COMPENDIUM OF ANALYTICAL VIEWS FOR THE ASCC BLUEPRINT 2025

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FOR THE ASCC BLUEPRINT 2025

The ASEAN Secretariat
Jakarta

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ASEAN: A Community of Opportunities for All

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Foreword

Following the development of the ASEAN Socio-Cultural Community (ASCC) Blueprint 2025 Baseline Report and the conduct of the Midterm Review of the implementation of the Blueprint in 2020, we have observed indications of progress as well as the challenges that lie ahead in realising the Blueprint.

In light of the exceptional time that we are currently living in, our efforts to implement the Blueprint have become far more relevant and critical. It is important for us to explore new and innovative ideas and further our discussions on how the ASCC might overcome challenges in the next five years and beyond. Advancing ASEAN requires a holistic approach. We are stronger together; we are stronger collectively. Our different points of view and methods allow us to innovate and achieve the objectives of the ASCC. Therefore, I am delighted to welcome analytical views from distinguished researchers on how we might further advance implementation of the Blueprint.

Moving forward, we will seek insights and input from academia, research institutes, think tanks, and other stakeholders on how we might improve implementation of the Blueprint as we move toward its completion in 2025. As we continue to strengthen and to promote grassroots and public involvement on implementing the Blueprint, we hope this initiative can provide an opportunity for stakeholders to better understand and appreciate the various efforts made within the ASEAN Community.

I also acknowledge the contributions of the researchers who have shared their interesting arguments and views as they offered feasible recommendations on the way forward. We believe that sharing knowledge will help efforts to advance the Blueprint's implementation

and realise an inclusive, sustainable, resilient, and dynamic ASEAN Community that engages and benefits the people.

KUNG PHOAK
Deputy Secretary-General of ASEAN
for the ASEAN Socio-Cultural Community

Introduction

Welcome to the Compendium of Analytical Views for the ASCC Blueprint 2025. The Compendium presents analytical views and practical approaches to implement the Blueprint that were collected to apply science-based approaches to the important work delivered under the Blueprint, and which will be delivered during its second term of implementation (2021-2025).

The Compendium is part of the Blueprint Report project and it was made possible by support from the ASEAN Development Fund and the assistance of the PT. MDF Pacific Indonesia. Following a Call for Papers in October-November 2020, the ASEAN Secretariat (ASEC) received policy and research papers from academic institutions, research institutes, think tanks, students, and other stakeholders. Authors of selected papers were invited to present and discuss their work at the ASEAN Symposium on ASCC Blueprint 2025, which was held via video conference on 10 December 2020 and was attended by around 80 representatives from ASEAN Member States (AMS), the Senior Officials Committee for ASCC (SOCA), ASCC Sectoral Bodies, ASEAN Regional Entities, think tanks, and other relevant bodies.

About the Blueprint

The primary goal of the Blueprint is to contribute the realisation of an ASEAN Community that is people-centred and socially responsible with a view to achieving enduring solidarity and unity among the nations and peoples of ASEAN by forging a common identity and building a caring and sharing society that is inclusive and harmonious, and where the well-being, livelihoods, and welfare of its peoples are enhanced. The vision of AMS under the Blueprint, is to realise an ASEAN Community that manifests five Characteristics: engages and benefits the people, inclusive, sustainable, resilient, and dynamic.[1]

1 The ASCC Blueprint 2025 may be accessed here: asean.org/storage/2016/01/ASCC-Blueprint-2025.pdf

For these five Characteristics, the Blueprint specified 18 Key Results Areas (KRA) and 109 Strategic Measures (SM) to describe the actions planned to implement the KRAs, which are detailed below.

A. Engages and Benefits the People

A.1. Engaged stakeholders in ASEAN processes.

A.2. Empowered people and strengthened institutions.

B. Inclusive

B.1. Reducing barriers.

B.2. Equitable access for all.

B.3. Promotion and protection of human rights.

C. Sustainable

C.1. Conservation and sustainable management of biodiversity and natural resources.

C.2. Environmentally sustainable cities.

C.3. Sustainable climate.

C.4. Sustainable production and consumption.

D. Resilient

D.1. A disaster resilient ASEAN that is able to anticipate, respond, cope, adapt, and build back better, smarter, and faster.

D.2. A safer ASEAN that is able to respond to all health-related hazards, including biological, chemical, radiological/nuclear, and emerging threats.

D.3. A climate adaptive ASEAN with enhanced institutional and human capacities to adapt to the impacts of climate change.

D.4. Strengthened protections for women, children, youths, the elderly/older persons, persons with disabilities, ethnic minority groups, migrant workers, vulnerable and marginalised groups, and people living in at-risk areas, including people living in remote and border areas and climate sensitive areas, to reduce vulnerabilities in times of climate change-related crises, disasters, and other environmental changes.

D.5. Enhanced and optimised financing systems; food, water energy availability; and other social safety nets in times of crises by making resources more available, accessible, affordable, and sustainable.

D.6. Endeavour toward a drug-free ASEAN.

E. Dynamic

E.1. Toward an open and adaptive ASEAN.

E.2. Toward a creative, innovative and responsive ASEAN.

E.3. Engender a culture of entrepreneurship in ASEAN.

Overview of Papers

The 10 papers presented in the next sections were nominated based on their relevance to the Blueprint's overarching vision, as well as their clarity, methodology, findings, recommendations, and applicability of recommendations.

The first paper, **'Collaborative Governance to Achieve ASEAN Community Vision 2025-Implementing the Blueprint'** by Dr. Alistair D. B. Cook and Professor Mely Caballero-Anthony from the S. Rajaratnam School of International Studies, Nanyang Technological University, Singapore, discusses the current state of stakeholder engagement for ASEAN's welfare and institutional mechanisms on cross-Sectoral, cross-Pillar, and cross-cutting issues. The study analysed available policy alternatives to address gaps and challenges to achieve greater engagement and synergies throughout the ASEAN Community. It identified three relevant case studies addressing implementation of the Blueprint and the ASEAN Community Vision 2025: (1) AADMER Partnership Group Model, (2) Malaysia's KitaMatch, and (3) the Pacific Data Hub. It found that the case studies were mutually reinforcing across local, national, and regional governance levels, and provided more comprehensive and systematic policy discussions and implementation.

The second paper, **'A Preliminary Assessment of ASEAN's Climate Governance: Gaps and Opportunities'** by Sharon Seah and Melinda

Martinus from the ISEAS-Yusof Ishak Institute, Singapore, explored ASEAN's position and institutional framework on climate change in the context of ASEAN's vision to accelerate economic growth, social progress, cultural development, and socio-political stability among AMS. The authors analysed ASEAN's institutional framework on climate change, including the reasoning behind this institutional setting, as well as gaps and opportunities to leverage climate action to strengthen regional cohesiveness.

Third, **'Rationale for a Robust M&E System for Development Cooperation in ASEAN'** by Armiliza Magno, Policy Leader Fellow from the School of Transnational Governance, European University Institute (EUI), made a case for developing a robust monitoring and evaluation (M&E) system for regional development cooperation in ASEAN, aimed at complementing the existing M&E systems of ASEAN's Community Pillars, including the ASCC. Magno argues that such a system is imperative for ASEAN as a regional integration organisation based on and anchor discussions on the organisation's objectives, institutional structure, and accountability mechanism. The paper highlighted emerging issues and prompted further conversations, reflections, and study.

Fourth, **'Strengthening Synergies: Triple-Bottom Lines for Promoting a Regional Renewable Energy Sector and Sustainable Development'** by Dr. Hariyadi, research staff at the Centre for Research, Secretary-General of Indonesia's House of Representatives, used a qualitative approach to review the rising need for renewables. The paper said that to achieve regional energy security and the ASSC's sustainable vision, ASEAN should develop an institutional and legal framework for renewables development to strengthen synergy at the AMS level for national renewables policies and energy efficiency targets. The paper highlighted the need for assertive political action by ASEAN in improving renewables to ensure regional energy security and sustainable development envisioned by the ASCC's and AEC's visions.

Fifth, **'Progress Report on New Initiatives for an Online Platform to Boost Human Resource Capacity of Science, Technology. and**

Innovation Coordinators in Japan and ASEAN Toward Grand Challenges' by Dr. Taro Sonobe and Chisato Saito from the Kyoto University Research Administration Office (KURA), Kyoto University, Japan, highlighted the importance of building human capital by launching in August 2020 a monthly online webinar titled 'Science, Technology, and Innovation Coordinators in Japan and ASEAN toward Grand Challenges'. The webinar was led by KURA, in collaboration with the ASEAN Foundation, ASEC and the Japan-ASEAN Science, Technology, and Innovation Platform (JASTIP). The paper reported progress made under joint initiatives to boost human resources capacity for cross-Sectoral and cross-Pillar coordination to address cross-cutting issues under the Blueprint, as well as global and regional challenges.

Sixth, **'Realising Inclusive Development for People with Disabilities and Women in Indonesia Based on the ASCC Blueprint 2025'** by Safaana Salwa Salsabilla, Berliana Adinda, and Khairunnisa Simbolon of Lampung University and the Sumatra Institute of Technology, Indonesia, examined Indonesia's success as an AMS in realising inclusive development for people with disabilities and women based on the Blueprint. This paper used descriptive qualitative research methods and data collection techniques deploying literature studies. This paper showed that Indonesia met only 25% of indicators for inclusive development for people with disabilities and women.

Seventh, **'Managing for SCP between Oil Consumption and Economic Growth of Middle-Income Countries in Achieving the Goals of ASCC 2025'** by Elsa Ariana, Hemastia Kirana, and Khairunnisa Simbolon of Lampung University, Indonesia, applied the Sustainable Development Scenario (SDS) and the IEA Stated Policies Scenario (STEPS) to model oil consumption policies and economic growth for AMS, especially middle-income countries, in achieving Sustainable Consumption and Production (SCP), which is a focus of the Blueprint. The researchers modeled how oil consumption affected economic growth and interconnections between the two. The study, which used the SPSS test tool as a quantitative research method, found that STEPS, where energy subsidy policy-making can increase oil

consumption, can affect a country's economic growth. However, the paper indicated this was it is not the case for SDS, where policies to increase renewable energy production did not significantly achieve sustainable consumption and production in ASEAN's middle-income countries.

Eighth, **'QR CODE PROJECT: On Potential Increases in Medication Adherence Among Hypertensive and Diabetic (Type 2DM) Respondents through Drug Information Provision'**, by Maeghan C. Rendon, Patty Ellaine E. Dela Cruz, Lea Ellana E. Pesigan, Camille V. Ramirez, Margaret Maersk J. Sagun and Jay P. Jazul of the University of Santo Tomas, Manila, Philippines, deals with the assessment of medication adherence among hypertensive and diabetic patients. Researchers applied a small-scale intervention using Quick Response (QR) codes attached to packaging materials on patient drugs to measure adherence. Findings indicated that adherence (37.1%) and high adherence (17.7%) rates were significant among respondents, indicating a possible increase in adherence after the promulgation of drug information through QR codes. The odds ratio value of 30.375 signifies that the odds of having high/medium adherence to medication taking after QR code intervention was 30.375 higher, compared to low adherence respondents. This denotes the effective response of QR code application for the provision of drug information. This was also seen as a contributing factor in the increase of level of adherence on the proper medications by respondents.

Ninth, **'Initial Assessment of the Information Education Campaign (IEC) Materials for Pediatric Tuberculosis in Selected Informal Community Settlers'**, by Jay P. Jazul, Maria Carinnes P. Alejandria, Solomon Sarne, and Lora Kimberly Cabalbag of University of Santo Tomas, Manila, Philippines, aimed to identify the feasibility of information dissemination through information education campaigns (IEC) among the caregivers of children living with tuberculosis (TB). Results suggested that most caregivers were confident in using calendars as a tool to guide medication intake. Knowledge of TB was enhanced through IEC materials according to the common narratives

of the caregivers. Comics were preferred over video due to easier accessibility.

Tenth, **'Assessing Sustainable Tourism in Southeast Asia Based on the ASCC Blueprint: Komodo Island Construction Plan, Indonesia'** by Hemastia Kirana, Safaana Salwa Salsabila, Elsa Ariana, and Khairunnisa Simbolon of Lampung University, Indonesia, examined sustainable tourism using plans for the Jurassic Park Komodo on Rinca Island as a case study based on indicators from the Blueprint. It looked at compared the regulatory and design processes for the development plan against 10 indicators of sustainable tourism according to the ASCC Blueprint. The paper, which was a qualitative research using literature study data collection techniques, said that Jurassic Park Komodo only fulfilled 40% of the Blueprint's sustainable tourism indicators.

Conclusion

The ASCC Blueprint 2025 detailed a broad vision to strengthen human development and bring about socio-cultural change in ASEAN. It covers a wide range of topics–wide enough for many participating organisations to find their niches and contribute to many topics under the Blueprint. However, the following research questions remain relevant:

1. How can the Blueprint be mainstreamed in national-level activities, programmes, or initiatives, using evidence-based outcome indicators?
2. To what extent can Blueprint initiatives engage more stakeholders and lead to an increased number of intended effects on the welfare of ASEAN's peoples?
3. How can a workable M&E framework be developed and implemented to regularly assess Blueprint progress using available outcome indicators or those that can be collected by AMS?
4. How to analyse institutional mechanisms that could leverage or add value to cross-Sectoral and cross-Pillar coordination to address cross-cutting issues?

5. Given disruptions to Blueprint implementation from the COVID-19 pandemic, what lessons learned by the ASSC can guide ASEAN's collective efforts and build capacity to address the economic and social impacts of the pandemic, especially in the next five years?

It is hoped that this Compendium will strengthen the ASEAN Secretariat's network with relevant researchers and academics, increase awareness of the Blueprint's implementation with the public, and increase exposure of the organisations, speakers, and authors of the papers and their work within the ASEAN Community.

Paper 1

Collaborative Governance to Achieve ASEAN Community Vision 2025– Implementing the Blueprint

Researcher Profiles

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Abstract

The ASEAN Socio-Cultural Community Blueprint 2025 signals a commitment to collectively deliver and fully realise human development, resiliency, and sustainable development in Southeast Asia. The Blueprint strives to develop cross-Sectoral and cross-community synergies in ASEAN to address collective action problems. Individual Sectors have identified common platforms to bridge divides across the ASEAN Community, yet there remain multiple siloes in achieving a comprehensive approach to common challenges. The aims of this policy paper are twofold. First is to propose avenues for improving cross-Sectoral collaboration among ASSC's Sectoral Bodies and coordination between ASEAN's Pillars. Second is to examine ways to engage more stakeholders in ASEAN by exploring potential platforms at the national and regional levels to facilitate information exchange and the sharing of experiences and best practices.

1. Introduction

IN 2015, ASEAN established the ASEAN Community, which comprises three Pillars: the ASEAN Economic Community (AEC),

the ASEAN Political-Security Community (APSC), and the ASEAN Socio-Cultural Community (ASSC). At the foundation of the ASEAN Community, ASEAN Leaders agreed to the ASEAN Community Vision 2025. To achieve the vision, ASEAN Leaders agreed to three Community Blueprints, which included workplans that covered two periods of implementation, 2015 to 2020 and 2021 to 2025, with a midterm review in 2020.

In late 2020, each ASEAN Pillar completed its midterm review. As part of mapping the second implementation period, ASEC and the SOCA Chair jointly launched on 1 November 2020 a call for papers to obtain analytical views and inputs on the realisation of the ASCC Blueprint 2025, with a submission deadline of 26 November 2020. The call for papers aimed to strengthen ASEAN's network with relevant researchers and widen the outreach of the Blueprint to the public.

Initial observations of the midterm review process highlighted the disconnect between the three Community midterm reviews. In some instances, this is illustrated through the non-transfer of progress on overlapping goals from one Community to another. This was identified in the executive summary of the ASPC midterm review on sustainability, and the agenda item on sustainability in the executive summary of the midterm review of the ASSC Blueprint 2025. The ASCC Midterm Review Executive Summary recognised that there have different Sectoral mechanisms coordinating discussions and Blueprint implementation, and of the broader ASEAN Vision 2025. These mechanisms include Sectoral centres such as the ASEAN Centre for Biodiversity to Senior Officials Meetings.

This highlights a need to synergise the progress made across Sectoral and Community midterm reviews, not only in terms of reporting–but to identify novel approaches and to determine the transferability of successful initiatives across Pillars and between Sectors.

Several cross-Pillar conferences or working groups have to date provided mechanisms to bridge ASEAN's three Pillars. However, as this policy paper lays out, there needs to be a more systemic approach to delivering the ASEAN Vision 2025 and the ASSC Blueprint 2025.

2. Research Objectives

The general objective of this study was to achieve the engagement of more stakeholders on ASEAN people's welfare and to identify institutional mechanisms for cross-Sectoral, cross-Pillar, and cross-cutting issues to achieve the goals laid out in the ASSC Blueprint 2025.

The specific objectives of this study were to evaluate the current state of stakeholder engagement on the welfare of ASEAN's peoples and institutional mechanisms for cross-Sectoral, cross-Pillar and cross-cutting issues. The study then analysed policy alternatives available to address the gaps and challenges to achieving greater engagement and synergies throughout ASEAN.

3. Methodology

Research was conducted in November 2020 through document analysis and examination of written, historical, and archival academic and policy research work, and a review of current policies, mechanisms, and developments in Sectors within ASEAN and developments beyond ASEAN.

4. Research Findings

Through a review of initiatives at the national level and within and outside the ASEAN Community, this paper identified pathways to achieve better cross-Pillar collaboration and cross-Sectoral coordination so as to explore institutional mechanisms to increase stakeholder engagement and participation to ensure ASEAN people's welfare and security.

On improving cross-Pillar and cross-Sectoral coordination, more can be done to improve the current institutional arrangement of having the ASEAN Coordinating Council (ACC) as the highest body that oversees the coordination of the three Pillars, working with the respective Community Councils and supported by the Sectoral Ministerial bodies. The resources provided to coordinate not just the work of one Community but all three are clearly insufficient–even with

the support and preparatory work done by the Councils and Sectoral Bodies.

A more efficient way to improve cross-Pillar coordination and cross-Sectoral collaboration without creating another body would be to consider establishing a 'Review Conference' (RC) as an informal mechanism to assess progress and results, whose findings can be fed to the other reporting mechanisms in the respective Community Councils.

A RC would offer an excellent platform to allow ASEAN Member States (AMS) and relevant Sectoral Bodies (SB) of the three Communities to share their experiences and best practices in implementing the measures outlined in the ASCC Blueprint. This sharing exercise might also provide an opportunity to identify gaps and challenges faced by the SBs in every AMS and in turn, prompt the development of strategies to fill those gaps or mobilise additional targeted resources needed for capacity building.

Also, an RC would be an important mechanism to affect more policy coherence–something that is important at all times and is particularly essential at this stage of ASEAN Community building. Moreover, the RC would serve as an excellent platform to engage more stakeholders, e.g., non-state actors, such as academia, civil society organisations, and the Private Sector. The operative consideration should be inclusion, that is, to increase the number of stakeholders in the ASCC.

The goal of a more inclusive ASCC requires more targeted approaches to increase the number of stakeholders in the Community-building process. In this regard, exploring ways to expand partnership groups and establish data platforms for information exchange can go a long way in facilitating better coordination and collaboration. Three case studies illustrate how this might be achieved: (1) the AADMER Partnership Group (APG) Model, (2) Malaysia's KitaMATCH Model, and (3) the Pacific Data Hub (PDH) Model. This section explores the three case studies and illustrates how operating with partners to achieve greater stakeholder engagement offers prospects to bridge Sectoral and community disconnections.

4.1. AADMER Partnership Group (APG) Model

The AADMER Partnership Group (APG) is a consortium of seven international CSOs, formed to support the implementation of the ASEAN Agreement on Disaster Management and Emergency Response (AADMER). The APG works with the ASEAN Committee on Disaster Management and its working groups, the AHA Centre, and the ASEC, aiming toward a 'people-centred implementation of AADMER'. It undertakes this function by raising awareness of AADMER, and by facilitating the engagement of CSOs through AADMER discussions and implementation.

Discussions are underway to reform the APG to further engage local CSOs. At present, the APG comprises seven international CSOs, with only one founded in the ASEAN region. These discussions include the establishment of national chapters of APG to engage a broader range of CSOs in AADMER discussions and implementation.

Several CSO consortiums exist at the national level within ASEAN, providing platforms for engaging more stakeholders in Blueprint discussions and implementation. However, at present, further development of an appropriate mechanism to link Blueprint discussions and implementation remains limited largely to the informal and ad hoc engagement of local CSOs.

The absence of an appropriate mechanism between ASEAN and relevant CSO platforms limits the engagement of the wider ASEAN Community beyond national governments and their various entities. This absence deprives the policy-making process of advancing a people-centred ASEAN and limits the intended effects of the ASCC Blueprint 2025 on ASEAN people's welfare by drawing on the experience and expertise of those outside of government bodies in our communities.

4.2. Malaysia-KitaMATCH[2]

In early 2020 in Malaysia, the national government implemented KitaMATCH, which is a national hub to channel aid efficiently to those in need; to match supply (government, donors, humanitarian organisations) and demand (those in need of aid) with data-driven insights; to provide capacity building programmes to partner organisations to increase community resilience; and to educate, advocate, and build national capacity on humanitarian issues. KitaMATCH is built on a Public-Private Partnership Model and is a Private Sector-led initiative, with close collaboration with the government and civil society to ensure rapid mobilisation.

KitaMATCH is an independent entity whose founders include Tan Sri Dr. Jemilah Mahmood, the Malaysian Red Crescent Society, Yayasan Hasanah, Jabatan Kebajikan Masyarakat (JKM), the Boston Consulting Group (BCG), Mercy Malaysia, and the Majlis Keselamatan Negara (MKN). KitaMATCH is governed via its steering committee, which comprises Special Advisor TS Dr. Jemilah, government agencies (MKN, JKM), corporate foundations (Yayasan Hasanah, Yayasan Petronas), humanitarian aid organisations (MERCY, MRCS), and members of the Private Sector (BCG).

KitaMATCH's vision is for a Malaysia that is a resilient society that promotes sustainable human development through humanitarian action. It aims to achieve this by building a vibrant Social Sector that drives and delivers sustained, evidence-based, innovative, effective, and accountable humanitarian assistance. The guiding principles of KitaMATCH are independence, impartiality and humanity; innovation; and collaboration, coordination, and capacity development for resilience.

KitaMATCH achieves its objectives through MATCH's digital platform to streamline aid delivery. The digital platform addresses the following challenges: a perceived lack of transparency; speed to action; hard-to-

2 The details of KitaMATCH were presented by Tan Sri Dr Jemilah Mahmood at the RSIS-AHA Centre World Humanitarian Day Webinar on 'Humanitarian Assistance in Southeast Asia during COVID-19', 19 August 2020. Available: https://www.rsis.edu.sg/event/rsis-aha-centre-world-humanitarian-day-webinar-on-humanitarian-assistance-in-southeast-asia-during-covid-19/#.X74VK2gzbIV

coordinate non-cash donations; a lack of a common language (e.g., families vs. communities); technologically deficient NGOs and CSOs, and a lack of adherence to standards. Through a digital platform–a simple front-end tool accessible to all registered participants that offers analytics-enabled insights–KitaMATCH offers a single database to exchange information using a real-time cloud-based platform that standardises non-cash requests with links to logistics providers and structure terms with compulsory fields.

4.3. Pacific Data Hub (PDH)[3]

The Pacific Data Hub is a central depository of data about the Pacific from the Pacific. It provides a gateway to the most comprehensive collection of data and information about the Pacific across key areas, including population statistics, fisheries science, climate change adaptation, disaster risk reduction and resilience, public health surveillance, conservation of plant genetic resources for food security, and human rights.

The PDH includes data from governments, regional and Sectoral Bodies, international financial institutions, UN agencies and affiliated bodies, universities and research institutions, as well as private and non-profit entities.

An innovation of the Pacific Community (SPC), the PDH is supported by its partner the New Zealand Foreign Affairs and Trade Ministry. The PDH platform recognises policy challenges faced and works in collaboration with its members and development partners to provide quality data and evidence, and also develops tools and capabilities to generate new insights, inform good decision-making, and deliver improved outcomes.

The PDH is part of an emerging Pacific data ecosystem and is an effort to build a wider partnership between Pacific Island Countries and Territories, SPC, and the Pacific Regional Environment Programme (SREP) to promote greater data coordination, management, dissemination and uptake initiatives; develop capacity and data

3 Information on the Pacific Data Hub (PDH) was collected from https://pacificdata.org/

literacy in the region; and ensure that data is managed well, shared responsibly, and used ethically.

5. Discussion and Analysis

The case studies above illustrate how to grow stakeholder engagement for improving the welfare of ASEAN people's and for boosting institutional mechanisms for cross-Sectoral, cross-Community and cross-cutting issues that are mutually reinforcing.

Through the APG model there is already an established ASEAN mechanism for greater stakeholder engagement. While its initial formula is under review, the model provides a precedent from the disaster management and emergency response community that can be initiated in other Sectors. This effort bridges the gap between policymakers and ASEAN's peoples in a tangible way to increase the effectiveness of policy discussions and implementation, and provides a feedback loop from the Community to decision-makers to ensure that desired policy outcomes are achieved.

Malaysia's KitaMATCH, established during the COVID-19 pandemic, illustrates how stakeholders from the Public, Private and People Sectors can use a data hub to match supply with demand. The MATCH platform is illustrative of a mechanism allowing multiple stakeholders to work together to ensure that policy aims meet needs in a transparent, accountable, and accessible way at the national level. Further, the case study illustrates the impact that can be achieved with a limited turnaround–an important consideration when considering the time left to 2025 for information sharing and effective policy implementation.

Finally, the Pacific Data Hub illustrates the scalability at the regional level of a safe, secure, and accessible data platform that engages national governments, regional and Sectoral bodies, international financial institutions, UN agencies and affiliated bodies, universities and research institutions, as well as private and non-profit entities to collaborate to achieve complementarity between the UN 2030 Agenda for Sustainable Development and ASEAN Community-building efforts

to uplift the standards of living of ASEAN's peoples that is recognised in the ASEAN Community Vision 2025.

6. Conclusion and Policy Recommendations

This paper identified the current gaps and challenges in the Executive Summary of the Blueprint's Midterm Review. The paper focused on two current themes identified in the Call for Papers: engagement of more stakeholders on the welfare of ASEAN's peoples and identification of institutional mechanisms for cross-Sectoral and cross-Pillar collaboration on cross-cutting issues.

Through a review of documents and initiatives within ASEAN and beyond, the paper identified three case studies to address the identified issues in achieving the Blueprint and the ASEAN Community Vision 2025: the AADMER Partnership Group Model, Malaysia's KitaMatch, and the Pacific Data Hub. It found that the programmes cited by the case studies mutually reinforced comprehensive and systematic policy discussions and implementation across local, national, and regional levels of governance.

This paper recognises that implementation of greater stakeholder engagement and of a new mechanism to improve cohesion through a data platform is no panacea, but offers a pathway to closing the current gaps and meeting the challenges identified in the Blueprint's Midterm Review. With this caveat in mind, this paper recommends:

1. The ASEAN Socio-Cultural Community Council (ACC) establish Review Conferences as an informal mechanism to assess progress and results and feed their findings to the other reporting mechanisms in the respective Community Councils.
2. The ASCC Council adopt the APG model as a template to engage more stakeholders in Sectoral policy design and implementation with a view to each Sector instituting such groupings by 2025.
3. The ASCC implement a whole-of-ASEAN approach through instituting an ASEAN Data Hub engaging AMS, ASEAN Sectoral Bodies, international financial institutions, UN agencies and affiliated bodies, universities and research institutes, and private

and non-profit entities, particularly to achieve the Blueprint, and realise a wider commitment to ASEAN Community Vision 2025 and beyond.

- This initiative should be mandated to (1) provide a safe and secure platform for data storage and access in a multi-stakeholder environment, recognising the mutual benefits such an initiative provides for more effective policymaking; and to (2) build capacity within AMS that recognises individual policy preferences but ensures the transferability of data to inform policy design and implementation across the ASEAN Community.
- The ASEAN Data Hub would necessarily seek cross-community collaboration with the other ASEAN Community Pillars, notably the ASEAN Digital Ministers and the ASEAN Framework for Digital Data Governance signed in 2018.[4]

4 ASEAN, 2018, Framework on Digital Data Governance. Jakarta: ASEAN. https://asean.org/storage/2012/05/6B-ASEAN-Framework-on-Digital-Data-Governance_Endorsed.pdf

Researcher Profiles

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Melinda Martinus is Lead Researcher (Sociocultural) of the ASEAN Studies Centre, ISEAS-Yusof Ishak Institute, Singapore. Melinda's research interests revolve around urban resilience, smart city initiatives, and institutional frameworks and policies for advancing climate ambitions in Southeast Asia.

Paper 2:

Preliminary Assessment of ASEAN's Climate Governance: Gaps and Opportunities

1. Introduction

The issue of regional climate governance for climate change has gained traction in the past few years. Regional organisations are critical stakeholders in the international response to transboundary challenges and play an essential role in coordinating a state-dominated framework of ambitions and timetables for emissions reductions. Many studies on climate governance have pointed out that regionalism can help countries generate in-depth information, enable the sharing of experiences, bridge gaps between national efforts and the global climate change framework, and manage various transboundary environmental problems.

