Use Program, Vanderbilt School of Law (Video message)

Natural Capital, Ecosystem Services, and the Judiciary

- **Hon. Justice Adolfo S. Azcuna**, Chancellor, Philippine Judicial Academy, Supreme Court of the Philippines

3 p.m.–3:15 p.m.

Coffee/Tea Break

Track 2 – Natural Capital
Key Terrestrial Ecosystems in Asia and the Pacific

3:15 p.m.–4:45 p.m.

Forest Ecosystems

Chair: Atty. Roberto V. Oliva, Executive Director, ASEAN Centre for Biodiversity

The Ecosystem

- **The State of Asia-Pacific Forests and Their Economic Value**
Mr. Andika Putraditama, Outreach Officer, World Resources Institute

Relevant Laws and Law Enforcement

- **Forest Law Frameworks**
Mr. Ritwick Dutta, Lawyer, Legal Initiative for Forest and Environment, India
- **Unsustainable Forest Clearing and Illegal Logging**
Mr. Julian Newman, Director, Environmental Investigation Agency
- **Combating Corruption and Illegal Logging: the Nexus and the Role of the Indonesian Judiciary**
Mr. Mas Achmad Santosa, Member, Presidential Anti-Judicial Mafia Task Force, Government of Indonesia, and Deputy Head, President's Delivery Unit for Development Monitoring and Oversight

The Judicial Role

- **Farms and Forest Harms: The Role of the Brazilian Judiciary**
Justice Adalberto Carim Antonio, Judge Titular, Court of Environment and Agrarian Issues, Auxiliary Judge of the President of the Tribunal of Justice of the Estate of Amazonas, Brazil
- **Illegal Logging Cases: Experience of a Philippine Environmental Court**
Hon. Divina Luz P. Aquino-Simbulan, Judge, Regional Trial Court, City of San Fernando, Pampanga, Philippines

Q & A

This session on forest ecosystems has three objectives: (1) to consider the state of Asia's forest ecosystems as a form of natural capital, its economic value, the threats thereto, and the resulting risks to development; (2) to consider the general framework of forest laws and forest law and enforcement challenges, including (i) administrative law issues of improperly issued timber and logging licenses and permits, (ii) civil law issues relating to disputes between competing rights holders, such as customary land holders verses mining rights resulting in the depletion of natural capital, and (iii) criminal law issues of illegal logging; and (3) judges will share their experience of forest law issues in their courts.

4:45 p.m.–6 p.m.

Mountain and Upland Ecosystems

Chair: Ms. Irum Ahsan, Counsel, ADB

The Ecosystem

- **The State of Mountain Ecosystems and Their Value: The Living Himalayas**

Mr. Tariq Aziz, Leader, Living Himalayas Initiative, WWF International

- **Mountain and Wetland Ecosystems**

Ms. Archana Chatterjee, Project Manager, International Union for Conservation of Nature India Country Office

Relevant Laws and Law Enforcement

- **Legal Stewardship of Emerging Mountain Eco-Regime: Pasture Governance in Bhutan**

Ms. Nima Om, Senior Legal Officer, Ministry of Agriculture and Forests, Bhutan

- **Mountain Ecosystem Challenges in the Courts**

Ms. Archana Vaidya, Glacial Lake Outburst Flood, India

The Judicial Role

- **Dr. Ananda M. Bhattarai**, Judge, Court of Appeal, Nepal

Q & A

This session has three objectives: (1) to consider the state of Asia's mountain and upland ecosystems as a form of natural capital, their economic value, the threats thereto, and the resulting risks to development; (2) to consider the general framework of laws and law and enforcement challenges, including (i) administrative law issues and improperly issued permits, such as for mining, (ii) civil law issues relating to disputes between competing rights holders, such as transboundary riparian rights holders, and (iii) criminal law issues of illegal logging in mountain ecosystems; and (3) judges will share their experience of the range of mountain law issues in their courts.

6:30 p.m.

Reception Hosted by ADB and the Supreme Court of the Philippines

DAY 2: Wednesday, 4 December 2013

MORNING SESSION

Track 2 – Natural Capital

Freshwater Ecosystems

9 a.m.–10:30 a.m.

Chair: Dr. Alphonse Kambu, Programme Officer, Division of Environmental Law and Conventions, United Nations Environment Programme (UNEP)

Freshwater Ecosystems

The Ecosystem

- **The State of Asia-Pacific Freshwater and Wetland Ecosystems and Their Economic Value**

Mr. Jeffrey A. McNeely, former Chief Scientist, International Union for Conservation of Nature, and current member of UNEP International Resource Panel (Water Resources)

Relevant Laws and Law Enforcement

- **Hon. Deborah Smith**, United States Magistrate Judge, District of Alaska

The Judicial Role

- **Pakistan: Pollution and the Ravi River, Judicial Oversight of Pollution Clean Ups**
Justice Syed Mansoor Ali Shah, High Court of Lahore, Pakistan
- **Philippines: The Manila Bay Case and the Current Pulse on Continuing Mandamus**
Hon. Presbitero J. Velasco Jr., Associate Justice, Supreme Court of the Philippines
- **PRC: Inland Water Protection in China's Green Courts: The Role of the Judiciary and Green Courts**
Prof. Mingqing You, Associate Professor, Environmental and Resources Law Institute, Zhongnan University of Economics and Law, Wuhan, PRC

Q & A

This session has three objectives: (1) to consider the state of Asia's freshwater ecosystems as a form of natural capital, its economic value, the threats thereto, and the resulting risks to development; (2) to consider the general framework of water and related pollution law and enforcement challenges, including (i) administrative law (permits issued without appropriate environmental impact assessments or other planning and pollution controls), (ii) civil law issues (violation of water pollution laws and plaintiffs with health problems), and (iii) criminal law issues; and (3) judges will share their experience of water and pollution law issues in their courts.

