

# Fostering the Regional Circulating and Ecological Sphere approach to translate global goals into local actions: Lessons from national scoping workshops in ASEAN countries

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## ABSTRACT

The Regional Circulating and Ecological Sphere (Regional-CES) is a guiding concept for environmental policies to support the achievement of the Sustainable Development Goals (SDGs) in urban and rural communities with maximum utilisation of local strengths and resources. To promote the Regional-CES concept as a useful guiding principle, a scoping project was designed to engage key stakeholders in selected Southeast Asian countries, namely, the Philippines, Thailand and Indonesia, by organising workshops in these countries. These workshops consisted of sessions to explain the Regional-CES concept, discuss and identify opportunities for applying Regional-CES based on each country's context, and share practices that may have been conducted under similar frameworks or concepts. Common obstacles include limited scientific understanding, ignorance of local needs and reality in the top-down decision-making process, and limited capacity of local agencies and society. Participants acknowledged the potential of the Regional-CES approach to advance transformative actions towards low-carbon society, resource circulation, and living in harmony with nature at regional, national and local levels, and the importance of aligning the Regional-CES concept to specific local contexts, such as local needs, policy relevance and priorities that could address social, economic and environmental challenges.

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**KEYWORDS** REGIONAL CIRCULAR AND ECOLOGICAL SPHERE (REGIONAL-CES), REGIONAL DEVELOPMENT, URBAN-RURAL/RURAL-URBAN LINKAGE, SUSTAINABLE DEVELOPMENT, RESILIENCY, RESOURCE MANAGEMENT

## HIGHLIGHTS

- Regional-CES links global sustainable development with local actions based on existing approaches.
- Entry points of Regional-CES exist in the context of Southeast Asian countries.
- Existing policy frameworks aligned with Regional-CES are available in these countries.
- However, there has been little or no implementation of these policy frameworks.
- Several enabling solutions for advancing Regional-CES are suggested.

## 1. INTRODUCTION

The Regional Circulating and Ecological Sphere (Regional-CES) was first proposed in the Fifth Basic Environment Plan of the Government of Japan in 2018 as a guiding concept for environmental policies to support the achievement of the Sustainable Development Goals (SDGs) in Japan as well as in other countries (Ministry of the Environment, Government of Japan [MOEJ], 2018). The Regional-CES aims to create “a self-reliant and decentralised society where different resources are circulated within each region, leading to symbiosis and exchange with neighbouring regions according to the unique characteristics of each region” (Ortiz-Moya et al., 2021). It requires active collaboration with neighbouring regions to benefit all parties by applying their strengths. This concept also brings together existing approaches, such as rural-urban linkages, ecosystem-based solutions for decarbonisation, and resource circulation for economic revitalisation and resilient society, which links global sustainable development agendas with local actions. Regional-CES, therefore, can be understood as a comprehensive concept that aims to apply principles of circularity on a regional scale with close collaboration between rural and urban areas for maximum utilisation of local strengths and resources. Figure 1 illustrates the Regional-CES concept.

A number of local governments in Japan have applied the CES approach for the localisation of SDGs together with economic revitalisation and creation of a resilient society. These include the Hokusetsu

CES Model in Hyogo Prefecture (Takeuchi, 2019), Kanagawa Prefecture Water Environment Conservation Programme (Sukhwani et al., 2019), and Yokohama City Net Zero Vision, which promotes urban-rural partnerships (Takahashi, 2023). The Institute for Global Environmental Strategies (IGES) has promoted the Regional-CES concept in Asia, working with its partners, including local governments, the private sector, and civil society organisations in Japan, Southeast Asia (Marome et al., 2022), and South Asia (Thapa et al., 2020). A Regional platform, namely the CES-Asia consortium, was established on 14 October 2021 to further advance the Regional-CES concept, with the aim of building resilience in city regions across South and Southeast Asia (Mitra et al., 2024). To advance the Regional-CES concept, IGES and the Asia-Pacific Network for Global Change Research (APN) set up the Regional-CES Scoping Project to identify opportunities and potential in applying Regional-CES in Southeast Asia. This article highlights the key findings from this scoping project to promote the application of Regional-CES, thereby coordinating local actions to achieve global goals such as the SDGs.

