

Synthesis Report of the CES Regional Workshop 2024



Traversing Interconnected Local-to-Global Action Spheres to Advance the Post-2030 Agenda

LEVERAGING CO-BENEFITS OF CIRCULATING AND ECOLOGICAL SPHERE (CES) APPROACH TOWARDS THE INTEGRATION OF CLIMATE AND SUSTAINABLE DEVELOPMENT ACTIONS IN ASIAN CITY-REGIONS

ABOUT THIS PUBLICATION

The Institute for Global Environmental Strategies (IGES, Japan), in partnership with the START International, Asian Institute of Technology (AIT, Thailand), Visvesvaraya National Institute of Technology (VNIT, India) and Thammasat University (TU, Thailand) convened a learning and reflection workshop on climate and sustainable development actions in Asian city-regions (from 17-19 January 2024), to explore how the integrated policy approaches and actions (like Circulating and Ecological Sphere) can help address the challenge of localizing global goals. This publication synthesizes the key findings derived through this workshop, including the research, policy and action-based perspectives on net-zero and sustainable development actions.

ACKNOWLEDGEMENT

The report acknowledges the support received from the CES-Asia collaborative project of IGES and START International, and the IGES funded Strategic Research Fund (SRF) Project. Also, the support received from all the CES-Asia Consortium partners, namely VNIT; TU; AIT; University of Dhaka; The University of Danang – University of Science and Education; Royal Thimphu College; University of Indonesia; Ateneo de Manila University; Institute of Forestry, Tribhuvan University, is duly acknowledged.

ORGANIZING COMMITTEE:

Dr. Bijon Kumer Mitra	IGES
Dr. Vibhas Sukhwani	IGES
Dr. Jon Padgham	START International
Dr. Indrajit Pal	AIT
Dr. Sameer Deshkar	VNIT
Dr. Wijitbusaba Marome	TU
CONTRIBUTORS TO THE REPORT:	
Ms. Kullanan Sukwanchai	AIT
Ms. Sreejita Banerjee	AIT
Mr. Aditya Ganni	AIT
Ms. Ajeng T Widyastuti	AIT

April 2024



This work is licensed under a Creative Commons Attribution-Non Commercial-Share Alike 4.0 International License.

ISBN 978-4-88788-274-4

Disclaimer: This report is developed based on the discussions of CES Regional workshop 2024, held in Thailand from 17-19 January 2024. The report entails many photographs and illustrative pictures that were presented by the workshop participants.

CONTENTS

Section 1	Introduction	4
Section 2	Importance of CES initiatives in current scenario	8
Section 3	Overcoming the challenges towards a sustainable development pathway: Unlocking the potentials of Regional-CES approach	12
Section 4	Asia regional perspectives on integrated approaches	15
Section 5	Research Perspectives on Localized Climate Actions and Sustainable Development Actions	19
Section 6	Policy and Action-based Perspectives on Net-Zero and Sustainable Development Action	28
Section 7	Addressing the Localization Challenge: Group Exercise	31
Section 8	Action-based pathways for integrated realization of net-zero goals and sustainability transitions towards realizing CES in Asia: Group Exercise	35
Section 9	Understanding the potential stakeholder engagement challenges and actions towards implementation of integrated approaches: Roleplay Exercise	40
Section 10	Way Forward	47
Annexures		51

Section 1:



BACKGROUND AND RATIONALE

To cope with the intensifying pressures of urbanization, rural depopulation, climate change coupled with the new and emerging risks, there have been growing calls to maximize the vitality of city-regions through sustainable, equitable and efficient use of available resources. The ambitions of the Post-2030 agenda with its emphasis on localisation of the SDGs and net zero targets further necessitate a much more robust and bottom-up approach towards capacity strengthening to effectively mobilize and integrate new and existing knowledge on resource management and implementing actions for sustainability.

At this juncture, there is a growing recognition of integrated approaches (like circular economy, nature-based solutions, nature positive approach, water-energy-food nexus, urban-rural linkages) to address emerging challenges linked to social, economic and environmental sustainability. Correspondingly, the Circulating and Ecological Sphere ('CES') approach also emerges as a multiscale and multi-dimensional approach for localization of integrated climate and sustainable development actions, as it directs localities toward effectively utilizing the locally available resources to realize a self-reliant and decentralized society, while leveraging on its co-benefits for economic revitalization, localization of SDGs, and other important agendas.

Over the recent years, IGES and START International together with regional partners in South and Southeast Asia (the "CES-Asia consortium") have been actively working towards advancing research and capacity building to promote the utilisation of CES approach for enhancing localized actions towards SDGs and net zero transitions. In line with that, the regional workshop titled 'Leveraging co-benefits of Circulating and Ecological Sphere (CES) Approach towards the Integration of Climate and Sustainable Development Actions in Asian City-Regions' (first of the series) brought together diverse stakeholders to establish a colearning platform for the purpose of sharing knowledge and insights from CES partner cities as well as similar development-based efforts to promote localization of global goals in Asia, in due consideration of related barriers and enabling conditions to expand and consolidate the CES and related frameworks in the region. The derived outcomes of this workshop will provide a solid foundation for continuation of similar regional efforts across Asia.

OBJECTIVES OF THE CES REGIONAL WORKSHOP 2024

The overarching goal of the workshop was to explore the synergistic localization of SDGs and net zero targets through strengthening the learning and action network in Asia. The objectives to meet that goal include:

- 1) Sketching out the broader landscape of climate and sustainability paradigms (netzero, nature-based solutions, disaster risk reduction, SDGs, CES) and reflecting on their significance in context of Asia.
- 2) Sharing local experiences on net-zero transitions and SDGs actions in diverse Asiancity-region contexts.
- 3) Deliberating on the applicability of CES as an integrated approach for localization of global goals and co-designing action-based pathways for Asian city-regions, incorporating the prospects of innovative capacity development and meaningful stakeholder engagement.



SCOPE OF THE REPORT

Stimulating in-depth deliberations on climate and sustainability paradigms in context of Asia (including the CES approach), the sessions of the CES Regional workshop 2024 (full workshop programme shown in Annex I) were systematically designed to provide wideranging inputs toward co-development of regional action-based pathways for synergistic localization of SDG and net-zero actions. Correspondingly, the results derived through the workshop are precisely presented in this report along 10 key sections. Section 2 elaborates on the importance of CES initiatives in current scenario, while showcasing some abstracts from the Opening Session I of the workshop. In reference to the keynote presentation (Session II), Section 3 provides a comprehensive overview of current challenges towards a sustainable development pathway, and underlines the potential of Regional-CES approach in overcoming the same. Building on the panel discussion over Asia regional perspectives on integrated realization of climate and sustainable development actions (Session III), Section 4 of the report summarizes the perspectives of representatives from different levels of governance and sectors, including international development partner, national government, local government, academia and research. Section 5 of the report summarizes the case-specific research works from different countries in Asia, as presented in Session IV and Session VI. Building on Session VII of the workshop, Section 6 of the report presents the policy and action-based Perspectives on net-zero and sustainable development actions. Section 7 of the report summarizes all the key group discussions held as part of Session V on addressing the localization challenge.

Section 8 of the report underlines the key action-based pathways for integrated realization of net-zero goals and sustainability transitions, as identified by the workshop participants in workshop Session VIII's group exercise. Building on the roleplay discussions of Session X, Section 9 of the report underlines potential stakeholder engagement challenges and actions towards implementation of integrated approaches. Towards the end, Section 10 of the report highlights the key messages through the workshop and way forward.

Section 2:

IMPORTANCE OF CIRCULATING AND ECOLOGICAL SPHERE INITIATIVES IN CURRENT SCENARIO



ABOUT THE CES APPROACH

The notion of CES provides a framework/new paradigm in sustainable development that aims to maximize the vitality of all regions through sustainable, equitable and efficient use of resources of mountainous, agricultural and fishing villages as well as cities in an integrated manner. Emerged through deliberations on the 5th Basic Environment Plan of Japan, the notion of CES invites regions and localities to rediscover their untapped potential to create decarbonised, self-reliant and decentralised society by encouraging stronger urban-rural connectivity. Subject to the territorial and scalar dimensions of resource circulation, the creation of CES complements and supports regional resources by building broader networks, composed of natural connections (connections among forests, the countryside, rivers and the sea) and economic connections (composed of human resources, funds and others).

"CES is an integrated policy approach to stimulate a self-reliant, decentralized and sustainable society, by capitalizing on the unique characteristics of urban-rural linkages within a defined regional space, to simultaneously achieve decarbonization, optimal resource circulation, harmony with nature and economic revitalization."