10:30 a.m.–10:45 a.m. **Coffee/Tea Break**

Track 2 – Natural Capital

Key Coastal and Marine Ecosystems in Asia and the Pacific

Chair: Pavit Ramachandran, Senior Environment Specialist, ADB

10:45 p.m.–12:15 p.m. **Coastal and Marine Ecosystems**

The State of the Ecosystem

- **The State of Asia-Pacific Coral and Marine Ecosystems and Their Economic Value**
Eleanor Carter, Independent Consultant, former Marine Program Director, Rare

Video: The Coral Triangle

Relevant Laws and Law Enforcement

- **Ocean, Coastal and Marine Law Frameworks**
Peter Wulf, Member, Commonwealth Administrative Appeals Tribunal, Barrister at Law, Scientist
- **Patrick Duggan**, Trial Attorney, Environmental Crimes Section, United States Department of Justice

The Judicial Role

- **Justice Saleem Marsoof**, Judge, Supreme Court of Sri Lanka
- **Justice Dato' Hasan Lah**, Federal Court Judge, Federal Court of Malaysia

Q & A

This session has three objectives: (1) to consider the state of Asia's coastal and marine ecosystems as a form of natural capital, its economic value, the threats thereto, and the resulting risks to development; (2) to consider the general framework of coastal and marine laws, including related pollution laws, and associated enforcement challenges such as (i) administrative law issues, including pollution sanctions, (ii) civil law issues, and (iii) criminal law issues, including illegal fishing; and (3) judges will share their experience of coastal and marine law issues in their courts.

12:15 p.m.–1:15 p.m. **Lunch Hosted by General Counsel Christopher H. Stephens**

AFTERNOON SESSION

**Track 2 – Natural Capital
Biodiversity**

1:15 p.m.–2:15 p.m. **Biodiversity Loss, Protected Areas, and Encroachment**
Chair: Marlene Oliver, Commissioner, Environment Court
 of New Zealand

The State of Biodiversity

- **Ms. Clarissa C. Arida**, Director, Programme Development and Implementation, ASEAN Centre for Biodiversity

Relevant Laws and Law Enforcement

- **Biodiversity and Protected Areas Law: Comparative Perspectives**

Prof. Lye Lin Heng, Director, Asia-Pacific Centre for Environmental Law, Vice Chair, International Union for Conservation of Nature Environmental Law Academy, National University of Singapore

The Role of the Judiciary

- **Protected Areas, Conservation of Forests, and Illegal Logging: The Role of the Indian Judiciary**
Hon. Ms. Justice Hima Kohli, Judge, High Court of Delhi, India (by video conference)
- **Biodiversity and Protected Areas in Costa Rica: Lessons for Asia**
Justice Alexandra Alvarado Paniagua, Jureza Coordinadora, Tribunal Agrario Nacional, Costa Rica

Q & A

This session has three objectives: (1) to consider the state of Asia's Biodiversity as a form of Natural Capital, its economic value, the threats thereto, and the resulting risks to development; (2) to consider the general framework of Biodiversity and protected areas law and law enforcement challenges, including (i) administrative law (permits issued for mining and other activities in protected areas, human encroachments, and other administrative decisions and actions leading to harm to biodiversity), (ii) civil law issues, and (iii) any other possible criminal law issues, other than the illegal wildlife trade, that relate to biodiversity loss; and (3) judges

will share their experience of biodiversity and protected area issues in their courts.

2:15 p.m.–3:45 p.m.

Biodiversity Loss and the Illegal Wildlife Trade

Chair: Douglas Goessman, Director of Field Operations, Asia's Regional Response to Endangered Species Trafficking (ARREST) Program, Freeland

The State of the Illegal Wildlife Trade

- **Video: Combating the Illegal Wildlife Trade** (ADB, WWF, TRAFFIC)

Relevant Laws and Law Enforcement

- **Wildlife Laws in Asia and the Pacific**
Dr. Theresa Mundita S. Lim, Director of the Protected Areas and Wildlife Bureau, Department of Environment and Natural Resources, Philippines
- **Mr. Ed Newcomer**, Special Agent/Deputy Resident Agent in Charge, US Fish and Wildlife Service, Office of Law Enforcement

The Role of the Judiciary

- **Hon. Justice Tan Sri Abdull Hamid bin Embong**, Justice, Federal Court of Malaysia
- **Hon. Qazi Faez Isa**, Chief Justice, Balochistan High Court, Pakistan

Q & A

This session has three objectives: (1) to consider the state of the illegal wildlife trade and the implications of Asia's involvement; (2) to consider the general framework of wildlife protection issues, focusing on the criminal law; and (3) judges will share their experience and the challenges of the illegal wildlife trade in the courts.

3:45 p.m.–4 p.m.

Coffee/Tea Break

4 p.m.–6 p.m.