## 2. METHODOLOGY

The scoping project on Regional-CES was designed to engage key stakeholders of selected Southeast Asian countries, namely, the Philippines (IGES, 2022), Thailand (IGES, 2023a), and Indonesia (IGES, 2023b), by organising stakeholder workshops in each country. The process of stakeholder engagement is discussed below.

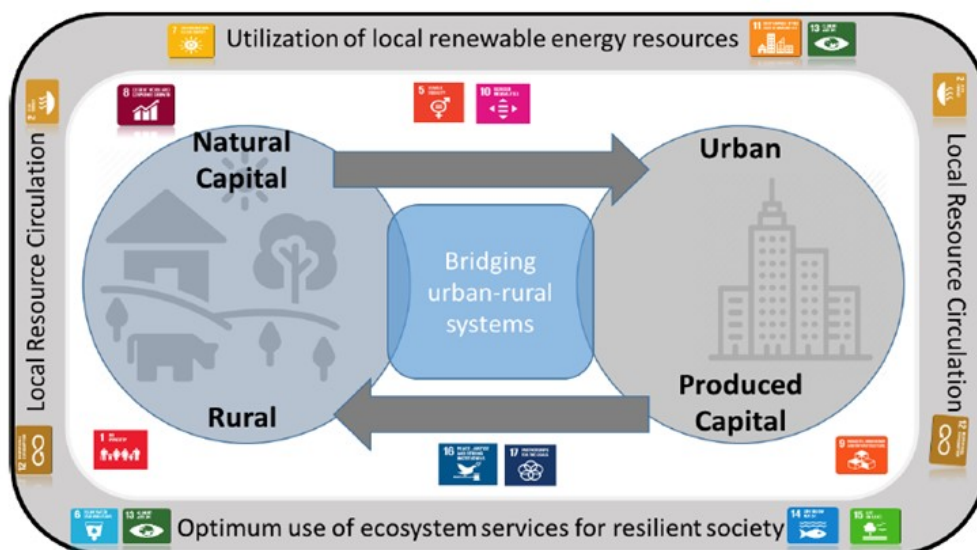


FIGURE 1. Regional-CES concept.

### 2.1. Selection for national workshops

Three ASEAN countries — the Philippines, Thailand, and Indonesia — were selected based on the following selection criteria: (1) having existing national/local policy frameworks/programmes which have relevance to Regional-CES, (2) having policies focused on strengthening local resiliency or sustainability; (3) having projects/programs which might be applicable for/relevant to Regional-CES.

### 2.2. Outline of national workshops

Three national-level workshops were organised on 17–18 February 2022 in the Philippines, 20–21 October 2022 in Thailand, and 10–11 May 2023 in Indonesia. The first national workshop was organised in the Philippines and held online due to the COVID-19 pandemic, and national workshops in the other two countries (Thailand and Indonesia) were organised in person. All three workshops were designed with several sessions, including a session to explain the concept of a circulating and ecological sphere, followed by sessions to discuss the applicability of the Regional-CES in each country’s context, including its relevance to policies and actions at the local, sub-national and national levels (Figure 2). Breakout group exercises were conducted in each workshop to explore entry points related to challenges and enable environments to mainstream the Regional-CES concept in development policies and plans at national, subnational, and local levels.

#### 2.2.1. Overview of the Technical Sessions

In order to provide orientation on the Regional-CES concept to the participants, a keynote presen-

tation was made by the president of IGES, Professor Kazuhiko Takeuchi. His presentation highlighted the importance of localising the global goals and introduced the principle of the Regional-CES approach by showcasing several examples from different local contexts. The workshops were structured to ensure participants better understood existing policies, priorities and actions and to explore where the Regional-CES concept could be applied to provide comprehensive solutions. Experts from national and local agencies were invited to provide an overview of existing policies, actions, and projects at the national and local levels.

