SUSTAINABLE DEVELOPMENT

Making SDGs Matter:
Leaving No One Behind

Edited by Alizan Mahadi & Nazran Zhafri

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KONRAD
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STIFTUNG

**Institute of Strategic and
International Studies (ISIS) Malaysia**

Foreword

It is a great honour for me to be writing the foreword to this book. It is yet another wonderful example of the successful and long-standing cooperation between the Institute of Strategic and International Studies (ISIS) Malaysia and Konrad-Adenauer-Stiftung (KAS). As the director of KAS Malaysia, I very much look forward to continuing and enhancing the fruitful cooperation between ISIS Malaysia and KAS in the future.

For KAS, there are important points of overlap with the topics and goals of the Agenda 2030. With an entire department specifically focused on the agenda, and with its regional programmes on energy security and climate change, KAS makes an important contribution to the current debate on sustainable development by providing analyses, and hence a basis for possible political action.

As Malaysia's premier think tank, ISIS Malaysia focuses on objective, independent and strategic policy research, and on fostering dialogue and debate among the public and private sectors and academia. It has a wide range of expertise from security, to economy, to social policy, and environmental and sustainability issues. "Making SDGs Matter: Leaving No One Behind" thus covers an area of high importance to both ISIS Malaysia and KAS alike.

The 17 Sustainable Development Goals (SDGs) are at the heart of the Agenda 2030 for sustainable development. We refer to sustainable development today when we talk about how best to shape the future of our planet. Achieving this is not only a principal joint responsibility, but also a challenge to all of us. It is important to continuously stress that sustainability refers to more than protecting the environment. Instead, achieving sustainable development requires fundamental changes across every major sphere, including the governance, institutional, economic, social and environmental sectors. That is why the SDGs were based on a holistic and global approach.

It is precisely ISIS Malaysia's cross-cutting expertise that makes it a credible institution to address the issue of SDGs as it takes far-reaching approaches into consideration to achieve true sustainability. By selecting the authors and topics included in this book, ISIS Malaysia ensured to shed light on the holistic complexity of the SDGs. All authors have different backgrounds and various fields of expertise. To break down the complex issue of the SDGs, the authors have analysed key issues and challenges based on four areas: rural development and food security; climate change adaptation; institutional strength and reform; and the rights of the indigenous people.

With regard to rural development and food security, the book suggests to rethink rural transformation in relation to the SDGs, especially stressing the need for an overall inclusive sustainable growth trajectory. Additionally, it underlines the responsibility that key stakeholders at all levels share for taking ownership and exercising commitment for Malaysia to realise its full potential.

Foreword

Looking at institutional strength and reform, the authors analyse how the political system of a country impacts its implementation of the SDGs. The role of civil society in localising SDGs, especially involving multistakeholder engagement to ensure "no one is left behind", is also taken into account.

On the aspect of climate change, the book posits a new climate change policy for Malaysia; using carbon pricing for its future climate policy efforts. The authors also look at the adequacy of various climate change adaptation measures in place, and at other potential green growth initiatives, such as circular economy. The book offers a glance at projected future climate change in Malaysia and the need for a robust climate change policy to increase its climate resilience as the country further develops economically.

And with regard to the rights of the indigenous people, the authors examine such aspects as conservation tourism and the participation of local communities in formulating policy for positive socio-economic development. They also raise the question of how environmental degradation impacts the rights and livelihood of indigenous communities.

Overall, the book presents a unique collection of policy recommendations to address the issues and challenges identified. The authors propose solutions that can transcend local, national and international levels, and with that they demonstrate how the SDGs can be utilised to address the issues across the four policy areas.

As the world is facing a terrible pandemic that has the most devastating and destabilising effects on all of us, and caused tremendous burdens for health systems and the economy, it is likely that priorities might shift. However, it would be a big mistake to now lose focus on all of our sustainability efforts. Certainly, governments concentrate on short-term relief, but it is of utmost importance to not forget the ambitious SDGs. If anything, COVID-19 has shown us in unprecedented intensity how interconnected the world is and how global challenges affect all parts of the world. The same is true for achieving sustainability.