The role of regional organisations in mobilising climate action has been endorsed by many international institutions and development partners worldwide. The UN, for instance, mobilises its regional commissions to develop approaches to address the economic and social consequences of climate change to complement the analysis of its environmental aspects and its consequences for development from regional perspectives. One UN regional commission, United Nations Economic and Social Commission for Asia and the Pacific

(UNESCAP), has become a focal point in the region to coordinate climate action within the region's economic and social development goals. Development partners, such as the Asian Development Bank, the World Bank, the International Monetary Fund, and the Asian Infrastructure Investment Bank, proactively include climate change in planning and investment to ensure continued economic growth and a sustainable future for many regions worldwide. Other regional intergovernmental organisations, such as the European Union, the African Union, and the Association of Caribbean States, have been working on various frameworks covering the issues of climate change and opportunities to enhance economic integration, regional connectivity, and socio-political resilience.

This paper explores ASEAN's positionality and institutional framework on climate change in the context of ASEAN's vision to accelerate economic growth, social progress and cultural development, and socio-political stability among ASEAN Member States (AMS). The authors analyse ASEAN's institutional framework on climate change, including the reasoning behind this institutional setting, as well as gaps and opportunities to leverage climate action to strengthen regional cohesiveness. The structure of the paper includes sections on growing climate change concerns across various sectors in the Southeast Asian context, an overview of AMS Climate Governance, an overview of ASEAN's Regional Framework on Climate Change; and analysis of institutional gaps and opportunities, followed by policy recommendations.

2. Concerns on Climate Change in Southeast Asia

Climate change continues to gain traction in Southeast Asia. 'The State of Southeast Asia 2020 Survey' by the ISEAS-Yusof Institute highlighted that climate change was among the top security concerns expressed by regional experts and opinion leaders.[5] 66.8% of 1,308 Southeast Asian experts surveyed for the report were concerned about climate implications, up from 52.6% in 2019.

5 Siew Mun Tang, Thi Ha Hoang, and Glenn Ong, 'The State of Southeast Asia: 2020 Survey Report' (Singapore: ISEAS-Yusof Ishak Institute, January 2020).

However, in a subsequent survey, 'The Southeast Asia Climate Outlook: 2020 Survey Report', Southeast Asians were equally ambivalent on ASEAN's effectiveness in tackling climate change.[6] While 31.3% of respondents said that ASEAN was working effectively, only slightly more, 32.9%, disagreed. More importantly, 35.9% of respondents said that they neither agreed nor disagreed that ASEAN was collaborating effectively. This finding indicates that there is room for ASEAN to change this attitude of ambivalence and promote its role in mitigating and adapting proactively to climate change impacts.

The imperative to actively manage climate change and mitigate its consequences has been gaining momentum. For instance, at the UN Climate Summit in 2020, the former vice president of Indonesia said in his speech that forest fires in Sumatra and Kalimantan had been worsened by climate change.[7] There is growing scientific evidence of the links between transboundary haze pollution and climate change. ASEAN will begin to see more intense forest fires and transboundary haze problems affecting AMS as global temperatures keep rising.

ASEAN recently strengthened its commitment to combating marine debris in the ASEAN region.[8] Four AMS are among the most significant world polluters of oceans: Indonesia, the Philippines, Thailand, and Viet Nam.[9] Moreover, studies indicate that global climate change can change ocean circulation, thus affecting the distribution of marine debris. With the ASEAN Framework of Action on Marine Debris, ASEAN can further explore the nexus of climate action and efforts to curb plastic debris that are harmful to biodiversity and public health.

Many studies on geopolitical issues also indicate that climate change could have implications for regional security. The Norwegian Institute of International Affairs (NUPI) pointed out that climate-induced

6 Sharon Seah et. al., 'The Southeast Asia Climate Outlook: 2020 Survey Report' (ISEAS-Yusof Ishak Institute, Singapore, December 2020).

7 Dian Septenary, 'Kalla Blames Climate Change for Forest Fires,' *The Jakarta Post*, 25 September 2019, https://www.thejakartapost.com/news/2019/09/25/kalla-blames-climate-change-forest-fires.html.

8 ASEAN, 'ASEAN Framework of Action on Marine Debris,' § Statement & Communiques (2019), https://asean.org/asean-framework-action-marine-debris/.

9 Ocean Conservancy, 'Stemming the Tide: Land-Based Strategies for a Plastic- Free Ocean,' September 2015, https://oceanconservancy.org/wp-content/uploads/2017/04/full-report-stemming-the.pdf.

migration from low-lying areas in Bangladesh has triggered political tensions in Myanmar and among other AMS.[10] As people lose their livelihoods because of drought and sea-level rise, Southeast Asia could see an influx of forced migration in the future. Further, NUPI also asserts that the impact of rising sea levels could change the dynamic of territorial and maritime disputes in the South China Sea.

Although the jury is still out on the origins of the COVID-19 pandemic, there is enough evidence to suggest that the anthropogenic effects of climate change, such as the constant diminishment of natural habitats for wildlife, the mismanagement of biodiversity, the increasing proximity between wildlife and livestock, and global travel patterns may have contributed, if not exacerbated, the spread of the virus. The intersections between animal, human, and planetary health have been overlooked for far too long. At the international level, coordination between the FAO, OIE, and the WHO seems to have picked up pace with a greater emphasis on utilising the 'One Health' concept to manage emerging zoonotic diseases–although more needs to be done at the regional level. The ASEAN Working Group on Livestock (under the ASEAN Ministerial Meeting on Agriculture and Forestry), the ASEAN Working Group on Nature Conservation and Biodiversity (under the ASEAN Ministerial Meeting on Environment), and the Senior Officials' Meeting on Health Development (under the ASEAN Health Ministers' Meeting) need to be in closer communication with each other to ready ASEAN's responses to prevent a future pandemic.

Currently, all ten AMS are committed to the UN Framework Convention on Climate Change and the Paris Agreement.[11] All ten AMS are fully committed to accelerating reductions of global emissions and climate adaptation under the Paris Agreement and are proactively setting up various climate initiatives in their respective countries, such as renewable energy transition, agriculture and food security, forest

10 Indra Overland, 'Impact of Climate Change on ASEAN International Affairs Risk and Opportunity Multiplier' (Norwegian Institute of International Affairs and Myanmar Institute of International and Strategic Studies, 2017), https://www.researchgate.net/publication/320622312_Impact_of_Climate_Change_on_ASEAN_International_Affairs_Risk_and_Opportunity_Multiplier.

11 National University of Singapore Centre for International Law, 'Decoding the Paris Rulebook for Southeast Asia: Implementation and Its Challenges' (Singapore: CIL, NUS, 2019), https://cil.nus.edu.sg/publication/decoding-the-paris-rulebook-for-southeast-asia-implementation-and-itschallenges/.

and land use protection, disaster risk management, conservation on biodiversity, among many other things.

Under Article 4 of the Paris Agreement, state parties are required to 'prepare, communicate and maintain successive nationally determined contributions (NDC)' (Article 4.5) and to do so 'every five years in accordance with decision 1/CP21' (Article 4.9). AMS are currently in the process of updating their Nationally Determined Contribution (NDC) targets and their long-term, low-emission development strategies to show progression and greater climate ambitions. As of November 2020, Singapore, Thailand, and Viet Nam have submitted their revised NDC to the UNFCCC Secretariat. We believe that all the AMS will submit in due course.

Beyond managing transboundary climate-related security problems in the region, it is imperative that ASEAN mobilise resources to help AMS advance their climate aspirations. ASEAN could start by working collaboratively and systematically to address climate challenges and demonstrate to its stakeholders that AMS are indeed working together effectively.

Further, the COVID-19 pandemic has created an impetus for a greater, sustainable recovery. As the pandemic has shattered the economies of the region dependent on exports, tourism, and small-and-medium enterprises, ASEAN must look for different innovative strategies to accelerate regional recovery. Green infrastructure investment, sustainable finance, renewable energy adoption, and other low-carbon economies are predicted to help the region to recover faster and provide the best socio-economic and environmental returns.

3. AMS Climate Governance

Climate change is a multifaceted challenge that involves multiple stakeholders at various levels of government and society. It is a problem that requires immediate attention, as its impacts are immediate–although, at an inter-generational level, the warming of the globe has moved at a slower pace.

Governments, organisations, businesses, and societies are realising that the climate change problem does not belong to one segment of society or any particular business unit, nor can it be solved by governments or civil society alone. It is a problem that requires coordinated effort at all levels. Yet, how does a country, a society, or a community organise itself to maximally coordinate climate efforts that can range widely–from science to policy, from mitigation to adaptation, from desktop accounting of carbon credits to climate strikes? Without coordination, it is easy to slip into duplication.

Globally, governments have been galvanised into action, organising themselves internally and adopting a whole-of-government approach to climate change. There is a realisation that the responsibility for addressing the immediate and long-term problems caused by climate change do not lie with one or two ministries. An issue that is cross-cutting and multi-Sectoral in nature requires the coordinated efforts of every ministry or department, including the most mundane, such as finance. Some governments have created ministries for climate change; others have appointed special entities that report directly to the cabinet or the prime minister on the issue. The elevation of the importance of climate change as an inter-ministerial-level issue deserving of top-level attention and accompanying domestic institutional governance reforms within some AMS have been underway in the last decade. Efforts include:

a. Singapore's Inter-Ministerial Committee on Climate Change, established in 2007 and chaired by the Senior Minister and Coordinating Minister for National Security Teo Chee Hean and supported by the National Climate Change Secretariat;

b. The Philippines' Climate Change Commission, established by the Climate Change Act of 2009 and headed by President Rodrigo Duterte;

c. Indonesia's Presidential Decree on National Action for Greenhouse Gas Emissions was ratified in 2011, delegating the Office of the Coordinating Economic Minister, National Planning Ministry, Environment Ministry, and Home Ministry to coordinate the national action plan; and

d. Cambodia's National Council for Sustainable Development was established in 2015, and is comprised of representatives from the country's 36 ministries and 25 provincial governors and is chaired by Environment Minister Say Sam Al with Prime Minister Hun Sen as Honorary Chair.

AMS are also in the process of developing new legislation to deal with climate change. Viet Nam's Natural Resources and Environment Ministry (MONRE) has proposed a new draft law on environmental protection to replace its 2014 Law on Environmental Protection and another draft decree on the mitigation of greenhouse gas emissions (GHG). The new draft decree on GHG emissions will give MONRE a legal basis to coordinate the various ministries' work in GHG mitigation. Similarly, Thailand has indicated plans to design new legislation on climate change.

4. ASEAN's Regional Framework on Climate Change

Within ASEAN bodies, climate change has long come under the remit of the ASEAN Ministerial Meeting on Environment (AMME) with the ASEAN Senior Officials' Meeting on Environment (ASOEN) reporting to the ministerial body. The ASCC Blueprint 2016-2025 divided environmental and climate change issues into four areas: biodiversity and natural resources, environmentally sustainable cities, sustainable climate, and sustainable consumption and production. These areas were translated into seven strategic priorities for which relevant working groups were formed to study, advance recommendations, and coordinate positions. The ASEAN Working Group on Climate Change (AWGCC), formed in 2009, is one of seven working groups reporting to ASOEN.

The AWGCC has three mandates, which are to enhance regional cooperation in climate change via its Action Plan, promote collaboration between ASEAN Sectoral Bodies, and articulate ASEAN's concerns and priorities at international forums. The AWGCC held the inaugural ASEAN Climate Change Partnership Conference in 2018 in Manila to introduce and build awareness of ASEAN-wide cross-Sectoral and multi-partner coordination in addressing climate change

issues in the region. The second conference was held in Singapore in 2019 to provide a platform to share experiences and identify potential areas of cooperation in addressing climate change issues in the region. Although the AWGCC has delivered a number of collaborative projects involving Dialogue Partners in recent years, it is clear that the AWGCC lacks a clear mandate to coordinate beyond the AMME working groups.

Over the years, dialogues on climate change have appeared beyond the domain of the AMME and ASCC Blueprint. For instance, the ASEAN Ministers on Energy Meeting (AMEM) has consistently promoted a renewable energy transition to fuel the region's energy security and curb carbon emissions. The ASEAN Ministerial Meeting on Agriculture and Forestry (AMAF) has increasingly promoted collaboration in protecting agriculture, forestry, and food security amid the climate crisis. An increase in global temperatures would significantly reduce crop yields, especially for rice, the staple crop in Southeast Asia. This could affect the regional supply chain and market prices, thus disrupting economic stability. The ASEAN Health Ministerial Meeting (AHMM) has acknowledged the challenge of climate change on public health. As the region is prone to natural disasters and is increasingly experiencing the impact of climate change, ASEAN might see an increasing number of cases of climate-triggered diseases such as dengue, malaria, and respiratory diseases. National health facilities and health personnel must be equipped with knowledge and health infrastructure to mitigate this challenge.

In the Financial Sector, sustainable investment has also been gaining ground. ASEAN's business communities, for instance, have been building dialogues to help the Private Sector enhance its environmental, social, and governance (ESG) mechanisms. Under such mechanisms, climate considerations have been factored into business and investment decisions to a greater extent. Other initiatives such as the ASEAN Green Bond standards have been promoted by the ASEAN Capital Markets Forum (ACMF) under the auspices of the ASEAN Finance Ministers to support sustainable regional growth and meet investor interest for green investments.

5. Institutional Gaps and Opportunities

The chief institutional gap in the regional governance structure for cross-cutting issues such as climate change remains the absence of a super-coordinating body–an entity that is entrusted and empowered to know every action plan, strategic recommendation, and policy approach for a single issue and whose job is to highlight to the relevant ASEAN Charter governing bodies where the overlaps and gaps are and connect the dots to make sense of problems and issues.

The second institutional gap is a lack of basic information sharing between different ASEAN Sectoral Bodies; between Sectoral Bodies and ASEAN entities; and among Sectoral Bodies, ASEAN entities, and the ASEC. This is prevalent at different levels of bureaucracy where officers from ASEAN National Secretariats might only share certain information with colleagues at the Committee of Permanent Representatives (CPR) based in Jakarta, and may not share the same information with colleagues from relevant ministries.

The third institutional gap is the lack of leadership demonstrated by ASEAN in convening support from Dialogue Partners and channeling much-needed resources to AMS to fulfil their Paris Agreement pledges. ASEAN has consistently affirmed its commitment to the global climate agenda. In the latest ASEAN Joint Statement to the United Nations Climate Action Summit in 2019, ASEAN acknowledged 'the principle of common but differentiated responsibilities and respective capabilities (CBDRRC)' in the light of climate challenges and differences in national circumstances. As a regional organisation vested in meeting transboundary challenges together, ASEAN is an institution that has the power to convene Dialogue Partners to prioritise climate action, channel public financing, and provide capacity building. ASEAN's leadership and convening role is an untapped asset that can assist AMS governments in advancing their climate negotiations in the UNFCCC and in seeking necessary resources for capacity building and knowledge sharing globally.

6. Recommendations

Instead of forming yet another task force or special ministerial body, ASEAN's initial response to the COVID-19 pandemic over March/April 2020 was to create the ASEAN Coordinating Council Working Group on Public Health Emergencies (ACCWG-PHE). Under article 8.2 of the ASEAN Charter, the ASEAN Coordinating Council is empowered to coordinate ASEAN agreements and decisions made by ASEAN Leaders, reports submitted by ASEAN Community Councils (ACC), provide policy coherence, and undertake assignments as may be as assigned by the Leaders. The ACC is comprised of the ASEAN Foreign Ministers and meets twice a year. Hence, it was expedient to task the ACC to look into pandemic response measures and create a Working Group comprising SOM officials.

Can a similar ACCWG be created to oversee climate change? There is no reason this cannot be done for the climate as was done for public health emergencies. However, would empowering ASEAN Foreign Ministers to examine the cross-cutting nature of climate change be in the best interests of the issue and the organisation? An ACCWG-CC would enjoy the necessary political gravitas from the ASEAN Charter and have a direct line to the Leaders to raise immediate issues of concern. However, the SOM supporting the ACCWG-CC should comprise not only foreign affairs officials but representatives from every ministry that intersects with climate change–transport, energy, industry, forestry, agriculture, health, disaster relief, legal, aviation, and maritime, among others, so that these officials can lend their scientific, technical, and legal expertise. In addition, these officials must be sufficiently senior to communicate with their relevant ministers the issues that are raised.

7. Summary

The timeline for meeting the well-below-2-degree-temperature goal has shortened considerably with the COVID-19 pandemic, which has turned up the heat for many issues and problems that were on the world's backburner. A business-as-usual scenario for ASEAN in its management of climate governance will not bring any

changes nor benefit AMS that are trying to meet their international obligations. COVID-19 may be the crisis of a generation, but it is also a critical opportunity for governments, organisations, institutions, and businesses to make changes to the conduct of business in order to meet new challenges head on.

Researcher Profiles

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Paper 3:

Rationale for a Robust M&E System for Development Cooperation in ASEAN[12]

Abstract

Development cooperation is one of the instruments supporting ASEAN integration and the ASEAN Community-building process. This article attempts to make a case for a robust monitoring and evaluation (M&E) system for regional development cooperation in ASEAN[13], which would be aimed at supporting and complementing the M&E systems already in place for the ASEAN Community Pillars, and in particular for the ASCC. It argues that such a system is imperative for ASEAN as a regional integration based on the organisation and would anchor discussions on ASEAN's objectives, institutional structure, and accountability mechanism. It also contextualises development cooperation in ASEAN and foregrounds the concept of development effectiveness and how it aligns consistently with ASEAN principles, in particular ASEAN Centrality. Finally, the article concludes by highlighting two emerging issues to prompt further conversations, reflections, and study on the topic.

12 The views and opinions expressed in the article are those of the author and do not represent the views or opinions of the EUI or the School of Transnational Governance.

13 The article does not intend to cover development cooperation initiatives undertaken at the bilateral level and those outside the purview of ASEAN or ASEC.

1. Introduction

One of the key milestones defining ASEAN's journey to ASEAN integration and ASEAN Community building has been the entry into force of the ASEAN Charter[14] in 2008. The ASEAN Charter has provided a legal and institutional framework for ASEAN. It marked the organisation's commitment to step up efforts to 'a more formalised means of integration' (Closa et al., 2016, p. 236) and led to the establishment of the ASEAN Community in 2015. Forging ahead to further deepen its integration and Community-building process, ASEAN developed a new roadmap, the ASEAN Community Vision 2025, comprising the Blueprints of the ASEAN Community Pillars: the ASEAN Political-Security Community (APSC), the ASEAN Economic Community (AEC), and the ASEAN Socio-Cultural Community (ASCC), and also includes the Initiative for ASEAN Integration (IAI) Work Plan III and the Master Plan on ASEAN Connectivity (MPAC) 2025.

The national governments of the 10 ASEAN Member States (AMS)[15] are mainly responsible for bringing the ASEAN Community Vision 2025 to fruition. At the same time, AMS also recognise the value of cooperation with external partners[16] in realising the vision set for ASEAN. Guided by the purposes and principles envisaged in the ASEAN Charter and the ASEAN Community Vision 2025, ASEAN places greater emphasis on substantial and strategic cooperation with external partners, including efforts to strengthen development cooperation in ASEAN (ASEC, 2015). Development cooperation, as one of the instruments to help ASEAN integration and the ASEAN Community-building process, operates at various levels and involves many actors. At the regional level, the ASEAN Secretariat (ASEC), assists AMS and facilitates these development cooperation initiatives in the form of programmes and projects, while also serving as the implementer in a few of these initiatives.

14 The ASEAN Charter was signed on 20 November 2007 and came into force when AMS ratified it on 15 December 2008.

15 Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam.

16 Per Chapter XII, Article 44 of the ASEAN Charter, ASEAN may confer an external partner the formal status of Dialogue Partner, Sectoral Dialogue Partner, Development Partner, Special Observer, Guest, or other status that may be established. In addition, ASEAN has external relations with the United Nations System and other international organizations and institutions.

While ASEAN has made significant strides in monitoring progress in realising the ASEAN Community Vision 2025, it is not clear to what extent the contributions of development cooperation initiatives in the form of regional programmes and projects have been fed into the mechanisms for tracking progress. This article makes a case for a robust M&E system for development cooperation in ASEAN,[17] aimed at supporting and complementing the M&E systems already in place for ASEAN's Community Pillars, in particular the ASCC[18]. It argues that such a system is imperative for ASEAN as a regional integration organisation. It anchors the discussion on the organisation's objectives, institutional structure, and accountability mechanism. The paper also contextualises development cooperation in ASEAN and foregrounds the concept of development effectiveness and how it aligns consistently with the ASEAN principles, in particular ASEAN centrality.

Context and Methodology

The article's findings are based on a desk review of relevant ASEAN documents and research related to ASEAN integration and ASEAN Community building. Documents examined are based on the independent research of the author, as well as direct observation as a former ASEC senior programme officer. The author has also conducted a remote interview with the ASEC's Programme Cooperation and Project Management Division (PCPMD). Content analysis of the information gathered is applied vis-à-vis the models and practice of regional integration organisations.

2. Imperatives for ASEAN as a Regional Integration Organisation

A robust M&E system for development cooperation in ASEAN to support and complement the M&E systems of the ASEAN Community

17 Over the years, ASEC, as part of enhancing its institutional capacity, through the PCPMD, has undertaken efforts to make effective and efficient its facilitation role when it comes to regional programmes and projects supported through development cooperation.

18 In the ASEAN Annual Report 2019-2020 (ASEC, 2020), ASSC has comprised around 43 percent (USD 630,585,290) of the total expenditures on regional projects and programmes supported through development cooperation. Initiatives include capacity development, disaster management, education, environment, labour migration, and youth exchanges, among others.

Pillars is imperative for ASEAN as a regional integration organisation. According to Closa (2016, p. 2), in his examination of the models of regional integration, 'the larger the number of objectives, and the more ambitious in relation to the current status quo, the more robust the institutional commitments need to be if the organisation is to succeed in attaining them.' Applying this view in the ASEAN context, this section briefly looks into how ASEAN integration and ASEAN Community-building objectives came about. It then explains that such objectives have demanded that ASEAN work on its institutional design and accountability mechanism, and thus demonstrate that the organisation has been slowly embracing its integration and Community journey as a formal process.

Objectives of ASEAN Integration and ASEAN Community Building

The organisation's raison d'être has undergone constant reframing over the years. A closer look at some of ASEAN's key milestones explains how the integration and Community-building objectives came about. The Cold War and the growing expansion of China and communism heavily shaped the political landscape of the region in the decade when the organisation was founded. ASEAN's five founding members (Indonesia, Malaysia, Philippines, Singapore, and Thailand) decided to come together to 'confront' these growing threats of uncertainty and insecurity and formed ASEAN on 8 August 1967. It was not outright integration and Community building that prompted them from the very start. Over the years, and with the Cold War ended, AMS started to find more and more common ground for cooperation beyond the political and security realms. They have seen the benefits of greater economic cooperation– especially with an expanded membership.[19] In 2007, the organisation reached an important milestone with the creation of the ASEAN Charter, marking a significant departure from the way the ASEAN conducted its affairs–from flexible and informal engagements to more formal ones bound by rules. It articulated ASEAN's purposes, which have served to consolidate the organisation's aspirations as contained in its declarations, agreements, conventions,

19 Brunei joined in 1994, followed by Viet Nam in 1995. Lao PDR and Myanmar both joined in 1997 while Cambodia rounded up the 10-member line-up in 1999.

concords, treaties, and other ASEAN instruments. This would later be expounded in clear targets by the three ASEAN Community Blueprints.[20] Then in 2015, and as agreed to by AMS, the ASEAN Community was established. This also marked the development of a new set of Blueprints for APSC, AEC, and ASCC. Collectively, they are known as the ASEAN Community Vision 2025. Complementing the three ASEAN Community Blueprints are two other work plans, the IAI Work Plan III and MPAC 2025. The ASEAN Community Vision 2025 embodies the aspirations of ASEAN's peoples for each Pillar, including a set of action lines on how to achieve them (ASEC, 2015).

ASEAN Community Vision 2025		
APSC Blueprint	**AEC Blueprint**	**ASCC Blueprint**
• Rules-based, people-oriented, people-centred community • Peaceful, secure, and stable region • ASEAN centrality in a dynamic and outward-looking region • Strengthened ASEAN institutional capacity and presence	• A highly integrated and cohesive economy • A competitive, innovative and dynamic ASEAN • Enhanced connectivity and sectoral cooperation • A resilient, inclusive, people-oriented and people-centred ASEAN • A global ASEAN	• Engages and benefits the people • Inclusive • Sustainable • Resilient • Dynamic

Table 2.1: Goals[21] of the Three ASEAN Community Pillars.

Together, the ASEAN Charter and the ASEAN Community Vision 2025 have encapsulated where the organisation wants to go. In effect, they have set the parameters by which the progress of ASEAN integration and ASEAN Community building will be measured. Indeed, these aspirations are comprehensive and interrelated. As seen in Table 2.1, while not explicitly stated, development is one objective that resonates across the three ASEAN Community Blueprints, with development cooperation implied as one means to achieve it (in particular under the APSC Blueprint; details in the next section).

20 The first set of ASEAN Community Blueprints was developed for the period 2009-2015. A consolidated version can be found at https://www.asean.org/storage/images/ASEAN_RTK_2014/2_Roadmap_for_ASEAN_Community_20092015.pdf

21 In the documents, these 'Goals' are referred to as 'Characteristics.'

As explained earlier, the institutional commitments of regional organisations are dependent on the objectives they are trying to achieve. What then does the ASEAN Community Vision 2025, especially its objectives related to development, imply about ASEAN's institutional commitments? It is argued that credible commitments result from institutional design, which comprises a number of instruments. One of these instruments is the institutional structure of the organisation (Closa et al., 2016).

ASEAN Integration and ASEAN Community Building Governance Framework

One aspect that highlights the importance of the ASEAN Charter was the creation of (or enhancements of existing) ASEAN bodies or organs and stipulations of the latter's mandates to help achieve the ASEAN Community Vision 2025. In terms of classification, ASEAN fits the description of 'intergovernmentalism' in relation to its structure and decision making. Intergovernmentalism is when 'national executives take all relevant decisions in the integration scheme, whilst any supra-state institution and/or agency created will be devoid of any decision-making power' (Closa et al., 2016, p. 76). While this is the case, an intergovernmental structure 'may not be sufficient for building more complex systems beyond the State.' Thus, these types of organisations 'often and increasingly establish other bodies, or create new offices within their organisations' (Closa et al., 2016, p.165). Figure 2.1 details the ASEAN organs supporting the ASEAN integration and ASEAN Community-building process and illustrates their relationships with each other.

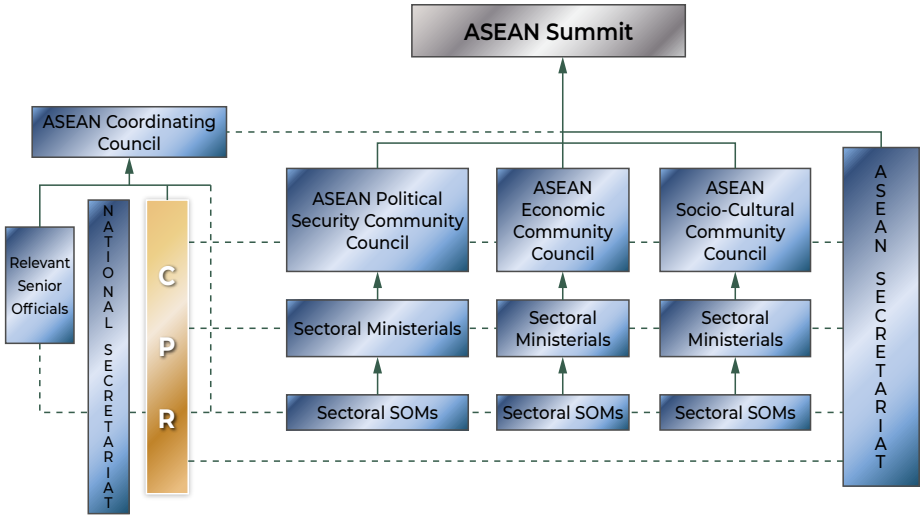

Figure 2.1: ASEAN Organs Supporting ASEAN Integration.[22]

As seen in Figure 2.1, ASEC is part of the ASEAN integration and ASEAN Community-building governance framework. It was set up in February 1976 by the ASEAN Foreign Ministers. It comprises four departments that report to the ASEAN Secretary-General:[23] the APSC Department, the AEC Department, the ASCC Department, and the Community and Corporate Affairs (CCA) Department. The ASEAN Charter has mandated the ASEC with certain functions,[24] including facilitating and monitoring progress in the implementation of ASEAN agreements and decisions (ASEAN, 2008).

According to Sender, 'secretariats remain the prominent mechanism and instrument by which international organisations seek to realise their objectives. It has become clear that, in trying to understand the potential and constraints of institutionalised international cooperation, the role of secretariats must not be overlooked' (Closa et al., 2016, p. 251). As part of its governance arrangement, ASEC has found itself navigating around the demands and expectations brought to the fore by the ASEAN integration and ASEAN Community-building agenda.