#### 2.2.2. Overview of Group Discussions

Participants were divided into several groups (Figure 3). First, all participants were classified according to stakeholder types (national government agencies, local governments, community organisations, academia or researchers). Each group consists of representatives of each type of stakeholder. A facilitator was selected for each group, and the groups were given a number of prepared discussion points to facilitate interactive discussions that would lead to identifying potential entry points for Regional-CES application and discovering any challenges in applying the Regional-CES. Discussions were also instrumental in bringing up possible solutions for mainstreaming Regional-CES into policy processes that would enhance the localisation of the global agenda and national development goals through integrated and collective actions.



FIGURE 2. Framework of country workshops on Regional-CES.



FIGURE 3. Group Discussions during breakout sessions.

### 2.2.3. Stakeholders of the Regional-CES Workshops

The Regional-CES workshops brought together academic personnel, local community practitioners, researchers, policymakers of national/sub-national government agencies, as well as private sector representatives to share practical experiences and discuss issues, barriers, and applicability of the Regional-CES concept in the context of each country. At the workshops, hands-on interactions and discussions among group members were particularly encouraged, and participants shared discussion results including entry points and proposals to apply the concept with other groups. The first workshop was organised in the Philippines using an online platform, bringing together 259 participants from various stakeholder groups. The second workshop was organised at the Asian Institute of Technology in Thailand, where 46 participants attended and collectively worked to achieve the workshop's ob-

jective. The third workshop was held in Depok City Hall in Indonesia and Universitas Indonesia, with an average of 168 participants. These three workshops also actively engaged young researchers, enabling them to develop their capacity.

A summary of the workshop locations and participants is shown in Table 1.

## 3. RESULTS AND DISCUSSION

The Regional-CES workshops familiarised stakeholders with how the Regional-CES concept can be used to integrate climate change issues and the circular and ecological economy. They also looked at scoping activities and interventions that address these issues simultaneously. Participants recognised that the Regional-CES approach could advance transformative actions towards low-carbon society, resource circulation and enable residents to live in harmony with nature at local, national and regional

**TABLE 1.** Overview of workshop locations and participants.

Country	Date	Workshop Venue	Target Participants	No. of Participants
Philippines	17–18 February 2022	Online	Local, sub-national and national-level policymakers, Decision makers, Practitioners and Private sector representatives	259
Thailand	20–21 October 2022	[Onsite] Asian Institute of Technology (AIT), [Online] for overseas speakers	Policymakers, Academic personnel, Local community practitioners, Researchers, and Private sector representatives	46
Indonesia	10–11 May 2023	[Onsite] Day 1: Depok City Hall Day 2: Universitas Indonesia [Online]: For participants living far and overseas	Policymakers from government agencies and research centres, Academicians, Practitioners, and NGOs' and private sector representatives	168

levels through cross-sectoral arrangements and strategies incorporating various concepts. It was also acknowledged that the Regional-CES approach could stimulate integrated and collective actions at the local, sub-national and national levels, thereby working towards localising climate and sustainable development goals. The workshop emphasised that the Regional-CES should be applied only after fully understanding the context of specific local needs, policy relevance and priorities and in this way, it could simultaneously address social, economic and environmental challenges.

### 3.1. Supporting policies for integrated approaches

Integrated approaches have been introduced in a number of important policies in the selected three countries (Table 2).

In the Philippines, the localisation of climate goals has been integrated by formulating the Local Climate Change Action Plan (LCCAP).<sup>1</sup> LCCAP is the action plan formulated by local governments to address climate change concerns by implementing nature-based solutions, decarbonisation, and other

**TABLE 2.** Supportive existing policies to promote the Regional-CES approach in the Philippines, Thailand, and Indonesia.