Breakout Groups on Natural Capital:

- **Group A. Challenges in Judicial Decision Making on Issues of Natural Capital: Substantive Law**
- **Group B. Challenges in Judicial Decision Making on Issues of Natural Capital: Expert and Scientific Evidence and Evidentiary Rules**
- **Group C. Innovation for Judicial Decision Making: The Idea of Natural Capital to Assist in Determining Remedies, Restorative Justice, Sanctions, and Penalties.**
- **Group D. Strengthening Capacity to Decide Natural Resource Cases; and Resisting Threats to, and Promoting, Integrity against Corruption**

See Annex A for Details on Breakout Groups

6:30 p.m.

Reception Hosted by Vice-President Bruce Davis

DAY 3: Thursday, 5 December 2013

MORNING SESSION

Track 2 – Natural Capital
Protecting Natural Assets

Chair: Preety Bhandari, Advisor, Climate Change Unit, ADB

9 a.m.–10:15 a.m.

Climate Change Impacts on Key Ecosystems**The State of Climate Change**

- **Naderev M. Saño**, Commissioner, Climate Change Commission, Philippines

Climate Change and Natural Disasters

- **Lory Tan**, Chief Executive Officer, Vice Chair of the Board, WWF Philippines

Climate Litigation in National Courts

- **Climate Cases in Australia and the United States**

Peter Wulf, Member, Commonwealth Administrative Appeals Tribunal, Barrister at Law and Scientist

- **The Thai Global Warming Case**

Chanokporn Prompinchompoo, Law Lecturer, Faculty of Law, Ramkhamhaeng University, Thailand

Q & A

This session has three objectives: (1) to consider the state of Climate Change, including the most recent IPCC report, as well as its economic effects, including the economic effects as recorded in recent ADB reports on the economics of climate change in Southeast Asia and East Asia, and the resulting risks to development so that judges become aware of its impacts upon Natural Capital and development; (2) to consider the challenges to considering climate change in the courts (largely because of causation barriers); and (c) to consider actual climate change litigation and its outcomes in Australia, Thailand, and the United States

10:15 a.m.–10:30 a.m. **Coffee/Tea Break**Track 2 – Natural Capital
Protecting Natural Assets

Chair: Nessim J. Ahmad, Director, Environment and Safeguards Division, ADB

10:30 a.m.–12 noon

Planning, Permitting, and Environmental Impact Assessment (EIA)**The State of EIA**

- **Hydropower, Mining, and Infrastructure, and Their Effects on Natural Capital and EIA**

Mr. Iain Watson, Greater Mekong Subregion, Environmental Operations Center

EIA Framework Law and Enforcement

- **Mr. Peter King**, Senior Policy Advisor, Institute for Global Environmental Strategies, and Head, Asian Environmental Compliance and Enforcement Network (AECEN)

- **Litigating for Effective EIA in the Philippine Courts**

Hon. Terry Ridon, House Representative, Kabataan Partylist, Philippines

The Role of the Judiciary

- **Hon. Richard Jones**, Judge, District Court and Planning and Environment Court of Queensland, Australia
- **Justice Ashraf Jehan**, Judge, Sindh High Court, Pakistan

Q & A

This session has three objectives: (1) to consider the state of Asia's planning, permitting, and environmental impact assessments; (2) to consider the general framework of EIA law and related law and enforcement challenges, including (i) administrative law (permits issued without appropriate environmental impact assessments or other planning and pollution controls), (ii) civil law issues (violation of pollution laws and plaintiffs with health problems), and (iii) criminal law issues; and (3) judges will share their experience of pollution and EIA law issues in their courts.

12:15 p.m.–1:15 p.m. **Lunch**

AFTERNOON SESSION

1:15 p.m.–2:30 p.m.

Breakout Groups on Natural Capital

Chair: Dr. Kala Mulqueeny, Principal Counsel, Asian Development Bank

- **Group A. Challenges in Judicial Decision Making on Issues of Natural Capital: Asian Judges Network on Environment and Natural Capital**
- **Group B. Challenges in Judicial Decision Making on Issues of Natural Capital: Asian Judges Network on Environment and Natural Capital**
- **Group C. Innovation for Judicial Decision Making: The Asian Judges Network on Environment and Natural Capital**
- **Group D. Strengthening Capacity to Decide Natural Resource Cases; and Resisting Threats to, and Promoting, Integrity against Corruption: The Asian Judges Network on Environment and Natural Capital**

See Annex A for Details on Breakout Groups

2:30 p.m.–3:30 p.m.

Reporting of Breakout Groups

3:30 p.m.–3:45 p.m.

Coffee/Tea Break

3:45 p.m.–5 p.m.

Asian Judges Network on Environment: Moving Forward

Chair: Christopher H. Stephens, General Counsel, ADB

- **Justice Saleem Marsoof**, Judge, Sri Lanka Supreme Court
- **Hon. Diosdado M. Peralta**, Associate Justice, Supreme Court of the Philippines
- **Hon. Khamphanh Sitthidampha**, President, People's Supreme Court of Lao PDR
- **Hon. Qazi Faez Isa**, Chief Justice, Balochistan High Court, Pakistan

CLOSING SESSION

- 5 p.m.–5:30 p.m.
- **Hon. Diosdado M. Peralta**, Associate Justice, Supreme Court of the Philippines
 - **Mr. Christopher H. Stephens**, General Counsel, ADB

ANNEX A

DETAILS OF PARALLEL BREAKOUT SESSIONS

4 December 2013, 4 p.m.–6 p.m.

5 December 2013, 1:15 p.m.–2:30 p.m.

Reporting Back 5 December 2013, 2:30 p.m. to 3:30 p.m.