22 Source (figure): https://asean.org/resource/asean-resources-kit/; Mandates of each ASEAN organ are further described in Chapter IV, Articles 7-15 of the ASEAN Charter.

23 The ASEC organizational structure can be found here.

24 Based on the roles of the ASEAN Secretary-General

While this article does not intend to resolve the issue as to whether ASEC should be a facilitative secretariat or a policy-shaping one,[25] it certainly begs the question as to how its monitoring role can be fully utilised to 'lock' AMS into the commitments that the integration and Community building process requires (Closa et al., 2016, p. 11).

The objectives set forth by the ASEAN Community Vision 2025 have expanded the institutional structure of ASEC, creating dedicated units that have been tasked with monitoring the progress of each ASEAN Community Blueprint, including the PCPMD, which oversees regional programmes and projects supported through development cooperation, and which is under the purview of the CCA Department. It is unclear how the PCPMD interacts with the three M&E units[26] of the ASEAN Community Pillars in terms of ensuring links between implementation monitoring (at the project and programme level) and results monitoring (at the Blueprint level).

M&E: An Accountability Mechanism for ASEAN Integration and ASEAN Community Building

Along with institutional structure comes related mechanisms or processes on how to further one's objectives. According to Casini, international organisations have been using accountability mechanisms for a functional reason,[27] i.e., to ensure their own efficiency and effectiveness in meeting their set objectives. One trend, he observed, is the growing degree of proceduralisation among these organisations. 'Proceduralisation beyond the State features interactions between different levels of activity (national, regional, and international), different bodies of law (public and private), and a plurality of actors (governments, administrations, international organisations, civil society)' (Closa et al., 2016, p. 215). These same elements are consistent with the many applications of M&E systems.[28]

25 Per Sender's classification (Closa et al., 2016, p. 448)

26 APSC Analysis and Monitoring Division, ASEAN Integration Monitoring Directorate, and ASCC Analysis and Monitoring Directorate

27 More than addressing democratic gaps

28 These include project, program, and policy applications; internal and external applications; knowledge capital; and transparency and accountability. For more details, see Kusek and Rist (2004).

While some would argue that proceduralisation is not fully established yet, the former also applies in the ASEAN context. This paper looks at M&E systems as representations of this proceduralisation, particularly within ASEC.

Whether traditional or sophisticated, M&E[29] systems are widely accepted as powerful management tools both for the public and private sector. According to Chesterman (2015), the subject of monitoring foregrounds an important tension in ASEAN's transformation: adherence to the 'ASEAN Way' of doing things[30] while embracing the establishment of a Community governed by law. Slow and seemingly incremental steps undertaken to introduce such a system have been influenced by ASEAN's past. Like other organisations, ASEAN has been faced with political, institutional, and technical challenges when introducing procedures in general and M&E systems in particular–from a wariness to expose the domestic activities of AMS to external scrutiny (Chesterman, 2015) to ASEC's limited resources and capacities (Ewing-Chow & Hsien-Li, 2013). Chesterman further described ASEAN's approach to monitoring 'as facilitative–where it does not appear to be symbolic,' (2015, p. 74) specifically the former pertaining to the monitoring in the AEC Pillar and the latter to the APSC and ASCC Pillars.[31] The varying levels of progress demonstrated by the M&E systems of the three ASEAN Community Pillars define the current state of M&E in ASEAN and ASEC. On the downside, this poses a significant challenge in undertaking collaborative M&E efforts in areas requiring cross-sectoral and cross-pillar collaborations, both of which generally target development outcomes and thus touch on development cooperation. On the upside, ASEAN no longer

29 Using the United Nations Development Programme (UNDP) definition, monitoring is 'the ongoing process by which stakeholders obtain regular feedback on the progress being made toward achieving their goals and objectives.' On the other hand, evaluation refers to 'a rigorous and independent assessment of either completed or ongoing activities to determine the extent to which they are achieving stated objectives and contributing to decision making' (UNDP, 2009, p. 8).

30 Characterized by consensus and consultations

31 Of Chesterman's five discrete purposes of monitoring; the first two are familiar categories of compliance in a narrow sense: (1) substantive compliance with an obligation, and (2) implementation, in terms of formal compliance with an obligation. In addition, however, the ASEAN experience suggests three additional categories of analysis: (3) interpretation, meaning that monitoring clarifies or provides an authoritative interpretation of an obligation; (4) facilitation, denoting the purpose as supportive of efforts to comply with an obligation; and (5) symbolism, where there is no clear purpose for an intentionally weak mechanism beyond suggesting that an obligation is important enough for compliance to be desirable.

views monitoring as an ad-hoc undertaking, thus lending greater legitimacy to the ASEAN integration and ASEAN Community-building agenda. This argument also extends to ASEC's progress on tracking the contributions of regional programmes and projects supported by development cooperation. However, more needs to be done to ensure that the many applications of a M&E system as an accountability mechanism are utilised to the fullest.

3. Development Cooperation and Development Effectiveness

As mentioned in the introduction to this paper, development cooperation is one mechanism helping ASEAN in the integration and Community-building process. Regional programmes and projects supported by development cooperation complement efforts of AMS at the national level to meet the requirements and targets of the ASEAN Community Vision 2025.

Development Cooperation in an ASEAN Context

Defining development cooperation is as complicated as describing its end goal, which is development. Alonso and Glennie (2015) have come up with four criteria to help determine whether an initiative corresponds to development cooperation:

a. Aims explicitly to support national or international development priorities.
b. Is not driven by profit.
c. Discriminates in favour of developing countries.
d. Is based on cooperative relationships that seek to enhance developing country ownership.

While the criteria broadly define development cooperation, they are helpful in providing parameters in applying the concept–especially with the advent of a more diverse set of development partners, which currently include international NGOs and private philanthropists, among others. Development cooperation becomes even more nuanced when applied to a regional setting such as ASEAN (as opposed to the more usual bilateral form) where some AMS have

become development partners themselves (Parks et al., 2018), and might no longer qualify as a developing countries. In addition, given the region's unique context, development priorities that figure prominently in these initiatives may differ from those of other regions that are also at the receiving end of development assistance.[32] Even so ASEAN embraces the concept of development cooperation. According to ASEC, development cooperation in ASEAN is cooperation that aims at addressing regional challenges and issues. More specifically, when translated into what ASEAN defines as ASEAN Cooperation Projects, these initiatives are expected to fulfill the following criteria (ASEC, 2018, p. 6):

a. Address challenges at the regional level and create synergy with other projects that are addressing the same issues.
b. Be of benefit to ASEAN and engage all ASEAN Member States equally.
c. Align with the ASEAN Community Blueprints and other relevant ASEAN documents.
d. Be endorsed by either the relevant ASEAN Sectoral Committee/ ASEAN Body or the Committee of the Permanent Representatives to ASEAN (CPR), or both.

ASEAN carries out development cooperation with its external partners, which are categorised as Dialogue Partners[33], Sectoral Dialogue Partners[34], Development Partners[35], and others. Guided by cooperation frameworks (e.g., plans of action) developed by ASEAN and its external partners, development cooperation initiatives, in the form of regional programmes and projects, are formulated and implemented, with the ASEC facilitating coordination among relevant stakeholders.

32 According to Parks et al., these include: emerging challenges for middle-income countries (e.g., declining competitiveness, stagnant productivity); a high rate of natural disasters; relatively stable, high-capacity governments; shared regional threats like environmental and social issues; and a broad spectrum of development levels, with high levels of economic complementarity.

33 Australia, Canada, China, European Union (EU), India, Japan, Republic of Korea, New Zealand, Russia, and the United States of America (USA).

34 Norway, Pakistan, Switzerland, and Turkey

35 Germany

According to the ASEAN Annual Report 2019-2020 (ASEC, 2020), as of February 2020, the cumulative value of ASEAN regional programmes and projects since 2009[36] amounted to approximately USD 1.5 billion, of which approximately USD 1.4 billion were already utilised and approximately USD 40 million were still in process. The utilised portion comprises 1,111 projects (USD 697 million) and 104 programmes (USD 775 million). Not all these programmes and projects stem from development cooperation. Similarly, not all regional development cooperation initiatives are channeled through the ASEAN or ASEC (Parks et al., 2018).[37] Here lies the blind spot on how ASEAN approaches development cooperation, which was alluded to previously. It is not enough to assume that regional programmes and projects contribute to the development outcomes of the ASEAN Community Vision 2025 (as required by the ASEAN Cooperation Projects criteria). While recognising the complex environment where it operates, ASEAN has an impetus to understand the contributions of regional development cooperation in realising the ASEAN Community Vision 2025 (linking project/programme contributions to Blueprint goals) and to reflect on its role in the ASEAN integration and ASEAN Community-building process.

Development Effectiveness and the Principle of ASEAN Centrality

In recent years, there has been a global rethinking on how to measure results achieved through development cooperation. This has led to a reframing of the concept of development effectiveness. From the 2005 Paris Declaration to the 2008 Accra Agenda for Action to the most recent 2011 Busan Partnership for Effective Development Cooperation, the concept of development effectiveness has come a

36 According to ASEC, 2009 was the reference point as it was the year when the database of ASEAN Cooperation Projects was initiated, which also coincided with the development of the ASEAN Community Blueprint 2009-2015.

37 Using a data set covering the period 2000-2013, according to Parks, et al., a large proportion of regional development programs have no engagement with ASEAN. For further explanation, see pages 17-19 of the study.

long way. The reformulated definition now comprises four principles (OECD, 2012):

a. Ownership of development priorities by developing counties: Countries should define the development model that they want to implement.
b. A focus on results: Having a sustainable impact should be the driving force behind investments and efforts in development policy making.
c. Transparency and shared responsibility: Development cooperation must be transparent and accountable to all citizens.
d. Partnerships for development: Development depends on the participation of all actors, and recognises the diversity and complementarity of their functions.

These principles underscore that the onus of ensuring development effectiveness rests on both the provider and recipient of development assistance. In the ASEAN context, this is more relevant, especially in relation to the principle of ASEAN Centrality as stipulated in the ASEAN Charter. ASEAN Centrality is an ASEAN construct, essentially arguing that the organisation should be at the centre of the region's 'external political, economic, social, and cultural relations while remaining actively engaged, outward-looking, inclusive, and non-discriminatory.' It is explicitly stipulated in the APSC Blueprint as one of its formal Characteristics: ASEAN Centrality in a Dynamic and Outward-Looking Region (ASEC, 2015).[38] Specific elements, strategic measures, and measures are listed under this Characteristic**,** which directs the types of initiatives to be undertaken to realise the APSC Blueprint's objectives. Development cooperation is mentioned in both elements as one of the measures to fulfill the achievement of the principle of ASEAN Centrality. As can be gleaned from these stipulations, ASEAN Centrality aligns with the principles espoused by development effectiveness, specifically those calling for greater ownership of development priorities by developing countries as well as championing partnerships for development. This alignment, however, has not been handy when translated into practice. First,

38 Characteristic C of the APSC Blueprint 2025

on the concept of ASEAN Centrality, observers have argued on its different interpretations and applications. Some say that the concept may be interpreted to serve both the national interests of the AMS and that of other states that are engaging with the region. On the other hand, ASEAN Centrality can be viewed as applying only to political and security issues (even while the ASEAN Charter clearly includes economic and socio-cultural aspects) especially if it is framed to apply along the lines of those ASEAN-led mechanisms.[39] Second, on the concept of development effectiveness, there is not much clarity on how ASEAN is translating its adherence to the concept's principles[40] with respect to how it conducts development cooperation with external partners, and whether it is also measuring the effectiveness of such development cooperation arrangements.

ASEAN values the advancement of the principle of ASEAN Centrality. By regarding regional development cooperation as one platform for its further assertion, the organisation might not only take the lead in establishing mutually-agreeable frameworks for cooperation, but most of all define intended outcomes for regional development cooperation (Parks et al., 2018).

4. Summary and Conclusion

In examining the objectives, institutional structure, and accountability mechanism that define ASEAN as a regional integration organisation, two issues related to development cooperation and development effectiveness have emerged that might be leveraged:

1. *How do the M&E systems of the ASEAN Community Pillars address the contributions of regional programmes and projects supported through development cooperation?* It may not be enough to assume that initiatives align with the ASEAN Community Vision 2025 and therefore contribute to the target development outcomes for each Pillar. The issue is

39 ASEAN + 1 (Dialogue Partner), ASEAN + 3 (China, Japan, and Korea), East Asian Summit (EAS), ASEAN Regional Forum (ARF), ASEAN Defense Minister Plus (ADMM-Plus), and the Regional Comprehensive Economic Partnership (RCEP)

40 Except for Brunei, all AMS have endorsed the 2011 Busan Partnership for Effective Development Cooperation.

not defining what success looks like[41] (as the development outcomes are already spelled out by the ASEAN Community Vision 2025 and related Sectoral work plans), but rather how to strengthen existing governance mechanisms to link PCPMD implementation monitoring to results monitoring facilitated by the M&E units of the ASEAN Community Pillars. Areas of collaboration may include, for instance, the type of data to be collected from the projects and programmes.

2. *What does success look like for development cooperation in ASEAN? Does ASEAN intend to measure its development cooperation with partners along the lines of ASEAN Centrality, as stipulated in the ASEAN Community Vision 2025?* While these questions may fall under the APSC Pillar, understanding the role of regional development cooperation initiatives in ASEAN integration and Community building is a cross-pillar undertaking. The cross-cutting impact of the development outcomes these programmes and projects are trying to contribute cannot be denied, regardless of their depth and breadth. PCPMD may be well-placed to steer the coordination among the three Pillars if and when ASEAN decides to measure the effectiveness of development cooperation.

The need to establish a relationship between the contributions of regional programmes and projects supported by development cooperation with the development outcomes achieved by the ASEAN Community Blueprints is a crucial task for ASEAN and ASEC. This is especially true as the organisation revisits its plans to make further progress by 2025. There is merit to reflect on how ASEAN sees regional development cooperation as one strategy it can leverage as it advances toward its goals. By facilitating regional development cooperation on its own terms with the aid of a robust M&E system, ASEAN can further legitimise its integration and Community-building agenda and put ASEAN Centrality at the forefront.

41 While varying in terms of levels of progress, ASEAN Community Pillars have developed or are in the process of developing results frameworks to break down the goals of the ASEAN Community Vision 2025 and the respective Sectoral work plans. These targets are expected to align with AMS national priorities and international commitments, e.g., the Sustainable Development Goals.

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Paper 4:

Strengthening Synergised Triple-Bottom Lines for Promoting a Regional Renewable Energy Sector and Sustainable Development

Abstract

The dominance of fossil-based energy consumption amid scarce energy resources poses a major challenge to ASEAN energy security. This paper identifies a triple-bottom-line framework of sustainability for the promotion of renewable energy (renewables) to encourage energy security and regional sustainable development. This paper uses a qualitative approach to critically review the rising need for an increased share of renewables in national energy mixes as a focal point to achieve regional security energy and sustainability of the ASCC vision. Results of this paper indicate that to achieve the regional energy security and the sustainable vision of ASCC, ASEAN should embark on institutional and legal framework assertiveness for renewables development, for strengthening synergy at the ASEAN Member State- (AMS) level for national renewables policies and targets aimed at boosting energy efficiency, and to promote the turn to renewables to achieve socio-economic benefits for its people. The results of this paper highlight the need for more assertive political action for ASEAN by improving renewables to ensure regional energy security and sustainable development as envisioned by the ASCC and AEC.

1. Introduction

The vision of sustainability defined by the ASSC Blueprint 2025 can be seen in the ASSC's objective to realise a regional community that engages and benefits the people, and which is inclusive, sustainable, resilient, and dynamic. Several commitments from the vision raise the important synergised triple-bottom-lines of sustainable development, e.g., mutually reinforcing relationships among economic, social, and environmental interests (Brundtland, 1983; Munasinghe, 1987).

Referring to sustainable climate, which is the third Key Result Area and the 57th of 109 Strategic Measurements of the ASCC Blueprint 2025– emission reduction indicators for each main development activity characterise the important objectives of ASCC's sustainability vision.

In line with IMF projections, ASEAN GDP growth is projected to exceed the average economic growth rate of developed countries in 2020 (Tongsopit et al. 2016). This is reflected in the 5.7% contribution to global GDP by the ASEAN-5 alone (WEO, 2020). The Energy Sector is one sector that supports development activities. ASEAN–with a population of 645 million people (2017), or approximately 8.3% of the global population (UN, 2020)–has doubled its level of final energy consumption from 1995 to 2015. Given an average increase of 3.4% per year, regional energy consumption reached 442 million tons of energy equivalent (Mtoe) in 2015. Three main sectors contribute to this: industry (29%), transportation (27%), and residential (26%) (IRENA, 2018). Due to increases in population and GDP, the ASEAN-6 booked an energy consumption of 609.6 Mtoe in 2017, up 3.27% from 589.7 Mtoe in 2016. This is expected to increase by 2025 and could reach 50% of consumption in 2015 (IRENA 2016; Yoshino et al., 2020).

The domination of fossil-based energy consumption and scarce energy resources for each AMS is a major challenge for regional energy security (Tongsopit et al., 2016; Yoshino et al., 2020). According to quantitative studies using a '4-A' framework (availability, acceptability, affordability, and applicability) to analyse energy security, ASEAN has only experienced significant developments in the applicability dimension of energy security between 2005 and 2008 (Tongsopit et

al., 2016). More broadly, the potential impact of fragile energy security may be seen in multiple dimensions, not just in economic decline and welfare. A study with a VAR Panel from 2000-2016 in eight Asian countries, including three AMS (Indonesia, Thailand, and Viet Nam) said that energy prices had a significant impact on food prices. As rising energy prices harm food security, efforts to diversify energy consumption in the Agricultural Sector through a combination of renewables and non-renewables are needed to increase both energy and food security (Taghizadeh-Hesary et al, 2019).

From the perspective of ASCC's vision of sustainability, efforts to diversify renewables for energy security are in line with climate mitigation. According to one estimate, the external costs of air pollution from burning fossil fuels in Southeast Asia will increase by 35% to US$225 billion in 2025, up from over US$167 billion in 2014 (IRENA 2016). ASEAN emissions have increased significantly for nearly two decades. Regional emissions continued to increase 114.38%, from 693.40 Mt of carbon dioxide in 2000 to 1,486.54 Mt of carbon dioxide in 2018. Greenhouse gas (GHGs) emissions for Indonesia booked record-breaking increases, pushing the nation from 21st to 9th place on the list of biggest global emitters between 2000 and 2018 (IEA, 2020) (Table 4.1). Reducing fossil energy and promoting a low- or zero-carbon economy plays an important role in environmental policy in the region.

The ASCC vision reinforces this point. The AEC, created in 2015, has deemed energy security and sustainability as major goals for advancing the energy sector and economy. The ASEAN Vision 2020, adopted in 2017, highlighted increased economic integration within the region, the promotion of energy efficiency and conservation, and renewable energy. In 1999, ASEAN formulated the ASEAN Plan of Action for Energy Cooperation (APAEC) 1999–2004, with updated versions covering 2010-2015 and 2016-2025. The objective of the APAEC 2010-2015 was 'to enhance energy security, accessibility, and sustainability for the ASEAN region with due consideration to health, safety, and environment' (Tongsopit et al. 2016; Pudjianto, 2020). The ASCC vision has been to realise a sustainable ASEAN Community,

among other things. This involves a commitment to lift the quality of life of ASEAN's peoples through cooperative activities that are environmentally friendly and geared toward the promotion of sustainable development (ASCC 2025 Blueprint). Under this vision, a Key Result Area was defined as sustainable climate, and included one important Strategic Measure to sustain the effort of governments, the Private Sector, and the community in reducing GHG emissions from development activities. While this vision lays the foundation for greater regional energy security and sustainable development, its rapid achievement poses a major challenge for ASEAN. Within the framework of the vision, the ASCC is expected to encourage increases in the use of renewables for energy security, sustainable climate, and eventually sustainable development in the region.

ASEAN Member State	**2000 (MtCO2)**	**2018 (MtCO2)**	**Change (%)**	
Brunei Darussalam	4.43	7.14	61.17	
Cambodia	1.96	10.55	438.27	
Indonesia	255.02	542.88	112.88	
Lao PDR	0.87	17.80	1,945.98	
Malaysia	115.06	228.04	98.19	
Myanmar	9.28	31.53	239.76	
Philippines	68.13	132.15	93.97	
Singapore	42.12	47.38	12.49	
Thailand	152.29	241.03	58.27	
Viet Nam	44.24	228.04	415.74	
ASEAN	693.40	1,486.54	114.38	
Global Emission Trends	**2000**	**2018**	**Global Rank**	
			2000	**2018**
United States	5,700	4,900	1	2
China	3,100	9,500	2	1
Russian Federation	1,500	1,600	3	4
Japan	1,100	1,000	4	5
India	889.8	2,300	5	3
Indonesia	255	542,900	21	9

Table 4.1. ASEAN Emission Trends Compared to Global Emitters 2018

Source: IEA (2020).

To shed light on this paper's main argument, we will next contextualise the energy security issue and the renewables share of ASEAN's energy mix. This discussion will analyse enabling factors that might improve the use of renewables by focusing on increased operationalisation of regional institutional and legal frameworks, increased synergies between AMS-level renewables targets and policies, stronger regional and global partnerships, and renewables decentralisation. Finally, this paper's conclusions highlight the need for political will in the region to catalyse the above issues so work may proceed on the right track–aimed at improvements that are geared to renewables-based energy security and a sustainable vision for the ASCC and AEC.

2. Research Objectives

This paper aims to analyse the strategic importance of developing a regional renewable Energy Sector to promote regional energy security and to achieve sustainable development of the region mandated by the ASCC vision.

3. Methodology

This paper uses a descriptive qualitative approach to critically review the rising need for an increased renewables share in the regional energy mix as a focal point to achieve regional security energy that is geared to the sustainability vision of the ASCC Blueprint and the promotion of sustainable development. In deploying a critical review process, a triple-bottom-line framework of sustainability was used.

4. Findings

ASEAN's Energy Security Status

The issue of energy security in ASEAN has been discussed in depth. Previously, studies indicated that the status of regional energy security continued to decline between 2005 and 2010. Factors such as increases in economic activities and populations, declining fossil fuel reserves, and a slow rate of alternative energy adoption contributed to the decline. To strengthen regional energy security, a more assertive legal

framework and policy action to coordinate energy planning efforts at the regional level are needed (Tongsopit et al. 2016). Given limited fossil energy sources, the key to increasing energy security lies in increasing energy efficiency initiatives and accelerating the transition to renewables to increase their share in the regional energy mix. This underscores the importance to the region of increasing the political will of AMS to encourage a stronger energy transition (Tongsopit et al., 2016; Cherp et al., 2018).

At the level of individual AMS, several nations have made the transition to renewables a major initiative. In Indonesia, for instance, a desire for energy security led the government to consider the inclusion of nuclear power plant (NPP) in its national energy policy. The NPP under consideration might potentially generate 4,000 MW of electricity, or more than 2% of total demand for Bali, Java, and Madura islands, where predicted demand may reach 80 GW by 2025. Despite public opposition, the majority of parliamentarians said that Indonesia was entering an energy crisis and had no choice but the NPP in the long term (Amir, 2010). The issue reached a peak after Indonesia declared itself a net oil importer and withdrew from OPEC in 2008. Indonesian oil production declined from 1.3 million barrels per day (bpd) in 2002 to only 900,000 bpd in 2007[42].

There is an empirical argument to be made about ASEAN energy insecurity. Data show that the issue remains a major challenge, as the results of regional cooperation agreements have not been optimal in encouraging needed increases in energy supplies. On the other hand, economic activities, population growth, increases in the standards of living in AMS, and declines in individual AMS energy reserves have continued. As a result, increased energy demands in AMS that continue to remain dependent on oil, gas, and coal will increase ASEAN's dependency on energy imports (Peimani & Taghizadeh-Hesary in Yoshino et al., 2020). Regional energy consumption nearly doubled between 1995 and 2015, growing at an average annual rate of 3.4%. Rapid economic growth has increased energy use over the past two decades. ASEAN's energy demand is projected to increase

42 https://koran.tempo.co/read/ekonomi-dan-bisnis/132052/indonesia-keluar-dari-opec

4.7% per year by 2035 (ASEAN, 2015). Demand for electricity by the Industry and Transport Sectors will also increase rapidly. In a business-as-usual (BaU) scenario, energy demand, in general, will increase by 60% between 2019 and 2040. Oil demand will exceed 9 million barrels per day (mb/d) by 2040, up from only 6.5 mb/d currently (IEA, 2019).

ASEAN Energy Mix

The issue of ASEAN energy security targets how to meet energy consumption needs in ways that do not have negative impacts on the environment. In this context, the issue of developing renewables in the region is imperative (IEA, 2019). For the past five years, data show that the renewables share in the regional energy mix continues to show an improvement. Nonetheless, improvements have been far below that of Asia as a whole. Table 4.2 shows that Asia has accounted for more than half of the increase in the renewables share in the global energy mix (IRENA, 2020).

ASEAN Member States	2015 (MW)	2019 (MW)	Change (%)
Brunei Darussalam	1	1	0
Cambodia	975	1,479	51.7
Indonesia	8,513	9,861	15.8
Lao PDR	4,398	6,020	36.9
Malaysia	7,551	8,046	6.6
Myanmar	3,221	3,397	5.5
Philippines	5,618	6,695	19.2
Singapore	251	467	86.1
Thailand	7,968	11,860	48.9
Viet Nam	11,918	15,572	30.7
ASEAN	50,414	63,398	25.8
Asia	716,899	1,118,969	56.1
Global	1,846,060	2,536,853	37.4

Table 4.2: Renewables Share of the ASEAN Energy Mix, 2015 and 2019.

Source: IRENA (2020).

In this regard, an affirmative ASEAN target for renewables would be an important milestone. Under the APAEC 2016-2025, the target is for renewables to constitute 23% of total primary energy supply (TPES) by

2025, which would be up almost 10% in 2014. At the same time, power generation would double by 2025, and overall energy demand would grow by almost 50% (IRENA, 2018).

This target, while in line with global aims for renewables, would require the deployment of renewable energy to accelerate over the coming decade. However, under a BaU scenario, the renewables share would increase to just under 17% by 2025 (IRENA, 2018). The region will have overcome a projected 6% gap to reach its goal. This will require targeted effort to develop an enabling environment, such as legal frameworks and business-friendly financing schemes.

5. Discussion and Analysis

This paper uses the triple-bottom-line framework of sustainability to look at demands for the promotion of renewables development to encourage regional sustainable development (Figure 4.1). To this end, institutional and legal frameworks must assertively promote the development of renewables development to ensure improvements. As a blueprint and pathway for the regional energy cooperative efforts, the APAEC 2016-2025, Phase I: 2016-2020 was intended to enhance energy connectivity and market integration to achieve energy security for all of ASEAN's peoples (ACE, 2020). This reinforces the mission of the AEC, which in 2015 agreed to include energy security and sustainability in regional economic development. Further, as stated above, APAEC 2016-2025 also set a 23% renewables target of TPES by 2025. Considering fulfillment of the Paris Agreement in the region, this decision would require out-of-the-box thinking to promote the deployment of renewables in the next several decades. However, since a BaU scenario would see the ASEAN's renewables share increase to about 17% by 2025 (IRENA, 2018; ACE, 2016), targeted affirmative efforts to develop more operational institutional arrangements, related policies, and programmes are needed. The challenges is to make modest improvement in the use of renewables in the region, while regional solutions should be directed at political goals (e.g., energy-related policy changes) to enact transformative and decisive policies and institutional arrangements conducive to the regional energy transition (Cherp et al., 2018).

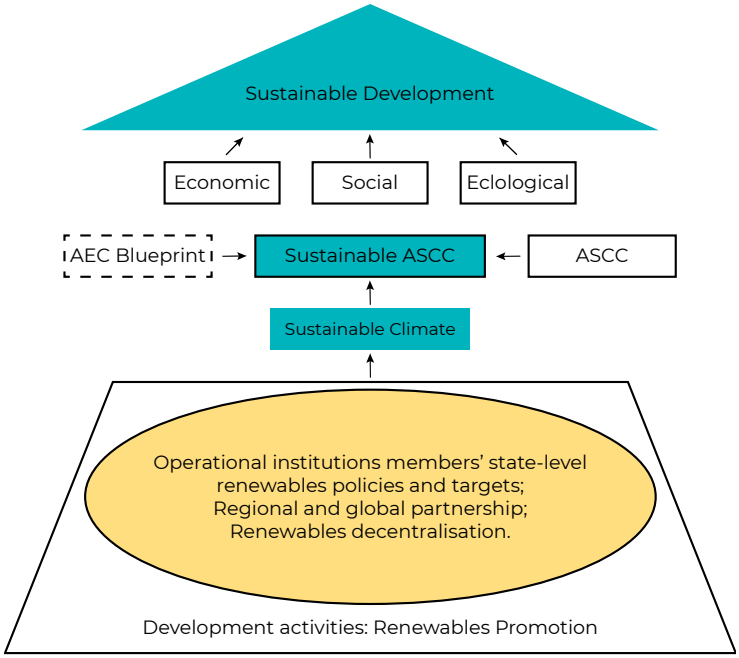

Figure 4.1: ASCC Vision for Renewables Sustainable Climate and Development.