ABOUT CES-ASIA CONSORTIUM

The Institute for Global Environmental Strategies (IGES), START International, Inc. together with several leading academic and research institutes in South and Southeast Asia, signed an agreement (on 14 October 2021) to establish a consortium for advancing the Circulating and Ecological Sphere (CES) concept, with the aim of building resilience in city-regions across South and Southeast Asia. Joining the consortium are Visvesvaraya National Institute of Technology (India), Faculty of Architecture and Planning, Thammasat University (Thailand), University of Dhaka (Bangladesh), University of Da Nang – University of Science and Education (Viet Nam), Royal Thimphu College (Bhutan), University of Indonesia (Indonesia), Ateneo de Manila University (the Philippines) and Institute of Forestry of Tribhuvan University (Nepal). Recently, during the CES Regional workshop 2024, the Asian Institute of Technology also formally became a part of CES-Asia Consortium. Over the years, the CES-Asia consortium has been jointly working towards advance research and capacity building that strengthens understanding and promotes utilization of the CES concept, in order to address sustainability challenges in South and Southeast Asia.





ESSENCE OF CES IN CURRENT SCENARIO

Human societies are today facing diversified challenges including intensifying climate change effects, more frequent disaster events around the world, slower pace in social progress, and environmental degradation. Adoption of global agendas like the Sustainable Development Goals (SDGs), the Paris Agreement on climate change and the Nature positive Initiative are key steps to address these challenges. In order to achieve the globally agreed goals and targets, localized actions are imperative for impact generation, and Circulating and Ecological Sphere is one of the means of implementation. The CES concept was framed based on integration of concepts of decarbonized, resource circulating society in harmony with nature. The CES concept emphasizes the bridging of urban-rural systems in order to redesign the development pathways that contribute to the shared concerns. Fostering urban-rural partnerships, the CES approach directs localities toward effectively using the locally available natural capital, which can generate multiple co-benefits like revitalizing the local economy, create new jobs and business opportunities, while contributing towards localization of SDGs, decarbonization, achievement of net-zero commitments and other important agendas.

Urban and rural areas are strongly interconnected through flows of food, remittances, raw materials, finished products, labor, etc. However, the urban-rural linkages are often underestimated due to low awareness of its real value and also governance difficulties. Bringing the urban-rural linkage to the surface has become the need of the hour, and therefore it is important to encourage efforts by national and local governments, private sectors and other stakeholders to create enabling environment to implement the CES concept and explore win-win solutions for economic revitalization, environmental conservation and resilient society.

In that regard, the core purpose of the regional workshop was to bring together the key players and stakeholders in exploring how the CES approach can be harnessed to realize decarbonized society and the achievement of sustainable development goals. It has been emphasized that through adopting a bottom-up approach, collaborative efforts (with partnership among researchers, stakeholders and like-minded organizations) need to be made towards localizing SDGs for a more interconnected and sustainable future. While the ongoing activities of CES-Asia consortium in South and Southeast Asia have provided robust foundation of the CES actions effort, there is a diversity of challenges and opportunities inherent in the Asian region, and capacity development will play a crucial role to empower local governments and stakeholders in adapting to new and emerging risks, while working towards integrated realization of net-zero goals and sustainability transitions with a clear timeline till and beyond 2030.

11

Section 3:

OVERCOMING THE CHALLENGES TOWARDS A SUSTAINABLE DEVELOPMENT PATHWAY:

Unlocking the Potentials of Regional-CES Approach





The Asian developing countries are today confronted with several pressing challenges, including population growth, urbanization, and imperative transition from fossil fuels to renewable energy sources for mitigating climate change. Given the high production of plastics in Asia and the Pacific, there is particularly a critical need for a new treaty on plastic waste management. The recent earthquake in Noto Peninsula, Ishikawa Prefecture also uncovered several vulnerabilities, in regards to disaster response and recovery. Besides, to address the range of other challenges including deforestation, water security, and emerging risks like the case of COVID-19, there is a genuine essence of scientific contributions to enhance our understanding of risks and determine integrated response strategies.



A number of international agreements related to sustainability and climate change are already in place, such as the 2030 Agenda and Sustainable Development Goals (SDGs), the Paris Agreement, the Kunming-Montreal Global Biodiversity Framework, but there is a need to mainstream integrated actions towards new sustainable, resilient and net zero society. Adopted in 2015, the 2030 Agenda provides a shared blueprint for sustainable development. However, at the midpoint stage of 2023, almost half of set targets show moderate or severe deviations from desired trajectory.



The Asia Pacific region, in particular, is not on track to achieve any of the 17 SDGs by 2030. Likewise, despite the set goals and widespread actions, global emissions continue to rise and are at an all-time high. The positive outcomes from COP 28, where agreements were made to triple renewable energy and double energy efficiency, indeed showcases policy level advancements, but there is a need to downscale these initiatives to local level. To address rapid urbanization and resource-intensive lifestyles, the approach of 1.5° lifestyles also presents high potential in transforming food habits, travel, movement, and housing.

In the backdrop of rapid urbanization and industrialization, it is explicit that cities are on the front line for achieving global and national goals. However, cities alone will not be able to achieve ambitious goals and targets as cities heavily depends on natural resources and services from outside of their administrative boundary. The significance of urban-rural linkages in that regard is increasingly been realized as an optimal pathway for localization of global goals, as the urban-rural partnerships can maximise synergies through integrated and collective actions. Through integration of environmental, economic and social dimensions, the concept of Regional-CES also presents integrated response to local issues like declining and ageing population, local revitalization.



In due consideration of the multi-faceted challenges faced by the human societies and the range of policy focus areas, the Post 2030 Development agenda needs to essentially bridge the local to global feedback loops, and CES provides a means of synergistic localization of global goals. Needs-based assessment, co-design and co-development of feasible solutions, and cross-learning are some of the key factors to enable integrated climate and sustainable development actions.

Section 4:

ASIA REGIONAL PERSPECTIVES ON INTEGRATED APPROACHES

This section showcases diverse perspectives of stakeholders from different sectors (including international organization, national government, local government, academic and research expert) on how Asian countries should adopt and prioritize the integrated approach.



INTERNATIONAL ORGANIZATION PERSPECTIVE

Need of Integrated Approach

There is a pressing concern of climate-induced migration and its potential impacts on achieving SDGs before 2030 and sustainable development thereafter. Focusing on climateinduced migration, which encompasses both voluntary migration due to climate change impacts and displacements, there are significant challenges faced in the Asia Pacific region, particularly with sudden onset disasters leading to massive internal displacements. To highlight a statistic, around 225 million internal displacements were recorded in the past decade, which emphasizes the urgency of addressing the issue. The projections of future climate-induced displacement linked to slow-onset hazards, such as drought and sea level rise, further pose additional challenges. In terms of solutions, there is a genuine need for an integrated approach, incorporating nature-based solutions, ecosystem-based adaptation, circular economy principles, and other measures to address both short-term and long-term aspects of climate-induced displacement. Recognizing the complexity of the phenomenon, there is a need to acknowledge high adaptive capacity among populations, and accordingly identifying nuanced and sustainable solutions. The ultimate goal should be to minimize displacement, support those already on the move, and ensure that integration is sustainable and resilient.

Application Prospects of Integrated Approach through International Cooperation

It is extremely important to quantify the risks and improve future projections regarding climate-induced displacements. This information can effectively serve development partners, governments, and others in their efforts to help populations adapt to climate change. Also, there is a need for planned relocation to support those facing substantial hazards. In that direction, focus should extend beyond those moving, emphasizing the importance of allowing people to stay safely. Considering the vulnerability of different geographic areas, especially in regards to rural-to-urban migration, and the success of integrated approaches, including nature-based solutions, in addressing these challenges relies on considering the entirety of ecosystems.

NATIONAL GOVERNMENT PERSPECTIVE

Need of Integrated Approach

Integrated approaches are crucial to achieve the SDGs within the limited timeframe of six years. Acknowledging challenges in meeting certain targets, focus should be on fostering collaboration among ministries and stakeholders. Despite receiving support from various



development partners, at many instances, these efforts lack integration due to different agendas and missions. A practical example and initiative from Cambodia is to enhance transparency and accountability by involving NGOs and donors in government-led meetings. Such initiatives would effectively align the activities and funding sources to ensure they contribute effectively to any country's environmental improvement. This integrated approach aims to prevent overlaps and enhance the impact of initiatives, by enhancing coordination and collaboration to optimize efforts toward common goals.

Key challenges that hinder the integration of multi-sectoral policies

One of the key challenges is ministry-specific focuses, as each department prioritizes its own mission, which results in a lack of integration. The structure of government ministries, such as environment, public works, energy, and women's affairs, contributes to a fragmented approach. To address this, it is important for the ministries to align with global targets like SDGs, fostering integrated approaches and strategies. However, resource constraints, particularly budget, and human resources, impact the extent of integration within ministries.

LOCAL GOVERNMENT PERSPECTIVE

Need of Integrated Approach

Asian countries are faced with diverse challenges. At local level, there are a plethora of blockades, that constrain initiatives towards climate action strategy. Still, with due commitment to localizing climate actions, effective strategies could be devised to overcome challenges in both energy generation and household emissions. For instance, addressing the urban setting's limitations, Yokohama is fostering Urban-Rural Linkages for Renewable Energy by collaborating with 16 rural municipalities, aiming to support around 10% of city's energy consumption. Additionally, recognizing stable household emissions as a hurdle to achieving Net Zero, Yokohama employs an approach, focusing on demand-side measures. This involves promoting attractive, low-carbon footprint lifestyles and emphasizing walkable, livable environments.