The Symposium will break out into four discussion groups that will convene on 2 days to consider the questions below. To retain continuity, group members are requested to stay in the same groups for both sessions. Each group will report findings to the plenary and be asked to deliver findings to the plenary. Panelists in this session will be asked to directly and briefly respond to any of the questions below when asked by the Chair, but will not be required to make a presentation, rather they will be responsible for leading other participants in the discussion.

Group A. Challenges in Judicial Decision Making on Issues of Natural Capital: Substantive Law

Session Chair: **Peter Wulf**, Member, Commonwealth Administrative Appeals Tribunal, Barrister at Law and Scientist

Rapporteur: **Brenda Jay Angeles-Mendoza**, Environmental Lawyer, Environmental Law, Justice and Development Program, ADB

Panel Discussion

- **Hon. Qazi Faez Isa**, Chief Justice, Supreme Court of Karachi
- **Hon. Agus Subroto**, Appeal Judge, Jakarta Appeal Court
- **Dr. Ananda M. Bhattarai**, Judge, Court of Appeal, Nepal
- **Hon. Terry Ridon**, Representative, Kabataan Partylist, House of Representatives
- **Dr. Parvez Hassan**, former chair of the International Union for Conservation of Nature Commission on Environmental Law
- **Hon. Tan Sri Abdull Hamid bin Embong**, Justice, Federal Court of Malaysia
- **Hon. Mahyudin bin Mohmad Som**, Research Officer to Justice Tan Sri Abdull Hamid Embong, Federal Court of Malaysia
- **Hon. Alexandra Alvarado Paniagua**, Jureza Coordinadora, Tribunal Agrario Nacional, Costa Rica
- **Hon. Slaikate Wattanapan**, Presiding Justice, Supreme Court of Thailand
- **Hon. Deborah Smith**, United States Magistrate Judge, District of Alaska
- **Mr. Bruce Dunn**, Environment Specialist and ADB Global Environment Facility Facilitator, Asian Development Bank

Key Questions

4 December 2013, 4 p.m.–6 p.m.

- What transboundary issues are involved in the exploitation of Natural Capital and the impairment or damage to ecosystem services or Natural Capital in adjacent jurisdictions?
- What legal and evidentiary principles and doctrines, such as the precautionary principle, the doctrine of public trust, and the law of nuisance, affect decision making on legal cases concerning forests, mountains and uplands, freshwater, coastal and marine ecosystems, and biodiversity (“Natural Capital”)?
- How does the public nature of the benefits derived from Natural Capital (*res communis omnium*) impact standing to sue, *res judicata* and the statute of limitations?
- How might recognition of the concept of Natural Capital affect property rights issues? As one example, to what extent might a property owner be able to interfere with and impair the positive externalities that benefit other property owners or the general public that derive from Natural Capital located on their property? As another example, what are the implications if an upstream riparian user exploits Natural Capital to the detriment of downstream users?
- How might an understanding of Natural Capital assist a judge in deciding cases?

5 December 2013, 1:15 p.m.–2:30 p.m.

- How might the Asian Judges Network on Environment facilitate or promote a wider understanding among the judiciary of Natural Capital as a relevant concept for informing decision making among judges and the legal community in Asia and the Pacific?
- How might the Asian Judges Network on Environment assist your judiciary in doing so, and what would you want it to do?
- How can cooperation and effectiveness of law enforcement and decision making for Natural Capital and the Environment in general be enhanced by the Asian Judges Network on Environment?

Group B: Challenges in Judicial Decision Making on Issues of Natural Capital: Expert and Scientific Evidence and Evidentiary Rules

Session Chair: **Justice Rachel Pepper**, New South Wales, Land and Environment Court

Rapporteur: **Maria Cecilia T. Sicangco**, Legal Research Associate, ADB

Panel Discussion

- **Hon. Davaadorj Gooshookhuu**, Judge, Bayangol District Court, Mongolia
- **Hon. Sengsouvanh Chanthalonnavong**, Justice, Vientiane Capital Court
- **Hon. Diosdado M. Peralta**, Associate Justice, Supreme Court of the Philippines
- **Hon. Justice Huynh Thanh Duyen**, Appeal Court Justice, Supreme People’s Court in Ho Chi Minh, Viet Nam
- **Hon. M. Enayetur Rahim**, Justice, Supreme Court of Bangladesh
- **Mr. Ritwick Dutta**, Lawyer, Legal Initiative for Forest and Environment, India
- **Mr. Tariq Aziz**, Leader, Living Himalayas Initiative, WWF
- **Hon. Dato’ Hasan Lah**, Federal Court Judge, Federal Court of Malaysia

- **Mr. Andika Putraditama**, Outreach Officer, World Resources Institute
- **Hon. Richard Jones**, Judge, District Court and Planning and Environment Court of Queensland, Australia
- **Mr. Ed Newcomer**, Special Agent/Deputy Resident Agent in Charge, United States Fish and Wildlife Service, Office of Law Enforcement
- **Mr. Peter King**, Senior Policy Advisor, Institute for Global Environmental Strategies, and Head, Asian Environmental Compliance and Enforcement Network (AECEN)
- **Mr. Patrick Duggan**, Trial Attorney, Environmental Crimes Section, United States Department of Justice