AMS-level synergies and collaborations must be encouraged to set national policies and targets to accelerate the uptake of renewables in the region. Each AMS has established some type of renewables policies and targets (Table 4.3). Environmental protection and climate change mitigation are of importance for those policies and targets, so as to translate the mandatory parts of the Paris Agreement into Nationally Determined Contributions (NDC) to mitigate climate change. Under this regime, renewables development is expected to improve significantly (IRENA, 2019). Almost every AMS has set more assertive energy-efficiency targets, albeit with varying scopes, timeframes, and objectives (IRENA, 2018). However, regional and individual AMS energy efficiency targets need greater political endorsement to promote increased operationalisation and cooperation. A renewables-generation quota, e.g., the Renewable Portfolio Standard scheme, whether mandatory or voluntary, might be a viable option. Several countries have adopted the scheme and have succeeded in encouraging a significant increase in their renewables share[43].

43 https://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx#hi

Further, accelerated improvements in renewables power generation has contributed to reducing the burden of energy imports at the regional level (Yudha and Tjahjono 2019; Yoshino et al., 2020), while Indonesia's mandatory use of biodiesel (B-20 Policy) was estimated to save the nation around US$3.35 billion in foreign exchange in 2019 (Darma, 2020).

Another challenge includes ensuring inclusiveness. As the cost-competitiveness of renewables continues to improve, AMS have turned more frequently to renewables to achieve socio-economic benefits (IRENA, 2018). Ensuring that the development of renewables targets social dimensions under the triple-bottom-line framework requires more decentralised development strategies, due to projected increases in renewables uptake as investment costs decrease–and to counter drag from population and geographical factors that might otherwise hinder renewables investment. Renewables improvement must be seen in the context of legal, institutional, and economic frameworks, as well as in the context of technical and social constraints (Yudha & Tjahjono, 2019).

Accelerated improvement of renewables is also necessarily directed at strengthening regional contributions to reducing global GHG emissions. To achieve this trade-off with global interests, ASEAN must strengthen its existing global and regional partnerships. However, under this framework, the right to development and climate justice remain crucial. ASEAN's regional and global partnership initiatives shall be in line with national development priorities to ensure the creation of a level playing field with advanced economies in encouraging renewables.

Climate justice will be taken for granted if global emissions are cut significantly, by 50-85% of 2000 levels by 2050. Such cuts would require huge sacrifices–particularly from countries that have a long history of contributions to global emissions. The richest 20% of the world's population is responsible for over 60% of its current emissions–and over 80%, if past contributions are added (Okereke, 2010). This argument is not without credit. ASEAN must face major challenges in improving the use of renewables, such as 4-A issues (Yoshino et al.

2020). Also, the region has still to settle the issues of financing and regional policy coherence. Thus, without the affirmation of the right to development and climate justice, the vision of sustainable climate and development will result only in incremental changes (Simon, 1955). ASEAN must manage the classical challenges of significantly scaling up renewables, such as investment risk, financing, conducive policy and regulatory environments, and national and regional implementation instruments (Table 4.3). Despite progress in renewables development over the last two decades, ASEAN must continue to focus on improving energy security and sustainable development in the region. In short, institutional aspects, legal frameworks, and their regional political will ensure effective implementation and integration of renewables among AMS.

ASEAN Member States	National Policy							Fiscal Incentives						Grid Access			Regulatory Instruments				Others	
	Renewables Target	Renewables Law /strategy	Solar heating law/program	Solar power law/program	Wind power law/program	Geothermal power law/program	Biofuels power law/program	VEA exemption	Income tax exemption	Import/export fiscal benefit	Carbon tax	Accelerated depreciation	Other fiscal benefits	Priority/dedicated transmission	Grid access	Prefemtial dispatch	Guaranteed offtake via FiT/auctions	Quota, e.g, RPS	Renewables certificate system	Net metering	Renewables in rural access program	Local content requirements for equipment
Brunei D.	■																*	*	*	*		
Cambodia	■									■							■				■	
Indonesia	■	■		■	■	■	■	■	■	■		■	■	■	■	■	*			■	■	
Laos PDR	■	■		■	■	■	■		■	■		■	■	■	■	■	*		C		■	
Malaysia	■	■				■	■		■			■	■		■		■		C	■	■	■
Myanmar	■								■	■							■				■	
Philippines	■	■		■	■	■	■	■	■	■		■	■	■	■	■	■	■	■	■	■	
Singapore	■			■					■		■		■						■			
Thailand	■	■	■	■	■	■	■		■	■				■	■	■	■	■	■	■		
Viet Nam	■	■		■	■	■			■	■		■	■	■	■	■	■	■	*	■		

Table 4.3: ASEAN Renewables Policy.

Source: ACE *in* IRENA (2018)

* = under planning; C = under CDM

6. Conclusion

This paper identified a triple-bottom-line framework of sustainability for the promotion of renewables to encourage energy security and regional sustainable development. To this end, institutional and legal framework assertiveness in developing renewables is needed to ensure improvements. Considering the mandatory provisions of the Paris Agreement, this requires accelerated use of renewables in coming decades. Targeted efforts to develop more operational institutional arrangements, relevant policies, and programmes are needed. ASEAN must meet the challenge to make modest improvements in renewables use in the region, and regional solutions must put in place transformative and decisive policies and institutional arrangements to encourage the regional energy transition.

Other regional challenges are strengthening synergy at the AMS level to develop national renewables policies and targets and fostering collaboration in energy efficiency efforts to accelerate the use of renewables. Environmental protections and climate change mitigation are important to setting and meeting those policies and targets. Under the mandatory requirements of the Paris Agreement, renewables improvement plays a major role. Almost every AMS has set assertive energy-efficiency targets, albeit with varying scopes, timeframes, and objectives. Targets at the regional and individual AMS level must be politically endorsed. A voluntary- or mandatory-based quota scheme for renewables, e.g., the Renewable Portfolio Standard scheme, might be a viable option. As the region turns to renewables to achieve socio-economic benefits, renewables improvement will require more decentralised strategies. As the accelerated improvement of renewables is also necessary to reduce global GHG emissions, ASEAN needs to strengthen and diversify existing global and regional partnerships. Under this framework, the right to development and climate justice remain crucial, implying partnerships shall be in line with ASEAN's national development priorities. Despite the progress in renewables over the last two decades, ASEAN must continue to focus on several challenges to improve energy security and sustainable development, such as reinforcing institutional and legal frameworks

and ensuring there is regional political will to ensure their effective implementation.

The results of this study highlight the need for more assertive political action for ASEAN to ensure the AEC's and ASCC's visions of sustainability. The regional status of energy insecurity for ASEAN amid rising economic development, population growth, and rising standards of living is the main reason to improve the share of renewables in the regional energy mix, as AMS focus on energy security and sustainable development as envisioned by the ASCC and AEC.

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Paper 5:

Progress Report on New Initiatives for an Online Platform to Boost the Human Resource Capacity of Science, Technology, and Innovation Coordinators in Japan and ASEAN Toward Grand Challenges

Researcher Profiles

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Chisato Saito is a Research Administrator at Kyoto University Research Administration (KURA). She is in charge of supporting international academics and students in grant applications. Concurrently, she serves as deputy director of the Kyoto University ASEAN Centre in Bangkok, Thailand.

Abstract

An initiative to highlight the importance of building human capital bringing together policy makers, businesses, researchers, and local communities was launched in August 2020 via a series of monthly online webinars under the theme of 'Science, Technology, and Innovation Coordinators in Japan and ASEAN toward Grand Challenges'. It was led by the Kyoto University Research Administration Office (KURA), in collaboration with the ASEAN Foundation, the ASEAN Secretariat (ASEC) and the Japan-ASEAN Science, Technology, and Innovation Platform (JASTIP). This paper aims at reporting on the progress of these joint initiatives to boost human resource capacity for cross-Sectoral and cross-Pillar coordination to address cross-cutting issues in the ASCC Blueprint 2025 as well as global and regional grand challenges.

1. Introduction

For the sustainable development of science, technology, and innovation (STI), it seems indispensable to cultivate highly motivated

human resources with specialised skills, including technical skills and interpersonal soft skills, to coordinate academic research projects between ASEAN and Japan. As various stakeholders, researchers, policy makers, and businesspeople handle intertwined issues such as climate change, disaster prevention, biodiversity, and infectious diseases (most recently the COVID-19 pandemic) across different Sectors and regions, excellent communication is essential. Such coordination is expected to offer explanations of scientific results in easily understandable terms to a diverse audience while proposing evidence-based solutions for the well-being of all stakeholders in ASEAN and Japan.

The definition of specialised professionals differs from one place to another. They might be scholars heading international or public-private collaborations, full-time coordinators under the title of research administrator, or research managers. In this paper, STI coordinators refer to a wide range of professionals. Depending on the country and organisation, the knowledge and the skills required by STIs vary widely, and might include foreign language ability, an understanding of research ethics and compliance, familiarity with the rules of accounting and procurement, equipment management expertise, a capability for reviewing calls for proposals and application forms to secure research funds, as well as familiarity with STI policies, academic-industry collaborations, public relations, team management, and risk management. Accreditation of each skillset is currently under discussion in Japan, while there is growing interest in ASEAN to develop tailor-made capacity building programmes.

One successful program, the ASEAN Science and Technology Fellowship, has focused on empowering early- and mid-career scientists and researchers to support an evidence-based culture in ASEAN. Under the program, fellows representing ASEAN Member States (AMS) bridge local issues, priority research areas, and policies during their one-year placement. Fellows are exposed to coordination with government officials, overseas researchers, and the Private Sector. Equipped with communications and leadership training, fellows are primed to become leaders with a rich practical experience in research

coordination. The fellows and the alumni come from different backgrounds, but they form a friendly and integrated community.

Following the advice of the ASEAN Foundation and ASEC's Science and Technology Division, KURA initiated online meetings to deepen mutual understanding among young professionals engaged in STI and to develop their network to tackle common challenges in ASEAN and Japan. This collaboration was not an advanced one-size-fits-all capacity-building exercise, but contemplated the requirements of a multilateral platform where each participant paid due respect to diverse and under-represented cultures, and subsequently adapted capacity building programmes to address emerging challenges and priorities.

2. Methodology

2.1. Onsite/online hybrid self-assessment survey on the status of STI coordinators in ASEAN

To grasp the current status of research administration in ASEAN, research administrators from Kyoto University attended more than 10 onsite conferences and symposiums related to science, technology, and innovation in AMS and Japan in between 2018 and 2019, asking relevant individuals to complete an online survey to self-assess STI coordination in the ASEAN region. After face-to-face interactions with officials and researchers in ASEAN STI communities, a questionnaire was sent in 2019 to relevant coordinators working for ASEAN partners (universities, research institutes, and the ASEAN University Network). This questionnaire was designed as a self evaluation against a scale that rated the knowledge and skills required for STI coordination.

2.2. A series of six online meetings

To build the pool of STI coordinators to stimulate ASEAN's research ecosystem, KURA and the ASEAN Foundation brought together professionals experienced in STI coordination and research administration to continue their discussion about the emerging roles and responsibilities of STI coordinators. This took the form of

a series of online seminars with the main objectives of generating awareness of research administration and demonstrating the need for nurturing more professional STI coordinators in ASEAN. During the inaugural seminar, results from the 2019 questionnaire were shared and participants were invited to take part in working group discussion about topics identified as important by the questionnaire.

Six subsequent online meetings, to be led and moderated by KURA, have been scheduled since August 2020 and are slated to end by March 2021 (schedule in subsection 3.2). These online meetings have been attended by about 50 regular attendees and invited speakers. Criteria for joining the meetings are as follows:

- At least five years experience in STI coordination at universities or research institutes.
- Experience as an ASEAN STI fellow or strong motivation to contribute to the continuous collaboration between Japan and ASEAN at relevant meetings (e.g., INORMS).
- Previously shared concrete good practices, such as through the 2019 questionnaire.

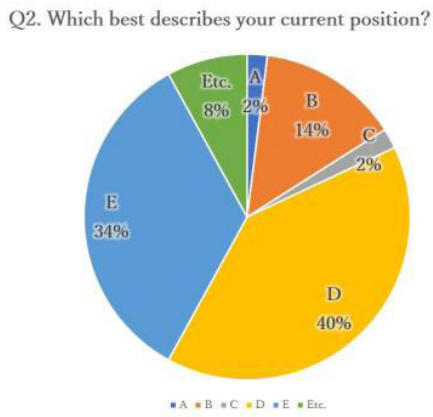
3. Findings

3.1. Onsite/online hybrid survey for self-assessment of the status of STI coordinators in ASEAN

As of March 2020, the assessments received from 60 respondents from 50 institutions in 10 AMS indicated development of competent researchers with coordination skills in some countries; the development of full-time professional coordinators with adequate skillsets is pending. Assessments also revealed that there are demands to deepen common understanding of the STI scheme and to form a collaborative network for sharing knowledge and experiences. Three key findings are as follows:

1) About 70 percent of participants held researcher positions. Their coordination duties ranged widely, including negotiating in foreign languages, ethics and compliance, accounting,

equipment management, handling grant application forms and related information, STI policies, industry-academic collaborations, public relations, security, and team management.



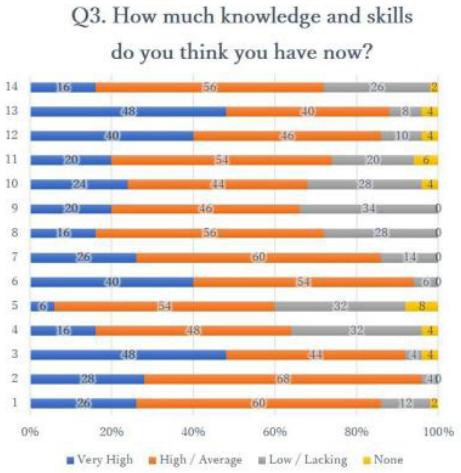
A: Multilingual technician or administrator that assists and facilitates international collaboration

B: **Research administrator** or **research manager** that operates the Pre-Award and/or Post-Award for international research project (preparing proposals, contracts and reports)

C: Specialist that strategically connects different sectors ranging from academia, ministries and private sectors in between ASEAN and Japan

D: **Professor or senior-researcher** that has rich management experience in research, education or administrative activities abroad

E: **Researcher** that conducts academic research and educational activities at University or Research Institution



[1. Command of foreign languages and understanding of different cultures]
[2. Interpersonal and negotiation skills to work closely with central and academic departments]
[3. Research ethics / compliance]
[4. Handling of various rules in accounting and procurement]
[5. Management of equipment, poisonous & deleterious substances, and knowledge of material transfer agreement]
[6. Practical skills of reviewing and submitting application forms and reports for research funding on time]
[7. Knowledge of funding systems and programs]
[8. Knowledge of STI policies]
[9. Facilitation skill of society-academia collaboration, intersectoral awareness, and handling of patents and IP]
[10. Promotion of public relations and outreach activities]
[11. Information retrieval, data literacy and analysis]
[12. Initiative to start a new research project]
[13. Organization and management skills of a research project and team]
[14. Risk / security management to solve unexpected challenges]

2) Based on self-assessments of their or their juniors' current knowledge and skills, respondents indicated the importance of essential skill sets. They also stated they had insufficient capacity-building opportunities to nurture more specialists at the organisation level.

3) Several respondents expressed a desire for a collaborative network to transfer individual knowledge and experience to junior colleagues, and to share common and diverse problems among coordinators.

Five common area of interests were identified:

1) Pre-Awards and Post-Awards: Essential skills and roles when launching or applying for new international projects.

2) Bridging and coordination across different sectors: Defining useful tips or skills to lead negotiations and to set objectives among different stakeholders.

3) STI Policies and Management: Integrating the need for developing more skilled STI coordinators and managers when formulating related policies and agenda.

4) Organisation and Management: Sharing experiences when hiring and training STI coordinators and developing bigger management office. How to allocate limited time, budget, and resources, considering that STI coordinators might have multiple duties (teaching, research, administration, or management) or might have excessive workloads.

5) Curriculum and Evaluation: Status and prospects for nurturing STI coordinators in individual AMS. Does the system monitor or evaluate whether professional knowledge has been properly transferred to younger talents?

3.2. Six online meetings (in progress)

By October 2020, a kickoff seminar and two online working group meetings attracted around 180 participants from 10 AMS, Japan, Korea, and several European countries. The first two working group meetings were themed 'Bridging and coordination among different sectors' from five common area of interests in ASEAN to explore useful tips and skills to lead negotiations and to work toward the common goals of various stakeholders.

(1) Kickoff Seminar: 'Science, Technology, and Innovation Coordinators in Japan and

ASEAN toward Grand Challenges', held on August 26, 2020

The seminar attracted almost 80 attendees from ministries, universities, and research institutions from all 10 AMS, Japan, Belgium, and the UK. Based on 43 answers to the follow-up questionnaire, more than 98% of respondents said the online seminar was useful in 1) learning about global research administration and management systems and 2) understanding the current status of STI coordination in ASEAN and future prospects of ASEAN-Japan collaboration. Respondents affirmed that STI-related organisations must strengthen research management at the departmental, institutional, and country levels. Respondents provided valuable comments on their expectations for nurturing STI coordinators in ASEAN and encouraging exchanges between ASEAN and Japan.

(2) September 30, 2020 Working Group

Topic: Bridging and coordination between sectors: What are your useful tips or skills for leading a negotiation and setting the same objectives for different stakeholders? Fifty-two participants (75 registrants) were attracted from nine AMS, Japan, and Korea.

(3) October 28, 2020 Working Group

Topic: Bridging and coordination between sectors: What are your useful tips or skills for leading negotiations and setting objectives for different stakeholders? Forty-one participants (77 registrants) were attracted from seven ASEAN countries, Japan, and Korea.

In November and December, KURA is planning two online meetings titled 'Pre-Awards and Post-Awards: Which skills and roles are essential for launching or applying for a new international project?'

4. Discussion and Analysis

While work is still underway to define STI coordination as a profession for ASEAN's science, technology, and innovation communities, most participants agreed that there was a great demand for professional human resources who could bridge and coordinate different stakeholders, including academia, industry, government, local communities, and indigenous groups. Professional STI coordinators could synergise individual STI activities conducted in different Sectors in ASEAN and Japan. How to overcome communication and cultural gaps between different stakeholders was a common challenge listed by participants. According to one participant, mutual respect and valuing others are important and STI coordinators must reduce knowledge gaps by facilitating communication and feedback between stakeholders. Cooperation with relevant ministries, decision makers, local indigenous groups, and scientists is needed to implement successfully projects with the local community.

It is suggested that researchers and scientists be required to widen their perspectives by encompassing more STI-related activities and administration. Interpersonal and negotiation skills are recognised as the basic competencies needed by STI coordinators to bridge and coordinate different Sectors. Successful coordinators paid visits to local communities and contributed to their livelihoods.

In addition, internal communication and negotiation with top management, colleagues, staff at different offices, and sections within their own organisation are also required for STI coordinators, as they need to understand the strengths and priorities of their organisation given limited time and resources. To do so, coordinators are required to translate research, technical knowledge, and cultural differences into simple terms, so that stakeholders from all backgrounds can understand the common goals.

5. Recommendations and Conclusions

While a common definition for an STI coordinator has yet to be stipulated, a collective effort to design a tailor-made capacity

development programme suitable for potential STI coordinators needs to be pushed forward. Through a series of working discussions, KURA hopes to learn from the best practices in research management and to extend its network among STI coordinators, which can accelerate research collaboration between ASEAN and Japan on international partnership grants and research management.

Along with fostering and cultivating STI coordinators, sharing technology and resources on an existing collaborative platforms has been proved to be effective, such as the Field for Knowledge Integration and Innovation (FKII) supported by the Ministry of Agriculture, Forestry and Fisheries, Japan, or the Japan-ASEAN Science, Technology, and Innovation Platform (JASTIP) led by Kyoto University, for instance. JASTIP has also implemented the JASTIP-Net partnership grant, targeted at ASEAN and Japan STI communities, which can be a model programme for future collaboration between ASEAN and Japan.

Several presenters in the working groups pointed out that stakeholder mapping on a matrix (researcher, scientist, STI coordinators, decision makers, local communities, and indigenous groups) would be useful to visualise the integrated action and priorities among relevant stakeholders. It was also recommended to respect others and local rules abroad.

KURA will continue such open communication with coordinators and colleagues in ASEAN and compile a joint report and proposal. We believe that our network will gather collective and inclusive voices to add values to the ecosystem of science, technology, and innovation in ASEAN to overcome global and regional issues such as COVID-19 and climate change.

Paper 6

Realising Inclusive Development for People with Disabilities and Women in Indonesia Based on the ASCC Blueprint 2025

Abstract

While current development focuses principally on economic activities, there remain gaps in society where development is uneven. The concept of inclusive development is intended to ensure that development is carried out evenly and gives equal rights to every group in society during the development process. This paper examines Indonesia's success as an ASEAN Member State (AMS) in realising inclusive development for people with disabilities (PWD) and women based on the ASCC Blueprint 2025. This paper deploys descriptive qualitative research methods with data collection techniques using literature studies. This paper shows that Indonesia has only succeeded in meeting 25% of the indicators for inclusive development for both people with disabilities and women.

1. Introduction

A city has the ability to influence the behavior of its people through development and access to services. This can be seen based on the Human Development Index (HDI), which details how populations can access development outcomes in obtaining income,

Researcher Profiles

Safaana Salwa Salsabilla is a third year student in Lampung University majoring International Relations and currently active as a Head of Division in International Relations Students Association and Activism Coordinator in Amnesty International Chapter Lampung University. Safaana's research interest is around gender issue, disaster management, human rights, and non-traditional security.

Berliana Adinda, S.P.W.K is a fresh graduate student in Institute Technology of Sumatera majoring Urban and Regional Planning. Berliana's research interest is about sustainable development, urban planning,and inclusive development.

Khairunnisa Simbolon, S.IP., M.A. is currently a lecturer and researcher at the Departement of International Relations, Lampung University. Khairunnisa's research interests are within the area of International Politics, Non-traditional Securiy, Comparative Politicss, and the Conflict Management Studies in the South-East Asia. She conducted research on conflict management with the perspective of ASEAN Way, disaster risk management, and other ongoing research.

health, and education, etc. The HDI is an important indicator to measure success in increasing the quality of human lives (BPS, 2020).

Development that is carried out as a form of economic growth must provide equitable services for people at all levels of society, contribute to equalising development, and close gaps. Currently, development is an exclusive model that makes economic aspects the main measure of achievement. However, economic growth has not been balanced by an equal distribution of welfare for each group, and there are also concerns about high levels of unemployment and poverty, as well as for the carrying capacity of the environment, which continues to be exploited.

This is a problem, as there are marginalised groups that are the subjects of development, including persons with disabilities–whose numbers in Indonesia top 21.5 million people, comprising 8.56% of the population of Indonesia–and women. (The Asia Foundation, 2019).

Inclusive development has emerged, prompting the creation of development objectives that involve parties from various groups in creating equitable development and prosperity opportunities. Inclusive development follows the elements of the ASCC Blueprint's three goals for an inclusive community, namely:

1. The ASCC is expected to move to a more inclusive Community under the Blueprint. This requires the promotion of equitable access to opportunities for ASEAN's peoples, and the promotion and protection of human rights for women, children, youth, the elderly and older people, persons with disabilities, migrant workers, ethnic minority groups, and vulnerable and marginalised groups. This must be guided by a lifecycle approach and adhere to rights-based principles in promoting ASEAN policies and programmes under the ASCC Pillar.

2. Complementing the AEC's inclusive growth agenda, inclusivity focuses on addressing the concerns of all of ASEAN's peoples on issues related to welfare, social protections, women's empowerment, gender equality, the promotion and protection of

human rights, fair access, opportunities, poverty alleviation, health, decent work, education, and access to information.

3. The objective of inclusivity is an inclusive ASEAN Community that promotes a better quality of life, overcomes barriers to the enjoyment of equitable access to opportunities by ASEAN's peoples, and promotes and protects human rights.

2. Research Objectives

PWD and women are not the Indonesian government's top priority for inclusive development, as Indonesia remains focused on increasing its Economic Development Index over the HDI, which should be prioritised. As an AMS, Indonesia is participating in realising elements of the ASCC Blueprint and has started to make various efforts in the Development Sector, where previous progress has been exclusive and too focused on economic growth to consider other elements, such as social development and human resources (PRAKARSA, 2015).

This research paper examines the differences between ideals and reality in Indonesia through the following research question: What policies or steps, based on the ASCC Blueprint, have been taken in Indonesia to achieve inclusive development for people with disabilities and women?

3. Methodology

This study used a qualitative method with data collection techniques through a literature study of government webpages, journals, and scientific books. This study used secondary data from literature studies and descriptive analysis techniques to answer research questions and ascertain conclusions. Researchers collected data about inclusive development and its implementation in Indonesia. Then, with these data in hand, researchers analysed the state of Indonesian policies and the extent to which development in Indonesia has been inclusive.

4. Findings and Discussion

The idea of inclusive development emerged in the 20th century. Inclusive development focuses on three different levels: individual, national, and international relations. According to Ali and Son (2007), inclusive development is growth that creates new economic opportunities and guarantees equal access to opportunities for all segments of society, especially the poor. Inclusive development focuses on two principal elements: high and sustainable growth, to create productive and decent work opportunities; and social inclusion, to ensure that every member of society has equal access and equal opportunities (Gupta & Ros-Tonen, 2015).

Since development that is not inclusive can produce additional inequalities for some groups, inclusive development focuses on things other than the economy, such as (a) direct democracy and the granting and implementation of civil and political rights; (b) distributing needed public facilities to marginalised people, such as women and people with disabilities; and (c) other facilities, such as the provision of education, health service, and infrastructure. Inclusive development seeks to cover all aspects of life and and ensure the participation of people from every group (Sachs, 2004).

Indonesia's level of inclusive development can be measured using parameters such as inclusion in the social, economic, legal, political, cultural and educational contexts.

The ASCC Blueprint 2025 has 13 indicators tracking access to inclusive development, including four that focus on people with disabilities or women. These indicators were analysed against the Indonesian government's policies and actions to measure the success of inclusive development for PWD and women in Indonesia.

The indicators are:

1) Enhance regional platforms to promote equitable opportunities, participation, and the effective engagement of women, children, youths, the elderly and older persons, persons with

disabilities, people living in remote and border areas, and vulnerable groups in the development and implementation of ASEAN policies and programmes.

2) Build an enabling environment to provide the unemployed, poor, and other marginalised groups with equitable access to resources and opportunities, and to safeguard measures to prevent them from falling under the negative influence of violent extremism and threats.

3) Ensure inclusive, participatory, and representative decision making at all levels, giving special attention to the needs of those in disadvantaged situations, including ethnic minority groups, children, youths, women, persons with disabilities, and the elderly and older persons,

4) Promote increased accessibility for persons with disabilities and other vulnerable groups in keeping with the universal design facilities.

4.1. Policies and Conditions on Inclusive Development for Disabilities In Indonesia

According to Indonesia Statistics, the Indonesian national statistics agency, the number of people with disabilities in Indonesia is 21.5 million, or 8.56% of the population (The Asia Foundation, 2019). Law No. 4 on Persons with Disabilities was promulgated in 1997 and uses a health approach, considering persons with disabilities as patients who should be pitied. This law was superseded by Law No. 8 of 2016, which treated the issue from a social and human rights perspective, viewing that persons with disabilities cannot carry out their activities optimally because the surrounding environment does not fully accommodate them. In 2011, Indonesia issued Law No. 19 on the Ratification of the Convention on the Rights of Persons with Disabilities and in 2016, it issued the Law on Persons with Disabilities, which was focused on welfare, access to public services, access to jobs, self-empowerment, and participation in development (Hastuti, Dewi, Pramana, & Sadaly, 2020).

Based on development ethics, policymakers must ensure that problem formulations involve every level of society. In the formulation of inclusive development under development ethics, various actors must be involved, such as the central government, local governments, various NGOs, the Private Sector, the mass media, and the community. NGOs that often participate in the formulation of inclusive development policies in Indonesia are the Indonesian Blind Association, the Association for Healthy Mental Disabilities, the Association of Indonesian Women with Disabilities, the Yogyakarta Disability Integration, and Advocacy Sasana (Hastuti, Dewi, Pramana, & Sadaly, 2020).

Under Indonesian law, persons with disabilities must have access to employment opportunities, health services, education, information and technology, and public infrastructure, among other things.

Access	Fulfillment of Access for Persons in Disabilities
Employment	Labor force participation rate: 31.63%
Health Care	Uneven
Education	Uneven
Technology and information	Access to electronic devices: 34.89%
	Internet access: 8.50%
Public Infrastructure	Not fulfilled

Table 6.1: Overview of Access for Persons with Disabilities Under Indonesian Law.