In September 2020 at the first SDG Moment, United Nations Secretary-General António Guterres said, "When the public appetite for change is matched with political will and smart policy choices, rapid progress is unstoppable." He also stressed that with the year 2020, the crucial decade of action now lies right before us. With this book, ISIS Malaysia and KAS aim to contribute to identifying possible ways forward for action in Malaysia.

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Acknowledgements

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Introduction – Making the SDGs Matter: Leaving No One Behind

Alizan Mahadi

The title of the book, at first glance, may seem like an idealistic and optimistic notion of the Sustainable Development Goals (SDGs), as a vision to end poverty and hunger, accelerate climate action and environmental protection and move towards a more peaceful and just world. In this sense, the SDGs can be seen as a blueprint to achieve a better and more sustainable future for all by 2030. As a global agenda that is driven by a set of goals and targets, the notion of the SDGs as a normative framework is certainly central to the aims of this book.

However, on the other end of the scale, the reality is that the SDGs, as a global framework that aims to govern through goals (Kanie and Biermann, 2017), is unique in the sense that it is unlike other legally binding international instruments. The SDGs is voluntary in nature, has no compliance mechanisms and has limited political authority to enforce its implementation. It is due to this that the title of the book is "Making the SDGs Matter", as its implementation will require deliberate actions by actors within and across issue areas and policy domains to ensure its effectiveness.

This book does not take a preconceived view across the optimistic-pessimistic spectrum identified above. It is neither overly optimistic that the SDGs will catalyse a sustainable future by 2030, nor is it pessimistic that, devoid of compliance mechanisms, the SDGs will not likely be implemented. Rather, the contribution of this book is to explore the implementation of the SDGs and understand both why and how it is utilised in the complex policy landscape at the domestic level. Towards this end, it asks two basic questions. Firstly, are SDGs relevant at the domestic level to the issue areas identified within this book? Secondly, how or how could the SDGs be utilised towards addressing the challenges identified? By using this approach, and from the bigger picture point of view, it will also contribute to understanding to what extent can the SDGs achieve its lofty aims. As the SDGs enter its final ten years, the focus on understanding and demystifying its utility and influence in implementation is crucial, and is the major contribution of this book.

While the SDGs is a global agenda that is applicable at all levels, the focus on implementation requires the book to explore the overall theme at the national and local levels as the scales investigated, being the core nodes of policy implementation. This requires an understanding of the national and local contexts within Malaysia and the localities studied. This includes the prevailing setting of governance, which is constitutionally based on a federal system, with responsibilities and obligations divided across federal and state functions. From a policy agenda point of view, Malaysia is a small and open economy and therefore many of its policies are geared towards trade and an export-oriented economy. Due to its colonial past, Malaysia has adopted the Westminster parliamentary system as well as the continued path dependence on British colonial practices. The unique and contextual circumstances are detailed across the book. They help identify the conditions under which implementation of SDGs are favourable or otherwise.

The SDGs must not be seen separately from the 2030 Agenda for Sustainable Development which contains the overall international pledge to transform our world by 2030 and to "ensure sustained and inclusive economic growth, social inclusion, and environmental protection, fostering peaceful, just, and inclusive societies through a new global partnership" (United Nations, 2015). Importantly, the agenda includes five core principles, namely it is universal in nature; it seeks to leave no one behind; it is interconnected and indivisible amongst the goals and targets; it is inclusive in process; and it promotes multi-stakeholder partnerships (see Table 1). All the principles act as an important guide throughout all the chapters of this book. In particular two principles, leaving no one behind, and interconnectedness and indivisibility, are the key guiding principles in its preparation.