City-level Strategies for Applying Integrated Approaches

Integrated approach is increasingly vital to address local issues alongside climate action. Indeed, there are challenges in finding effective solutions but there is a need for attention to various concerns, including aging society, transportation, health, and the economy. The significance of addressing climate action could be made more attractive by linking it to broader issues like food and energy security. Also, there is a need to acknowledge the crucial role of education in ensuring a comprehensive understanding of climate-related concepts and the SDGs.

ACADEMIC AND RESEARCH PERSPECTIVE

Need of Integrated Approach

Learning from the past efforts in field of climate change adaptation, mitigation and sustainable development, there is a need to educate, conduct research, and disseminate knowledge across various stakeholders, from policymakers to local communities. It has been realized that collaboration is difficult to achieve, with historical emphasis on engagement with governments over businesses and non-government entities. In the aspects of higher education institutes, resource struggles, publication challenges, and pursuit of specific achievements like rankings further pose significant challenges. Reflecting on the need for localizing the global goals, the focus needs to be on changing historical lifestyles and addressing key issues such as emissions, inequality, and other global concerns. This approach can involve planting seeds of learning in higher education and prioritizing collaboration with businesses, non-profit organizations, and marginalized communities, historically the most affected by climate change, particularly in terms of displacement.

Bridging the Science-Policy-Society Interface

A significant challenge is to uphold the reliability of scientific information amidst political influences and methodological constraints, as it can affect the confidence of scientific audiences and policymakers. Closing this gap necessitates rendering scientific language more accessible to the general public, breaking free from conventional academic confines. Additionally, the challenge encompasses the operationalization of scientific findings for practical application, underscoring the importance of clear and understandable communication tailored to policymakers and the broader audience.

Section 5:

RESEARCH PERSPECTIVES ON LOCALIZED CLIMATE ACTIONS AND SUSTAINABLE DEVELOPMENT ACTIONS

This section showcases eight specific cases from across different parts of Asia, wherein CES-based research is being implemented by CES-Asia consortium partners.



CASE OF THAILAND

by Dr. Wijitbusaba Marome, Thammasat University (Thailand)

Overview: This presentation focused on fostering climate-resilient cities by translating academic knowledge into actionable urban planning strategies. Emphasizing inequalities and governance challenges, the presentation emphasized on efficient resource utilization through dynamic policies at various levels. The introduction of resilient spatial planning targets, climate-sensitive and sustainable development, addressing public services like land use, water supply, and wastewater management under three adaptive measures. The rationale includes providing a comprehensive spatial policy direction, considering future climate change risks, uncertainties in development, and demands for environmental conservation and livelihood development. In the context of Thailand, the dual policies of building smarter cities aligned with SDGs and managing climate change risks pose challenges. To overcome this, the integration of a national adaptation plan transforms challenges into growth opportunities, extending beyond the core city to address future risks in surrounding areas. Utilizing spatial planning, adaptable land use, and dynamic policy adjustments, the framework aims for resilient plans that balance control, prevent unorganized growth, and support local livelihoods. This research underscores the importance of comprehensive planning measures for creating climate-resilient cities and sustainable development, emphasizing a resource-based approach for urban and rural linkages, spatial and land use planning to set forward policy, and enabling actions. Importantly, stakeholder engagement is key to enabling actions and investment.



CASE OF VIETNAM

by Dr. Thi Kinh Kieu, The University of Danang University of Science and Education



Overview: This presentation emphasized the need for concrete models of sustained activity in addressing climate change, pointing out the slow response compared to pandemic situations. Focusing on the case of Hoi An City in Vietnam, the presentation introduced the concept of Agroecology, refereeing to the experiences from Japan. Hoi An, a UNESCO World Cultural Heritage site, is aligned with the environmental city policy. Discussing the application of agroecology principles, the presentation explains that it involves completely replacing chemical fertilizers with natural alternatives and pesticides with biological options. The Hoi An city has transformed its farming practices, replacing intensive farming with rotational methods and concrete walls with natural constructions like Napier grass. The prices of local products have tripled, certified with a participatory quality system. The lessons learned highlighted the crucial commitment of local authorities to preserve agricultural lands and regulate land use. The interdisciplinary solution and participatory approach involving farmers' indigenous knowledge has proved effective. The city's sustainability leadership, coupled with strong partnerships and internal support, facilitated the success of agroecological practices in Hoi An, turning farms into tourist destinations and promoting education and collaboration among students and farmers alike.



CASE OF INDIA by Dr. Sameer Deshkar, VNIT Nagpur (India)



Overview: Discussing the challenges within the Nagpur Metropolitan Region of India, the presentation highlights the concerns of addressing the food-energy-water nexus, resource security, and the essence of an integrated approach towards decarbonization and net zero transitions. Highlighting the potential of agrivoltaics in tackling both food and energy issues within limited land parcels, emphasis has been laid on achieving regional energy security. The presentation discussed the potential conversion of agricultural lands into dual-use agricultural and solar farms to meet urban and rural energy demands, while also highlighting the possible consequences of land-use changes, loss of agricultural productivity, escalating temperatures, asymmetric rainfall distribution leading to agricultural challenges and disasters, and the shift in population dynamics from rural to urban areas. Exploring the feasibility of integrating agriculture and energy production, the presentation also underlines the need to consider existing policy provisions, bye-laws, land use, and incentivizing programs. Evaluations factored in solar radiation, topography, population dynamics, and demand-supply gaps can help identify rural areas where a solar-agriculture model could be profitable. This approach seeks to balance energy needs while safeguarding agricultural resources.



CASE OF BHUTAN

by Dr. Leishipem Khamrang, Royal Thimphu College (Bhutan)



Overview: Focusing on the case of Punakha (Bhutan), the presentation discussed the challenges and opportunities in implementing Climate-Smart Agriculture (CSA). The agricultural sector is crucial for the country's economy but faces several issues including limited arable land (just 3% of the total area), urbanization, traditional farming reliance, and a labor shortage due to large-scale migration. Besides, the increasing rural-urban migration also leads to increased fallow land and wildlife damage. Despite these challenges, Punakha stands out as a progressive district accounting for 16% of the total paddy production in Bhutan. The district also ranks second in cereal production, which highlights its agricultural potential and significance. The adoption of CSA methods, encompassing seed-saving, crop rotation, intercropping, and green livestock farming, shows great promise in enhancing food production and security through integrated agriculture. Still, challenges such as limited scalability, topographical constraints, awareness gaps, and the absence of robust support systems continue to persist. Emphasizing the crucial role of international organizations in terms of collaboration to provide training and support for CSA, the presentation concluded by underlining the need for financial and idealistic support to further advance the CSA practices in Bhutan.



CASE OF PHILIPPINES

by Dr. Emma E. Porio, Ateneo de Manila University (Philippines)



Overview: The presentation, at first, showcased the rapid growth challenges faced by the Philippines in Metro Manila and Calabarzon, including population strain, extreme weather events, and threats to food, energy, water, and communication security. Notably, the flood prevention measures like climate-responsive river walls, intended to address floods, have inadvertently led to a reduction in food security along riverine communities, which underscores the need for integrating the CES concept, which is a valuable solution involving local resource mobilization, intersectionality, and transdisciplinary approaches. Collaborative efforts led by DENR and CCARPH-NRC are underway to update the city's climate resilience plans. Science-based innovations are being implemented in the Upper Marikina Watershed, focusing on improving community resilience, alleviating poverty, creating jobs, promoting a green economy, and enhancing adaptive resilience in risk governance systems. CCARPH-NRC's initiatives for community resilience leverage publicprivate-people partnerships to develop science-based, risk-informed, and inclusive tools. Collaboration with Manila local governments involve updating local climate change adaptation plans, adopting risk-informed, resilience-driven frameworks across local governments, and integrating SDGs into the resilience agenda. Towards the end, the underscored the Philippine government's commitment towards presentation mainstreaming SDGs into development plans, promoting future resilience and sustainability.



CASE OF INDONESIA

by Dr. Hendricus Andy Simarmata, University of Indonesia



Overview: With only five years remaining to achieve the SDGs, the current progress is fairly behind. The presentation addressed the crucial role of researchers in bridging this gap. In the context of Indonesia, the challenges include high energy consumption, costly mobility, and environmental risks due to rapid urbanization, prompting the need for investigations to determine future interactions and adoptions. Urbanization continues to exert high pressure on paddy fields, posing a threat to food security. The uncontrolled housing supply, falling below standards, further add to the complexities. To understand these wide-ranging issues, a mini-survey was implemented in Depok City, one of the secondary cities within the Jabodetabek Metropolitan Area, supported by IGES and START. Despite its ecological function as a catchment area in the midstream Ciliwung River Basin, it is observed that Depok is faced with decreasing water catchment areas due to land conversion. Identified issues encompassed flood, water and air pollution, and less green areas, compounded by infrastructure complexities and socio-economic inequality resulting from the lack of planning synchronization between neighboring cities in the Jabodetabek Metropolitan Area. Therefore, collaborative discussions with the government, private sectors, researchers, and professionals, especially young generations have led to three prioritized focuses on emphasizing urban-rural linkage in national policies, reshaping spatial planning for sustainable connections between urban and rural areas, and empowering digital infrastructure as a solution for rural farmers to access global markets, including the recruitment of millennial farmers.