Country	Supportive existing policies
Philippines	<ul style="list-style-type: none"> <li>Local Climate Change Action Plan (LCCAP)</li> <li>Philippine Action Plan for Sustainable Consumption and Production (PAP4SCP)</li> </ul>
Thailand	<ul style="list-style-type: none"> <li>Bio-Circular-Green (BCG) Economy in Thailand</li> </ul>
Indonesia	<ul style="list-style-type: none"> <li>Presidential regulation 60/2020 of Indonesia on urban rural development in Jabodetabekpunjur</li> <li>Smart Literacy Box</li> <li>Mobil Aspirasi Kampung Juara (Maskara) Program for distribution of multi-use vehicles</li> </ul>

issues. The Philippine Action Plan for Sustainable Consumption and Production (PAP4SCP) calls for sustainable behaviour and practices across sectors and levels of government, including resource circulation and rural-urban linkage (National Economic and Development Authority, 2020).

<sup>1</sup>National Integrated Climate Change Database and Information Exchange System. Local climate change action plan. <https://niccdies.climate.gov.ph/action-plans/local-climate-change-action-plan>. Date accessed 14 September 2023.

Thailand is promoting a people-centric approach, and the Regional-CES concept could complement the existing national-level strategy on the Bio-Circular-Green Economy (BCG) model. The Thai Government introduced BCG as a strategy for national development and post-pandemic recovery. Citizens are the main actors in actual sustainable transformation, which will eventually have an impact. The BCG model integrated three well-known economic policy concepts: Bio-Economy, Circular Economy, and Green Economy. These concepts aim to stimulate global sustainable development goals and targets through the efficient use of resources, sustainable management of ecosystems, and implementation of a circular economy to address all environmental challenges (APEC, 2022). Like the Regional-CES, the BCG model also calls attention to the effective use of available resources locally and considers effective collaboration among key stakeholders, including public entities, private companies, community, academia, research institutes and global networks to localise SDGs through collective actions.

In Indonesia, Presidential Regulation 60/2020 stipulates spatial planning to bridge urban and rural dichotomies (Cabinet Secretary of The Republic of Indonesia, 2020). In order to accelerate progress on the village level, West Java Province has implemented various programmes, including Smart Literacy Box (Kolecer) Program, Mobil Aspirasi Kampung Juara (Maskara) Program for the distribution of multi-use vehicles, Prosperous Economic Community Credit (Kredit Masyarakat Ekonomi Sejahtera/Mesra), One Village One Company (OVOC), One Pesantren One Product (OPOP), and Bright Villages (Kampung Caang) for village electricity (Gustiana Sabarina and Siti Maryam, 2022; Pemerintah Daerah Provinsi Jawa Barat, 2023).

### 3.2. Entry points for application of the Regional-CES

The entry points for applying the Regional-CES and similar integrated approaches vary depending on the context of each country (Table 3).

In the Philippines workshop, the entry points in applying the Regional-CES approaches were identified through voting by participants based on the SWOT (strengths, weaknesses, opportunities and threats) analysis results (Figure 4). Resource circulation, ecosystem-based adaptation, and rural-urban linkages were found to be potential entry points for Regional-CES.

**TABLE 3.** Potential entry points for application of Regional-CES in the Philippines, Thailand and Indonesia.

Country	Potential entry points
Philippines	<ul style="list-style-type: none"> <li>• Resource circulation</li> <li>• Ecosystem-based adaptation</li> <li>• Rural-urban linkages</li> <li>• Decarbonisation aspect of Regional-CES</li> <li>• R&amp;D on circular economy (CE), green technology/product development</li> <li>• Establishment of innovative solutions, technologies, business models</li> <li>• Existing programmes, frameworks, and initiatives related to CES</li> </ul>
Thailand	<ul style="list-style-type: none"> <li>• Sustainable and Climate Resilient Development</li> <li>• Water Food Nexus in Rural-Urban Linkage</li> <li>• Revitalisation by utilising local resources and enhancing rural-urban linkages</li> </ul>
Indonesia	<ul style="list-style-type: none"> <li>• Balanced urban expansion by preserving green areas and protecting rural spaces</li> <li>• Sustainable resource management</li> <li>• Spatial planning for disaster and environmental risk management</li> </ul>