Source: Hastuti, Dewi, Pramana, & Sadaly, 2020

Based on Table 6.1, only 31.63% of the people with disabilities have joined the labor market and accessed employment opportunities. Access to health services for persons with disabilities is uneven, as some health facilities lack appropriate equipment. Access to education is also uneven, as there is a dearth of teachers and schools to assist people with disabilities. This can be seen in the disability group illiteracy rate, which is 10%, compared to non-disabled rate of 1%. Special Schools (SLB) lack optimally accommodated education facilities for people with disabilities. On access to information and technology, the mandate for persons with disabilities to use and obtain information via modes such as sign language, Braille, or

augmentative communication in official interactions has not yet been fulfilled. Only 653 of 9,655 health centres are friendly to persons with basic disabilities. Finally, public infrastructure, such as public transportation, sidewalks, toilets, and elevators, still do not meet the standards for people with disabilities: 96% of facilities in Indonesia are inaccessible to persons with disabilities, while 4% were deemed less accessible (Hastuti, Dewi, Pramana , & Sadaly, 2020).

4.2. Development Ethics in Inclusive Development

Development ethics is an area of concern and a potential agenda statement regarding the social and economic development process, where various disciplines and approaches can coincide and combine to achieve a goal (Gesper, 2009). The concept has been used in inclusive development to create a uniform government focus, such as by merging economic and social concerns, to achieve inclusive development that includes all Development sectors.

One reference in this paper is Des Gasper's 'Development Ethics-What? Why? How?', which discusses the role and purpose of development ethics in countries and positions development ethics as a scientific discipline, connecting it with inclusive development.

In the development process, there will be results and impacts, both intended and unintended, that can be distributed evenly or unevenly. Under development ethics, it is necessary to evaluate the development process that has been carried out to avoid inappropriate development, such as that which only accommodates one group. Negative impacts and uneven development must be minimised. According to Goulet, development ethics has three strategies: development goals, namely the abundance of goods; universal solidarity; and participation. In this case, participation is the most important strategy for involving all levels of society in development.

The availability of spaces for women needs attention, as community activities also influence the shape of a city. Violence against women, in the public sphere and in the community, is still common in Indonesia, which reported 3,915 such cases in 2019, including 64% involving

sexual violence (KOMNAS PEREMPUAN, 2019). This indicates existing activity spaces were insufficient to protect women's rights so women could carry out activities with the ease and access of other groups.

Accordingly, one Indonesian government initiative to ensure inclusive development for women was the promulgation of laws and regulations to ensure women's representation in the House of Representatives, as stated in Law No. 2 of 2008, which required that women comprise 30% of each political party's candidates.

Sex	1994-2004	2004-2009	2009-2014
Women	9%	11.80%	18%
Men	91%	88.20%	82%
	Without affirmative action	With affirmative action, 30% of women	With affirmative action quota and zipper system 1 of candidates.

Table 6.2: Gender Composition of the Indonesian House of Representatives.

Source: Mulyono, 2010

Table 6.2 shows an increase in women's representation in 2009 over the previous period, due to the affirmative action stipulations of Law No. 2 of 2008, as well as an increase due to the stipulations of Law No. 10 of 2008, which called for a 'zipper' action, requiring that women comprise at least one of every three candidates for each political part.

The Indonesian government also worked to realise inclusive development by providing special workers' rights for women, such as (Talenta, 2020):

a. Entitlement to maternity leave and maternity leave, as per Law No. 13 of 2013 which provides mothers leave for 90 days before and 90 days after birth.

b. Protection of rights during pregnancy, under Law No. 13 of 2003, which prohibits employing pregnant women for jobs that might endanger their unborn children or themselves.

c. The right to miscarriage leave, under Law No. 13 of 2003, which offers 90 days leave when certified by an obstetrician.

d. Right to cost of delivery, under Law No. 3 of 1992, offering social security at companies that employ more than 10 workers through the Jamsostek program, including a health care guarantee that covers the cost of examinations and childbirth.

e. Breastfeeding rights, under Law No. 13 of 2003, ensuring a woman's right to breastfeed or pump breast milk during working hours.

f. Menstrual leave rights, under Law No. 13 of 2003, ensuring women have the right to take leave on the first and second of menstruation.

4.3. Analysis of the Success of Inclusive Development for Women and Disabilities in Indonesia

Indonesia has made various efforts to realise inclusive development for people with disabilities and women by issuing various regulations and policies to guarantee unfulfilled rights. However, in reality, these policies have not beenoptimal. Development has not been achieved perfectly in Indonesia, as shown in Table 6.3.

The ASCC Blueprint 2025 has been in the process of implementation for more than four years, in which period Indonesia has not been able to involve ASEAN in the realisation of inclusive development for PWD and women. Indonesia has not provided a safe environment for PWD or women, in the form of adequate facilities or an environment that is safe from violence and threats.

ASCC Indicators	Persons with Disabilities	Women
Enhance regional platforms to promote equitable opportunities, participation, and effective engagement of women, children, youths, the elderly/older persons, persons with disabilities, people living in remote and border areas, and vulnerable groups in the development and implementation of ASEAN policies and programmes	**Not achieved** No data to indicate cooperation or the provision of a regional platform to implement inclusive development for people with disabilities.	**Not achieved** No data to indicate cooperation or the provision of a regional platform to implement inclusive development for women.
Build an enabling environment to provide the unemployed, poor, and other marginalised groups equitable access to resources, opportunities, and safeguard measures to prevent them from falling under the negative influence of violent extremism and threats.	**Not achieved** No data to indicate that there is protection for persons with disabilities to avoid threats of violence.	**Not achieved** Rate of violence against women is still high, reaching 3,915 cases of violence.
Ensure inclusive, participatory, and representative decision making at all levels with special attention paid to the needs of those in disadvantaged situations, including ethnic minority groups, children, youths, women, persons with disabilities, and elderly/older persons.	**Achieved** Participation of groups with disabilities in formulating inclusive development policies, including the Indonesian Blind Association, the Association for Healthy Mental Health, the Indonesian Association of Women with Disabilities, and the Yogyakarta Disability Integration, and Advocacy Sasana.	**Achieved** Laws and regulations require a minimum of 30% involvement of women in politics to represent women in decision making.
Promote increased accessibility for persons with disabilities and other vulnerable groups in keeping with universal design facilities.	**Not achieved** Data shows that 96% of public facilities are not accessible to persons with disabilities.	**Not achieved** Rate of violence against women is still high, reaching 3,915 cases.

Table 6.3: Achievements of Indonesia under the ASSC Indicators for Women and Persons with Disabilities.

5. Conclusions and Recommendations

Based on the results and analysis above, Indonesia has not succeeded in meeting the indicators of the Blueprint regarding inclusive development for people with disabilities or women.

The authors recommend that governments prioritise inclusive development for persons with disabilities in implementing the Blueprint by:

1. Prioritising the development of public infrastructure for persons with disabilities.
2. Involving ASEAN and AMS to guarantee the rights of the disabled, such as the fulfillment of disability-friendly technologies, information, and health services.
3. Providing security guarantees for persons with disabilities to be free from crime in any form, in the form of new regulations or facilities.

The authors recommend that governments prioritise inclusive development for women while implementing the Blueprint by:

1. Prioritising the formation of regulations that protect women as the people most vulnerable to sexual crimes.
2. Involving ASEAN and AMS in building women-friendly cities.
3. Realising that various efforts made by the government through existing policies is insufficient to fulfill the ASCC Blueprint. A more comprehensive effort from various stakeholders is needed.

The inclusiveness that ASEAN is trying to achieve through ASEAN Connectivity will bring all individuals in the region to a more decent standard of living, including persons with disabilities and women. Indonesia, with the largest population in Southeast Asia, should be an example for other Southeast Asian countries in realising inclusive development, remembering the slogan of sustainable development, no one left behind.

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Paper 7

Managing SCP Between Oil Consumption and Economic Growth for Middle-Income Countries in Achieving ASCC 2025 Goals

Researcher Profiles

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Abstract

This paper presents ideas regarding the Sustainable Development Scenario (SDS) and Stated Policy Scenario (STEPS), which involve oil consumption and economic growth in Southeast Asian countries, especially middle-income countries, as part of the work to realise Sustainable Consumption Policies (SCP), which is a focus of the ASCC Blueprint 2025. The researchers present how oil consumption affects economic growth and how these two factors are interrelated. The study uses a quantitative research method with the SPSS test tool to examine relationships. One model is based on STEPS, which holds that energy-subsidy-policy making can increase oil consumption, affecting a country's economic growth. However, this is not the case for the second model, based on SDS, where policies to increase renewable energy production do not significantly help achieve sustainable consumption and production in middle-income countries in ASEAN.

1. Introduction

The most recent World Energy Outlook (WEO), which examines future energy trends,

used the World Economic Model for 2020. The model projected three scenarios: the Stated Policy Scenario (STEPS), a Delayed Recovery Scenario, and a Sustainable Development Scenario (SDS). It is assumed that uncertainties in future energy trends will continue, as will interventions in the energy market. STEPS is the central scenario used by WEO, taking into account policies and implementing actions affecting the market that were adopted in mid-2020, although some specific implementations actions are in process (World Energy Model Documentation, 2020). STEPS represents existing policies and commitments, including those that have just been announced and those not yet officially adopted, which provides a benchmark for measuring recent developments in energy and climate policy.

Meanwhile, the Sustainable Development Scenario (SDS) is integrated with Sustainable Development Goals (SDG): ensuring universal access to affordable, reliable, sustainable, and modern energy services by 2030 (SDG 7); substantially reducing air pollution (SDG 3.9); and taking effective action to combat climate change (SDG 13). This scenario envisions realising the SDGs by 2030 while achieving universal energy access to fulfill the Paris Agreement's goal of reducing air pollution to reduce the effects of climate change (World Energy Model Documentation, 2020).

Countries need to find the best scenario to ensure sustainable energy production and consumption, especially countries with high energy-consumption levels, such as middle-income countries. The dominant middle-income countries in Southeast Asia have influenced economic growth in the region. In this case, economic growth rates are also influenced by population and consumption levels.

Southeast Asia is home to 8.3% of the global population and booked a population increase rate of 5.2% in the last five years–outperforming the US and China (Databooks, 2019). A larger population raises the possibility of Southeast Asia becoming one of the world's economic growth drivers and a potential target consumer for companies, countries, or other parties–as well as a region with an increased dependence on available energy.

Energy needs will continue to grow in line with population growth. Between 2010 and 2018, the population of Southeast Asia increased 8%, while energy demand increased 3% (International Energy Agency, 2017). As per Table 7.1, demand is great for oil, which ranks just behind coal.

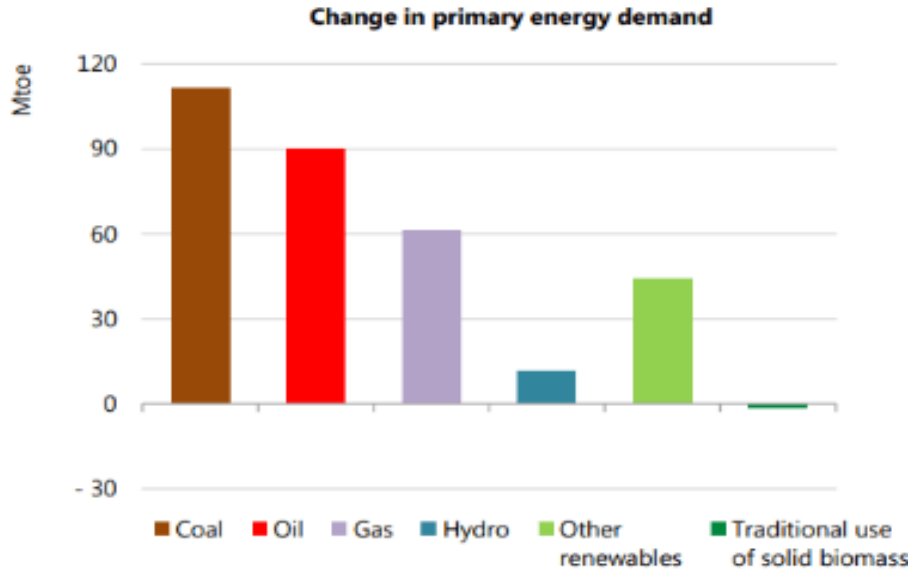

Table 7.1. Demand for Energy in Southeast Asia 2018.

Source: Asia Tenggara Energy Outlook 2019

Oil is a tool that can encourage industrial and economic growth in a country. On the other hand, oil, without clear regulation, causes pollution in the surrounding environment. Southeast Asia has great potential for oil energy, but high dependence on energy also poses a challenge for the region. Researchers have said that the countries of Southeast Asia must pursue the right strategy to balance consumption without harming development.

2. Research Objectives

ASEAN Member States (AMS) have begun to show progress in realising SCP, which is a priority of the ASCC Blueprint. However, ASEAN's high rate of energy consumption, especially of oil, stems from the

incompatibility of AMS national policies with target policies for SCP. This research will look at how the Sustainable Development Scenario and the Stated Policy Scenario can form a policy strategy model for SCP absorption.

3. Methodology

This research is based on quantitative methods with SPSS analysis tools using linear regression data tests. Testing data shows the influence between the dependent variable and the independent variable in models based on STEPS and SDS. Collecting data was done using library research techniques through journals, articles, and annual reports. Data tested was secondary data harvested through indirect and non-reactive data collection techniques. Using analytical techniques of data extraction, results were analysed to form findings and conclusions.

4. Findings and Discussion

The Energy Sector in Southeast Asia brings the region together in terms of policy making to stay on a safe, affordable, and more sustainable path, including facilitating investment in fuel and electricity supplies and infrastructure. High demand for fuel, especially oil, far exceeds production. This makes Southeast Asia a net importer of fossil fuels, such as oil and coal. Southeast Asia has great potential for renewable energy, which currently meets around 15% of the region's energy demand (World Energy Model Documentation, 2020). Population increases in Southeast Asia have been increasing already-high demand for oil due to high fuel consumption. The Stated Policy Scenario defines several major potential risks when there are gaps between domestic production and the projected demand of oil and gas in the region, causing trade to swell. This will increase pressure on government budgets, particularly if subsidy policies remain in place to protect consumers from market-based energy prices (World Energy Model Documentation, 2020).

To meet its energy needs, AMS rely on mobilising higher levels of investment. In this case, commitment and implementation of policies

to meet long-term goals and strategies are very important. Southeast Asian governments provided approximately USD 35 billion in subsidies for fossil fuel consumption in 2018, equivalent to nearly 0.5% of regional GDP (Southeast Asia Energy Outlook, 2019). Governments play an important role in setting clear long-term targets by reducing capital risks and costs. This is typically done so that long-term energy security and sustainability goals depend on correct pricing and have predictability to stabilise the Sectoral framework. Thus, Southeast Asia's problem is to seek the best efforts to accommodate high levels of economic activity and energy consumption without worsening environmental consequences and energy use to achieve SCP goals.

Figure 7.2 shows how movement and movement estimates between STEPS and SDS realise sustainable consumption and production.

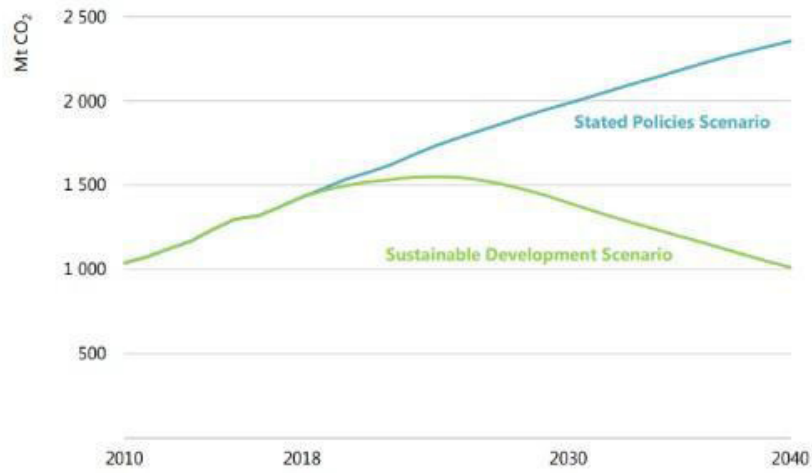

Figure 7.2: Emission Reductions under SDS and STEPS.

Source: Southeast Asia Energy Outlook 2019

Estimated movement in the Stated Policies Scenario and the Sustainable Development Scenario is not uniform. Each scenario has a different outcome. Under Sustainable Consumption and Production, energy consumption is estimated to increase air pollution by more than 2,000 Mt of carbon dioxide–greater than the 1,000 Mt under the SDS. Accordingly, the SPS is not focused on reducing carbon dioxide

pollution from energy use. The differences are increasingly visible in Table 7.3.

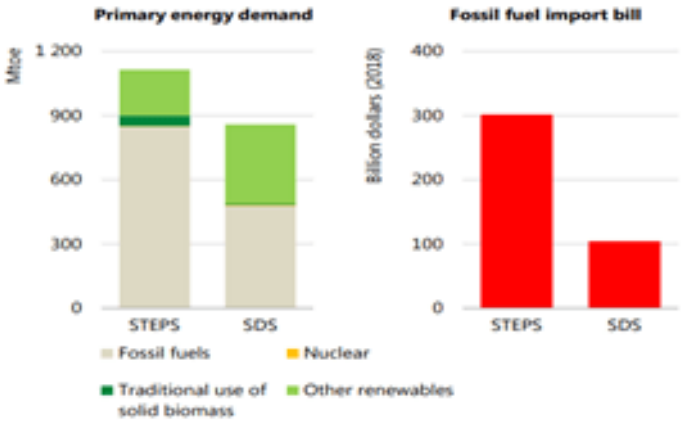

Table 7.3: Outcome Differences between STEPS and SDS by 2040.

Source: Southeast Asia Energy Outlook 2019

Table 7.3 shows energy demand in 2040 under STEPS will continue to have a dependence on fossil fuel energy, including oil energy, while under SDS, the estimated demand for fossil fuels will decline to a level almost in balance with renewable energy use.

The researchers propose two models be derived from the data above: a STEPS Profit-Oriented Model, and an SDS Sustainability Oriented Model.

4.1. STEPS Profit-Oriented Model

Figure 7.1: STEPS Profit-Oriented Model.

STEPS is focused on profits and relies on high community oil consumption with a subsidised energy policy to encourage an increase in oil consumption in order to reach economic growth targets.

To prove this, the researchers conducted a regression test to see how each model's component would be affected using the following variables: economic growth, oil consumption, energy (oil) subsidies, and GDP of energy use.

	Country	Economic Growth	Oil Consumption	Energy Subsidies	GDP of Energy Use
1	Indonesia	5.0	90.2	19217.7	11.1
2	Malaysia	4.3	125.6	1811.6	8.0
3	Thailand	2.4	124.1	539.6	8.1
4	Vietnam	7.0	113.6	0.2	8.8

Table 7.4: Variable Values for STEPS Profit-Oriented Modeling.

Independent Variable	R-Squared	Sig.	Explanation
Energy Use	.993	.004	Oil consumption has a very influential and significant affect on the movement of GDP of Energy Use, as evinced by the sig value of 0.004 <0.005 and the R-Squared value, which shows a percentage of 99%.
Energy Subsidies	.847	.080	Energy subsidies have a significant effect on Oil Consumption, as evinced by the sig value of 0.08>0.005 and an R-Squared value of 84%.
Economic Growth	.149	.614	Oil consumption does not affect significantly Economic Growth, as evinced by the sig value of 0.614> 0.005 and R-Squared value of 14%.

Table 7.5: Analysis of STEPS Profit-Oriented Model.

GDP of Energy Use, which is an indicator of the value of GDP in energy consumption activities, is strongly influenced by existing oil consumption, which is in turn influenced by energy subsidies.

Therefore, existing oil consumption does not have a major influence on economic growth.

Analysis of the three regression tests in Table 7.5 show that oil consumption is strongly influenced by energy subsidies, which are a type of government policy that each AMS can use to increase or decrease oil consumption, and which can ultimately affect the GDP of energy use itself.

4.2. SDS Sustainability Oriented Model

The Sustainable Development Scenario focuses on renewable energy production policies to encourage Sustainable Consumption and Production (SCP).

Figure 7.2: SDS Sustainability Oriented Model.

To prove this model, researchers conducted a regression test using the following variables: per capita renewable capacity, energy growth, and renewable energy.

State	Per Capita Renewable Capacity	Renewable Energy	Energy Growth
Indonesia	34.6	4.0	35.0
Malaysia	235.7	4.0	5.2
Thailand	148.0	5.3	22.7

Table 7.6: Variable Regression Test for SDS Sustainability Oriented Model.

Independent Variable	R Square	Sig.	Explanation
Renewable Capacity	.530	.272	Per capita renewable capacity has an insignificant effect on renewable energy, with a sig value of 0.2 and an R-Squared value of 0.53, or 53%.
Energy Growth	.003	.942	Renewable energy (dependent variable) and energy growth (independent variable) show that the renewable energy and energy growth variables do not affect each other, with a sig value of 0.9 and an R-Squared value of 0.0.

Table 7.7: Analysis of SDS Sustainability Model.

From Table 7.7, it can be seen that renewable energy and renewable capacity variables do not influence each other and are not significant variables–just as energy growth does not show mutually influential results on renewable energy as a whole. The SDS Sustainability Oriented Model was not successful in predicting what kind of strategy could be realised under SDS to achieve Sustainable Consumption and Production for middle-income Southeast Asia countries.

5. Discussion and Analysis

From the analysis above, the STEPS model shows a relationship between government subsidy policies on oil consumption and a country's economic growth. A subsidy policy makes oil prices affordable, thereby increasing people's consumption power and increasing the demand for oil. If not accompanied by sustainable consumption behavior, this will further deplete the world's oil supply and increase greenhouse gas emissions.

Governments in Southeast Asia in 2018 provided around USD 35 billion to subsidise for fossil fuel consumption, equivalent to nearly 0.5% of regional GDP. The use of subsidies indirectly affects increases in a country's economic growth. However, according to the STEPS Profit-Oriented Model, unsustainable oil consumption behavior will not meet the Sustainable Development Goals. The government must

look for alternative policies that can balance the energy production and consumption, which increases along with population.

The SDS model, which targets Sustainable Consumption and Production, indicates that the production variable of renewable energy is not sufficient to see how the SDS mechanism would increase SCP in Southeast Asia. Modeling provided results that were neither influential nor significant. If each government applies this model, sustainability will be achieved in the future.

The ASSC is committed to uplifting the quality of life of its people through cooperative activities that are community-oriented, people-centred, and environmentally friendly, and that are directed at promoting sustainable development. High rates of consumption of non-renewable energy fuels and the subsequent greenhouse gas emissions are contrary to this commitment. The researchers recommend policy makers start applying Sustainable Consumption and Production principles into fuel-related policies. The impact will be in line with the commitments to be achieved by ASCC and the aspirations of ASEAN Connectivity.

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Paper 8

QR Code Project: Potential Increase of Medication Adherence among Hypertensive and Diabetic (Type 2DM) Respondents through Drug Information Provision

Researcher Profiles

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Abstract

Medication adherence is defined as taking the medications correctly to which the patients take medicines as prescribed by their doctors. This is important in ensuring that therapeutic benefits are delivered to patients. However, adherence has always been an issue, especially among the elderly. Large numbers of hypertension and diabetes mellitus cases are the most common non-communicable diseases (NCD) in the local community setup. Despite the free medication programme provided by the Philippine Department of Health (DOH), some participants still do not adhere to their medication regimen or even participate in the program. This study deals with the assessment of medication adherence among hypertensive and diabetic patients. The researchers applied a small-scale intervention using Quick Response (QR) codes attached to the packaging materials on patient drugs to measure adherence. Hypertensive and diabetic respondents (n=62) with accessible smartphones were recruited for the study. Participants were asked to scan QR codes and download and read the drug information through their smartphones.

The intervention was measured by a Filipino-tailored Medication Adherence Scoring Sheet (MASS) before and after the intervention. A questionnaire was designed to assess the efficacy of the program. Findings revealed an adherence rate of 37.1% and a high-adherence rate of 17.7%, both of which indicate a possible increase in medication adherence after disseminating drug information through QR codes. The odds ratio value of 30.375 signifies that the odds of having high/medium adherence to proper medications after QR code intervention was 30.375 higher as compared to low-adherence respondents. In conclusion, this denotes the effective response of QR code applications to provide drug information for adherence. This was also perceived as a contributory factor in the increased adherence to the proper medication schedule by respondents.

1. Introduction

According to the World Health Organisation (WHO), non-communicable diseases, also known as chronic diseases, are the leading cause of death or disability around the world. There are four main types of NCDs: cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes (Mobula, Fisher, Lau, Estelle, T, & Pyler, 2016).

Hypertension is referred to as the 'silent killer', since most individuals do not manifest symptoms. On the other hand, diabetes mellitus is a metabolic disorder characterised by hyperglycemia due to defective insulin action, defective insulin secretion, or both. The chronic hyperglycemia of diabetes is associated with relatively specific long-term microvascular complications affecting the eyes, kidneys, and nerves, as well as an increased risk for cardiovascular disease (CVD).

Rao, Kamath, Shetty, and Kamath (2014) stated that hypertension and diabetes are well-known risk factors for CVD. Pharmacological treatment as seen in large-scale clinical trials can reduce the morbidity and mortality rates associated with CVD, along with long-term or lifelong treatment. Different challenges are faced when it comes to pharmacological treatments–including non-compliance and non-adherence of patients to treatment. Adherence to medications is

important for ensuring that therapeutic benefits are delivered to patients. However, adherence has always been an issue, especially amongst the elderly (Yap, Thirumoorthy, & Kwan, 2015).

In a study conducted by Al-Ramahi (2014) in Palestinian hypertensive patients, more than half of participants were found to have low adherence. This means that for many hypertensive patients, medication adherence needs to be improved. It is a crucial public health agenda item to improve adherence to antihypertensive medication therapy by improving medication-taking behavior (Lee et al, 2013). Brown and Bussell (2011) stated that increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments. Juarez, Tan, Davis, and Mau (2013) stated that potential barriers to adherence to anti-diabetic and other medications include fear of hypoglycemia, fear of giving self-injections, weight gain, complexity of regimen, low health literacy, and medication cost.

One of the ways in which the Philippine government combats hypertension and diabetes is through conducting medication programmes, such as the establishment of the Department of Health Hypertension and Diabetes Club. As cited in the *Official Gazette* (2015), this was launched nationwide to improve initiatives in addressing non-communicable diseases, serve as a support group for communities to disseminate information, and ensure that appropriate management is provided to all patients.

Despite the DOH's free medication program, it is known that some participants still did not adhere to their medicine or even participate in the said program. QR codes, also known as Quick Response codes, are a new way to utilise technology and to give out information. It is a machine-readable optical label with information on the associated item or product that can be accessed easily and is capable of holding a great deal of information (Chang, 2014).

This study deals with the assessment of medication adherence of hypertensive and diabetic patients. In this study the researchers

applied an intervention using QR codes to determine if they helped patients become more adherent to their medication regimens.

1.1. Research Impediments

The study had the following limitations that focused on the following parameters:

- Determining which factors affected the non-adherence of hypertensive or diabetic mellitus patients, despite the information provided through QR code technology.
- Conducting a follow up 14 days after the distribution of QR codes by measuring adherence using a Medication Adherence Scoring Sheet (MASS) tailored to Filipino-speaking patients, blood pressures, and glucose levels.
- Determining if respondents easily understood the information generated by the QR code.

1.2. Significance of the Study

Nowadays, there is a need for effective interventions to improve medication adherence. Determining which factors influence why patients do not adhere, despite free medication, is an important step in developing more efficient interventions to improve patient adherence to medication regimens. This study will help pharmacists and other healthcare professionals make use of creative and useful interventions that will make their patients adherent to regimens. This will also help hypertensive and diabetic patients gain a clearer understanding as to why their involvement in this assessment and intervention is important. This study is important to the researchers and to future researchers to determine which intervention components are potentially effective.

2. Materials and Methodology

2.1. Research Design

Cross-sectional study is a research tool used to capture information based on data gathered, such as a specific exposure, disease, or any other health-related event, in a defined population at a specific point in time. Data gathered were from a pool of participants with varied characteristics and demographics known as variables. A purposive sampling was used in the study–a technique that is widely used for qualitative research, e.g., selecting people based on their characteristics and the objective of the study.

2.2. Research Participants

Participants were receiving free maintenance medications and were gathered from a community working in collaboration with DOH. The community where the study was conducted is located in Marikina, Metro Manila. Participants were 19 years of age or above and diagnosed with hypertension, type-2 diabetes, or both, based on medical records obtained from their prescriptions, clinical abstracts, and health office logbook.

2.3. Instrumentation

Aneroid or digital sphygmomanometers were used to determine blood pressures and capillary blood glucose monitoring was used to determine the blood glucose level of respondents. A Medication Adherence Scoring Sheet (MASS) was used to determine the adherence of the patients before and after the intervention program. A questionnaire was used to assess use of the QR Code technology. The questionnaire used for the study was designed by the researchers based on the study's conceptual model.

2.4. Ethical Considerations

An ethical clearance from the University of Santo Tomas, Faculty of Pharmacy - Ethics Review Committee was obtained before

conducting the study. Participation of respondents in the study was voluntary. Informed consents were signed b participants. The decision of participants whether to participate or not did not affect their relationship with the community.