Figure. The expanded rapid urbanization of Megapolitan Jakarta (Source: NUA and Urban+, 2019)

CASE OF NEPAL

by Dr. Sony Baral, Institute of Forestry, Tribhuvan University (Nepal)



Overview: The presentation underlines the challenges faced by common property resources in Nepal, emphasizing the impact of economic shifts and rural-to-urban migration. Referring to a study, covering 12 settlements in Pokhara Metropolitan City, the presentation revealed that critical issues such as sedimentation are affecting fishing due to unsustainable land use practices and unregulated road construction. The lake ecosystem faces accelerated eutrophication, primarily due to heavy chemical fertilizer use in paddy cultivation and an influx of aquatic weeds. As a strategy to address these issues, a Payment for Ecosystem Services (PES) mechanism has fostered collaboration between upstream and downstream users. Downstream beneficiaries gained income from fishing and tourism, while upstream contributors received support for afforestation projects and scholarships for students. However, a crucial finding emerged: the benefits-sharing framework inadequately correlated with sustaining ecosystem services. The study further examined the dynamics between rural and urban areas, highlighting the limited resource flow and a lack of awareness regarding their interdependence. Rural households, mainly engaged in subsistence production, struggled to transition to market-oriented activities, resulting in underutilized land. Conversely, urban consumers preferred market products due to the high prices of local goods, limited production, and evolving food preferences. Identifying a significant gap in the food supply chain, the presentation emphasized the need for a holistic and collaborative approach. Herein, CES is highlighted as a potential solution to bridge the rural-urban divide. The call for future collaboration should focus on action research to strengthen partnerships, enhance rural-urban linkages, and refine benefit-sharing mechanisms for a more sustainable ecosystem.



CASE OF BANGLADESH

by Dr. Md. Humayun Kabir, University of Dhaka (Bangladesh)



Overview: The presentation highlighted the electrical power state in Bangladesh, emphasizing the challenges posed by demand growth due to urbanization and a substantial gap in energy generation capacity, as compared to peak demands. Notably, the heavy reliance on fossil fuel-based irrigation, primarily diesel, in the agriculture sector, is identified as a significant concern, emitting nearly 0.07 million tons of CO2. In response to these challenges, a Solar PV-based irrigation initiative in the Rangpur-Dinajpur region, supported by IDCOL, is introduced. This initiative aims to provide sustainable electricity for irrigation while creating employment opportunities. Beyond irrigation, the solar system also facilitates water purification, and cold storage for mushroom cultivation, and powers machinery for brick-making and crop processing. Key benefits include a reduction in diesel use for irrigation, clean energy generation, and enhancing food security. Additionally, Solar PV-based irrigation contributes to climate change mitigation, aligning with the national targets for carbon emission reduction. Despite its successes, the presentation acknowledged challenges and limitations, including the initial investment required from farmers, the need to phase out diesel pumps, and the necessity for farmers to embrace changes in traditional irrigation systems. In conclusion, Solar PV-based irrigation, exemplified by the Solar Gaon project, have emerged as a sustainable solution for agriculture in Bangladesh. It offers diverse benefits to local communities, ensuring food security, contributing to SDGs, and substantially mitigating carbon emissions.



Section 6:

POLICY AND ACTION-BASED PERSPECTIVES ON NET-ZERO AND SUSTAINABLE DEVELOPMENT ACTION

This section showcases two specific cases from Japan and Thailand, wherein the local level policy actions towards net-zero and sustainable development are discussed.



CASE OF JAPAN

by Dr. Kazuaki Takahashi, Executive Director, Planning and Coordination Department, Climate Change Policy Headquarters, Yokohama City



Overview: There are certain distinctions in the functioning of national and local governments. At the national level, the ministries operate independently, each focusing on specific missions such as achieving Net Zero while contending with other ministries. In contrast, the local governments, led by a Mayor and Congress, require closer collaboration among departments to fulfill requests. Regarding Japan's climate change policy, the previous Minister of the Environment, Mr. Koizumi (2019-21), initiated policies urging the Mayors to declare Net Zero by 2050. This aligns with the Prime Minister's November 2020 declaration. In Japan, the National and Regional Decarbonization Realization Committee facilitates collaboration toward the Net Zero goal, with Decarbonization Leading Areas serving as models. In that direction, the key challenges include energy transition under urban conditions and a demand-side approach for sustainable consumption, integrating an appealing lifestyle. For instance, the Yokohama City's renewable energy generation potential is limited to 10%, which necessitates the need for security external supply. The ongoing collaborative efforts involve agreements on renewable energy, regional revitalization funds, and inter-regional cooperation initiatives. The demand-side approach addresses household consumption's carbon footprint, emphasizing an integrated, attractive lifestyle considering ageing populations, food and resource security, flexible workstyles. Other proposed solutions include local production and consumption, and community exchanges fostering a walkable, livable, or human-centric society.



CASE OF THAILAND

by Mr. Annop Wangsanuwat, Udon Thani Municipality

Overview: The presentation highlighted the inception of a community waste management system as a response to escalating waste due to urban development, unstandardized organic waste disposal, high management costs, unsustainable landfill-based disposal, and national policy challenges. The project, employing an MSW (Municipal Solid Waste) processor with an MBT (mechanical biological treatment) system, encompasses six sections: Sorting Plant, Pyrolysis Plant, Power Plant, Control Room, Water and Pump House, and Waste Water Treatment Plant. The initial process involves sorting through various machines, with biodegradable and plastic wastes transformed into RDF (Refuse-Derived Fuel) and organic waste processed into community fertilizer. This initiative led to the Thailand Voluntary Emission Reduction Project, enhancing the community's organic waste management system for systematic and circular practices. Remaining organic waste goes to burial pits, organic waste becomes soil amendment, and plastic waste is converted to refuse-derived fuel, resulting in a reduction of over 48,000 tons per year, equivalent to 338,296 tons over the 7-year project timeframe.



Section 7:

ADDRESSING THE LOCALIZATION CHALLENGE: GROUP EXERCISE

This section summarizes the discussions generated through a group exercise, wherein all workshop participants were categorized into three groups.



Discussion Point 1: What are key multi-scalar impediments that need to be addressed in order to advance localization of global goals?

Group 1: At first, it is important to understand the term 'localization', alongside its link and differences with the notion of contextualization. Four pivotal pillars—political, economic, administrative, and societal—are critical parameters for localization of global goals. Local actions, aligned with these pillars, should be harmonized with the administrative arrangements, policy frameworks, and economic principles, through which it can gain wider acceptance from the local community. Further, the definition of "local" individuals has led to a consensus that all the stakeholders—those affected or involved in decision-making—could be considered local. Acknowledging the current challenges, including the need for actions tailored to diverse territories and the importance of involving local people for sustainability, it is important to recognize the complexities of governance and addressing cross-sectoral actions.

Group 2: To advance the localization of global goals, various multi-scalar impediments must be addressed. One pivotal challenge lies in shifting the existing paradigm from a top-down approach to a bottom-up one, emphasizing the importance of decentralized policies and administration processes. A critical aspect is the need for improved coordination and integration among diverse agencies and stakeholders to ensure a unified and effective approach. The lack of empowerment among local institutions and stakeholders poses another hurdle, which requires due attention. Additionally, there is a pressing need for realistic and incentive-based policies that foster local commitment. Overcoming these challenges also necessitates addressing the shortcomings in disseminating information effectively. The lack of gender-inclusive policies further compounds these issues. Ultimately, governance plays a central role, with transparency and accountability being crucial elements that demand enhancement to navigate these impediments successfully.

Group 3: A range of multi-scale impediments constrain the localization of global goals. One primary challenge centers on lack of regulatory frameworks to effectively utilize national and international financial and technological resources. Knowledge-related constraints, including insufficient knowledge sharing and a scarcity of local experts coupled with planning limitations, are other key hindrances. Also, there is a core need for improving horizontal coordination and addressing intention constraints to foster successful localization efforts. Issues such as the absence of local action-based planning and local experts, along with legal and regulatory barriers like conflicting regulations, also pose significant obstacles. More so, it is important to consider local feedback within the social-

ecological system and recognize the challenges related to political will and governance structures. Lastly, there is a lack of long-term planning, which necessitates sustained efforts in aligning global goals with localized strategies.



Discussion Point 2: What is needed to motivate and enable

localization?