Furthermore, the following potential entry points were suggested at the summary session of the workshop:

- Research and development on circular economy (CE)
- Green technology/product development
- Continuous capacity building and information, education and communication-related activities, for planners, especially at the subnational levels, to mainstream CE/waste reduction into their plans, programmes and practices.
- Establishment of innovative solutions, technologies, and business models

The group discussion at Thailand's workshop identified three major entry points: (1) sustainable and climate-resilient development, (2) the water-food nexus in rural-urban linkage, and (3) revital-

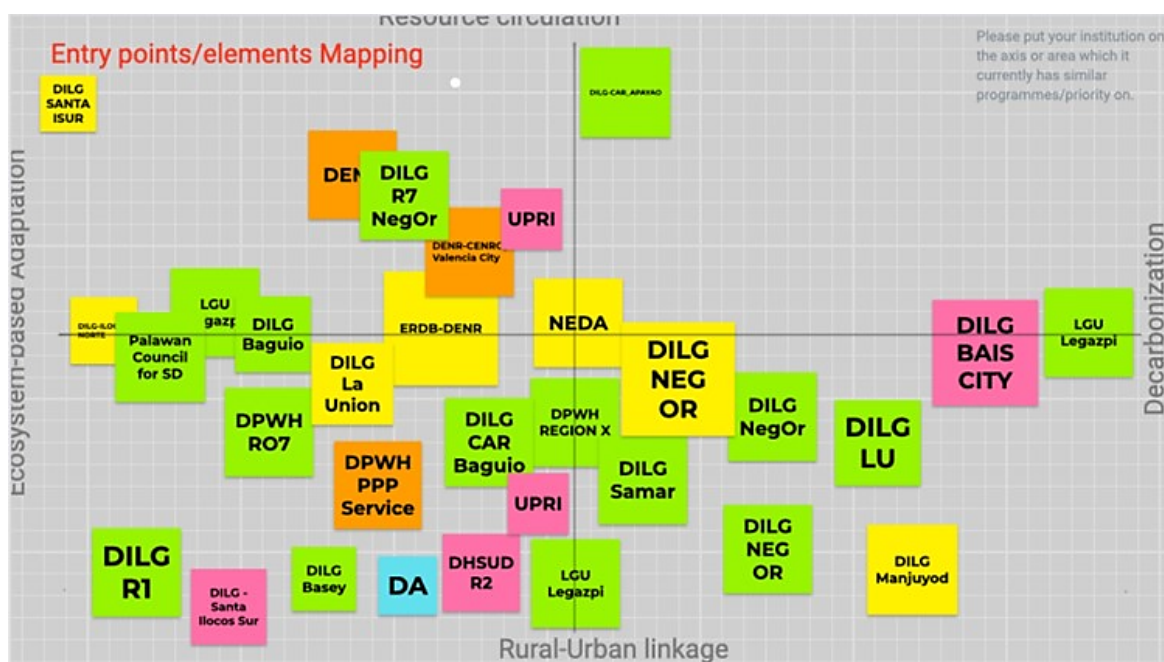


FIGURE 4. Participant voting results based on SWOT analysis at the workshop in the Philippines.

isation by utilising local resources and enhancing rural-urban linkages. These were entry points for applying the Regional-CES approach, the BCG model and other similar concepts in Thailand. As one of the most vulnerable countries, Thailand has prioritised its efforts to ensure climate-resilient development in energy, water, transportation, agriculture, human settlements and public health (Government of Thailand, 2018; The World Bank Group and the Asian Development Bank, 2021). In order to achieve climate-resilient development in water, energy and agriculture, it is vital to consider how these sectors are interdependent beyond administrative boundaries. Likewise, it is critical to strengthen urban-rural linkages for optimal management of the water-energy-food nexus. Urban-rural partnerships can contribute to economic revitalisation by creating new economic opportunities to use local resources.