TABLE 1. Core guiding principles of the 2030 Agenda for Sustainable Development

PRINCIPLE	DESCRIPTION
UNIVERSALITY	The 2030 Agenda is universal in scope and commits all countries, irrespective of their income levels and development status, to contribute towards a comprehensive effort towards sustainable development. The Agenda is applicable in all countries, in all contexts, and at all times
LEAVING NO ONE BEHIND	The 2030 Agenda seeks to benefit all people and commits to leave no one behind by reaching out to all people in need and deprivation, wherever they are, in a manner which targets their specific challenges and vulnerabilities. This generates an unprecedented demand for local and disaggregated data to analyse outcomes and track progress.
INTERCONNECTEDNESS AND INDIVISIBILITY	The 2030 Agenda rests on the interconnected and indivisible nature of its 17 SDGs. It is crucial that all entities responsible for the implementation of SDGs treat them in their entirety instead of approaching them as a menu list of individual goals from which they pick and choose.
INCLUSIVENESS	The 2030 Agenda calls for the participation of all segments of society – irrespective of their race, gender, ethnicity, and identity – to contribute to its implementation
MULTI-STAKEHOLDER PARTNERSHIPS	The 2030 Agenda calls for establishing multi-stakeholder partnerships for mobilising and sharing knowledge, expertise, technology and financial resources, to support the achievement of SDGs in all countries.

In the remainder of this chapter, the premise of the book is explored further. First, the SDGs is introduced, in particular, in the context of its implementation and translation into the Malaysian policy landscape. Second, the principle of Leave No One Behind, the major theme of this book is assessed on its relevance to the Malaysian context. Third, the interconnectedness and indivisibility principle are assessed as an additional guiding principle that is crucial in understanding the approach of the various authors contained within this book. The final section elaborates how this book is organised by looking at the issue areas that are selected as case studies and themes to answer the overarching questions posed earlier.

Translating the SDGs into the Malaysian domestic level

The SDGs, as elaborated above, is conceived at the global level through a large multi-stakeholder process led by the United Nations (UN) and ultimately adopted by all member states in 2015. As a global agenda, as with other international instruments, the challenge is to balance between the local context and development needs with global requirements, or in this case, goals. A linear way to look into the SDGs is to assume that its implementation is driven from the global level directly to the domestic level. Firstly, the SDGs itself is a result of "two-level games" (see Kanie and Haas, 2004; also, see Putnam, 1988) where the international negotiation outcomes are, at least partly, the result of domestic groups pressuring their governments to adopt a blueprint. Secondly, and similarly, at the implementation level, there are various forces that interact at various levels to affect the implementation of the SDGs. This includes state actors, where state negotiators propose, set the agenda and subsequently negotiate the outcome for the SDGs. Adding to the complexity, the forces at play also include non-state actors. For example, transnational non-governmental organisations (NGOs), such as World Wildlife Fund (WWF), were influential to both setting the agenda at the international level through their participation within the UN process, as well as interacting with the local government. Additionally, at the project level, they also interact and mainstream SDGs at the local and community levels. Towards understanding the process of translation of the SDGs to the Malaysian context, this section firstly looks to introduce the SDGs from a broad and global point of view. It then looks into the key processes and forces in translating the SDGs in the Malaysian context.

At the turn of the century, the Millennium Development Goals (MDGs) were adopted to commit all member states, and at least 22 international organisations, towards achieving eight international development goals by 2015. Despite the tremendous achievements delivered by the international community through the MDGs, two factors were obviously not addressed. Firstly, the achievements were uneven across and within countries. To a large extent, the achievements were due to the economic rise of China as well as a few selective emerging economies. Areas, in Africa, in particular, have still lagged behind in terms of development and poverty eradication. Within countries, many countries demonstrate widening inequalities with pockets of poverty existing even within industrialised nations. Secondly, the MDGs were largely addressed in a silo manner where the interlinkages across the different goals were not recognised. This also led to the prioritising of goals where, in particular, Goal 8 (developing a global partnership for development) was not achieved and is even declining at the global level.