Group 1: To enable localization, it is essential to consider motivating both individuals and governments. Mainstreaming people-centric solutions is vital, to achieve which we must lay emphasis on co-generation of knowledge, co-ownership, and co-benefit. Education, awareness, incentivization, and recognition are other key motivators for consideration, though it important to remain cautious about the potential drawbacks of certain incentives. Finally, there is a need for investing in resilience innovation as a crucial strategy for localization of global goals.

Group 2: Motivating and enabling localization necessitates a multifaceted approach. There should be a global-to-national imposition of special requirements, emphasizing a participatory and inclusive approach. At the national level, decision-making processes need to be participatory, ensuring representation from diverse stakeholders. Empowering local institutions and stakeholders is crucial, involving the enhancement of technical know-how. Coordination and linkage among agencies at different levels must be both ensured and strengthened to facilitate a synchronized approach. Development initiatives should be rooted in local contexts and guided by thorough need assessments. Promoting diverse

income-generating activities among locals fosters economic sustainability. Mainstreaming gender issues into the development process is imperative, as is ensuring local access to information. Special attention must be directed towards disadvantaged populations, with a broader focus on reducing inequalities to create an environment conducive to successful localization efforts.

Group 3: It is important to adopt a multifaceted approach for motivating and enabling localization. Due importance should be given to rewards and incentives to motivate local communities, along with conducting long-term capacity-building awareness programs to empower them. The idea of decentralizing power at different levels was should be considered as a means to enhance local participation. Cultural events can serve as a tool to promote social engagement and strengthen community bonds. Schemes to encourage local trade and exchange, along with pictographic representation of policies and planning, can contribute towards effective communication. Mapping local resources, providing recognition, and establishing a multi-level grievances forum to address concerns comprehensively can also play a significant role. Improved regulations are recommended to ensure both government and international support, and accountability of governance is identified as a key element in the process of localization.



Motivational Factors

Section 8:

ACTION-BASED PATHWAYS FOR INTEGRATED REALIZATION OF NET-ZERO GOALS AND SUSTAINABILITY TRANSITIONS TOWARDS REALIZING CES IN ASIA: GROUP EXERCISE

This section summarizes discussions that were generated through a follow-up group exercise with workshop participants, categorized into two groups.





Two key questions were put forward for the group exercise, along with a guideline suggestion:

- 1. What kind of actions need to be taken at different levels of governance in Asia (regional, national, local) to stimulate localization of integrated approaches like CES?
- 2. Considering Post-2030 SDGs and climate actions, what kind of partnership avenues could be explored at local and regional level? What co-benefits can different stakeholders (like governments, researchers, development partners, private sector) derive through engaging in such endeavors?

****** Suggested Guideline: Along the identified motivational factors, please select 2-3 relevant factors, for further co-development of actions (4-5), which can be further taken up as an implementable project. Based on the defined actions, kindly map the key stakeholders for each of the actions, and their expected roles and responsibility.

OVERVIEW OF GROUP 1'S DISCUSSION

To stimulate the localization of integrated approaches like CES across different governance levels in Asia, two key motivational factors are identified namely mainstreaming local action-based planning and enhancing transparency in decision-making. Along these factors, at the national level, it will be important to prioritize climate change adaptation and netzero plans, incorporating them into executive-legislative agendas, allocating budgetary provisions, and promoting local climate or environment stewardship agreements. Additionally, climate change adaptation should be fostered as a shared vision in alignment with the livelihood aspects and legal frameworks. Transdisciplinary actions, such as developing a multi-sectoral platform for knowledge sharing and feedback during implementation, can also create enabling conditions. At the local level, promoting collaboration between formal and informal working groups, mobilizing resources, and establishing ad-hoc resilience councils are key strategies to drive the localization of integrated approaches. These actions collectively aim to align policies, engage communities, and ensure a comprehensive, effective implementation across regional, national, and local governance levels.

In terms of partnership avenues and co-benefits among different stakeholders, a partnership framework has been developed emphasizing contributions to the 17 SDGs, outlining benefits from diverse collaborations involving government, the private sector, communities, and researchers. As one of the actionable projects towards integrated climate and sustainable development actions, we can work towards integrating



Agroecology approach in Asian countries, emphasizing key steps like contextualization, needs assessment, co-design, and co-proposal, along with the crucial implementation of capacity building, establishment of a co-working platform, technical enhancement, project replication, and KPI establishment. For ensuring a comprehensive and inclusive approach to sustainable agricultural practices within the broader CES framework, active stakeholder participation is crucial. Accordingly, the roles and responsibilities of different stakeholders needs to be mapped and clearly defined. Lastly, for effectively connecting stakeholders and translating research into action, contextualization and expression of diverse perspectives is the key.

OVERVIEW OF GROUP 2'S DISCUSSION

Three key motivational factors are adopted to codesign and co-develop actionable pathways, namely, mainstreaming local action-based planning (multi-stakeholder collaboration, local resource mapping, and community engagement), Making people part of the solutions (through provision of rewards and incentivize, through enabling pictographical representation of plans), Co-generating knowledge, co-ownership, co-stewardship (through enhancing technical know-how and capacity building programs). Along these, several different actions have been identified at local (like institutionalizing a social listening system, capitalizing the local wisdom, awareness building), national (like advising and acknowledging the local-level governance, replication of best practices, enabling decentralization) and regional level (like congregating different sector-specific stakeholder and government, development of regional understanding guidelines).

Considering Post-2030 SDGs and climate, different partnership avenues could be explored, along urban planning, local-based strategies, and eco-friendly practices. Positive subsidies aimed at long-term benefits and community monitoring will be vital for transparency. Public-private partnerships need to align with local interests, and capitalizing on local wisdom will be crucial for sustainable development. With the approach of decentralization, leveraging modern technology for community expression, and fostering collaboration through a regional forum. Envisioning co-benefits for stakeholders and progress toward 2030 SDGs, our strategy emphasizes inclusive involvement of government, the private sector, researchers, development partners, and local communities. The different benefits that each of the stakeholder can derive through implementation of integrated approach is highlighted in below figure.

Governments	Researchers	Private Sectors	Development Partners	Local Communities
Environmental Stewardship	Knowledge Generation	Diversifying livelihood options	A good case of sustainable practices	Improved Livelihoods
Investment on green infrastructure	Gap Analysis and innovation	Investment, employment and market opportunities	Proper guidelines to government	Encouraging clean air and water, and protect natural habitats.
Cost effective policy implementation	Technical know- how and capacity building	CSR	Bridging local-to- regional-to-global feedback loops	Community empowerment
Devising of micro- finance strategy with local people		Capitalizing the local resources and human resources	Better understanding for diverting funds in specific sectors	
Developing specific regulations for private sector involvement		Business opportunity and plan	Promote agri- based economy acknowledging socio-ecological systems	

Local-level Actions to Stimulate Localization of Integrated Approaches

- Social listening system
- Local based planning and community engagement
 - > Integrate CES approach into local urban planning
- Awareness and local capacity building
- Technology adoption and innovation
- Positive subsidies
- Ensuring the full utilization of financial resources
- Monitoring and evaluation (community head)
- Foster Public-Private partnership
- Capitalising the local wisdom
- Eco-friendly practices and green infrastructure development

National-level Actions to Stimulate Localization of Integrated Approaches

- Advising and acknowledging the local-level governance
- Transferring of the mandate
- Tools and mechanisms to address the localized problem
- Potential Financial Mechanism
- Replication of Best Practices
- National has a supervisory to role down global agenda and planning into resultoriented action while addressing the local level problem
- Address input from grassroots-level, while making adaptive and participatory decision making

Regional-level Actions to Stimulate Localization of Integrated Approaches

- Establish regional forums for collaboration
- Congregate different sector-specific stakeholder and government.
- Development of regional understanding guidelines
- knowledge transfers and technical assistance
- Joint Research and Knowledge sharing
- Discussion and taking feedback from different sector

Section 9:

UNDERSTANDING THE POTENTIAL STAKEHOLDER ENGAGEMENT CHALLENGES AND ACTIONS TOWARDS IMPLEMENTATION OF INTEGRATED APPROACHES: ROLE-PLAY EXERCISE

To understand potential stakeholder engagement challenges and actions towards implementation of integrated approaches, specific participants are asked to play roles of different stakeholders under two defined scenarios.





Scenario 1: Top-down Approach towards implementation of integrated approaches for location of national policies: The Prime Minister of ABC country has just announced their commitment to become net-zero by 2050. What would be the key actions to be taken by key stakeholders / line stakeholders?