The Regional-CES workshop in Indonesia identified three entry points for applying the Regional-CES concept, which differed from those identified in Thailand’s workshop. These were: (1) balanced urban expansion with preserving green areas and protecting rural spaces, (2) sustainable resource management considering spatial integration, and (3) spatial planning for disaster and environmental risk management enhancing rural-urban linkages.

### 3.3. Challenges to applying Regional-CES

The challenges to applying Regional-CES in a country context are summarised in Table 4.

In the context of the Philippines, the Regional-CES application challenges include lack of infrastructure to link the circular economy, limited budget/financial support, duplication of plans from various agencies, low acceptance/support from LGUs when applying Regional-CES, and insufficient means for implementation, which make it very difficult for key players to implement the concept. As for scaling up climate change resiliency through a Regional-CES approach, this is challenged by mismatched priorities in the localisation of development, lack of sufficient shared knowledge and information about climate change, and insufficient financial resources for climate mitigation.

The interactive discussions at the workshop in Thailand made participants realise that there were no straightforward ways to apply Regional-CES, BCG, or similar integrated approaches in the context of Thailand because many challenges hindered their application (Figure 5). The workshop identified a number of barriers to applying the Regional-CES and similar integrated sustainable development approaches, including lack of knowledge on the concept, absence of guidelines for Regional-CES or even BCG Economy, lack of location-based supportive laws and regulations, incompatibility between top-down implementation and local demands, lack of science-based assessment on locally available resource, obstacles to financial support, limited funds, a lack of effective partnership or networking,

**TABLE 4.** Challenges to applying Regional-CES in the Philippines, Thailand, and Indonesia.

Country	Challenges for Regional-CES
Philippines	<ul style="list-style-type: none"> <li>• Limited budget/funds for integration and climate mitigation</li> <li>• Mismatched priorities for localisation of development</li> <li>• Lack of shared knowledge and information</li> <li>• Lack of infrastructure that could close the link to circular economy</li> <li>• Conflicting policies at the local and national levels</li> <li>• Wasteful duplication of plans from various agencies at various levels</li> <li>• Insufficient means to implement plans/weak implementation</li> <li>• Low acceptance/support of Local Government Units (LGUs) when applying Regional-CES concept due to conflicting/other priorities</li> </ul>
Thailand	<ul style="list-style-type: none"> <li>• Lack of institutional structures and information on the concept</li> <li>• No guidelines for Regional-CES or even BCG Economy</li> <li>• Lack of location-based law and regulation</li> <li>• Incompatibility between top-down implementation efforts and local demands</li> <li>• Lack of understanding of locally available resources</li> <li>• Obstacles of financial support, research funds, lack of awareness of Regional-CES and lack of networking</li> <li>• Different approaches between urban and rural settings</li> </ul>
Indonesia	<ul style="list-style-type: none"> <li>• Urban bias whereby urban areas have a strong position compared to rural areas</li> <li>• High urban land price</li> <li>• Lack of infrastructure</li> <li>• Lack of human resources with the necessary skills</li> <li>• Lack of inter-municipality coordination</li> <li>• Lack of community involvement/consultation in formulating and implementing spatial planning</li> <li>• Different cultures/traditions between urban and rural areas</li> <li>• Urban migration, particularly of young people</li> </ul>

and an uncoordinated approach in terms of urban and rural development.