Key Questions

4 December 2013, 4 p.m.–6 p.m.

- How might the acceptance of expert evidence be affected by a wider understanding of the concept of Natural Capital?
- How should courts approach issues of the credibility of witnesses and the assessment of expert and scientific evidence in legal cases concerning forests, mountains and uplands, freshwater, coastal and marine ecosystems, and biodiversity (“Natural Capital”)?
- How would the application of the precautionary principle in legal cases concerning Natural Capital but involving scientific uncertainty play out?
- Are you aware of cases where the precautionary principle has been so applied, or alternatively, where scientific uncertainty has led to a decision adverse to the preservation of Natural Capital?
- In what manner, if at all, is the burden and standard of proof affected by receipt of scientific evidence indicating the depletion of Natural Capital, or application of the precautionary principle in Natural Capital cases?
- How might an understanding of Natural Capital assist a Judge in deciding cases?

5 December 2013, 1:15 p.m.–2:30 p.m.

- How might the Asian Judges Network on Environment facilitate or promote a wider understanding among the judiciary of Natural Capital as a relevant concept for informing decision making among judges and the legal community in Asia and the Pacific?
- How might the Asian Judges Network on Environment assist your judiciary in doing so, and what would you want it to do?
- How can cooperation and effectiveness of law enforcement and decision making for Natural Capital and the Environment in general be enhanced by the Asian Judges Network on Environment?

Group C: Innovation for Judicial Decision Making: The Idea of Natural Capital to Assist in Determining Remedies, Restorative Justice, Sanctions, and Penalties

Session Chair: **Prof. Merideth Wright**, Distinguished Judicial Scholar, Environmental Law Institute and Pace Law School, former Judge, Vermont Environment Court

Rapporteur: **Francesse Joy J. Cordon**, Legal Research Associate, ADB

Panel Discussion

- **Hon. Syed Mansoor Ali Shah**, Justice, High Court of Lahore
- **Hon. Presbitero Velasco**, Associate Justice, Supreme Court of the Philippines
- **Hon. Saleem Marsoof**, Judge, Supreme Court of Sri Lanka
- **Hon. Khamphanh Sitthidampha**, President, People's Supreme Court of the Lao PDR
- **Hon. Dato' Hasan bin Lah**, Judge, Federal Court of Malaysia
- **Hon. Myint Aung**, Judge, Supreme Court of the Union of Myanmar
- **Hon. Dr. Ahmed Abdulla Didi**, Justice, Supreme Court of the Maldives
- **Hon. Chandra Ekanayaka**, Justice, Supreme Court of Sri Lanka
- **Hon. Mr. Usukhbayar** Tumurbaatar, Justice, Capital City Appellate Court, Mongolia
- **Ms. Archana Vaidya**, Glacial Lake Outburst Flood, India
- **Mr. Julian Newman**, Director, Environmental Investigation Agency

Key Questions

4 December 2013, 4 p.m.–6 p.m.

- What remedies are available in your jurisdictions that have been or could be applied to legal cases concerning forests, mountains and uplands, freshwater, coastal and marine ecosystems, and biodiversity (“Natural Capital”) and how do they work?
- How might the concept of Natural Capital assist judges in determining damages and assessing penalties in cases concerning forests, mountains and uplands, freshwater, coastal and marine ecosystems, and biodiversity, i.e., cases of Natural Capital?
- How might the acceptance of expert evidence in determining remedies and sanctions be affected by a wider understanding of the concept of Natural Capital?
- How might an understanding of Natural Capital assist a Judge in deciding cases?

5 December 2013, 1:15 p.m.–2:30 p.m.

- How might the Asian Judges Network on Environment facilitate or promote a wider understanding among the judiciary of Natural Capital as a relevant concept for informing decision making among judges and the legal community in Asia and the Pacific?
- How might the Asian Judges Network on Environment assist your judiciary in doing so, and what would you want it to do?
- How can cooperation and effectiveness of law enforcement and decision making for Natural Capital and the Environment in general be enhanced by the Asian Judges Network on Environment?

Group D: Strengthening Capacity to Decide Natural Resource Cases; and Resisting Threats to, and Promoting, Integrity against Corruption

Session Chair: **Greg Alling**, Independent Judicial Reform Specialist, Consultant, ADB

Rapporteur: **Maria Camille G. Lantion**, Legal Research Associate, ADB

Panel Discussion

- **Mr. Mas Achmad Santosa**, Member, Presidential Anti-Judicial Mafia Task Force, Indonesia Government

- **Hon. Pohand Abdul Salam Azimi**, Chief Justice, Supreme Court of Afghanistan
- **Hon. Geraldine Faith Econg**, Administrator, Judicial Reform Program, Philippines Supreme Court
- **Hon. Asraful Kamal**, Justice, Supreme Court of Bangladesh
- **Hon. Sarawut Benjakul**, Judge, Thailand Judicial Training Institute
- **Mr. Agung Sumantha**, Head, Judicial Techniques, Indonesia Judicial Training Center
- **Hon. Adalberto Carim Antonio**, Judge Titular, Court of Environment and Agrarian Issues, and Auxiliary Judge of the President of the Tribunal of Justice of the Estate of Amazonas, Brazil
- **Hon. Adolfo S. Azcuna**, Chancellor, Philippine Judicial Academy, Supreme Court of the Philippines
- **Hon. Adam Mohamed Abdulla**, Justice, Supreme Court of the Maldives
- **Ms. Nima Om**, Senior Legal Officer, Ministry of Agriculture and Forests, Bhutan
- **Marlene Oliver**, Commissioner, Environment Court of New Zealand
- **Prof. Lye Lin Heng**, Director, Asia-Pacific Centre for Environmental Law, and Vice Chair, International Union for Conservation of Nature Environmental Law Academy, National University of Singapore
- **Prof. Mingqing You**, Associate Professor, Environmental and Resources Law Institute, Zhongnan University of Economics and Law, Wuhan, PRC