National Government

A resolute commitment is vital to work towards environmental conservation and the imperative of a net-zero transition for the well-being of current and future generations. The priorities include, urging careful and conscious utilization of natural resources by local governments, officials, community organizations, civil society, and the private sector. This commitment needs to be reinforced by a focus on circular economy perspectives, emphasizing sustainable and efficient resource management. To achieve these visions, it is important to have decentralization, devolution, and localization of environmental policies. Diverse stakeholders need to be engaged and strategies need to be tailored to specific contexts, ensuring effective implementation at the local level. Overall, a conscientious and localized approach to resource use while fostering collaboration across various sectors and governance levels is vital. To effectively implement environmental policies and programs, there is also a need for integrative, collaborative, and multi-scalar approaches. The importance of reaching food and water security and sustaining life for the present and future generations also needs to be recognized. To address the current unsustainable consumption-driven lifestyle, all stakeholders need to be conscious of their actions and their impact on the environment. Evidence-based decision-making needs to be prioritized, emphasizing the need for benchmark figures to guide progress. Calling all diverse stakeholders for creation of new capacities, the national government's commitment involves fostering resilience, risk-informed practices, and a collective effort from every sector, including the private sector, to work together innovatively towards achieving a netzero future.

Local Government

Expressing gratitude for the issued notification on stimulating localized actions on net-zero, the local government representative raised concerns about the practical implementation of the guidelines on the ground. In particular, there is a need for assistance from various local units within the authority, involving different departments dealing with the



environment and water supply. Acknowledging the resource limitations imposed by the national government and highlighting the necessity to engage other stakeholders, including private sectors and local NGOs, it will be important to ensure active stakeholder participation in the implementation process. The challenges for the local government revolve around coordinating with diverse departments, seeking collaboration from private sectors and NGOs, and addressing resource constraints while attempting to align with the national government's directives. Important to note is that local government plays a critical role in balancing national directives and local community concerns. Acknowledging the urgency of the situation, we propose modifications to regulatory mechanisms and the formation of a committee with diverse expertise to address administrative jurisdiction conflicts and suggest alterations to land regulations. There is also a need for insights from urban planners to guide the transition. A comprehensive plan needs to be formulated involving education and research communities proposing lifestyle changes, small-scale interventions, and technological solutions. We call upon the private sector and developmental agencies for support, stressing the importance of a clear budgetary framework. We also urge NGOs and development partners to contribute to a capacitybuilding plan for the community and administration. Expressing a sense of urgency to present actionable plans within five months to align with the Minister's term, we also seek political support, urging collaboration with different political bodies and requesting financial assistance from the finance ministry to alleviate local authority budget constraints.

Development Partner

We appreciate the national government's commitment to become net-zero. In that direction, we are working towards addressing food security, life-saving measures, and vulnerability reduction in the face of climate change and triggered natural disasters. Acknowledging the country's high vulnerability and the increasing impact on people's lives, our agency's focus is on promoting food security and reducing vulnerability, advocating for engagement with local communities and researchers. We believe that involving local communities in decision-making processes is vital to ensure effective solutions and active participation. This perspective slightly contrasts with the concerns of national government, as developmental agencies prioritize community-driven actions and collaboration with researchers to address the impacts of climate change and disasters on a more localized level.

Private Sector

Our focus is currently on greening sectors through investments, and in that direction we shall make every possible effort to align with national government's commitment. However, there are concerns that arise due to contradictory national and local policies, resource depletion, and challenging conditions for sector-wide investment.



The private sector expresses the need for enabling policies and seeks clarification on the role of NGOs, development sectors, and local communities. Emphasizing the importance of collaboration, particularly with communities, in managing landscapes, conserving wetlands, and ensuring downstream benefits. In regards to the national government's priorities, the contrast lies in the private sector's struggle to align its initiatives with existing policies and the desire for clearer roles and support from NGOs, development sectors, and local communities.

Local Community

We support the national government's vision, but at community level we are faced with challenges related to limited capacity, skills, research, and financial resources. For any policy level initiative, we would like to reiterate that consulting with the community is vital to address our main issues and priorities effectively. The crucial concern lies in the need for a comprehensive and synergized approach from the national and local governments, avoiding siloed initiatives that may disrupt local businesses and livelihoods. Our community is also willing to participate in activities aligned with their high priorities, urging the government to involve them in consultations at the national level. Challenges faced by the local community include the potential misalignment of sector-specific projects and the desire for a more integrated approach to achieve Net Zero at the community level.

Researcher

We express enthusiasm for the national policy's adoption to achieve net-zero or net carbon emissions. We want to highlight the importance of collaborative role of researchers with local governments, business partners, and the Minister to contribute research results and join activities with student research teams. Moreover, it is vital to consider the grassroot level realities and using research to address environmental issues. Acknowledging the need for collective efforts, it is our duty to save society and ensure food security, suggesting that collaboration with business communities and development partners is crucial. This is also an opportunity to achieve targets by bridging gaps and fostering better relations among different sectors, envisioning a happy, prosperous, and sustainable society through collective efforts. **Scenario 2:** Bottom-up Approach towards implementation of integrated approaches for reflection of local needs in national level policymaking: Immediately after the COVID-19 pandemic, many migrants have moved back to their native rural areas for safe shelter. The local government now wants to capitalize on this opportunity to work towards rural revitalization. What would be the key actions to be taken by key stakeholders / line stakeholders?

Local Community

The focus in revitalizing the local community's livelihood should be particularly centered around agriculture. Referring the COVID-19 situation, it is clear that the urban economy may not provide sufficient financial security during crises situations. Highlighting the community's strong reliance on agriculture, there is a need to stress on knowledge and opportunities to expand this sector. Importantly, the agricultural sector plays a huge role in the sustenance of the nation, and we urge all sectors to recognize and prioritize the importance of local communities and agriculture.

Local Government

To revitalize rural areas, it is important to work towards creating favorable living conditions and enabling essential infrastructure such as hospitals and schools. Drawing inspiration from initiatives like the new rural concept in Vietnam and China, there are many areas that could be worked upon. Addressing basic needs and promoting innovative livelihoods could be key to attract people to rural areas. Acknowledging the livelihood challenges posed by the pandemic, education can also empower individuals born and raised in rural areas.

National Government

We express the government's eagerness to collaborate with local communities, especially in the context of the challenges posed by the COVID-19 pandemic. Based on the lessons learned from the pandemic, it is important to emphasize the impact on a densely populated country with various environmental challenges.



In particular, the seasonal migration of people to cities in the face of climate change and natural disasters is leading to unplanned and rapid urbanization. Regarding the concerns raised by the local community and local government about maintaining livelihoods in rural areas, we see an opportunity in the pandemic-induced return of people to rural regions. We underline the government's intention to encourage people to stay in rural areas, providing mobilization and livelihood opportunities tailored to the local context. We also support the importance of sustainable livelihoods contributing to food security and carbon emission reduction. In supporting the concerns of the local community and local government, we call for collaboration among stakeholders, including private sector, academia and various sectors, to explore and promote diverse livelihood options for local people. Our perspective aligns with the idea of leveraging the influence of the pandemic to create strategies that keep people in rural areas, emphasizing the importance of a people-centered approach and ongoing consultations to address the unique challenges faced by local communities.

Development Partner

As a non-government organization, we reiterate our commitment towards supporting knowledge exchange and collaboration across different levels, emphasizing the challenges faced by service workers who migrated back to their hometowns during the COVID-19 pandemic. We echo the local community's emphasis on community ownership and the local government's need for comprehensive plans, particularly regarding capacity building. We call the research community for understanding the real reasons behind migration and promoting local skill development, which aligns with the local government's concerns, highlighting the need for strategic approaches in addressing the complexities of returning workers. However, the national and local governments also need to address certain challenges that hinder urban-rural integrated development, like for instance, land ownership changes and ensuring that limited resources, such as land and jobs, provide sustainable employment options that align with existing skills. This introduces a nuanced perspective, suggesting that rural sustainability requires a delicate balance with urban activity, which may pose challenges for policymakers in effectively managing these dynamics.

Private Sector

We express gratitude for collective efforts towards net zero and a green economy, but we also want to voice our concerns primarily directed at the efficiency of regulatory processes. For a streamlined and effective engagement of stakeholders in the implementation process, we call for modifications in regulatory mechanisms, emphasizing the need for smoother processes on the ground. Furthermore, there is a need for open and transparent



communication among all stakeholders. This aligns with the development partner's emphasis on promoting local skills and creating jobs, emphasizing the need for collaborative and transparent efforts. Further, we want to stress on the importance of effective communication rather than mere complaint. This aligns with the local community's call for community involvement and effective consultation, emphasizing the need for constructive communication to navigate shared interests.

Researcher

As an academic researcher, we emphasize the crucial need to understand local vulnerabilities thoroughly before crafting policies. We express a commitment to deploying scientific knowledge for assessing vulnerabilities at various levels, including the community and specific locations. For enabling science-driven policy planning, it is vital to address risk scenarios effectively, and we underscore the willingness to document local adaptation practices, recognizing the potential for innovations to emerge from grassroots initiatives. Collaboration with NGOs, the student fraternity, and the scientific community is sought to engage in comprehensive documentation and contribute to policy formation based on ground-level observations. However, for policy level reforms, it is important to receive support from both the national and state governments. Having a shared platform and role in the policymaking process is vital for our continued engagement, emphasizing that without such support, the effective execution of their goals would be hindered. Lastly, we underscore the essence of community support and encouraged collaboration among NGOs, academia, and the community for a more impactful and voice-raising approach.