The Regional-CES workshop in Indonesia identified several challenges for advancing the Regional-CES and urban-rural linkages. These challenges include a lack of human resources with necessary skills, weak inter-municipality coordination, limited community involvement/consultation in formulating and implementing spatial planning, inequity between urban centres and rural communities, as well as various social and cultural differences between urban and rural areas.

### 3.4. Enabling measures for promoting Regional-CES application

The enabling measures to promote Regional-CES approaches in line with the country context are summarised in Table 5.

In the Philippines workshop, breakout discussions came up with enabling solutions such as better

technical expertise, more cross-sectoral coordination and linkages, sustainable funding sources, and shared knowledge, as well as raising awareness and empowering stakeholders. In addition, harnessing key resources, providing favourable conditions for securing human capital and well-being, and forward-looking actions/policies were identified as some of the enabling conditions for the efficient implementation of the Regional-CES approach. As the next step, it was proposed to establish a platform to co-learn and co-develop collective action based on the lessons learned from the national workshop, with the aim to sustain momentum through doable activities.

The Thailand workshop explored various solutions to the abovementioned challenges in applying the Regional-CES, BCG and similar integrated approaches. The group discussions came up with a list of enabling solutions, including that laws and regulations should be reviewed based on locations,



**TABLE 5.** Enabling measures for application of Regional-CES in the Philippines, Thailand, and Indonesia.

Country	Enabling measures
Philippines	<ul style="list-style-type: none"> <li>• Harnessing of human, natural, and financial resources</li> <li>• Forward-looking actions/policies</li> <li>• Enabling Regional-CES experts who could extend technical expertise</li> <li>• Strengthening cross-sectoral coordination and linkages</li> <li>• Sustainable funding sources</li> <li>• Sharing sufficient knowledge of Regional-CES-related best practices/successful models</li> <li>• Increasing awareness and empowering stakeholders</li> </ul>
Thailand	<ul style="list-style-type: none"> <li>• Laws and regulations should be reviewed based on locations</li> <li>• Enhancing rural and urban linkages for a sustainable society</li> <li>• Establishment of local stakeholder platforms (e.g., Regional-CES platform)</li> <li>• Enhancing spatial planning with accurate mapping</li> <li>• Community participation/consultation to formulate and implement spatial planning</li> <li>• Effective law enforcement</li> <li>• Addressing conflicts between land ownership rights and spatial regulations</li> <li>• Promotion of sustainable agriculture</li> <li>• Enhancing vocational training</li> <li>• Provision of infrastructure</li> <li>• Vertical residential development in urban areas for better land use</li> </ul>
Indonesia	<ul style="list-style-type: none"> <li>• Enhancing spatial planning with accurate mapping</li> <li>• Community engagement to formulate and implement spatial planning</li> <li>• Effective law enforcement</li> <li>• Addressing conflicts between land ownership rights and spatial regulations</li> <li>• Promotion of sustainable agriculture</li> <li>• Enhancing vocational training</li> </ul>

rural and urban linkages for sustainable society should be enhanced, local stakeholder platforms (e.g. Regional-CES platform) should be established, and the concept of integrated approaches (e.g. Regional-CES, BCG, ecosystem-based approaches) for sustainable development in the education curriculum should be promoted. Subsequently, it was proposed that the regional-CES concept be made practicable and feasible by considering the needs and realities of local implementors and encouraging co-development to ensure integration of the existing policies for broader acceptability.