Key Questions

4 December 2013, 3:45 p.m.–6 p.m.

- What challenges and successes has your national judiciary faced in building capacity in natural resource cases, and could this be applied more broadly to building capacity and understanding across Natural Capital cases?
- What are the generalist training requirements for any new candidate judges? Do these training requirements cover legal issues relating to forests, mountains and uplands, freshwater, coastal and marine ecosystems, and biodiversity (“Natural Capital”)? How might they be improved by doing so?
- What specialist training relating to legal issues of Natural Capital is provided to law enforcement officers, prosecutors, and judges in your jurisdiction? Are they using their expertise to prosecute and enforce legal issues relating to Natural Capital?
- How might the concept of Natural Capital assist judges, law enforcement officials, and the legal community’s understanding of the environment and natural resource cases?
- Is there any role for the judiciary in combating corruption, within and beyond its ranks, by recognizing and reinforcing the concept of Natural Capital and its long-term economic value? What might that role be?
- How might wider recognition of the concept of Natural Capital among judges and members of the legal and law enforcement community help disseminate information on its economic value and social importance and so strengthen resistance to corruption?
- How might an understanding of Natural Capital assist a judge in deciding cases?

5 December 2013, 1:15 p.m.–2:30 p.m.

- How might the Asian Judges Network on Environment facilitate or promote a wider understanding among the judiciary of Natural Capital as a relevant concept for informing decision making among judges and the legal community in countries in Asia and the Pacific?
- How might the Asian Judges Network on Environment assist your judiciary in doing so, and what would you want it to do?
- How can cooperation and effectiveness of law enforcement and decision making for Natural Capital and the Environment be enhanced by the Asian Judges Network on Environment?

APPENDIX 3

List of Speakers and Resource Persons

Resource Person	Designation, Agency
Ahmad, Nessim J.	Director, Environment and Safeguards Division, ADB
Ahsan, Irum	Counsel, ADB
Alvarado Paniagua, Alexandra	Jureza Coordinadora, Tribunal Agrario Nacional, Costa Rica
Antonio, Adalberto Carim	Judge Titular, Court of Environment and Agrarian Issues, State of Amazonas, Brazil Auxiliary Judge of the President, Tribunal of Justice, Estate of Amazonas, Brazil
Arida, Clarissa	Director, Programme Development and Implementation, ASEAN Centre for Biodiversity
Azcuna, Adolfo S.	Chancellor, Philippine Judicial Academy, Supreme Court of the Philippines
Aziz, Tariq	Leader, Living Himalayas Initiative, WWF
Bhandari, Preety	Advisor, Climate Change Unit, ADB
Bhattarai, Ananda M.	Judge, Court of Appeal, Nepal
Carter, Eleanor	Independent Consultant, Former Marine Program Director, Rare
Chatterjee, Archana	Project Manager, International Union for Conservation of Nature India Country Office
Drilon, Maria Lourdes	Senior Natural Resources Economist, Transport, Energy and Natural Resources Division, ADB
Duggan, Patrick	Trial Attorney, Environmental Crimes Section, US Department of Justice
Dutta, Ritwick	Lawyer, Legal Initiative for Forest and Environment, India
Embong, Tan Sri Abdull Hamid bin	Justice, Federal Court of Malaysia
Goessman, Douglas	Director of Field Operations, Asia's Regional Response to Endangered Species Trafficking (ARREST), Freeland
Heng, Ly Lin	Director, Asia-Pacific Centre for Environmental Law, Singapore Vice Chair, International Union for Conservation of Nature Environmental Law Academy, National University of Singapore
Isa, Qazi Faez	Chief Justice, Balochistan High Court, Pakistan
Jamali, Anwar Zaheer	Justice, Supreme Court of Pakistan Chair, Committee for Enhancement of Environmental Justice, Supreme Court of Pakistan
Jehan, Ashraf	Judge, Sindh High Court, Pakistan
Jones, Richard	Judge, District Court and Planning and Environment Court of Queensland, Australia