⁴⁶

Section 10:

WAY FORWARD



CONCEPT PROPOSALS FROM CES-ASIA PARTNERS: DETAILED FURTHER IN ANNEX IV

Towards the end of the workshop, five of the CES-Asia partners presented concept proposals to bring forward the notion of CES approach application in Asian city-regions. Towards net-zero futures for Indian village, the CES partner from India proposed a comprehensive strategy focusing on solar agri-voltaic implementation in Nagpur region, which not only addresses the technical investigation prospects but also emphasizes community engagement, formal agreements, and the importance of partnerships for successful decarbonization in Indian villages. Further, the CES partner from Bangladesh proposed a holistic strategy that not only identifies challenges but also emphasizes creating awareness, inspiring local farmers, and engaging stakeholders to promote sustainable agriculture and decarbonization in Mirsharai. The CES partner from Nepal proposed a robust framework for implementing a P-PES mechanism, addressing the complexities of land use and fostering collaboration between upstream and downstream communities, private sectors, and the public sector in Pokhara, Nepal. The CES partner from Nepal proposed to assess the ecological service values derived from Agroecology in the Vu Gia Thu Bon river basin. The approach involves active participation, particularly engaging youth, and aligns with the principles of the CES approach, for a sustainable and comprehensive evaluation of Agroecology in the specified context. Lastly, the CES partner from Bhutan proposed to enhance rural livelihoods in Bhutan by integrating CES principles into sustainable agriculture practices. It emphasizes understanding the contextualized meaning of sustainability, envisions a broader agricultural landscape, and establishes a comprehensive plan involving farmers, cooperatives, and state actors, all to influence policy frameworks for effective delivery and dissemination.



Photos of speakers presenting concept proposals on Day 3

FUTURE VISION FOR CES-ASIA CONSORTIUM ACTIVITIES

Promoting Regional Level Research Collaboration

Exploring the multi-faceted applications of the CES approach towards integrated climate and sustainable development actions, the CES-Asia consortium shall continue to explore opportunities for stimulating research collaboration at regional level. During the CES Regional Workshop 2024, five of the consortium partners also presented actionable pathways for CES implementation which can be taken up for tapping onto available funding opportunities. More so, the CES consortium will also work to expand its activities in the Asia-Pacific region through network building, regional knowledge exchange and cross learning, multi-country research collaboration, etc.

Co-development of Action Programme at Local Level

In close collaboration with the consortium partners, emphasis will also be laid on co-design and co-development of CES action programmes at local level. To demonstrate the relative effectiveness of CES approach in comparison to other similar approaches for integrated resource management, the CES Asia consortium shall actively engage with local stakeholders for action programme development, while identifying and mainstreaming the local needs and concerns in development planning.

Piloting and CES Model Development

To demonstrate the localized implementation of CES approach, the CES consortium will also work towards CES model case development and piloting in any selected city-region from Asia. In that direction, the consortium activities will also take into consideration the social and institutional feasibility of CES application, as well as the co-development of a stakeholder collaboration strategy and business model.

Roadmap for Localization of Global Goals

Leveraging the multi-dimensional synergies of CES approach with a range of SDGs, as well as other global agendas, the CES-Asia consortium will also focus on establishing a roadmap on how the localization of global goals could be furthered. Taking due account of the existing shortfalls in realizing localized actions, the consortium will work to uncover the key blockades and avenues for overcoming the same.

Inputs to Development Planning

Through long-term research collaborations, network building and close engagement with local stakeholders, the CES consortium shall focus on developing a formal collaboration with local governments to stimulate policy level actions. In doing so, the consortium activities shall entail providing inputs to the master plan/ development plan of specific city-regions for long-term sustainable growth.

Regional Capacity Building

Building on the robust foundation of recent CES actions, established through a pilot phase in South and Southeast Asia, the future course of action will prioritize capacity development to address the diversity of challenges and opportunities inherent in the region. Encouraging a transdisciplinary approach, emphasis will be laid on obtaining insights from both bottomup and top-down perspectives for effective sustainable development beyond 2030. The regional capacity building strategy will emphasize a combination of skill building, knowledge mobilization, and experiential confidence to work in complex, transdisciplinary settings. Engaging researchers with local communities in these settings requires empathy, deep listening, and reflexivity and a framing of capacity development that instills a sense of ownership and empowerment at the local level.

ANNEXURES

Annex I:

Programme of the CES Regional Workshop 2024 **Annex II:** List of Participants **Annex III:** Consortium Agreement Signing **Annex IV:** Concept Proposals from the CES-Asia Consortium Partners



ANNEX I:

Programme of the CES Regional Workshop 2024

Day 1: 17 January, AIT			
08h30- 09h00	 Session I: Opening session Opening remarks Prof. Kazuo Yamamoto, President, AIT Prof. Kazuhiko Takeuchi, President, IGES Dr. Jon Padgham, Executive Director, START Consortium Agreement Signing 		
09h00- 09h30	Session II: Introductory session <u>Keynote Presentation</u> : "Overcoming the challenges towards a sustainable development pathway: Unlocking the potentials of Regional-CES approach" by Prof. Kazuhiko Takeuchi, President, IGES		
	Tea break & Group photo		
10h00- 11h00	 Session III: Asia regional perspectives on integrated approaches; Moderator: Dr. Bijon Kumer Mitra, IGES Panellists: Mr. Bradley Mellicker, International Organization for Migration (IOM) Mr. Him Chandath, MoE Cambodia Dr. Kazuaki Takahashi, Executive Director, Planning and Coordination Department, Climate Change Policy Headquarters, Yokohama City Prof. Mokbul Morshed Ahmad, Professor and Head of DS Department, Asian Institute of Technology 		
11h00 – 12h30	 Session IV: Making Societies Net Zero and Disaster Resilient: Research Perspectives on Localized Climate Actions and Co-benefits <i>Moderator: Dr. Md. Humayun Kabir, University of Dhaka</i> Dr. Wijitbusaba Marome, Thammasat University (Thailand) Dr. Kinh Thi Kieu, The University of Danang (Vietnam) Dr. Sameer Deshkar, VNIT Nagpur (India) Dr. Leishipem Khamrang, Royal Thimphu College (Bhutan) 		
	Lunch break		
14h00 – 15h00	 Session V: Addressing the Localization Challenge Overview of Group Exercise: Dr. Vibhas Sukhwani, IGES All participants will be divided into small groups to explore key questions What are key multi-scalar impediments that need to be addressed in order to advance localization of global goals? What is needed to motivate and enable localization? 		
	Tea break		
15h30- 16h30	 Session V (Continued): Synthesis of group exercise Each of the defined group will make a short presentation 		
16h30	End of Day 1		

Day 2: 18 January , AIT	
09h00- 09h30	Recap of Day 1, Key emerging messages by Dr. Vibhas
09h30- 10h00	Application of Regional-CES concept for localization of global agendas by Dr. Bijon Kumer Mitra
10h00 – 11h30	 Session VI: Rediscovering Local/Regional resources through urban-rural partnerships: Research Perspectives on Sustainable Development Action Moderator: Dr. Sameer Deshkar, VNIT, India Dr. Hendricus Andy Simarmata, University of Indonesia (Indonesia) Dr. Emma E. Porio, Ateneo de Manila University (Philippines) Dr. Sony Baral, Institute of Forestry, Tribhuvan University (Nepal) Dr. Md. Humayun Kabir, University of Dhaka (Bangladesh)
	Tea break
11h50- 12h30	 Session VII Rediscovering Local/Regional resources through urban-rural partnerships: Policy and Action-based Perspectives on NetZero & Sustainable Development Action <i>Moderator: Dr. Wijitbusaba Marome, Thammasat University</i> Dr. Kazuaki Takahashi, Yokohama City Mr. Annop, Udon Thani Municipality, Thailand
Lunch break	
13h30 – 15h00	 Session VIII: Break Out Session for co-design and co-development of action-based pathways for integrated realization of net-zero goals and sustainability transitions towards realizing CES in Asia Overview of Group Exercise: Dr. Vibhas Sukhwani, IGES All participants will be divided into small groups to explore key guiding questions What kind of actions need to be taken at different levels of governance in Asia (regional, national, local) to stimulate localization of integrated approaches like CES? Considering Post-2030 SDGs and climate actions, what kind of partnership avenues could be explored at local and regional level? What co-benefits can different stakeholders derive through engaging in such endeavors?
Tea break	
15h30 – 16h00	 Session VIII (continued): Synthesis of Group Exercise Each of the defined group will make a short presentation
16h00 – 16h30	 Session IX: Evolving Key Messages and Way Forward by Dr. Bijon Key Challenges for localization of global agendas Action priorities Capacity development priorities Communication and engagement priorities
16h30	End of Day 2