FIGURE 1. The Millennium Development Goals

Post-2015, a new global and international agenda that addresses the development goals in an inclusive and holistic manner was required to replace the MDGs. As a follow up to the Rio Earth Summit, the United Nations Conference on Sustainable Development (UNCSD) was convened in 2012, known as Rio+20, where a resolution was reached – "The Future We Want" – based on the key themes of poverty eradication, energy, water and sanitation, health and human settlement. In September 2015, member states came together at the UN to introduce and adopt the Sustainable Development Goals (SDGs) as a "blueprint to achieve a better and more sustainable future for all". The SDGs consist of 17 global goals, 169 targets and 232 indicators to be achieved by 2030, with the tagline of "leaving no one behind". The goals are often clustered into 5Ps, namely people with goals on ending poverty (SDG1), zero hunger (SDG2), health (SDG3), education (SDG4) and gender equality (SDG5); prosperity, with goals on energy (SDG7), decent work and economic growth (SDG8), industry, innovation and infrastructure (SDG9), reducing inequalities (SDG10) and sustainable cities and communities (SDG11); planet with goals on water (SDG6), sustainable consumption and production (SDG12), climate change (SDG13) and biodiversity (SDG14 and SDG15); peace (SDG16) and partnerships (SDG17). The 5Ps are consistent with the three pillars of sustainable development – social (people), economy (prosperity) and environment (planet) – with an added scope on peace and partnerships. The comprehensive and legitimate set of universal development goals was the outcome of an international process and global consultations.

FIGURE 2. The Sustainable Development Goals

In the national context, Malaysia has long championed sustainable development, particularly in planning. It evolved from a focus on environmental pollution control in the 1970s, with the introduction of the Environmental Quality Act (EQA) in 1974, to a more integrative approach to sustainable development. This included Malaysia's active participation in the negotiations that took place in the Rio Earth Summit in 1992, where Malaysia played a key role to lead the developing countries (through chairmanship of G70 + China) where it championed the view of balancing the need for economic growth with sustainable development (see Hezri, 2016; also see Taib, 1997). The commitment to sustainable development was evidenced by Malaysia announcing it would keep 50 percent of its land under forest cover in perpetuity. Its leadership was recognised when Malaysia was appointed as the first chair of the Commission for Sustainable Development (CSD). Furthermore, Malaysian civil society also played a leading role, in particular, led by the late Martin Khor and his outfit Third World Network (TWN), to galvanise civil society organisations (CSOs) from developing countries. During this time, as seen from the two-level games perspective, Malaysia played a significant role to influence the global sustainable development agenda in translating its own aims into the international arena.

In more recent times, arguably, Malaysia's role has been more of a "rule-taker" than a "rule-maker". In other words, the direction of influence has been more from the international to domestic level policymaking. This was evident from a review undertaken as part of the readiness to adopt the SDGs (Institute of Strategic and International Studies (ISIS) Malaysia, unpublished) where Malaysian environmentally related policies are often an outcome of international agreements. For example, the climate change policy is in line with the international agenda, but does not consist of any concrete national action plans. Furthermore, Malaysia's national communication to the United Nations Framework Convention on Climate Change (UNFCCC) has become the most comprehensive reference document for climate change in Malaysia. More recently, the domestic policies are driven by the targets set out under the Paris Agreement via the Nationally Determined Contributions (NDC). Due to this direction of influence, the national policies related to sustainable development are often driven top-down to fulfill international requirements, rather than bottom-up based on domestic development needs. Although more research needs have to be undertaken to establish the direction of influence, previous roundtables and consultations conducted, including as part of developing this book, have raised this issue.

In the context of sustainable development specifically, it must be emphasised that the concept has been strongly enshrined within Malaysia's development planning process via the five-year development plan. This included a focus on balancing environment and development in the Ninth Malaysia Plan 2006-2010 and, more recently, a focus on green growth. In the Mid-term Review of the Eleventh Malaysia Plan 2016-2020, the selected outcomes were mapped in accordance with the SDGs. It can be concluded, therefore, from a planning and from the federal government point of view, the SDGs has been utilised as a key reference point.