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Table continued

Resource Person	Designation, Agency
Kambu, Alphonse	Programme Officer, Division of Environmental Law and Conventions, United Nations Environment Programme
King, Peter	Senior Policy Advisor, Institute for Global Environmental Strategies Head, Asian Environmental Compliance and Enforcement Network (AECEN)
Kohli, Hima	Judge, High Court of Delhi, India
Lah, Dato' Hasan	Judge, Federal Court of Malaysia
Lim, Theresa Mundita S.	Director, Protected Areas and Wildlife Bureau (now Biodiversity Management Bureau), Department of Environment and Natural Resources, Philippines
Lohani, Bindu	Vice-President for Knowledge Management and Sustainable Development, ADB
Marsoof, Saleem	Judge, Supreme Court of Sri Lanka
McNeely, Jeffrey A.	Member, United Nations Environment Programme International Resource Panel
Mulqueeny, Kala	Principal Counsel, ADB
Nakao, Takehiko	President, ADB
Newcomer, Ed	Deputy Resident Agent in Charge, Fish and Wildlife Service, Office of Law Enforcement, US
Newman, Julian	Director, Environmental Investigation Agency, United Kingdom
Oliva, Roberto V.	Executive Director, ASEAN Centre for Biodiversity
Oliver, Marlene	Commissioner, Environment Court of New Zealand
Om, Nima	Senior Legal Officer, Ministry of Agriculture and Forests, Bhutan
Oposa, Antonio	President, Laws of Nature Foundation, Philippines
Osti, Praksah	Justice, Supreme Court of Nepal
Pepper, Rachel	Judge, Land and Environment Court of New South Wales, Australia
Perez, Vincent S.	Chair, WWF Board Member, WWF International
Prompinchompoo, Chanokporn	Law Lecturer, Faculty of Law, Ramkhamhaeng University, Thailand
Putraditama, Andika	Outreach Officer, World Resources Institute
Rahim, M. Enayetur	Justice, Supreme Court of Bangladesh
Ramachandran, Pavit	Senior Environment Specialist, ADB
Ridon, Terry	Representative, Kabataan Partylist, House of Representatives, Philippines
Ruhl, J. B.	David Daniels Allen Distinguished Chair in Law Co-Director, Energy, Environment, and Land Use Program, Vanderbilt School of Law
Saño, Naderev M.	Commissioner, Climate Change Commission, Philippines
Santosa, Mas Achmad	Deputy Head, President's Delivery Unit for Development Monitoring and Oversight Member, Presidential Anti-Judicial Mafia Task Force, Indonesia

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Table *continued*

Resource Person	Designation, Agency
Sereno, Maria Lourdes P. A.	Chief Justice, Supreme Court of the Philippines
Shah, Syed Mansoor Ali	Justice, Lahore High Court, Pakistan
Simbulan, Divina Luz P. A.	Judge, Regional Trial Court, City of San Fernando, Pampanga, Philippines
Sitompul, Syofyan	Justice, Supreme Court of Indonesia
Sitthidampha, Khamphanh	President, People's Supreme Court of the Lao PDR
Stephens, Christopher H.	General Counsel, ADB
Tan, Lory	Chief Executive Officer, Vice Chair of the Board, WWF Philippines
Vaidya, Archana	Managing Partner, Indian Environment Law Offices Advocate, Glacial Lake Outburst Flood, India
Wattanapan, Slaikate	Presiding Justice, Supreme Court of Thailand
Woo-Park, Young	Regional Director and Representative for Asia and the Pacific, United Nations Environment Programme
Wright, Merideth	Distinguished Judicial Scholar, Environmental Law Institute and Pace Law School
Wulf, Peter	Member, Commonwealth Administrative Appeals Tribunal, Australia Barrister at Law and Scientist
You, Mingqing	Associate Professor, Environmental and Resources Law Institute, Zhongnan University of Economics and Law, Wuhan, People's Republic of China

APPENDIX 4

List of Participants

Participant	Designation, Agency
Abdulla, Adam Mohamed	Justice, Supreme Court of the Maldives
Alam, Mahbubey	Attorney General, Ministry of Law, Justice, and Parliamentary Affairs, Bangladesh
Alling, Greg	Independent Judicial Reform Specialist, Consultant, ADB
Angeles-Mendoza, Brenda Jay	Environmental Lawyer, Environmental Law, Justice and Development Program, ADB
Anindito, Lakso	Legal Counsel, REDD+ Special Team, Indonesia
Aung, Myint	Judge, Supreme Court of the Union of Myanmar
Azcuna, Ma. Beatriz A.	Attorney, Office of the Chancellor, Philippine Judicial Academy
Azimi, Pohand Abdul Salam	Chief Justice, Supreme Court of Afghanistan
Benjakul, Sarawut	Deputy Secretary-General, Judicial Training Institute, Office of the Judiciary, Thailand
Berbano-Ablan, Ria Corazon H.	Attorney, Office of the Chancellor, Philippine Judicial Academy
Bowman, Winston	Director, Office of Environment, Energy, and Climate Change, United States Agency for International Development
Bueta, Gregorio Rafael	Principal Researcher, Philippine Judicial Academy
Cabanos, Victoriano B.	Judge, Branch 127, Regional Trial Court, Caloocan City, Philippines
Cabealawa, Ropate	Resident Magistrate, Supreme Court of Fiji
Candelaria, Sedfrey M.	Chair, Department of Special Areas of Concern Director, Research Publications and Linkages Office, Philippine Judicial Academy Dean, Ateneo Law School, Philippines
Caunan-Medina, Beatrice A.	Judge, Branch 75, Regional Trial Court, San Mateo, Philippines
Cenit-Escoto, Gina F.	Judge, Branch 78, Regional Trial Court, Morong, Rizal, Philippines
Chantalounnavong, Sengsouvanh	Judge, Vientiane Capital Court, Lao PDR
Chidthongpan, Rangsima	United Nations Environment Programme, Thailand
Connell, Fiona	Principal Counsel, ADB
Cordon, Francesse Joy J.	Legal Research Associate, ADB
Cruz, Danilo S.	Judge, Branch 152, Regional Trial Court, Pasig City, Philippines
De Mesa, Ma. Conchita M. Lucero	Judge, Branch 70, Regional Trial Court, Binangonan, Philippines
Didi, Ahmed Abdulla	Justice, Supreme Court of the Maldives
Dinh, Quang Son	Justice, Appeal Court, Viet Nam
Docena, Zaldy B.	Judge, Branch 170, Regional Trial Court, Malabon City, Philippines