Day 3: 19 January, Hotel Pullman G, Bangkok	
	Special Session: Understanding potential stakeholder engagement challenges and actions towards implementation of integrated approaches
08h30 – 10h30	 Overview of Role-play Exercise: Dr. Vibhas Sukhwani, IGES Scenario 1: Assigned Role-play participants: 1) National Government: Dr. Emma, 2) Local Government: Dr. Sameer, 3) Private Sector: Dr. Sony, 4) Development Partner: Prof. Humayun, 5) Local community: Mr. Chamdath, 6) Researchers: Prof. Haider Scenario 2: Assigned Role-play participants: 1) National Government: Prof. Humayun, 2) Local Government: Dr. Kinh, 3) Private Sector: Dr. Emma, 4) Development Partner: Dr. Ann, 5) Local community: Dr. Khamrang, 6) Researchers: Dr. Sameer Action priorities Capacity development priorities Communication and engagement priorities Way forward

ANNEX II:

List of Participants

Abdul Salam Abhishek Joshi Ajeng Widyastuti Annop Wangsanuwat Antoine Mougenot Ayush Baskota Bijon Kumer Mitra Bradley Mellicker Chotiros Mongkolchotirat Emma Porio Ganni Aditya Him Chandath Indrajit Pal Jeeten Kumar Jun Ichihara Kanlaya Muangsan Kazuaki Takahashi Kazuhiko Takeuchi Kazuo Yamamoto Kullanan Sukwanchai Leishipem Khamrang Md. Humayun Kabir Mohammad Ali Haider Mokbul Morshed Ahmed Neelav Srivastava Oskar Lecuyer Ratchaneekorn Thongthip Sameer Deshkar Sanjeet Amatya Sony Baral Sreejita Banerjee Sukhontha Srikaewloh Sumana Shrestha Tetsuo Kuvama Thi Kinh Kieu Thipawan Saenchan Vibhas Sukhwani Wijitbusaba Marome

Asian Institute of Technology, Dean SERD Asian Institute of Technology Asian Institute of Technology Udon Thani Municipality Agence Française de Développement Asian Institute of Technology IGES IOM, Bangkok Asian Institute of Technology, Office of President Ateneo de Manila University Asian Institute of Technology Ministry of Environment, Cambodia Asian Institute of Technology Asian Institute of Technology IGES Asian Institute of Technology Yokohama City IGES, President Asian Institute of Technology, President Asian Institute of Technology Royal Thimphu College University of Dhaka University of Chittagong Asian Institute of Technology Asian Institute of Technology Agence Française de Développement Asian Institute of Technology Visvesvaraya National Institute of Technology Asian Institute of Technology Tribhuvan University Asian Institute of Technology Bangkok Metropolitan Administration Asian Institute of Technology IGES The University of Danang Bangkok Metropolitan Administration IGES Thammasat University

ANNEX III:

Consortium Agreement Signing

On 14 October 2021, IGES, START International, Inc. together with several leading academic and research institutes in South and Southeast Asia, signed an agreement to establish a consortium for advancing the Circulating and Ecological Sphere (CES) concept, with the aim of building resilience in city regions across South and Southeast Asia. The CES-Asia consortium is now growing by engaging trustable partners in this initiative. On 17 January 2024, during the occasion of the CES-Asia Regional workshop, AIT Thailand joined the CES Asia consortium by signing the consortium agreement together with the coordinating agencies namely, IGES and START International.





Annex IV:

Concept Proposals from the CES-Asia Consortium Partners

Concept Proposal 1: Net-zero Futures for Indian Villages: Decarbonization through Agrivoltaics in Nagpur Metropolitan Region

- **Area Analysis:** Spatial Analysis of suitable areas for Agri-Voltaic projects, in due consideration of factors such as solar radiation, topography, population, electricity grids, and transportation networks are considered.
- **Village Selection:** Identifying specific villages for detailed surveying and community engagement, indicating a targeted and community-oriented approach to the project.
- **Co-development of Localized Solutions**: Conducting a co-design exercise with local stakeholders, to align the community's understanding within the project's goals, fostering a collaborative approach
- Formalizing MOU: A crucial step is the formalization of a Memorandum of Understanding (MOU) with local authorities and the selected village community. This emphasizes the need for structured agreements to streamline actions and secure resources.
- **Detailed Area Mapping:** The plan includes detailed area mapping through drone surveys. This step aims to identify specific land parcels suitable for agri-voltaic installations, showcasing a precise and technologically advanced planning approach.
- **Piloting Agri-Voltaic:** The proposed project idea concludes with the piloting of agrivoltaic in selected fields. This phase will provide valuable insights into the feasibility and impact of the project, for further upscaling and implementation.
- **Partnerships and Grants:** The importance of partnerships and additional grants, particularly for piloting phase needs to be duly considered.

Concept Proposal 2: Sustainable Agriculture for Food Security and Decarbonization: A Study at Mirsharai Municipality of Chattogram District, Bangladesh

• **Contextual Challenges:** Mirsharai region is faced with various challenges, including rapid industrial expansion, the shift of locals to industries, loss of agricultural lands, deforestation, biodiversity loss, unplanned urbanization, increased carbon emissions, and environmental degradation.

- Key Areas of Focus: Evidence-based research creating awareness among stakeholders about issues such as agricultural land loss, food security, and carbon emissions. Inspiring local farmers to sustain agriculture while diversifying income sources. Engaging all relevant stakeholders to promote sustainable agriculture and inspire collective actions for decarbonization.
- **Stakeholder Involvement:** Important to engage all stakeholders, including local farmers and relevant entities, to foster a collective effort in addressing the challenges posed by industrial expansion and environmental degradation.

Concept Proposal 3: Performance-based Payment for Ecosystem Services (P-PES) Mechanism between Upstream and Downstream Communities in the Fewa and Rupa Catchment, Pokhara, Nepal

- **Issues Addressed:** The case study region is faced various issues resulting from land use, including degradation of water quality and quantity, land fallow, chemical use in agriculture, invasive species, eutrophication, and loss of biodiversity.
- **Performance-based PES Mechanism:** The implementation of a Performance-based Payment for Ecosystem Services (P-PES) Mechanism holds high potential to mitigate the negative impacts of unsustainable resource management by downstream communities.
- **Objectives:** The objectives include increasing accountability, transparency, and efficiency in upstream community investments, developing P-PES guidelines, sensitizing private sector for ecosystem conservation, strengthening the capacity of upstream communities, and mobilizing CSR funds for climate-resilient practices.
- Action Plan: The action plan involves stakeholder consultations, the establishment of MOUs, baseline development, private sector sensitization, capacity-building for climate-resilient practices, mobilization of CSR funds, public-private-community partnerships, and evidence-based independent monitoring.
- **Output-based Payment:** A transparent and participatory approach relates to evidence-based independent monitoring, with output-based payments tied to meet eligibility standards, specifically on reducing sedimentation and chemical load.

Concept Proposal 4: Enhancing Rural Livelihood through CESinfused Sustainable Agriculture Practices in Bhutan

- **Problem Statement:** There is a need for contextualizing the CES concept within the realm of sustainability, particularly in terms of agricultural extension services, envisioning an agricultural landscape beyond ruralism, and fostering regional dynamics in the rural-urban nexus.
- **State of the Art and Policy Analysis:** At first, it is vital to investigate the existing state of knowledge and policies related to sustainable agriculture practices, identifying gaps and opportunities for CES infusion.
- Field Action Plan for Farmers: A comprehensive plan needs to be developed to address challenges and prospects faced by farmers, focusing on knowledge and practices, as well as the support and services they require. It will also introduce the concept of farmers' groups and cooperatives, specifying their objectives, activities, roles, and responsibilities.
- **State Actors Planners and Policy Makers:** The involvement of state actors in the proposal is vital, exploring the roles of planners and policymakers, the policy implementation process, and expected outcomes.
- **Delivery and Dissemination Policy Framework and Design:** Also, there is a need to have a delivery and dissemination strategy, recommending a policy framework and design for relevant stakeholders. This suggests a focus on translating the proposed sustainable agriculture practices into actionable policies.

Concept Proposal 5: Evaluate the Eco-Service Values of Agroecology in Vu Gia Thu Bon River Basin

- **Context:** Agroecology has been previously applied in the case study region, showcasing commitment and offering valuable lessons in the given context.
- **Objectives:** In the proposed concept idea, the primary objectives are to evaluate the eco-service values of agroecology, promote a participatory approach, and sustain agroecology through youth empowerment.
- **Main Activities:** The proposed activities include forming an agroecological working group involving key stakeholders and engaging youth, developing an action plan based on CES principles, evaluating efficiency through lessons learned regarding eco-service values, and documenting for youth empowerment.















CES-ASIA CONSORTIUM



Institute for Global Environmental Strategies (IGES)

2108-11 Kamiyamaguchi, Hayama, Kanagawa, Japan URL: https://www.iges.or.jp/

START International, Inc. PO Box 20430 Boulder,

Colorado 80308 USA URL: https://www.start.org