The challenge in the context of implementation within Malaysia is therefore not only to translate SDGs from the international to the national level, but also the requirement of it to be translated to the key implementation nodes. This requires interactions both horizontally, across the different policy domains (ie. social, economic and environment) as well as vertically across the different levels of jurisdiction (ie. federal, state and local). The Economic Planning Unit (EPU) acts as the focal point of the SDGs as well as sets the overall national agenda through the aforementioned five-yearly development plans.

However, EPU does not have any implementation mandate. Implementation will fall under the responsibility of the various line ministries, and/or, the state or local government agencies and the local government. This entails strong interactions both horizontally across the line ministries, as well as vertically with state and local agencies and government. Understanding this prevailing structure is crucial in understanding the implementation of SDGs in Malaysia and is explored within this book.

Leaving No One Behind as a guiding principle

At the heart of the principle of leaving no one behind is the fact that despite the impressive gains in development outcomes that have been made in recent history, the benefits from human development were enjoyed unequally. In this day and age, one person in nine is still living in hunger, one in three is malnourished and poverty exists in almost all corners of the world and inequality is rising. This uneven achievement in the MDGs, in particular, resulted in calls for the 2030 Agenda for Sustainable Development to include the principle of leaving no one behind to ensure that the furthest behind benefit from this global agenda.

The United Nations Development Programme (UNDP), in a discussion paper, defined the principle as "people are left behind when they lack the choices and capabilities that enable others to participate in or benefit from human development" (UNDP, 2018, p. 7). To assess who and why people were left behind five factors were identified:

TABLE 2. Five factors of who and why people are left behind (adapted from UNDP discussion paper, 2018)

FACTOR	DESCRIPTION
DISCRIMINATION	What biases, exclusion or mistreatment do people face based on one or more aspect of their identity (ascribed or assumed), including prominently gender as well as ethnicity, age, class, disability, sexual orientation, religion, nationality, indigenous, migratory status etc.?
GEOGRAPHY	Who endures isolation, vulnerability, missing or inferior public services, transportation, internet or other infrastructure gaps due to their place of residence?
GOVERNANCE	Where do people face disadvantage due to ineffective, unjust, unaccountable or unresponsive global, national and/or sub-national institutions? Who is affected by inequitable, inadequate or unjust laws, policies, processes or budgets? Who is less or unable to gain influence or participate meaningfully in the decisions that impact them?

FACTOR	DESCRIPTION
SOCIO-ECONOMIC STATUS	Who faces deprivation or disadvantages in terms of income, life expectancy and educational attainment? Who has less chances to stay healthy, be nourished and educated? Compete in the labour market? Acquire wealth and/or benefit from quality health care, clean water, sanitation, energy, social protection and financial services?
SHOCKS AND FRAGILITY	Who is more exposed and/or vulnerable to setbacks due to the impacts of climate change, natural hazards, violence, conflict, displacement, health emergencies, economic downturns, price or other shocks?

The categories above demonstrate that the concept is multidimensional and includes factors that are beyond income-poor. Inequality, as defined under this principle, therefore cuts across the different issues areas. Similarly, this book views leave no one behind across multiple issue areas and policy domains as the themes of which the book is structured.

In the context of Malaysia, as the Eleventh Malaysia Plan (11MP) utilised the SDGs framework in guiding its pillars and thrusts, the Twelfth Malaysia Plan (12MP) will be formulated in a similar fashion whilst also guided by the Shared Prosperity Vision 2030 that also focuses on sustainable development and uses the tagline of "leaving no one behind". Similarly, the social assistance provided as recovery to the COVID-19 pandemic also adopted the same tagline.