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Table *continued*

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Dunn, Bruce	Environment Specialist and ADB Global Environment Facility Facilitator, ADB
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Econg, Geraldine Faith	Director, Program Management Office, Supreme Court of the Philippines
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Gooshookhuu, Davaadorj	Judge, Bayangol District Court, Mongolia
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Hettige, Sathya	Justice, Supreme Court of Sri Lanka
Ibrahim, Athika	Assistant Director, Protocol Division, Supreme Court of the Maldives
Ilao, Toribio E., Jr.	Judge, Branch 266, Regional Trial Court, Pasig City, Philippines
Jaigirdar, Nurual Huda	Justice, High Court Division of the Supreme Court of Bangladesh
Kabir, Humayun	Judge, Environmental Appellate Court, Dhaka, Bangladesh
Kamal, Ahsraful	Justice, Supreme Court, Bangladesh
Khawaja, Saima Amin	Advocate, High Court of Lahore, Pakistan
Lagman, Mariejoy P.	Officer-in-Charge, Branch 108, Regional Trial Court, Pasay City, Philippines
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Lian, Koh Kheng	Faculty of Law, National University of Singapore
Loja, Rosalyn M.	Judge, Branch 41, Regional Trial Court, Manila, Philippines
Lu, Agapito S.	Judge, Branch 88, Regional Trial Court, Cavite City, Philippines
Luna, Brigido Artemon M. II	Judge, Branch 196, Regional Trial Court, Parañaque City, Philippines
Madigan, Paul	Puisne Judge, Supreme Court of Fiji
Marigomen, Evangeline C.	Judge, Branch 101, Regional Trial Court, Quezon City, Philippines
Namgyel, Tshering	Justice, High Court of Bhutan
Nuñez, Maria Aleta	Environmental Law Lecturer, De La Salle University College of Law, Philippines
Paras, Eugene C.	Judge, Branch 58, Regional Trial Court, Makati City, Philippines
Pham, Thu Hang	Interpreter, Supreme Court of Viet Nam
Qi, Li	Judge, No. 1 Civil Division, Supreme People's Court, PRC
Ragasa, Rosario B.	Judge, Branch 108, Regional Trial Court, Pasay City, Philippines
Ramos, Gloria E.	Faculty Member, University of Cebu
Reyes, Felix P.	Judge, Branch 272, Regional Trial Court, Marikina City, Philippines

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Table *continued*

Participant	Designation, Agency
Rinzin, Pema	Justice, Bumthang Court, Bhutan
Sao, Kaay	Judge, Siem Reap Province Court, Supreme Court of Cambodia
Shrestha, Debendra Gopal	Chief Judge, Supreme Court of Nepal
Shrestha, Til Prasad	Judge, Court of Appeals of Hetaudu, Nepal
Sicangco, Maria Cecilia T.	Legal Research Associate, ADB
Sinkaseam, Angkana	Judge, Research Justice Division of the Supreme Court, Thailand
Sitompul, Syofyan	Justice, Supreme Court of Indonesia
Soekirno, Taufan Mandala	Chief Judge, Kraksaan District Court, Indonesia
Som, Mahyudin bin Mohmad	Research Officer to Justice Tan Sri Abdull Hamid Embong, Federal Court of Malaysia
Spitzkatz, Marc	Judge, Director, Rule of Law Programme Asia
Strang, Robert	Resident Legal Advisor, US Embassy, Philippines
Subroto, Agus	Appeal Judge, Jakarta Appeal Court, Indonesia
Tan-Francisco, Reynaline G.	Attorney, Office of the Chancellor, Philippine Judicial Academy
Than, Paw Khine	Director, Research Department, Office of the Supreme Court of the Union, Myanmar
Tumurbaatar, Usukhbayar	Judge, Capital City Appellate Court, Mongolia
Verano, Myrna V. Lim	Judge, Branch 160, Regional Trial Court of Pasig City, Philippines
Vivero, Kevin Narce B.	Judge, Branch 71, Regional Trial Court of Antipolo City, Philippines
Wangchuk, Tshering	Justice, Royal Court of Justice, Supreme Court of Bhutan
Xiaohan, Yu	Judge, No. 4, Civil Division, Supreme People's Court, PRC

Natural Capital and the Rule of Law

Proceedings of the ADB Second Asian Judges Symposium on Environment 2013

This publication captures the proceedings of the *Second Asian Judges Symposium: “Natural Capital and the Rule of Law”* held 3–5 December 2013 in Manila, the Philippines. Following the success of the First Asian Judges Symposium in 2010, senior judges, environment ministry officials, prosecutors, legal professionals, and civil society representatives considered the state of ecosystems and the benefits people obtain from ecosystems in the region, with focus on the concept of natural capital and the rule of law. Against this background, participants shared insights about law and its enforcement challenges, including the role of judges in adjudicating cases affecting natural capital. The symposium also launched the Asian Judges Network on Environment, a platform for Asian judiciaries to share developments regarding environmental issues across the region.

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