2.5. Data Gathering Procedure

The entire course of research occurred over 14 days in the community. The first day of activity consisted of patient profiling, pre-surveys, and the start of the intervention. The following 13 days were dedicated to the intervention. The last day was dedicated to the post-survey. Patient profiling was done, followed by the accomplishment of the pre-survey. QR codes were introduced to the participants. The QR code for each medicine was provided as a print-out by researchers and given to the participants. QR codes were also attached to the drug's packaging materials. The participants had an app downloaded to their mobile phones that were capable of reading a QR code. They were instructed to scan and read the file after scanning the QR code attached to the drug label. Upon scanning the code, information on the patient's medication automatically popped up, and a download notification followed. Each patient was given a handbook that served as a monitoring tool that contained the following:

- A Medication Adherence Scoring Sheet (MASS) was answered before and after the study's duration.
- A record table where the patient recorded the dates when they took their medication and measured their blood pressure and glucose level every day.
- A satisfaction survey for the QR code at the end of the study.

2.6. Analysis of Data

Mean, standard deviation, and percent distribution were used to describe the characteristics of the respondents. Fisher's exact test was used to determine the association of the respondents' demographic characteristics and their medication adherence level since both of these were categorical variables. The Mantel-Haenszel test was used to conditional dependence of two dichotomous variables: the

adherence level before exposure to the QR codes and after the QR codes' intervention.

3. Results and Discussion

3.1. Results of the Questionnaire

A total of 62 patients who were receiving free maintenance medications from the Marikina City Health Office participated in the cross-sectional study conducted by the researchers. Fifty (80.6%) were hypertensive only; three (4.8%) were diabetic only; and nine (14.5%) were both hypertensive and diabetic. The participants categorised as hypertensive were subcategorised as either hypertensive only or diabetic.

Patient Profiles

Characteristic		Total Sample (N = 62)	Percent (%)
Age	Less than 45	10	16.1
	45-60	35	56.5
	More than 60	17	27.4
Gender	Male	27	43.5
	Female	35	56.5
Employment Status	Employed	43	69.4
	Unemployed	19	30.6
Residence	Within Marikina	49	79.0
	Outside Marikina	13	21.0
Religion	Catholic	51	82.3
	Non-Catholic	11	17.7
Patient Type	Hypertensive	50	80.6
	Diabetic	12	19.4

Table 8.1: Baseline Characteristics of Participants.

The mean age of participants was 53.19 (SD=10.0) with a minimum age of 31 and maximum of 79. Participants were subdivided into three groups according to their age bracket: 10 (16.1%) were less than 45 years

old; 35 (56.5%) were between 45 and 60 years, and 17 (27.4%) were more than 60 years old. A majority of the participants were in the 45-60 age group when these health problems are more prevalent. In addition, a majority of the participants were female (56.5%), employed (69.4%), Catholic (82.3%), and living within the vicinity of the health office (79%).

The participants were given the Medication Adherence Scoring Sheet (MASS) with four questions adapted from the Morisky tool and tailored for Filipino-speaking patients to assess adherence or non-adherence to their medication before the study. Each question has been classified in terms of factors that contributed to the non-adherence of patients to their prescribed medication. The classification is given in Table 8.2, while the results of the tool are presented in Table 8.3.

Factor	MASS Question	Description
Behavioral	1	I have a hard time taking my medications on time.
	3	I stop taking the medication if I experience side-effects.
	9	I forgot to take my right medication daily.
	10	I forgot to take my medications within the past days or the past two weeks.
	11	I forgot to bring my medications whenever I leave my home.
Social and Economic	2	I stop the medication whenever I feel well.
	6	The high price of drugs serves as the barrier in taking my medications.
Therapy Related	4	I forgot to see my doctor for a medical check-up.
	8	I do not seek to consult pharmacists for my medications.
Health Care System	5	Distance going to the pharmacy serves as the barrier in taking my medications.
	7	Going to the health center, despite the distribution of free medications, serve as the barrier in taking my medications.

Table 8.2: Classification of Factors for Non-Adherence of Hypertensive and Diabetic Patients on MASS.

Table 8.3 showed that the factors contributing to high non-adherence rates for of majority of patients were therapy related, such as low frequency of doctor consultations (59.7%) or pharmacist consultation (71%) with regards to the medicine; and a behavioral factor, namely forgetfulness in taking daily medication (59.7%). Nevertheless, the factors that did not contribute to high non-adherence for these patients were health care system factors, such as proximity of drug stores to their place (79%), visits to the health centre for free medications (77.4%), and social and economic factors, such as the adverse side effects of drug intake (69.4%) or the high cost of medicine (62.9%).

No.	Questions	N = 62	
		Adherent N (%)	Non-Adherent N (%)
1	I have a hard time taking my medications on time.	34 (54.8)	28 (45.2)
2	I stop the medication whenever I feel well.	38 (61.3)	24 (38.7)
3	I stop taking the medication if I experience side-effects.	43 (69.4)	19 (30.6)
4	I forgot to see my doctor for a medical check-up.	25 (40.3)	37 (59.7)
5	Distance going to the pharmacy serves as the barrier in taking my medications.	49 (79.0)	13 (21.0)
6	The high price of drugs serves as the barrier in taking my medications.	39 (62.9)	23 (37.1)
7	Going to the health center, despite the distribution of free medications, serve as the barrier in taking my medications.	48 (77.4)	14 (22.6)
8	I do not seek to consult pharmacists for my medications.	18 (29.0)	44 (71.0)
9	I forgot to take my right medication daily.	25 (40.3)	37 (59.7)
10	I forgot to take my medications within the past days or the past two weeks.	34 (54.8)	28 (45.2)
11	I forgot to bring my medications whenever I leave my home.	37 (59.7)	25 (40.3)

Table 8.3 MMAS Results Before the Study.

This implied that a majority of the respondents did not consider the above factors as problems in taking their proper medication and so were described as adherent.

The level of adherence in taking the proper medications of the respondents before the study was categorised as high, medium, or low depending on the MASS score of each participant. Table 8.4 below shows the distribution of scores based on 11 questions developed by the researchers.

MASS Score	Level of Adherence	Number of Respondents
0	High Adherence	1
1 - 2	Medium Adherence	8
3 - 11	Low Adherence	

Table 8.4: Level of Adherence Before Intervention.

A majority of the respondents before the randomised controlled study were categorised as poor adherence (69.4%), medium adherence (29.0%), or high adherence (1.6%). The following table shows the analysis of the association of the potential demographic characteristics of the participants and level of adherence on their medications prior to the study.

Characteristic		Level of Adherence		Fisher's exact test *p*-value
		High/Medium n (%)	Low n (%)	
Age	Less than 45	2 (20.0)	8 (80.0)	0.010
	45 – 60	16 (45.7)	19 (54.3)	
	More than 60	1 (5.9)	16 (94.1)	
Gender	Male	8 (29.6)	19 (70.4)	0.552
	Female	11 (31.4)	24 (68.6)	
Employment Status	Employed	14 (32.6)	29 (67.4)	0.430
	Unemployed	5 (26.3)	14 (73.7)	
Place of Residence	Within Marikina	17 (34.7)	32 (65.3)	0.158
	Outside Marikina	2 (15.4)	11 (84.6)	
Religion	Catholic	17 (33.3)	34 (66.7)	0.273
	Non-Catholic	2 (18.2)	9 (81.8)	

Table 8.5: Association of Demographic Characteristics and Level of Adherence.

The age of these participants was statistically associated with the level of adherence (p- value < 0.05) as seen in Table 8.5. This implies that younger participants have poor adherence to their medication regimens as compared to older participants. Moreover, the factors that triggered non-adherence were behavioral (forgetfulness), therapy related (doctor consultations) or economic (high cost of medication).

After Day 14 of the study, participants once again were given the MASS tool to assess their adherence or non-adherence in taking their proper medications. Result of the tool after exposing these participants to QR technology is presented below (Table 8.6).

No.	Questions	N = 62	
		Adherent N (%)	Non-Adherent N (%)
1	I have a hard time taking my medications on time.	40 (64.5)	22 (35.2)
2	I stop the medication whenever I feel well.	48 (77.4)	14 (22.6)
3	I stop taking the medication if I experience side-effects.	50 (80.6)	12 (19.4)
4	I forgot to see my doctor for a medical check-up.	29 (46.8)	33 (53.2)
5	Distance going to the pharmacy serves as the barrier in taking my medications.	55 (88.7)	7 (11.3)
6	The high price of drugs serves as the barrier in taking my medications.	44 (71.0)	18 (29.0)
7	Going to the health center, despite the distribution of free medications, serve as the barrier in taking my medications.	54 (87.1)	8 (12.9)
8	I do not seek to consult pharmacists for my medications.	32 (51.6)	30 (48.4)
9	I forgot to take my right medication daily.	38 (61.3)	24 (38.7)
10	I forgot to take my medications within the past days or the past two weeks.	47 (75.8)	15 (24.2)
11	I forgot to bring my medications whenever I leave my home.	45 (72.6)	17 (27.4)

Table 8.6: MASS Result after QR Intervention

From Table 8.6, there was an increased percentage of adherence for these participants, although there was also a high non-adherence rate due to therapy-related factors such as doctor consultations (53.2%) and pharmacist consultations (48.4%). The level of adherence of respondents was then categorised and presented in Table 8.7.

MASS Score	Level of Adherence	Number of Respondents
0	High Adherence	11
1 - 2	Medium Adherence	23
3 - 11	Low Adherence	28

Table 8.7: Level of Adherence after QR Intervention.

Poor adherence comprised the highest percentage of patients (45.2%), but was not a majority. Both the medium adherence (37.1%) and high adherence (17.7%) groups indicated an increase in percentage of medication adherence after exposure to the QR code technology. Table 8.8 shows the analysis of the association of the potential demographic characteristics of the participants and level of adherence on their medication regimens after the QR code technology intervention.

Characteristic		Level of Adherence		Fisher's Exact Test *p*-value
		High/Medium n (%)	Low n (%)	
Age	Less than 45	5 (50.0)	5 (50.0)	0.111
	45 – 60	23 (65.7)	12 (34.3)	
	More than 60	6 (35.3)	11 (64.7)	
Gender	Male	14 (51.9)	13 (48.1)	0.437
	Female	20 (57.1)	15 (42.9)	
Employment Status	Employed	25 (58.1)	18 (41.9)	0.211
	Unemployed	9 (47.4)	10 (52.6)	
Place of Residence	Within Marikina	30 (61.2)	19 (38.8)	0.016
	Outside Marikina	4 (30.8)	9 (69.2)	
Religion	Catholic	29 (56.9)	22 (43.1)	0.523
	Non-Catholic	5 (45.5)	6 (54.5)	

Table 8.8: Association of Demographic Characteristics and Level of Adherence after Intervention.

The age of respondents was not statistically associated with the level of adherence of taking their proper medications after exposure to QR code technology (Table 8.8). However, the place of residence of these participants was statistically associated with the level of adherence (p-value < 0.05). This suggests that those participants outside Marikina City or those locations that were far from the Marikina City Health Office had poor adherence to their proper medications as compared to participants residing the vicinity of the health office.

Table 8.9 below shows the cross tabulation of level of adherence before and after the QR code intervention.

		Level of Satisfaction After QR Code Technology			**Mantel-Hanenszel**
		High/Medium	Low	**Total**	***p*-value**
Level of Adherence Before QR code Intervention	High/Medium	18	1	19	0.000
	Low	16	27	43	
	Total	**34**	**28**	**62**	

Table 8.9: Level of Adherence Before and After the QR Code Intervention.

The Mantel-Hanenszel test of conditional independence suggested a very high significant association on the level of adherence on the medications of the participants (p-value < 0.000). This indicated that a high level of adherence was dependent on the intervention conducted during the study, which implied that the knowledge obtained using the QR code technology led to the increase in adherence. Table 8.10 presents the odds ratios of level adherence after the QR Intervention.

Level of Adherence	**Odds Ratio**	**95% C.I.**	
		Lower	Upper
(High/Medium)/Low	30.375	3.696	249.659
High/Medium Adherence	14.824	2.108	104.249
Low Adherence	0.488	0.339	0.702

Table 8.10: Odds Ratios of Level of Adherence after QR Intervention.

The odds of having high/medium adherence to proper medications after QR code intervention was 30.375 higher as compared to low adherence respondents. This denotes the positive effect of QR code technology in adherence to proper medications for respondents suffering from hypertensive or diabetic disease.

After Day 14 of the intervention, respondents assessed their level of satisfaction with using the QR code technology in relation to adherence to their proper medications. Respondents with high satisfaction levels considered the totality of QR codes as having a minimum score of very good to excellent, while respondents with low satisfaction had a maximum score of 3. Table 8.11 below shows the distribution level of satisfaction with QR technology and level of adherence to the proper medications of respondents.

		Level of Satisfaction After QR Code Technology			**Fisher's Exact Test**
		High	Low	**Total**	***p*-value**
Level of Adherence After QR code Intervention	High/Medium	30	4	34	0.034
	Low	18	10	28	
	Total	**48**	**14**	**62**	

Table 8.11: Level of Satisfaction with QR Code Technology.

Forty-eight out of 62 (77.4%) respondents had a high level of satisfaction with the information provided by QR codes while the remaining 14 (22.6%) had low satisfaction. Further, 30 out of 34 (88.2%) with high/medium adherence said they were highly satisfied with the information provided by the QR codes. Likewise, 10 out of 28 (35.7%) respondents with low adherence to their proper medications reported low satisfaction with QR code technology. Fisher's exact test revealed a significant association on the level of assessment of QR codes and level of adherence (p – value < 0.05). This suggests that the information provided by the QR codes is a contributing factor in the increased of level of adherence to proper medication regimens by the respondents.

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Paper 9

Initial Assessment of the Information Education Campaign (IEC) Materials for Pediatric Tuberculosis in Selected Informal Community Settlers

Abstract

Information dissemination on tuberculosis (TB) still hinders the community due to inadequate resources and knowledge provided by healthcare facilities. The 2016 National Tuberculosis Prevalence Survey in the Philippines identified disturbing trends, including an increase in the vulnerability of the young population and an increase in TB cases in the National Capital Region. Literature suggested that health education and awareness might help empower the community for different aspects of disease management by connecting people with the right treatment at the right time. A causal relationship was established between the information drive and management of diseases such as TB. Informal settlers are vulnerable to TB due to inadequate information drives on the prognosis and outcome of the disease. This study aims to identify the general feasibility of information dissemination through an information education campaign (IEC) among the caregivers of children living with TB. Informal community-dwelling settlements in Port Area, Payatas, and Bagong Silangan served as the study sites. Respondents from

Baseco, Port Area, Manila (n = 10); Payatas, Quezon City (n = 9); and Bagong Silangan, Caloocan City (n = 5) participated in focus group discussions (FGD) and house-to-house interviews. Printed materials like comics and calendars were developed based on the caregiver's judgement, knowledge and practices. These were distributed in the three informal settlements. A video was also developed based on the comics. This was shown to the caregivers and mothers of children living with tuberculosis. Assessments of IEC materials were gathered through feedback based in the theory of the Technology Acceptance Model (TAM). This included gained knowledge on tuberculosis, efficiency, strength/preferences, and suggestive issues on IEC. Thematic analysis was used to document the respondents' statements and findings. Results suggested that a majority of caregivers were confident in using calendars as a tool to guide medication intake for their children. Knowledge of TB was enhanced through IEC materials according to the common narratives of the caregivers. Comics were preferred over the video due to their accessibility of use.

1. Introduction

Tuberculosis is a top-10 cause of death among children worldwide according to the mathematical model of Dodd in 2017. According to the WHO, there were an estimated 10,600 patients in the Philippines with multi-drug resistant TB (MDR-TB) in 2011, which exacts socio-economic costs from the country. Treatment of TB among the pediatric population is often challenging. A lack of information on drug formulation and medication adherence are some of the concerns in management (Carvalho et al., 2018), as are problems in acquiring samples and low bacillary loads (Dodd, Yuen, Sismanidis, Seddon, & Jenkins, 2017). Adding to these challenges is that TB symptoms are non-specific and have variable clinical presentations. It is necessary to determine the common symptomatology of tuberculosis to address the disease through appropriate medication therapy management (Gothankar, 2013). Establishment of a TB management system for vulnerable groups, including informal settlers, is one of the recommended key objectives for TB elimination (Go et al., 2018). There is a causal relationship between mass media health campaigns and

an increased demand for TB management, such as direct smears for respondents (Jaramillo, 2001). Health information campaigns lasting 18 months or longer were more effective (Lacroix, Snyder, Huedo-medina, & Johnson, 2014). Health education and awareness programmes can play a major role in creating awareness and assist in shifting behavior and organise communities toward TB care (Samal & Dehury, 2017). The role of mass media in public health services has been found to be effective, from the conception of awareness, to sensitisation, to decreasing its stigma and discrimination (Hassan et al., 2017). Therefore, cooperation among the respondents must be recognised to ensure that information given will be effective. In a local study by Nazareno PDM et al., there was an improvement due to educational intervention for participants on transmissibility (P0 = 0.004) and nature/cause aspect of TB (P = 0.000) (Gothankar, 2013).

Srivastava et al. (2015) stated other risk factors that might modify the occurrence of TB. Socio-economic factors are big contributors to transmission, especially for people living in poor conditions. TB has been termed the 'disease of poverty', since poor people tend to live in overpopulated, poorly ventilated, and cramped places. Contact with an individual with infectious tuberculosis may happen due to crowding. Thus, the prevalence of tuberculosis can be decreased through socioeconomic development, which would subsequently lead to a reduction in crowding for the population of urban communities, as well as improve the nutritional intake of children. The study of Clark (2002) also stated that a higher TB incidence was recorded in places with higher population densities. The TB bacteria stays in rooms with no fresh air or no air circulation, therefore increasing the risk of TB transmission. Transmission of tuberculosis in a household or community setting is more rampant, especially for patients testing positive during a sputum test. The household contacts were less than 15 years of age. Smoking also increases the risk of acquiring TB. Children exposed to second-hand smoke can have accelerated acquisition of the disease. Air pollution is also a risk factor, since it can weaken the lungs and increase the risk of contracting TB. Rural areas are always exposed to pollution. Infants who are exposed to years of daily pollution are vulnerable to lung diseases. Occupational factors

are also important factors in the transmission of TB. Poor working environments increase the transmission of infections. Tuberculosis can be transmitted outside the household, such as in schools, public transportations, workplaces, and healthcare institutions. Weak immunity together with malnutrition are also a risk factors, since the immune system cannot protect the body from the TB bacteria.

According to Schmidt (2008), for centuries, TB has been associated with environmental risk factors such as air pollution, tobacco smoke, garbage, malnutrition, and overcrowded communities that are directly related to poverty. For many years, crowding has been a contributing factor to disease progression and transmission in industralised and non-industralised countries. Based on previous studies, there is an established relationship between crowding and TB infection risk, especially among people aged 40 years or younger (Baker et al., 2008).

1.1. Government Efforts

The number of MDR-TB cases commonly seen in the Philippines' community-dwelling settlements is rising slowly because of the non-adherence of patients with tuberculosis to their drug therapy. Therefore patients, caregivers, as well as the people surrounding them need to be educated about TB to decrease the spread of the disease. Local and national governments encourage health promotion by authorising people to increase control over their health. This can be achieved through health literacy efforts and programmes. The process of health promotion includes activities for populations at increased risk of negative health outcomes, as in the case of TB. The National TB Control programme is one government programme managed by the Department of Health. The program's objective is to improve tuberculosis care and prevention services for patients and the community. The long-term goal of the National TB Control programme is to reduce the tuberculosis burden by decreasing its mortality rate by 95% and incidence by 90% by 2035.

1.2. Research Significance

This programme is intended to promote a local health information awareness strategy for TB through an information education campaign (IEC). The primary objective is to visit the houses of people in vulnerable communities and inform them about TB's symptoms, diagnosis, and treatment. This could be done through interdisciplinary mentoring and exploring the rationale for gaps, despite free medication provided by the government.

Results generated from the study will give researchers the characteristics and patterns of information usage by the caregivers of pediatric TB patients. Moreover, the study may also provide valuable information to policy makers and organisations responsible for TB management.

2. Research Objectives

The study aimed to establish an information drive aimed at the caregivers of pediatric TB patients to aid in TB management. This was done through child-centred and community-based IEC material on lowering TB risks and vulnerabilities. Specifically, the objectives were:

1) to formulate IEC through different strategies, like printed materials (e.g., comics and calendars) and video presentations,
2) to establish conducive implementation of IEC to the chosen communities,
3) to elicit opinions and suggestions for making IEC more effective and suited to the needs of the target audience,
4) to assess the impact of structured and predesigned IEC on the knowledge and behavior of different caregivers, and
5) to identify information to be incorporated into the IEC TB framework relevant to the caregivers and children living with TB.

3. Theoretical Framework

The proposed theoretical framework for the study was the Technology Acceptance Model (TAM) developed by Fred Davis in 1989. This model is known for predicting the usefulness and acceptance of information systems. Perceived usefulness and ease of use determine whether respondents will have a desire to use IEC materials. Perceived usefulness is defined as 'the degree to which a person believes that using a particular system would enhance his or her job performance' while perceived ease of use is defined as 'the degree to which a person believes that using a particular system would be free of effort.'

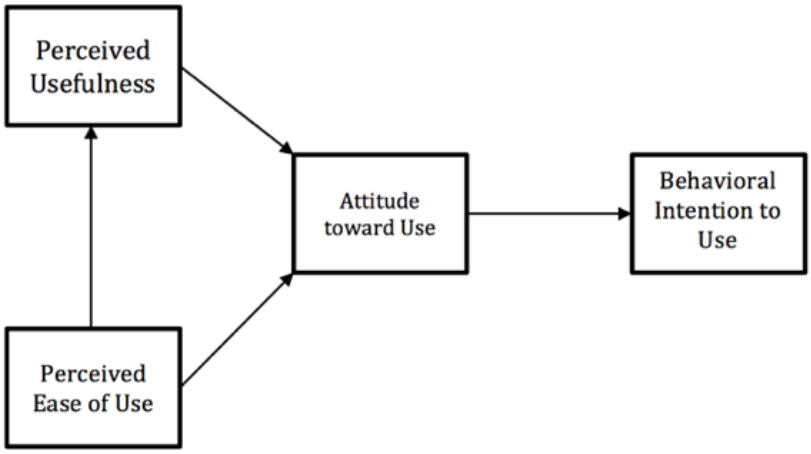

Figure 9.1: Adapted Theoretical Framework: Davis' Technology Acceptance Model (TAM).

4. Methodology

4.1. Formulation of IEC materials

Three proposed IEC materials were developed: calendars, comics and a video clip.

Calendars

The calendar was developed in such a way to offer brief and concise information about pediatric tuberculosis, including the following information and quick facts: (1) a definition of pediatric TB, (2) its

causes, (3) potential exposure, (4) medication and treatment, (5) symptoms, (6) diagnostics, and (7) preventive measures. Provisions to record daily medication intake were incorporated in the calendar to guide the caregivers of children living with TB. Daily medication records involved documenting the administration of fixed-dose combinations for the treatment of pediatric TB such as Isoniazid, Rifampicin, Pyrazinamide, and Ethambutol. A remarks area (*patakda*) was also included to document any side effects; adverse drug events, such as nausea or vomiting; and other pertinent information that might affect daily medication intake.

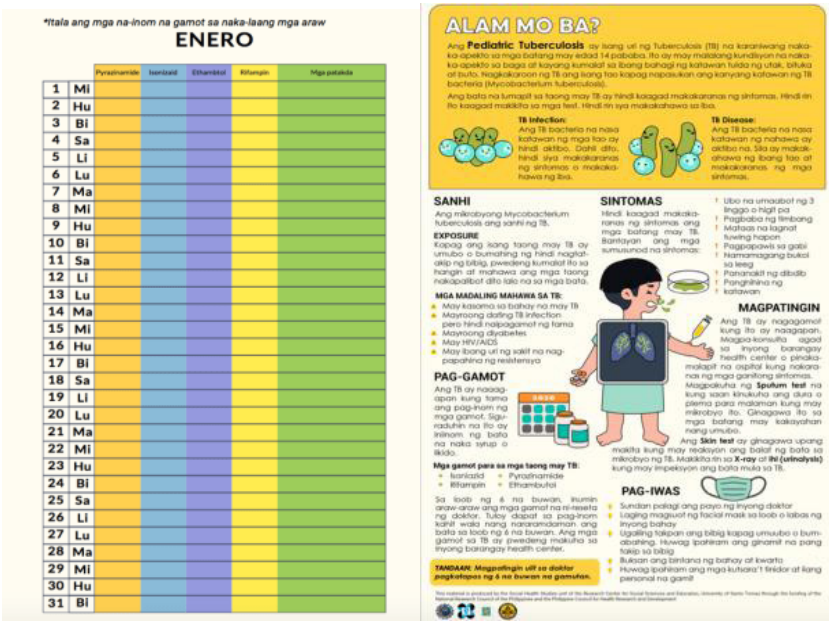

Figure 9.2: Proposed Calendar for Sharing Information on Pediatric TB.

On the left is the main page, which includes the basic information of TB; on the right is the daily schedule of medication intake. This was patterned for the year 2020.

Comics

Comic storyboards were based on the common knowledge, events, and situations of residents in the three informal settlements. Prior to development and conception of the comics, caregiver insights on TB were collected through one-on-one interviews and focus group discussions. For example, one story was of a mother living with TB

who passed the disease to her child, who then manifested symptoms such as coughs, night sweats, easy fatigue, and lethargy. The mother decided to bring her child to the doctor, who confirmed a pediatric TB diagnosis through a skin test, chest X-ray, and a sputum test. Preventive measures and medication intake were highlighted in the comic, which told caregivers about the benefits of medication and treatment. Both the mother and her child were able to manage the progression of TB.

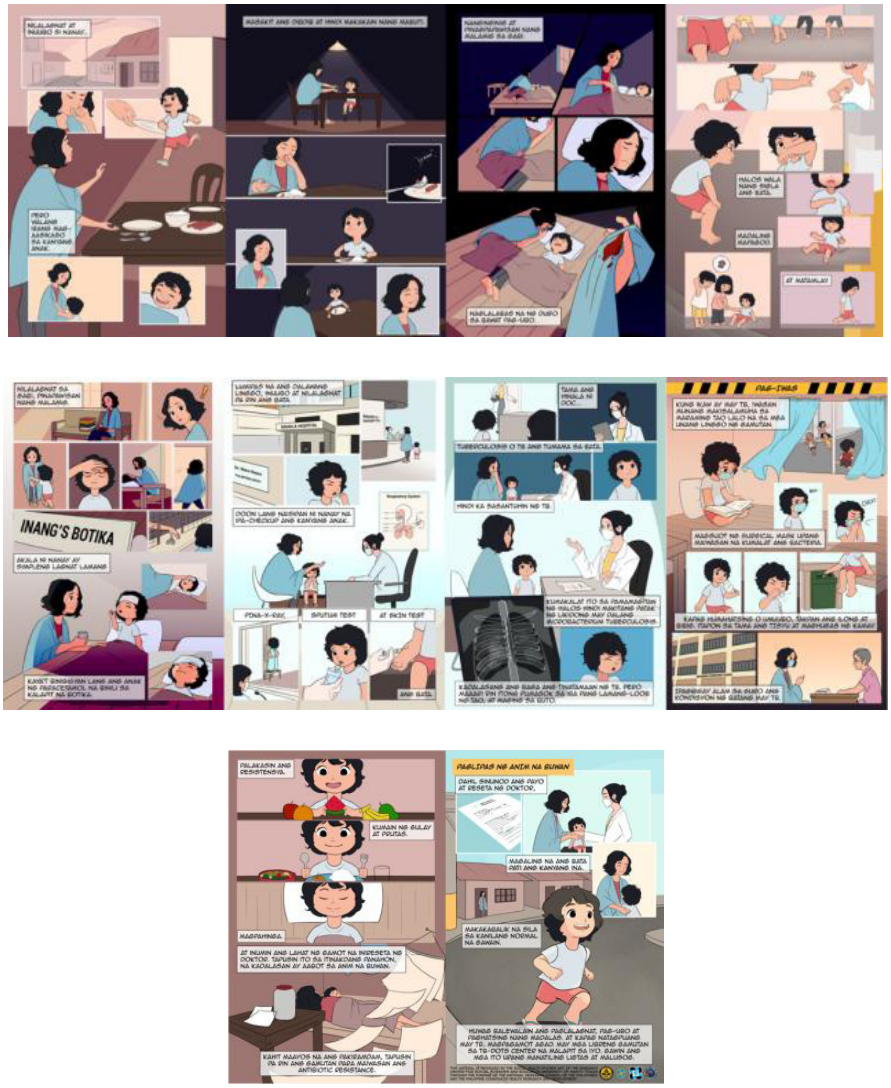

Figure 9.3: Pediatric TB Comic.

Video Clip

The story of the video clip was the same as in the comic. Narration and subtitles were included for better understanding of the content. QR codes were reflected in the comics and the calendars to prompt visits to an informative website, and appeared after the IEC copyright notice.

Figure 9.4: Sample Video Clip.