However, challenges remain towards the agenda of leaving no one behind in Malaysia. This is best exemplified by Malaysia's achievements in poverty. While poverty rates remain relatively low, disaggregated data demonstrates that some areas (especially in Sabah and Sarawak) suffer from much higher rates of poverty. Pockets of poverty also still exist with urban poverty a rising phenomenon. This challenge best exemplifies the need for SDGs and development delivery, more generally, to be more inclusive and reach the most vulnerable communities. In other words, there is a need to rethink development in focusing not only at the aggregated and national level but to promote strategies and policy areas that are at the frontier of development.

Therefore, we can surmise that leaving no one behind is highly relevant in the Malaysian context. How the principle will be implemented, however, is still to be seen. Hopefully this book will also contribute towards both furthering knowledge and understanding as well as conceptualising it in the context of Malaysia.

Interconnectedness and indivisibility of the SDGs

One of the key additionalities of the SDGs, in comparison with other international conventions, agreements, declarations and instruments is that it is consolidated under one framework. This puts SDGs as an umbrella policy instrument for international development. The key achievement of the SDGs, therefore, is the attainment of the SDGs in an integrated manner, as opposed to

attaining individual goals. This principle is crucial as one of the criticisms of the MDGs was the fact that certain goals were prioritised over others and this was reflected in the outcome. For example, while poverty was reduced, at least from an aggregated global perspective, the environment continued to be degraded.

The interconnectedness of the SDGs and the interlinkages across the targets means that many of the goals are indivisible. It is important to note that the interactions between them can be either synergistic, meaning they reinforce each other, or can be conflictive or trade-offs, whereby achievement in one goal or target can be detrimental to the achievement of another (ICSU, 2017). For example, biodiversity protection, such as through protecting forests as well as afforestation mutually reinforces the goal for climate change through both acting as carbon sinks (mitigation) as well as ecosystem services such as flood protection (adaptation). On the other hand, goals such as on infrastructure, if constructed unsustainably, could be detrimental to environment and the associated SDGs. A less obvious trade-off can occur, for example, if biofuels are sourced through an unsustainable manner, it could result in environmental degradation. The previous example also shows that many of these interactions are highly contextual (Nilsson et al., 2016).

In Malaysia, as with most administrations, the challenge of operating in silos is a major challenge in implementing sustainable development. As highlighted earlier, the complex policy landscape requires addressing horizontal coherence and vertical coherence together. In other words, the coherence across multiple policy objectives need to be mainstreamed, not only at the national level, but also at the state and local level. Due to the design of the SDGs, its ability to be utilised as a tool to address cross-cutting is, in theory, a major advantage compared to other legally binding international instruments. Additionally, many issues are multidimensional and cross cutting, meaning that truly achieving the principle of leaving no one behind will likely require integrated solutions. However, SDGs' influence and ability to implement this principle, as well as the mechanisms to do so, are still unclear. This prospect is partially investigated in this book.

About this book

Understanding the implementation of the SDGs – arguably the most comprehensive international development agenda to date – in the Malaysian context is what guides this volume. In particular, its relevance to being implemented at national and local levels and also understanding how it is actually utilised animates the chapters within the book. Crucially, the authors investigate how the principle of leaving no one behind is both relevant and important in the Malaysian development context, as well as uncovering how the SDGs could address the various challenges.

In accordance with the SDGs and these key questions, the Institute of Strategic and International Studies (ISIS) Malaysia and Konrad-Adenauer-Stiftung (KAS) collaborated to host the "Roundtable on the 2030 Agenda for Sustainable Development" series. This began in 2018, where four series of roundtables were held based on four topics that linked emerging national issues with the theme of sustainable development:

TABLE 3. ISIS-KAS 2030 Agenda for Sustainable Development Roundtable organised

Date	Focus Area	Topics	Key Ministerial Portfolio
16 November 2018	Rights of the indigenous people	Promoting the Rights and Wellbeing of the Orang Asal in the Era of the SDGs	Ministry of Rural Development
26-27 February 2019	Rural development and food security	Revitalising Rural Malaysia	Ministry of Rural Development
23-24 July 2019	Climate change adaptation	Making Climate-Resilient Development a Policy Priority in Malaysia	Ministry of Energy, Science, Technology, Environment and Climate Change (now Ministry of Environment and Water)
30-31 October 2019	Institutional strength and reform	Policy and Institutional Reforms to Achieve the Sustainable Development Goals (SDGs)	Ministry of Economic Affairs (now Economic Planning Unit, Prime Minister's Department)