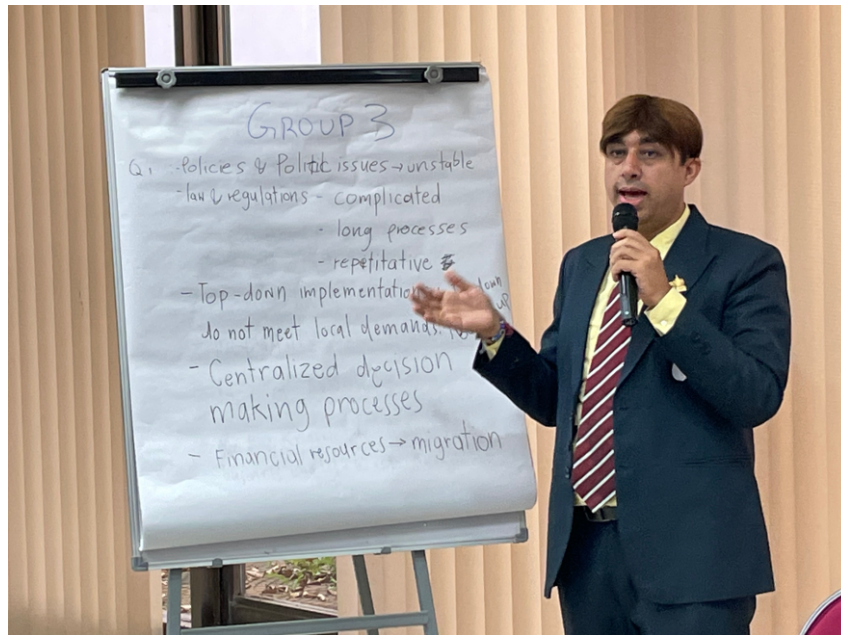
The Indonesia workshop selected spatial planning with accurate mapping as one of the policy tools to advance the Regional-CES approach. In addition, the workshop also highlighted several other enabling solutions, including rural community participation/consultation to formulate and implement spatial planning, law enforcement, and vocational training on the integrated approach. The next step was for participants to suggest various

potential actions, including creating a network of researchers, policymakers, and practitioners to foster collaboration and knowledge sharing, organising future workshops to discuss urban-rural linkages, and developing a database of best practices on urban-rural linkages.

#### 4. CONCLUSION

The Regional-CES is an integrated approach to synergistically localise global and national agendas on sustainable development through integrated actions for economic development, social inclusion and sound ecosystem management. Regional-CES provides a framework for bringing together various approaches: rural-urban linkages, ecosystem-based solutions for decarbonisation, and resource circulation for economic revitalisation and resilient society.

The scoping workshops on Regional-CES aimed to disseminate the concept and explore its relevance to existing policies and sustainable de-



**FIGURE 5.** Group discussion report of the identified challenges to Regional-CES application.

velopment strategies in three selected countries (Philippines, Thailand, and Indonesia). Through these three scoping workshops, it was revealed that the Regional-CES concept is particularly relevant to national sustainable development pathways as well as line policies such as the Bio-Circular-Green (BCG) Economy in Thailand, Presidential regulation 60/2020 of Indonesia, and the Local Climate Change Action Plan (LCCAP) developed by the Philippines. Several potential entry points for applying the Regional-CES to stimulate sustainable development in each country's context were identified. Likewise, the workshops also pointed out several challenges in the context of each country. Common challenges include limited scientific understanding, top-down policymaking processes, ignorance of local needs and reality, lack of capacity in local agencies and societies, and insufficient financial schemes and research funds. There was also a lack of awareness about Regional-CES among local people and limited networking. In order to overcome the identified challenges, the workshops discussed sets of enabling solutions that included enhancing linkages for sustainable society between urban and rural areas through the generation of location-specific scientific knowledge, developing a science-policy-society interface, establishing a local stakeholder platform to enhance the co-development of local actions, and implementing a capacity development programme on integrated approaches. The lessons learned from

these three national workshops could facilitate a regional-level, cross-learning mechanism for applying the Regional-CES to tackle sustainability challenges in various national, sub-national and local contexts.

The Regional-CES concept introduced by the workshops has already generated some impacts. Following workshop discussions, a project for development of several villages in Indonesia is now planned which will incorporate agrivoltaics for enhancing resilience and sustainability. This exemplifies how the Regional-CES concept can contribute to local development by focusing on effective rural-urban linkages, as well as sufficiently utilising potential local resources in line with respective national contexts.

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