5. Data Collection

Informal settlers from the National Capital Region (NCR), i.e., the Port Area in Manila, Payatas in Quezon City, and Bagong Silangan in Caloocan City, were included in the study. Structured questions through focus group discussions and house-to-house interviews were used to assess the knowledge of caregivers about pediatric TB management, efficiency, strength, and other issues related to the use of IEC materials. Open-ended comments from respondents were accepted. The content of questions was based on the Technology Acceptance Model.

Parameters	Guide Questions
Gained knowledge after watching IEC materials	**'Did you gain knowledge of pediatric tuberculosis after you saw the IEC materials?'** 'Pagkatapos nyo po makita ang mga IEC materials, nadagdagan po ba ang inyong kaalaman niyo tungkol sa pediatric TB?'

Parameters	Guide Questions
Efficiency of IEC materials	**'In your opinion, were the materials effective in broadening the knowledge of people about pediatric tuberculosis?'** 'Sa inyong palagay, makakatulong ba ang mga gamit na ito para lalong mapalawak ang kaalaman ng mga tao tungkol sa pediatric TB?'
Strength of IEC materials	**'Which features of IEC materials did you prefer?'** 'Ano po ang nagustuhan niyo sa mga ipinakita naming IEC materials?
Issues with IEC materials	**'What other information do we need to incorporate in IEC materials? How can we improve the existing IEC materials?'** 'Ano pang mga impormasyon ang dapat kasama sa IEC materials? Papaano pa naming lalong mapapaganda ang mga IEC materials?'

5.1. Ethical Considerations/Data Privacy

Prior to the conduct of study, approval from the Ethics Review Board Committee of the University of Santo Tomas (UST) Graduate School was sought. Data were anonymised and treated as confidential before passed to the research team. The research team maintained data confidentiality with respect to both information about participants and the information shared by participants. Guide questions were prepared by the research team in Filipino. Informed consents in Filipino were obtained. The participation of respondents was voluntary and included the right to withdraw without giving any reason for such refusal.

6. Results of the Narratives

6.1. Gained Knowledge on TB after Viewing IEC materials

A majority of the respondents stated they received increased or renewed knowledge on tuberculosis. It was noted that some mothers still didn't realise that TB might persist. Issues highlighted included promptly addressing of symptoms, as well as the importance of taking

preventive measures, such as covering one's mouth when coughing or sneezing, temporarily isolating infected people, and the importance of access to highly nutritious food. A sense of responsibility was seen in one respondent, who did not transmit TB to her children.

Knowledge of Tuberculosis	Location	Emerging Theme
'Did you gain knowledge about pediatric tuberculosis after you saw the IEC materials?' 'Pagkatapos nyo po makita ang mga IEC materials, nadagdagan po ba ang inyong kaalaman niyo tungkol sa pediatric TB?'	Bagong Silang (1)	• 'Of course. I am still thinking if they will recover. The previous symptoms came back. Is there a possible relapse?' *('Oo naman. Iniisip ko gagaling pa kaya? Iniisip ko bumabalik e.')* • 'Avoid dirty and filthy environment' *('Iwasan ang mga madudumi')*
	Bagong Silang (2)	• 'Children contracting with TB should not talk to others during the initial week of therapy.' *('Sa loob ng isang linggong gamutan, dapat hindi muna makikipag-usap sa mga tao.')* • 'Always wash your hands.' *('Maghugas palagi ng kamay.')*
	Bagong Silang (3)	• 'Children should eat nutritious food. They should cover their mouths if they sneeze or cough. Wash their hands afterwards.' *('Laging pakainin ang bata ng masustansyang pagkain. Kapag umuubo o bumabahing dapat takpan tapos hugasan ang kamay.')*
	Bagong Silang (4)	• 'My knowledge of TB is just the same.' *('Yun lang din naman (ang kaalaman patungkol sa TB)')*
	Bagong Silang (5)	• These materials will add to my knowledge of TB. If there is already symptoms in my children, I will immediately consult with the doctor.' *('Oo nadagdagan ang kaalaman ko. Kailangang ipa check-up kaagad.')*
	Payatas (1)	• 'Nothing. My idea of TB is just about unmanageable and untreated coughs.' *('Hindi po. Ang alam ko sa sakit sa baga yung hindi mawala wala ang ubo tapos pabalik balik.')*

Knowledge of Tuberculosis	Location	Emerging Theme
	Payatas (2)	• 'Yes. I am bit cautious right now due to past events. I am now conscious if they are experiencing cough and colds.' *('Opo. Nag-iingat na rin ako. Saka pinapakarimdaman ko sila kung inuubo at sinisipon sila.')*
	Payatas (3)	• 'I thought it could only be found in the lungs. It can also attack the bones.' *('Hindi lang pala sa baga, pwede rin pala sa buto.')*
	Payatas (4)	• 'All correct information are already covered in the materials. Eat nutritious food.' *('Tama naman nandito naman lahat. Kumain ng maayos at masustansya.')*
	Payatas (5)	• 'This adds to my current knowledge on TB especially while reading these materials.' *('Nadagdagan din. Kapag binasa ko ito madadagdagan yung kaalaman ko.')*
	Payatas (6)	• 'Immediately consult if there's a manifestation of symptoms. TB can be treated.' *('Magpakonsulta kaagad kapag may sintomas. Ang TB naman ay nagagamot.')*
	Payatas (7)	• 'I learned that nutritious food is a preventive measure. Eating food with a high nutritional value will help in the prevention of TB.' *('Oo. Tulad sa pagkain at pag-iwas. Dapat kumain ng masasarap na pagkain para makatulong din at sa pag-iwas.')*
	Payatas (8)	• 'This will give me a warning, especially if my children show symptoms like coughs and colds. *('Nag-iingat na rin po ako. Pinapakiramdaman ko rin naman kung sila ay inuubo o sinisipon.')*

Knowledge of Tuberculosis	Location	Emerging Theme
	Payatas (9)	• 'Yes, I learned that TB can come back despite previous treatment. It can be easily passed; therefore I need to be more watchful.' *('Oo kasi katulad na pwede pala maulit kahit nagamot na. Tapos mabilis mahawa kaya kailangan ingatan talaga.')*
	Baseco (n = 10)	(1) 'We are already familiar with the information.' *('Pamilyar naman ang impormasyon')* (2) 'This equipped us with additional knowledge, like thorough consultations with physicians.' *('Nadagdagan naman tulad ng pagpapatingin sa doktor')* (3) 'If the child experiences a fever and cough, we should see the doctor.' *('Pag nilagnat at inubo ang bata kailangan magpa check-up na sa doktor.')* (4) 'If the physician prescribed the medications, we should use the calendar to record it for us so as not to forget the medication intake.' *('Kapag niresetahan sya ng ganitong gamot at kung maiinom sya dapat itala sya sa kalendaryo para hindi makalimutan.')* (5) 'The information in IEC is also the same as what we've learned before.' *('Ganun din naman ang kaalaman ko wala naman nabago.')* (6) 'We should cover our mouths when we cough to prevent transmission.' *('Meron po yung pag uubo po dapat takpan para hindi mahawahan')* (7) 'It's the responsibility of an adult with TB not to transmit the disease to their children.' *('Sa akin lang kailangan yung mga may edad na bawal hawaan yung mga bata.')*

6.2. Efficiency of IEC materials

A majority of respondents realised the importance of a calendar to guide them on daily medication intake. This was followed by the comics, which were emphasised as good reading material. Due to logistical difficulties in watching videos, caregivers preferred comics. Some respondents were willing to share the information and content of the IEC materials.

Efficiency of IEC Materials	Location	Emerging Theme
'In your opinion, are the materials effective in broadening the knowledge of people about pediatric tuberculosis?' 'Sa inyong palagay, makakatulong ba ang mga gamit na ito para lalong mapalawak ang kaalaman ng mga tao tungkol sa pediatric TB?'	Bagong Silang (1)	• 'I will show this to them. Unlike previous consultations, [which] did not explain the disease process.' *('Ipapakita ko sa kanila. Hindi sinabi kung paano yung ganyan. Diretso nireseta na lang sya ng 6 months na gamutan.')*
	Bagong Silang (2)	• 'I could read the comics everyday. This will be very useful. My daughter can easily comprehend its content.' *('Sa komiks, araw-araw babasahin ko iyan. Siya na rin magbabasa nyan hindi na ako. Kasi marunong na rin syang magbasa.')*
	Bagong Silang (3)	• 'I could retrieve this information for precautionary measures. I am still afraid of what happened to my children.' *('Parang nabalik-balikan (ang impormasyon) kasi parang natatakot pa rin ako. Syempre naiisip ko kasi bumabalik-balik pa rin sa akin yung alaala.')*
	Bagong Silang (4)	• 'Yes. I can show this in my neighborhood especially to those who are sick. This will also encourage them to visit the barangay [neighborhood] health centre for free access to medication instead of purchasing it.' *('Oo naman. Pwede itong ipakita sa kanila lalo na yung may mga sakit para mahikayat na pumunta sa centre may libre namang gamutan kaysa bibili sila.')*
	Bagong Silang (5)	• 'The calendar will assist us in the correct recording of medication intake.' *('Makakatulong ito kasi marerecord nila yung iniinom nilang gamot.')*
	Payatas (1)	• 'Yes, this is good for medication intake.' *('Oo sa pag-inom ng gamot.')*
	Payatas (2)	• 'I already saw this information before.' *('Yung nandyan po (IEC) nakita ko po iyan nung hindi ko pa alam.')*

Efficiency of IEC Materials	Location	Emerging Theme
	Payatas (3)	• 'Reading the materials can be my pastime. From this, I can refer my neighbors who show symptoms to the barangay health centre.' *('Pag wala akong ginagawa sa bahay, babasahin ko ito. Halimbawa yung kapitbahay ko, may mga ganitong sintomas, pwede ko silang i-refer sa centre. Baka may TB na yan hindi nyo lang alam.')*
	Payatas (4)	• 'I think the material is effective. I will use this [calendar] to learn about appropriate medication.' *('Sa tingin ko epektibo. Gagamitin ko ito para matuto sa gamutan.')*
	Payatas (5)	• 'I think this will become effective if I am going to share this to the community. I still have limited knowledge of TB. My knowledge will be enhanced if I am going to read about it.' *('Siguro makakatulong ito kapag i-share ko ito. Maikli pa lang kaalaman ko, dadami ang kaalaman ko kapag binasa ko ito.')*
	Payatas (6)	• 'This is useful for self-awareness.' *('Para maging aware din. Makakatulong din ito.')*
	Payatas (7)	• 'Yes, of course. This will help us to gain more knowledge of TB. Unlike as in the barangay health centre, [where] everything is fast-paced due to a large number of patients.' *('Oo siyempre naman, para magkaroon kami ng kaalaman kasi sa centre madalian e sa dami ng pasyente hindi naipaliwanag ng maayos.')*
	Payatas (8)	• 'The symptoms written in the IEC material are the same as what I have experienced before.' *('Nakakatulong po. Yung nandiyan po (IEC material) ganun po yung naramdaman nila nung hindi ko pa alam.')*

Efficiency of IEC Materials	Location	Emerging Theme
	Payatas (9)	• 'This will be useful because I have a tendency to forget details due to my busy household chores.' *('Oo kasi unang una makakalimutin ako dahil sa dami ko ng trabaho masyado akong abala.')*
	Baseco (n = 10)	(1) 'Calendar is a great help for the people who usually forget to take their medication. We can track if the person already has taken the medication or not.' *('Malaking tulong po itong kalendaryo para sa taong nakakalimot uminom ng gamot. Malalaman kung nakainom ng gamot o hindi.')* (2) 'It's a good thing you provided us with the calendar. This will give us an idea if we have already been given the medication.' *('Mas mainam na binigyan nyo kami ng kalendaryo dahil napainom namin sa susunod meron kaming tanda na napainom namin yung gamot.')* (3) 'This will really help. We rarely see details, like in the video and printed materials [calendar and comics].' *('Nakakatulong po. Wala naman kami nakikita (impormasyon) na katulad sa video at sa mga binibigay nyo sa amin (kalendaryo at komiks)')* (4) 'This will guide me on daily medication intake. I tend to forget their medication because I have four children and they need to continue their medication for six months.' *('Nakakatulong po sa akin dahil pag araw-araw ako nagpapainom ng gamot. Naliligtaan ko yung pag-inom ng gamot dahil 4 ang anak ko na patuloy sa pag-inom ng gamot ng 6 na buwan.')*

6.3. Strength of IEC Materials

Respondents stated that their children's previous symptoms and treatment were depicted accurately, especially in the comics and calendars. Caregivers easily understood the content of the comics and videos. Calendars conveyed quick facts to caregivers and indicated important signs and actions to be taken if symptoms persisted.

Strength of IEC Materials	Location	Emerging Theme
'What features of the IEC materials do you prefer?' 'Ano po ang nagusutuhan niyo sa mga ipinakita naming IEC materials?	Bagong Silang (1)	• 'I could easily read content like preventive measures through comics.' *('Sa komiks, kasi at least mababasa ko sa bahay kung ano ang dapat iwasan'.)*
	Bagong Silang (2)	• 'I could easily remember the content in the video. Sometimes I have a hard time in reading if I use comics.' *('Mas madaling maalala sa video kaysa sa komiks na babasahin pa at tatamarin ka pa.')*
	Bagong Silang (3)	• [The contents of video, comics, and calendar are equal.] *('Pare-pareho lang')*
	Bagong Silang (4)	• 'Comics and video are just the same. We can read the information in the comics. Situation and preventive measure are incorporated in the video.' *('Parehas lang. Sa komiks, pwede nilang basahin. Sa video, pinapakita at sinasabi yung dapat gawin para maiwasan.')*
	Bagong Silang (5)	• 'I would rather use comics for me to view and read about it. I could easily forget the ideas in video.' *('Sa komiks, mas makikita mo at binabasa mo kaysa sa pinapanuod mo. Sa video papasok lang sa isip mo pero makakalimutan mo rin.')*
	Payatas (1)	• I appreciate the comics because I can see the images and situations. *('Sa komiks, kasi nakikita sya (mga imahe at sitwasyon)'*

Strength of IEC Materials	Location	Emerging Theme
	Payatas (2)	• 'The calendar is useful. It depicts the symptoms usually seen among children with TB.' *('Sa kalendaryo. Dito ko nakikitaan yung mararamdaman ng bata.')*
	Payatas (3)	• 'All the materials are entirely the same.' *('Pare-parehas lang.')*
	Payatas (4)	• 'This is useful for the dissemination of information. This will help with the intake of medication for TB.' *('Pamamahagi ng kaalaman. Tulong sa pag gagamot sa TB.')*
	Payatas (5)	• 'I physically see the whole situation if I use comics.' *('Sa komiks dahil pisikal na nakikita, nakikita rin dito ang sitwasyon.')*
	Payatas (6)	• 'I appreciate all the materials. I will recommend the comics, since they can be used or read by others.' *('Lahat naman ay nagustuhan ko. Ang Komiks ay pwede ipahiram o ipabasa sa kanila.')*
	Payatas (7)	• 'Masks, symptoms like coughs and the curtain [temporary isolation] capture my thoughts about TB.' *('Itong may mask, umuubo sya at may kurtina.)* • 'All of these materials will be very useful for us, especially the calendar. Persons with TB can be assessed and their medication intake as well.' *('Lahat yan kasi lahat yan makakatulong lalo na ito (kalendaryo). Dahil dito malalaman kung ang tao ay magaling na. Kung iniinom (gamot) ba ng tama o hindi.')*

Strength of IEC Materials	Location	Emerging Theme
	Payatas (8)	• 'I think this calendar is useful because it gives me the idea about the symptoms commonly experienced by the children.' *('Siguro itong kalendaryo. Nakitaan ko po dito yung nararamdaman ng bata.')*
	Payatas (9)	• 'This calendar will help me to record the medication as my reference. I might forget information through TV [video]. Comics can be read by children.' *('Itong kalendaryo kasi pag nasilip ko ito, nasusulat ko wag lang sya mawala. Pag sa TV (video) makakaligtaan ko yan. Sa komiks pwede ko ipabasa yan sa mga bata.')*
	Baseco (n = 10)	(1) 'All of them share common information.' *('Lahat ay parehas lang (komiks at kalendaryo)')* (2) 'We can really see the details like symptoms and the proper way to take medication.' *('Kasi sa video, nakikita namin kung papaano ang paraan tulad ng paggamot, pag may meron nang diperensya.')* (3) 'Comics and video are just the same.' *('Parehas lang yung komiks at video.')* (4) 'Comics will not easily be destroyed.' *('Kahit ilang taon pa yan hindi yan [komik] masisira.')*

6.4. Issues with IEC materials

Caregivers did not have any issues with IEC materials. They deemed the three types of materials of equal importance and agreed that the format of the materials was informative. One caregiver suggested to provide a cup to measure exactly the medication syrups to be given to their children.

Issues with IEC Materials	Location	Emerging Theme
'What other information do we need to incorporate in EC materials? How can we improve existing IEC materials?' 'Ano pang mga impormasyon ang dapat kasama sa IEC materials? Papaano pa naming lalong mapapaganda ang mga IEC materials?'	Bagong Silang (1)	• 'Basic information is already included in the materials.' *('Wala naman halos okay naman. Kasi parang lahat nandito na.')*
	Bagong Silang (2)	• 'You should have a sample of cup to simply measure the volume of water. The doctor advised us to drink a cupful of water to digest their medication.' *('Dapat may sampol kayo ng cups kasi minsan ang mga nanay nasosobrahan [ng sukat] para matakalan ang tubig sa pag-inom ng gamot.')* • 'A spoon is also useful for us to measure 5 ml of syrup as instructed by our doctor.' *('Tapos sa kutsara ay iba kasi sabi ni Doc ang isang kutsara ay lagpas sa 5ml. Kaso pag pinuno pa yun lagpas pa yun sa 5ml. Dapat ang tubig isang puno ng baso para mapababa ang iniinom na gamot.')*
	Bagong Silang (3)	• 'I am satisfied with the materials.' *('Sa ngayon wala naman')*
	Bagong Silang (4)	• 'Materials were informative. I can share this with my community.' *('Okay lang naman. Pwede sya ibahagi sa mga kapitbahay.')*
	Bagong Silang (5)	• 'I am already satisfied with the materials. Our children will appreciate the comics.' *('Tingin ko wala kasi ito naman na mismo lahat. Sa komiks kahit bata magugustuhan nila yun.'*
	Payatas (1)	• 'Information in the materials is enough.' *('Sapat naman')*
	Payatas (2)	• 'Nothing. All information is already here.' *('Parang wala naman.')*
	Payatas (3)	• 'I am already satisfied with the materials.' *('Okay naman sapat na.')*
	Payatas (4)	• 'For me there's no issue. I am satisfied with all the information.' *('Wala naman akong isyu. Sapat naman ang lahat ng impormasyon.')*

Issues with IEC Materials	Location	Emerging Theme
	Payatas (5)	• 'In my opinion, the information is already enough. I am bit confused on the days reflected in the calendar. It's for us to comprehend its content.' *('Sa palagay ko ay wala na. Sapat naman ang impormasyon. Nakakalito lang ang araw sa kalendaryo. Tayo na lang umintindi sa hitsura ng tao sa komiks.')*
	Payatas (6)	• 'The information is enough.' *('Sapat naman ito.')*
	Payatas (7)	• 'TB can be treated. We can check if a person is not yet recovered from TB. We need support from the government.' *('Kailangan pa rin ng gamot na galing sa gobyerno. Yung TB ay nagagamot talaga. May pasyente na namatay na nakasabay ko.')* • 'There should be a follow-up mechanism to address if the person is fully recovered from TB.' *('Sana ay may check-up ulit. Ang pakiwari ng isang tao ay hindi pa sya magaling dahil inuubo pa rin (pagkatapos ng 6 na buwang gamutan).')*
	Payatas (8)	• 'All the information was clear to me.' *('Parang wala naman. Klaro naman ito sa akin.')*
	Payatas (9)	• 'For me it's already okay. I can easily forget the details. I can write down the information after I come home from my work.' *('Sa akin wala naman na. Makakalimutin kasi ako talaga. Nasusulatan ko sya lalo na pagkatapos ng trabaho.')*
	Baseco (n = 10)	(1) 'Shorten the length of calendar.' *('Medyo paiksian ang kalendaryo.')* (2) 'The child represented in comic seems like an infant.' *('Parang baby yung bata sa komiks.')* (3) 'Information is already enough.' *('Sapat naman')*

7. Discussion

Acquired knowledge of tuberculosis varies among different communities of urban informal settlers. This is due to variations in practices by healthcare volunteers and the policies of local government units. Despite implementation of national health standards to manage TB, their application has been challenging due to limits in social infrastructure to disseminate awareness to the community. Availability of free medication at healthcare centres could be an intervention to eradicate the transmission and progression of tuberculosis (Samal et al., 2017). However, due to settlement differences–such as in the case of Bagong Silangan, Caloocan City, where the healthcare facility is hard to reach–caregivers themselves tended to pay for medications and diagnostic services, such as chest X-rays and sputum and skin tests.

Aside from overcrowding, respondents also attributed the source of TB to smoke. While most caregivers were not smokers, their houses were located in areas full of smoke and fumes from garbage and a dirty environment. For instance, one respondent from Bagong Silangan, Caloocan City, claimed that TB came from the toxic fumes of a television set ('*usok galing sa TV*'). These assumptions are related to the speculation of some scientists that smoke from cigarettes, the outdoor burning of materials, and carbon monoxide impair the ability of lung cilia to clear bacteria from the respiratory tract (Schmidt, 2008). There is a need for further assessment of these confounding variables.

It was proven from the literature that infusion of knowledge through structured media, such as printed material and advertisements contribute to the effective management of diseases such as tuberculosis (Islam et al., 2017).

There are three possible approaches to IEC: (1) an individual or interpersonal approach, (2) a group approach, or a (3) mass approach. Each method has its advantages. The individual approach is best, due to the value of personal communication, while group and mass approaches allow for a free flow of information, suggestions, and clarifications by respondents. The mass approach (e.g., video

and visuals in social media) has disadvantages, too, since one-way communication does not allow for clarification of subject matter. The formulated IEC offers communication strategies for TB control through interactive communication, such as engagement, to support communities on the dissemination of information. Group meetings are important to relay the socio-economic information needed for TB control to ensure contextual relevance. The stigma of pediatric TB is still present, as exemplified by community references to *sakit sa baga* or *hika* (asthma) to mask the real diagnosis of their children. Misinterpretation of medication intake was initially documented due to limited sources of information that must be conveyed by healthcare volunteers. This includes the appropriate time for administration. Some respondents didn't use appropriate dosage form. Tablets were given to the pediatric patient instead of syrup. This is the result of misinformation due to lapses in communication by healthcare volunteers.

8. Conclusion

Based on the narratives provided, caregivers accepted the importance of IEC materials due to their utility and ease of use, for information such as facts from the calendar and educational situations from the comics and video clips. A majority of the caregivers demonstrated confidence in using calendars as a tool and guide for the medication intake of their children. Knowledge of TB was enhanced through IEC materials, according to caregivers. Comics were preferred over videos, due to their increased accessibility. A majority of respondents recommended that the materials be used to enhance knowledge in their respective communities. This pilot study indicated that there was an increased ability to provide proper tuberculosis management on the part of respondents through use of the IEC materials.

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Paper 10

Assessing Sustainable Tourism in Southeast Asia Based On the ASCC Blueprint 2025: Komodo Island Construction Plan

Abstract

This paper will examine the case study of the development plan for Komodo Geopark, evaluated against 10 indicators for sustainable tourism from the ASSC Blueprint 2025. Conceptually, sustainable tourism aims to promote the development of a Tourism Sector that meets the needs of both tourists and their hosts in local communities by protecting and enhancing the market for the future. This paper, which relies on qualitative research using literature study data collection techniques, finds that Jurassic Park Komodo fulfilled 40% of the sustainable tourism requirements as defined by indicators in the ASSC Blueprint 2025 .

1. Introduction

The Tourism Sector globally booked a 4% increase in tourist numbers from 2018 to 2019, despite a slowdown in the first quarter (UNWTO, 2020). Rapid growth in the Tourism Sector has made it an economic engine for several ASEAN Member States (AMS), including Indonesia, stimulating economic development and employment. According to the United Nations World

Tourism Organisation (UNWTO), every country has untapped tourism opportunities, including developing countries.

To take advantage of this opportunity, the ASCC Blueprint 2025 was devised to exploit the economic benefits of tourism in a sustainable way to prevent future negative environmental impacts. Fourteen policies or action were formulated under the Blueprint, including the promotion of sustainable tourism, building related industries, and developing legislation in each AMS to protect cultural heritage (ASEAN , 2016).

Indonesia developed the 'Wonderful Indonesia' programme to promote its tourist destinations, highlighting five aspects of the country's tourist attractions: nature, scenic destinations, landscape, and wildlife; art, culture, and heritage; recreation and leisure; cuisine and wellness; and adventures (Indonesia Travel).

We focus on the case study for Jurassic Park Komodo, the Indonesian government's plan to further develop tourism for one world-famous Indonesian destination in Flores, East Nusa Tenggara, by highlighting its local culture, beautiful landscape, and unique wildlife attractions– the Komodo dragon. Project development for Komodo 'Jurassic Park' aims to make Rinca Island, the location of Komodo National Park, a premium tourist attraction equipped with all qualified facilities (tempo.co, 2020). The project was criticised by global and local environmental activists for failing to ensure that the local ecosystem would not be damaged–something that would counter the green image the government wished to project for Rinca Island. Criticism was also levelled against the plan for favouring resort development over the safety of the Komodo dragons and their habitat.

2. Research Objectives

This study aims to see whether the Jurassic Park Komodo project, as currently implemented, meets regulatory standards and is in accordance with ASSC policies targeting sustainable tourism.

3. Methodology

This research is a qualitative study that will describe the Indonesian government's policies about the development plan for Komodo Geopark. Researchers collected data related to government policies, then analysed those policies with other data to determine whether the development of tourism in the area was in accordance with ASCC's sustainability goals. Data collection was carried out through collection of library data, statistics, and media from various reliable sources.

4. Findings and Discussions

According to Abdul-Kadir and Jamaludin (2013), sustainability covers economic, social, and environmental dimensions (Abdul-Kadir, 2013). Social aspects are often neglected, and must be given attention to ensure development is sustainable (Hassan & Lee, 2014).

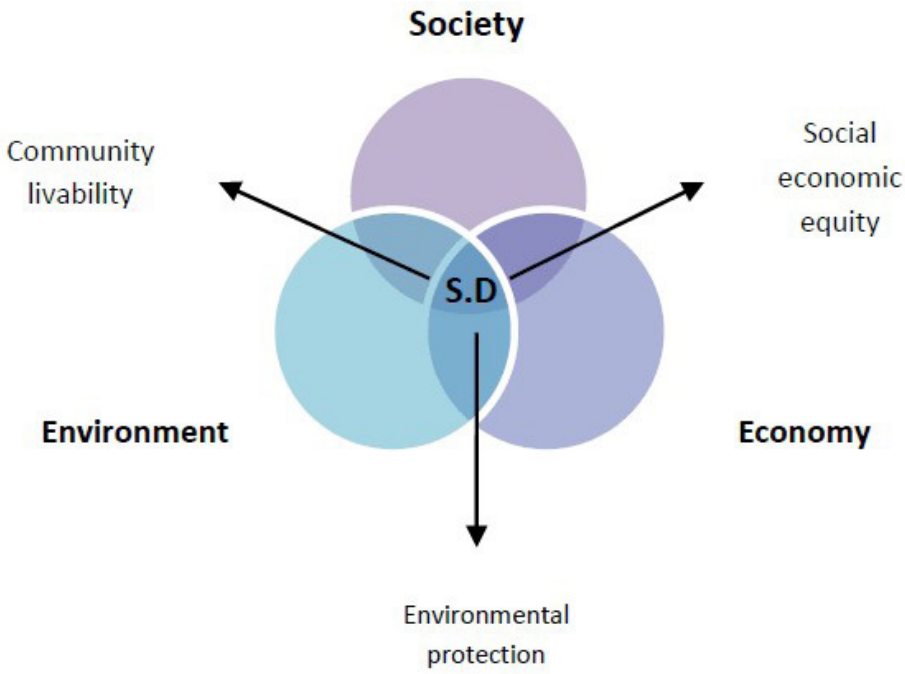

Figure 10.1: Illustration of Sustainable Development (S.D.).

According to Bruntland, Sustainable development is that 'meets the needs of the present without compromising the ability of future generations to meet their own needs' (Bruntland, 1987). This forms the basic principle of sustainability: a holistic approach to devising plans and strategies to protect the environment and cultural heritage, conserve important ecological processes, facilitate and involve public participation, and ensure that productivity can be maintained in the long term. Providing more fairness and opportunities is also a principle of sustainable development (Cooper, Fletcher, Fyall, Gilbert, & Wanhill, 2008).

Sustainable development in a tourism context requires effective management of tourism resources, integrated economic development, and respecting environmental and cultural values of regions (Costa, Rodrigues, & Gomes, 2019). As per UNWTO, these ideas were first conveyed in the 1980 Manila Declaration, which states that 'fulfilling tourism requirements must not be detrimental to the social and economic interests of residents in tourist areas, the environment, or especially natural resources.' Development and sustainable tourism must meet the needs of tourists and local communities as hosts by protecting and enhancing their forces for the future (UNWTO, 1998).