Each of the focus areas are strategically selected based on the theme of leaving no one behind. In many ways, this book is an outcome of the intensive discussions held over the roundtables that consisted of multiple stakeholders including experts, government as well as civil society leaders. The structure of the book, similarly follows the themes selected as the focus areas.

The first focus area concerns the rights and wellbeing of the indigenous communities, or Orang Asli and Orang Asal, in both East and West Malaysia. While the country as a whole has seen significant development happening over the decades, leading to the sharing of general wealth and prosperity among the main ethnicities, development outcomes have highlighted that Orang Asli and Orang Asal have unfortunately been largely left behind. The consequence of that is a feeling amongst the indigenous communities of disenfranchisement, and a wariness of government outreach. The community also continues to face continuous conflicts over land, resources and rights. Answers need to be found on the main causes of their specific struggles and remedies that can be undertaken to ensure that they feel part of the nation's socio-economic development. In the context of this book, the factor of leaving no one behind is investigated surrounding discrimination based on identity. Senator Adrian Lasimbang and Kon Onn Sein examine the general situation of the Orang Asal and Orang Asli, and how the SDGs can be utilised to promote partnerships to address the development challenges.

Junaenah Sulehan and Jamal Gabir investigate a specific case study at Mantanani Island on the importance of understanding the local dynamics and the inclusion of local community in SDGs implementation. W. A. Amir Zal also deep dives into a case study on the Orang Asli Laut to highlight the importance of a bottom-up approach to development to take into consideration the specific contexts. The second focus area investigates rural development and food security in Malaysia. As the country oversaw fast paced development in its vision towards becoming a high-income nation, it has also seen a growing divide between the urban and rural areas. As the country continues to see rapid urbanisation leaving only approximately 24 per cent of the population living in the rural areas, there are concerns that they are being neglected. Additionally, as a colonial legacy, agriculture is mainly based on corporate plantation rather than rural farming. While this has consequences to food security, challenges remain to transition to a more sustainable model for agriculture. There is an evident need to revitalise rural development and better understand its importance to the nation both from an agriculture and food security point of view, as well as holistically in what rural development contributes to the nation and development. This book investigates this focus area in terms of the factor of being left behind due to geography, being located in rural areas and how the SDGs can help address this systemic and complex challenge. Larry Chee-Yoong Wong and Ryan Chua provides the bigger picture and analyses recent megatrends in relation to rural development and food security. They argue that to address the importance of addressing silos by a more inclusive approach and highlights how the SDGs could play a role towards that end.

The third focus area revolves around Malaysia's initiatives towards climate change adaptation. Malaysia is most certainly not immune from the devastating effects of climate change. These devastating impacts have recently materialised, usually in the form of floods as well as landslides, and have impacted vulnerable communities the most. However, much of the efforts thus far have focused on mitigating such effects through reduction in carbon emissions, and particularly, development of green technology. At the same time, there is not yet an overarching national policy as a framework for a comprehensive approach towards climate action, particularly on adaptation. This volume looks at the importance of climate change adaptation whereas shocks and fragility are one of the factors of leaving no one behind. Fredolin Tangang and Chung Jing Xiang provide an overview of the projections of climate change in Malaysia through the CORDEX-SEA project, and argue for the importance of understanding risk of impact at the sectoral and community level. Salmah Zakaria, Wan Izar Haizan Wan Rosely and Aiman Hafiz Mohd look at the interconnectedness of the water sector and climate change and recommend utilising the integrated water resources management approach for planning climate change adaptation. This will also look at the interconnectedness and indivisibility of the various goals and targets of the SDGs. Darshan Joshi investigates carbon pricing as a key policy instrument that can address multiple SDGs.