The goal of a sustainable tourism strategy is to increase the number of tourists using the principles of sustainable development. These objectives, according to Meyer and Milewski (2009), can be translated into two objectives: coordination of all interested parties to develop tourism in the region, followed by an inventory of tourism products. Consideration of the interests of local communities and the environment can shape the existence of tourism products and marketing activities, through marketing assessments and by shaping the product perceptions of potential buyers. The development of a vision, mission, and marketing plan framework should be done for the duration of the strategy. The Jurassic Park Komodo development plan for Rinca Island, home to Komodo National Park, implemented in part Indonesia's Integrated Tourism Master Plan, which calls for the development of 10 National Tourism Strategic Areas. The plan drew

criticism from various parties on fears it would destroy the original habitat of the Komodo dragons. The plan for Rinca Island includes:

- Improving Loh Buaya Pier;
- Developing a coastal safety building with a footpath to access the area;
- Building a two-meter-high elevated deck and access road connecting the wharf, information centre, and staff lodging, so as not to interfere with the local wildlife and protect visitors;
- Developing an information centre integrated with an elevated deck, resort office, guest house, and cafeteria; and
- Building lodging for rangers, tour guides, and researchers, equipped with research and monitoring posts for the Komodo dragons (PUPR Ministry, 2020).

The ASSC Blueprint 2025 details the following indicators for sustainable tourism:

- Strengthened regional cooperation to protect, restore and promote the sustainable use of terrestrial ecosystem resources, fight desertification, stop the loss of biodiversity, and stop and reverse land degradation.
- Strengthened regional cooperation in sustainable forest management in the context of forest fire prevention and control, including by implementating the ASEAN Agreement on Transboundary Haze Pollution, to effectively deal with transboundary haze pollution.
- Promotion of cooperation for the protection, restoration, and sustainable use of the coastal and marine environment; and responding to and dealing with the risk of pollution and threats to marine ecosystems and the coastal environment, especially in ecologically sensitive areas.
- Adoption of good management practices and strengthening policies to address the impacts of development projects on coastal and international waters and transboundary environmental problems, including pollution, illegal movement and disposal of

hazardous substances and waste, and in so doing, take advantage of existing regional and international institutions and agreements.

- Increased development policies and capacities and best practices to conserve, develop, and manage marine, wetlands, peatlands, biodiversity, and land and water resources in a sustainable manner.
- Encouraged capacity building in a sustainable effort for the sustainable management of ecosystems and natural resources.
- Promotion of cooperation in environmental management toward the sustainable use of ecosystems and natural resources through environmental education, community involvement, and public outreach.
- Strengthened global and regional partnerships and support of the implementation of relevant international agreements and frameworks.
- Promotion of the role of the ASEAN Centre for Biodiversity as a centre of excellence for the conservation and sustainable use of biodiversity.
- Support the full implementation of the 2011-2020 Biodiversity Strategic Plan and the Aichi Targets.

Based on the above indicators, the researchers classified the achievements of the Jurassic Park Komodo development plan for Rinca Island in Table 10.1

No.	ASCC Indicator	Geopark Development's Data	Achievement Status
1.	Strengthen regional cooperation to protect, restore and promote sustainable use of terrestrial ecosystem resources, combat desertification, halt the loss of biodiversity, and stop and reverse land degradation	No regional cooperation. Collaboration between the Public Development and Public Housing Ministry, the Environment and Forestry Ministry and developers on Rinca Island will disrupt the habitat of Komodo dragons (PUPR Ministry, 2020)	Not Achieved

No.	ASCC Indicator	Geopark Development's Data	Achievement Status
2.	Strengthening regional cooperation in sustainable forest management in the context of forest fire prevention and control, including through the implementation of the ASEAN Agreement on Transboundary Haze Pollution, to effectively deal with transboundary haze pollution	No regional cooperation	Not Achieved
3.	Encouraging cooperation for the protection, restoration, and sustainable use of the coastal and marine environment, responding to and managing the risk of pollution and threats to marine ecosystems and the coastal environment, especially in ecologically sensitive areas	To protect the coastal area of Rinca Island, the government and developers will build a main pier and a 100-meter-long beach protection building (Tribunnews, 2020)	Achieved
4.	Adopt good management practices and strengthen policies to address the impacts of development projects on coastal and international waters and transboundary environmental problems, including pollution, and the illegal movement and disposal of hazardous substances and waste, and in so doing, take advantage of existing regional and international institutions and agreements.	No data	Not Achieved

No.	ASCC Indicator	Geopark Development's Data	Achievement Status
5.	Enhancing policy and capacity development as well as best practices to conserve, develop, and manage marine, wetlands, peatlands, biodiversity, and land and water resources in a sustainable manner.	Public Development and Public Housing Ministry Minister Basuki Hadimuljono called for integrated infrastructure development of National Tourism Strategic Areas, such as Jurassic Park Komodo, including the arrangement of areas, roads, raw water and clean water supplies, waste management, sanitation, and residential improvement through an infrastructure development master plan (PUPR Ministry, 2020)	Achieved
6.	Encouraging capacity building in a sustainable effort to have sustainable management of ecosystems and natural resources.	Jurassic Park Komodo has an Environmental Permit for Rinca Island, based on an Environment and Forestry Ministry Regulation that considered the impact of development on the habitat and behavior of Komodo dragons. Development is done under supervision of the Komodo National Park Office to protect and so as not to disturb the dragons' habitat. (PUPR Ministry, 2020).	Achieved

No.	ASCC Indicator	Geopark Development's Data	Achievement Status
7.	Promote cooperation in environmental management toward sustainable use of ecosystems and natural resources through environmental education, community involvement and public outreachd	No Data	Not Achieved
8.	Strengthen global and regional partnerships and support the implementation of relevant international agreements and frameworks	No Data	Not Achieved
9.	Promote the role of the ASEAN Centre for Biodiversity as a centre of excellence for the conservation and sustainable use of biodiversity	No Data	Not Achieved
10.	Support the full implementation of the 2011-2020 Biodiversity Strategic Plan and the Aichi Targets.	The Environment and Forestry Ministry made Komodo Island a strategic plan in collaboration with developers (Environment and Forestry Ministry, 2015)	Achieved

Table 10.1: Achievements of the Jurassic Park Komodo Development Plan for Rinca Island.

Only four of 10 sustainable tourism indicators (40%) from the ASCC Blueprint 2025 were fulfilled by development planning for Jurassic Park Komodo. Sixty percent of indicators, mostly pertaining to regional cooperation and global partnerships, were unfulfilled, demonstrating that development did not involve those target communities.

5. Conclusions and Recommendation

Sustainable tourism has two objectives: coordination of all interested parties to develop tourism in a region and an inventory of tourism products. Sustainable tourism succeeds if ecosystems and natural resources are maintained and economic growth is booked in local communities. Five development plans for Jurassic Park Komodo on Rinca Island were analysed based on 10 indicators of sustainable tourism from the ASSC Blueprint. Only four indicators were fulfilled, indicating that the project did not succeed in realising sustainable tourism. The biggest obstacle was a lack of regional and global cooperation. Development planning to date has prioritised catering to premium tourists for economic gains. This goal is not oriented toward sustainable tourism or environmental conservation.

While the Indonesian government is working to increase the capacity of domestic tourism by improving infrastructure, creating sustainable tourism remains a secondary goal. The ASCC Blueprint 2025 can provide a reference for policy implementation for Indonesia. The importance of increasing economic growth should not override efforts to develop sustainable tourism. Therefore, the researchers recommend that the Indonesian government implement the aspects of sustainable tourism in all development plans for the revitalisation of tourist destinations throughout the country.

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Summary of Papers

Institution	Research Topic (1 -5)	Key Result Area (A-E)	Indicator
S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University	**Collaborative Governance to Achieve ASEAN Community Vision 2025-Implementing the Blueprint** Research Topic: 2 and 4	A. Engages and Benefits the People	Indicator 1: Increased engagement, i.e., number of negotiation and partnership forums between diverse stakeholders in ASEAN Member States promoting ASEAN initiatives. Indicator 2b: Maintained or increased Government Effectiveness measured under the World Governance Indicators. Indicator 3: Increased number of ASEAN outcome documents, programmes and activities under the ASCC, developed or implemented with engagement of stakeholders. Indicator 4: Increased institutional capacity through policies and measures/initiatives among ASEAN Member States that raise awareness on ASEAN community building and public engagement.
Abstract and main recommendations	**Abstract:** The ASEAN Socio-Cultural Community Blueprint 2025 signals a commitment to collectively deliver and fully realise human development, resiliency, and sustainable development in Southeast Asia. The Blueprint strives to develop cross-Sectoral and cross-community synergies in ASEAN to address collective action problems. Individual Sectors have identified common platforms to bridge divides across the ASEAN Community yet there remain multiple siloes in achieving a comprehensive approach to common challenges. The aims of this policy paper are twofold. First is to propose avenues for		**Main Recommendations:** • The ASEAN Socio-Cultural Community Council (ACC) should establish Review Conferences as an informal mechanism to assess progress and results, and whose findings can be fed to the other reporting mechanisms in the respective Community Councils. • The ASCC Council should adopt the APG Model as a template to engage more stakeholders in Sectoral policy design and implementation with the view to each Sector instituting such groupings by 2025. • The ASCC should implement a whole-of-ASEAN approach through instituting an ASEAN Data Hub engaging AMS, ASEAN Sectoral Bodies, international financial institutions, UN agencies

Institution	Research Topic (1 -5)	Key Result Area (A-E)	Indicator
	improving cross-Sectoral collaboration among ASSC's Sectoral Bodies and coordination between ASEAN's Pillars. Second is to examine ways to engage more stakeholders in ASEAN by exploring potential platforms at the national and regional levels to facilitate information exchange, and the sharing of experiences and best practices.		and affiliated bodies, universities and research institutes, and private and non-profit entities, particularly to achieve the Blueprint, and a wider commitment to ASEAN Community Vision 2025 and beyond. • This initiative should be mandated to (1) provide a safe and secure platform for data storage and access in a multi-stakeholder environment, recognising the mutual benefits such an initiative provides for more effective policymaking; and to (2) build capacity within AMS that recognises individual policy preferences but ensures the transferability of data to inform policy design and implementation across the ASEAN Community. • The ASEAN Data Hub would necessarily seek cross-community collaboration with the other ASEAN Community Pillars, notably the ASEAN Digital Ministers and the ASEAN Framework for Digital Data Governance signed in 2018.
ISEAS-Yusof Ishak Institute	**A Preliminary Assessment of ASEAN's Climate Governance: Gaps and Opportunities** Research Topic: 1	C.3. Sustainable Climate	Indicator 10: Enhanced capacity of AMS to achieve their respective and individual Nationally Determined Contributions (NDCs).
Abstract and main recommendations	**Abstract:** The issue of regional climate governance on climate change has gained traction in the past few years. Regional organisations are critical stakeholders in the international response to transboundary		**Main Recommendations:** • An ASEAN Coordinating Council Working Group (ACCWG) should be created to oversee climate change, similar to the one created in March/April 2020 in response to public health emergencies due to the COVID-19 pandemic.

Institution	Research Topic (1 -5) Key Result Area (A-E)	Indicator
	challenges and play an essential role in coordinating a state-dominated framework of ambitions and timetables for emissions reductions. Many studies on climate governance have pointed out that regionalism can help countries generate in-depth information, enable the sharing of experiences, bridge gaps between national efforts and the global climate change framework, and manage various transboundary environmental problems. This paper explores ASEAN's positionality and institutional framework on climate change in the context of ASEAN's vision to accelerate economic growth, social progress and cultural development, and socio-political stability among ASEAN Member States (AMS). The authors analyse ASEAN's institutional framework on climate change, including the reasoning behind this institutional setting, as well as gaps and opportunities to leverage the climate action to strengthen regional cohesiveness. The structure of the paper includes sections on growing climate change concerns across various sectors in the Southeast Asian context, an overview of AMS Climate Governance, an overview of ASEAN's Regional Framework on Climate Change; and analysis of institutional gaps and opportunities, followed by policy recommendations.	• The SOM supporting the ACCWG-CC should comprise not only Foreign Affairs officials but every ministry that intersects with climate change–transport, energy, industry, forestry, agriculture, health, disaster relief, legal, aviation, maritime so that these officials can lend their scientific, technical, and legal expertise. In addition, these officials must be sufficiently senior to communicate with their relevant Ministers the issues that are raised.

Institution	Research Topic (1 -5)	Key Result Area (A-E)	Indicator
School of Transnational Governance, European University Institute (EUI)	**Rationale for a Robust M&E System for Development Cooperation in ASEAN** Research Topic: 3	A. Engages and Benefits the People	Indicator 1: Increased engagement, i.e., number of negotiation and partnership forums between diverse stakeholders in ASEAN Member States promoting ASEAN initiatives. Indicator 2b: Maintained or increased Government Effectiveness measured under the World Governance Indicators. Indicator 3: Increased number of ASEAN outcome documents, programmes and activities under the ASCC, developed or implemented with engagement of stakeholders. Indicator 4: Increased institutional capacity through policies and measures/initiatives among ASEAN Member States that raise awareness on ASEAN community building and public engagement.
Abstract and main recommendations	**Abstract:** Development cooperation is one of the instruments supporting the ASEAN integration and ASEAN community building process. This paper makes the case for a robust monitoring and evaluation (M&E) system for regional development cooperation in ASEAN, aimed at supporting and complementing M&E systems already in place for ASEAN Community Pillars, in particular the ASCC. Such a system is imperative for ASEAN as a regional integration based on the organisation's anchor the discussions on the organisation's objectives, institutional structure, and accountability mechanism. It also contextualises development cooperation in ASEAN and foregrounds the concept of development effectiveness and how it aligns		**Main Recommendations:** • There is a need to establish the relationship between the contributions of regional programmes and projects supported through development cooperation, with development outcomes achieved by the ASEAN Community Blueprints. This is especially true as the organisation revisits its plans to make further progress by 2025. • There is merit on reflecting on how ASEAN sees regional development cooperation as one strategy it can leverage as it advances toward its goals. By facilitating regional development cooperation on its own terms with the aid of a robust M&E system, ASEAN can further legitimise the ASEAN integration and ASEAN Community-building agenda and put ASEAN's Centrality at the forefront.

Institution	Research Topic (1 -5)	Key Result Area (A-E)	Indicator
	consistently with ASEAN's principles, in particular ASEAN Centrality. Finally, the paper concludes by highlighting two emerging issues to prompt further conversations, reflections, and study on the topic.		
Expertise Agency, Secretariat General, House of Representatives, Jakarta, Indonesia	**Strengthening Synergies: Triple-Bottom Lines for Promoting Regional Renewable Energy Sector and Sustainable Development** Research Topic: 1	C.1. Conservation and Sustainable Management of Biodiversity and Natural Resources. C.3. Sustainable Climate	Indicator 8: Increased number of regional initiatives regarding conservation and sustainable use of biodiversity and natural resources in AMS. Indicator 10: Enhanced capacity of AMS to achieve their respective and individual Nationally Determined Contributions (NDCs)
Abstract and main recommendations	**Abstract:** The dominance of fossil-based energy consumption amid scarce energy resources poses a major challenge to ASEAN energy security. This paper identifies the triple-bottom-line framework of sustainability for the promotion of renewable energy to encourage energy security and regional sustainable development. The paper analyses the strategic importance of developing renewables to promote regional energy security and the sustainable development of ASCC's vision. This paper uses a qualitative approach to critically review the rising need for an increased share of renewables in national energy mixes as a focal point		**Main Recommendations:** • Institutional and legal framework assertiveness in developing renewables is needed to ensure improvements. Considering the mandatory provisions of the Paris Agreement, this requires accelerated use of renewables in coming decades. Targeted efforts to develop more operational institutional arrangements, relevant policies, and programmes are needed. ASEAN must meet the challenge to make modest improvements in renewables use in the region, and regional solutions must put in place transformative and decisive policies and institutional arrangements to encourage the regional energy transition. • The results of this study highlight the need for more assertive political action for ASEAN to ensure the AEC and ASCC vision of sustainability. The regional status of energy insecurity for

Institution	Research Topic (1 -5)	Key Result Area (A-E)	Indicator
	to achieve regional security energy and sustainability of the ASCC vision. Results of this paper indicate that to achieve the regional energy security and the sustainable vision of ASCC, ASEAN should embark on institutional and legal framework assertiveness for renewables development, for strengthening synergy at the ASEAN Member State-level for national renewables policies and targets aimed at boosting energy efficiency, and and to promote the turn to renewables to achieve socio-economic benefits for its people. The results of this paper highlight the need for more assertive political action for ASEAN by improving renewables to ensure regional energy security and sustainable development as envisioned by the ASCC and AEC.		• ASEAN amid rising economic development, population growth, and rising standards of living is the main reason to improve the share of renewables in the regional energy mix, as AMS focus on energy security and sustainable development as envisioned by the ASCC and AEC.
Kyoto University Research Administration Office (KURA), Kyoto University, Japan	**Progress Report on New Initiatives for an Online Platform to Boost the Human Resource Capacity of Science, Technology and Innovation Coordinators in Japan and ASEAN toward Grand Challenges** Research Topic: 2 and 4	A. Engages and Benefits the People	Indicator 1: Increased engagement, i.e., number of negotiation and partnership forums between diverse stakeholders in ASEAN Member States promoting ASEAN initiatives. Indicator 3: Increased number of ASEAN outcome documents, programmes, and activities under the ASCC, developed or implemented with engagement of stakeholders. Indicator 4: Increased institutional capacity through policies and measures/initiatives among ASEAN Member States that raise awareness on ASEAN community building and public engagement.

Institution	Research Topic (1 -5)	Key Result Area (A-E)	Indicator
Abstract and main recommendations	**Abstract:** An initiative to highlight the importance of building human capital that brings together policy makers, businesses, researchers, and local communities was launched in August 2020 via a series of monthly online webinars under the theme of 'Science, Technology, and Innovation Coordinators in Japan and ASEAN toward Grand Challenges'. This was led by the Kyoto University Research Administration Office (KURA), in collaboration with the ASEAN Foundation, and the ASEAN Secretariat (ASEC) and the Japan ASEAN Science, Technology, and Innovation Platform (JASTIP). This paper aims at reporting on the progress of these joint initiatives to boost human resources capacity for cross-Sectoral and cross-Pillar coordination to address cross-cutting issues in ASCC Blueprint 2025 as well as global and regional grand challenges.		**Main Recommendations:** • While a common definition for an STI coordinator has yet to be stipulated, a collective effort to design a tailor-made capacity development programme suitable for potential STI coordinators needs to be pushed forward. • Sharing technology and resources on an existing collaborative platforms has been proved to be effective, such as the Field for Knowledge Integration and Innovation (FKII) supported by the Agriculture, Forestry and Fishery Ministry of Japan, or the Japan-ASEAN Science, Technology, and Innovation Platform (JASTIP) led by Kyoto University, for instance. JASTIP has also implemented the JASTIP-Net partnership grant, targeted at ASEAN and Japan STI communities, which can be a model programme for future collaboration between ASEAN and Japan. • Several presenters in the working groups pointed out that stakeholder mapping on a matrix (researcher, scientist, STI coordinators, decision makers, local communities, and indigenous groups) would be useful to visualise the integrated action and priorities among the relevant stakeholders. It was also recommended to respect others and local rules abroad.
Lampung University and the Sumatra Institute of Technology, Indonesia	**Realising Inclusive Development for People with Disabilities and Women in Indonesia Based on ASCC Blueprint 2025** Research Topic: 1	B. Inclusive	Indicator 5b: Increased proportion of the identified target groups In ASEAN Member States compared to the respective total population who are receiving social protection benefits, aiming to reduce barriers to an inclusive society. Indicator 7: Increased regional policies, strategies, and programmes mainstreaming the promotion and protection of human rights for identified target groups in AMS, as demonstrated by: Indicator 7b Proportion of target groups receiving social protection benefits.

Institution	Research Topic (1 -5) Key Result Area (A-E)	Indicator
Abstract and main recommendations	**Abstract:** While current development focuses principally on economic activities, there remain gaps in a society where development is uneven. The concept of inclusive development is intended to ensure that development is carried out evenly and gives equal rights to every group of society in the development process. This paper examines Indonesia's success as an ASEAN Member State in realising inclusive development for people with disabilities and women based on the ASSC Blueprint 2025. This paper deploys descriptive qualitative research methods with data collection techniques using literature studies. This paper shows that Indonesia has only succeeded in meeting 25% of the indicators for inclusive development for both people with disabilities and women.	**Main Recommendations:** Implementing the Blueprint by: • Prioritising the development of public infrastructure for persons with disabilities. • Involving ASEAN and AMS to guarantee the rights of the disabled, such as the fulfillment of disability-friendly technologies, information, and health services. • Providing security guarantees for persons with disabilities to be free from crime in any form, in the form of a new regulations or facilities. • Involving ASEAN and AMS in building women-friendly cities. • Realising that various efforts made by the government through existing policies is insufficient to fulfill the ASCC Blueprint. A more comprehensive effort from various stakeholders is needed. The inclusiveness that ASEAN is trying to achieve through ASEAN Connectivity will bring all individuals in the region to a more decent standard of living, including persons with disabilities and women. Indonesia, with the largest population in Southeast Asia, should be an example for other Southeast Asian countries in realising inclusive development, such as the slogan of sustainable development, no one left behind.

Institution	Research Topic (1 -5)	Key Result Area (A-E)	Indicator
International Relations Department, Social and Political Science Faculty, Lampung University, Indonesia	**Managing for SCP between Oil Consumption and Economic Growth of Middle-Income Countries in Achieving the Goals of the ASCC Blueprint 2025** Research Topic: 1 and 2	C.4. Sustainable production and consumption.	Indicator 11: Established policies and institutional arrangements that incorporate Sustainable Consumption and Production (SCP) initiatives, including green jobs, in ASEAN Member States.
Abstract and main recommendations	**Abstract:** This paper presents ideas regarding the Sustainable Development Scenario (SDS) and Stated Policy Scenario (STEPS), which involve oil consumption and economic growth in Southeast Asian countries, especially middle-income countries, as part of the work to realise Sustainable Consumption Policies (SCP), which is a focus of the ASCC Blueprint 2025. The researchers present how oil consumption affects economic growth and how these two factors are interrelated. The study uses a quantitative research method with the SSS test tool to examine relationships. One model is based on STEPS, which holds that energy-subsidy-policy making can increase oil consumption, affecting a country's economic growth. However, this is not the case for the second		**Main Recommendations:** • Researchers recommend that policy makers start applying Sustainable Consumption Principles (SCP) principles to fuel-related policies. The impact of this continuity will be in line with the commitments to be achieved by ASCC, and of course the aspirations of ASEAN Connectivity.

Institution	Research Topic (1 -5)	Key Result Area (A-E)	Indicator
	model, based on SDS, where policies to increase renewable energy production do not significantly help achieve sustainable consumption and production in middle-income countries in ASEAN.		
University of Santo Tomas, Manila	**QR CODE PROJECT: On its Potential Increase on Medication Adherence Among Hypertensive and Diabetic (Type 2DM) respondents through Drug Information Provision** Research Topic: 1 and 2	B. Inclusive	Indicator 5b: Increased proportion of the identified target groups in ASEAN Member States to the respective total population who are receiving social protection benefits, aiming to reduce barriers to an inclusive society. Indicator 6d: Increased coverage of essential health services regardless of household income, expenditure or wealth, place of residence, or gender.
Abstract and main recommendations	**Abstract:** Adherence to taking medication as scheduled is important in ensuring that therapeutic benefits are delivered to patients. However, adherence has always been an issue, especially among the elderly. Large numbers of hypertension and diabetes mellitus cases are the most common non-communicable diseases (NCD) in the local community setup. Despite the free medication programme provided by the Philippine Department of Health (DOH), some participants still do not adhere to their medicine or even participate in the program. This study deals with the assessment of		**Main Recommendations:** • Researchers recommend providing drug information using Quick Response (QR) codes attached to packaging materials on a patient's drugs, as the information provided by the QR code is a contributing factor to an increased level of medication adherence by respondents.

Institution	Research Topic (1 -5) Key Result Area (A-E)	Indicator
	medication adherence among hypertensive and diabetic patients. The researchers applied a small-scale intervention using Quick Response (QR) codes attached to the packaging materials on the patient's drugs to measure adherence. Hypertensive and diabetic respondents (n = 62) with accessible smartphones were recruited for the study. Participants were asked to scan QR codes, download, and read the drug information through their smartphones. Assessment of the intervention was measured by through a Filipino-tailored, Morisky-derived tool before and after the intervention. A questionnaire was designed to assess the efficacy of the program. Findings revealed an adherence rate of 37.1% and high-adherence rate of 17.7%, both of which indicate a possible increase in adherence after the dissemination of drug information through QR codes. The odds ratio value of 30.375 signifies that the odds of having high/medium adherence to proper medications after QR code intervention is 30.375 higher as compared to low-adherence respondents. In conclusion, this denotes the effective response of QR code application for the provision of drug information for adherence. This was also seen as a contributory factor in the increased of level of adherence t the proper medication schedule by respondents.	

Institution	Research Topic (1 -5)	Key Result Area (A-E)	Indicator
University of Santo Tomas, Manila	**Initial Assessment of the Information Education Campaign (IEC) Materials for Pediatric Tuberculosis for Selected Informal Community Settlers** Research Topic: 1 and 2	B. Inclusive	Indicator 5b: Increased proportion of the identified target groups in ASEAN Member States to the respective total population who are receiving social protection benefits, aiming to reduce barriers to an inclusive society. Indicator 6d: Increased coverage of essential health services regardless of household income, expenditure or wealth, place of residence or gender.
Abstract and main recommendations	**Abstract:** Information dissemination on tuberculosis (TB) still hinders the community due to inadequate resources and knowledge allocated among healthcare facilities. The 2016 National Tuberculosis Prevalence Survey in the Philippines identified disturbing trends, including an increase in the vulnerability of the young population and an increase of TB cases in the National Capital Region. Literature suggested that health education and awareness help empower the community for different aspects of disease management through right treatment at the right time. A causal relationship was established between the information drive and management of diseases such as TB. Informal settlers are vulnerable to TB due to inadequate information drives on the prognosis and outcome of the disease. This study aims to identify the general feasibility of information dissemination through an information education campaign (IEC)		**Main Recommendations:** • Based on the narratives provided, caregivers accepted the importance of IEC materials due to their utility and ease of use, for information such as facts from the calendar and educational situations from the comics and video clip. A majority of the caregivers demonstrated confidence in using calendars as a tool to guide the medication intake of their children. Knowledge of TB was enhanced through IEC materials, according to the caregivers. Comics were preferred over videos, due to their increased accessibility. A majority of respondents recommended that the materials be used to enhance knowledge in their respective communities. This pilot study indicated that there was an increased ability to provide proper tuberculosis management on the part of respondents through use of the IEC materials.

Institution	Research Topic (1 -5) Key Result Area (A-E)	Indicator
	among the caregivers of children living with TB. Informal community-dwelling settlements in Port Area, Payata, and Bagong Silangan served as the study sites. Respondents from Baseco, Port Area, Manila (n = 10); Payatas, Quezon City (n = 9); and Bagong Silangan, Caloocan City (n = 5); participated in the focal group discussion (FGD) and house-to-house interviews. Printed materials like comics and calendars were developed based on the caregiver's judgement, knowledge and practices. These were distributed in the three informal settlements. Video was also developed based on the comics' attributes. This was also shown to the caregivers and mothers of children living with tuberculosis. Assessments on IEC materials were gathered through feedback based from the theory of the Technology Acceptance Model (TAM). This include gained knowledge on tuberculosis, efficiency, strength/ preferences, and suggestive issues on IEC. Thematic analysis was used to document the respondents' statements and findings. Results suggested that a majority of the caregivers were confident to use calendar as a tool and guide for medication intake for their children. Knowledge on TB was enhanced through IEC materials according to the common narratives of the caregivers. Comics were preferred over the video due to their accessibility of use.	

Institution	Research Topic (1 -5)	Key Result Area (A-E)	Indicator
International Relations Department, Social and Political Science Faculty, Lampung University, Indonesia	**Assessing Sustainable Tourism in Southeast Asia Based on the ASCC Blueprint: Komodo Island Construction Plan, Indonesia** Research Topic: 1 and 2	C.1. Conservation and Sustainable Management of Biodiversity and Natural Resources.	Indicator 8: Increased number of regional initiatives regarding conservation and sustainable use of biodiversity and natural resources in AMS.
Abstract and main recommendations	**Abstract:** This paper will examine the case study of the development plan for Jurassic Park Komodo, evaluated against 10 indicators for sustainable tourism from the ASSC Blueprint 2025. Conceptually, sustainable tourism aims to promote development of a Tourism Sector that meets the needs of both tourists and their hosts in local communities by protecting and enhancing the market for the future. This paper, which relies on qualitative research using literature study data collection techniques, finds that Jurassic Park Komodo fulfills 40% of the sustainable tourism requirements as defined by indicators in the ASSC Blueprint 2025 .		**Main Recommendations:** Researchers recommend that the Indonesian government implement aspects of sustainable tourism in all development plans for the revitalisation of tourist destinations throughout the country.

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