The fourth and final focus area is on institutional strength and reform. A nation relies on its institutions to be effective in responding to pertinent issues such as poverty, deprivation, federal-state relations and local governance. More needs to be done to reform the institutions and build its capacity to face and manage major and emerging challenges affecting the nation in present and future times. In particular, institutions need to be more inclusive towards fulfilling the leave no one behind agenda; and operate more holistically to address the multiple and interlinked realities in development. In this book, institutional reform is investigated with views from various stakeholders related to governance. Alizan Mahadi looks at the relevance and how to utilise the SDGs at the local level, highlighting the importance of multi-stakeholder partnerships. Shad Saleem Faruqi provides a legal perspective of the SDGs and provides recommendation, being part of the Institutional Reform Committee. Zainal Abidin Sanusi discusses the need for universities to transform towards influence development outcomes by

charting the experience of the International Islamic University of Malaysia (IIUM). To ensure relevance of the SDGs, he highlights the need to align more local concepts, such as Maqasid Syariah, with the SDGs.

The final two sections look at political and social movements as well as the role of civil society organisations as key players to affect institutional reform. Khoo Ying Hooi assesses opportunities and barriers between SDG16 and democratic governance and why it is crucial. She argues for a multilateral partnership that includes the marginalised and vulnerable groups. Finally, Denison Jayasooria charts the evolution of the participation of CSO in the SDGs. He argues for a decentralised decision-making process and the need to facilitate greater grassroots involvement in local level decision-making towards ensuring leaving no one behind.

Conclusion

At the end of 2020, we are now left with ten years more to go towards the year 2030, when all 17 goals will need to be achieved. We must ask ourselves some key questions: where are we now in the local, national and global contexts and are we closer towards achieving the SDGs? If not, what can be done to transcend the SDGs down to the ground to be utilised and implemented for the wellbeing of the people? How do we ensure development leaves no one behind and reaches those that need it the most? This volume furthers understanding towards the SDGs by looking at the experience in Malaysia in utilising the SDGs framework to leave no one behind.

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PART I
Rights of Indigenous People

SDGs and the Well-Being of the Orang Asal and Orang Asli

Adrian Lasimbang

Background

The indigenous peoples of Malaysia, collectively termed Orang Asal, are estimated to account for around 13.8 percent of the national population. In Peninsular Malaysia, these indigenous peoples are known as Orang Asli and account for about 215,000 or 0.7 percent of the population of Peninsular Malaysia (31,005,066) based on 2017 data. There are 18 Orang Asli subgroups within the Negrito (Semang), Senoi and Aboriginal-Malay groups.

In Sarawak, the indigenous peoples are collectively known as natives (Dayak and/or Orang Ulu). They include the Iban, Bidayuh, Kenyah, Kayan, Kedayan, Lunbawang, Punan, Bisayah, Kelabit, Berawan, Kejaman, Ukit, Sekapan, Melanau and Penan. They constitute around 1,932,600 or 70.5 percent of Sarawak's population of 2,707,600 people. In Sabah, the 39 different indigenous ethnic groups are known as natives or Anak Negeri and make up about 2,233,100 or 58.6 percent of Sabah's population of 3,813,200. The main groups are the Dusun, Murut, Paitan and Bajau.

In Sarawak and Sabah, the laws introduced during British colonial rule recognising the customary land rights and customary laws of the indigenous peoples, are still in place. However, they are not properly implemented, and are sometimes even ignored outright by the government, who has given priority to large-scale resource extraction and to the plantations of private companies and state agencies over the rights and interests of the indigenous communities. In Peninsular Malaysia, while there is a clear lack of reference to Orang Asli customary land rights in the National Land Code, Orang Asli customary tenure is recognised under common law. The principal Act that governs the Orang Asli administration, including their occupation of the land, is the Aboriginal Peoples Act 1954.

Orang Asal and the SDGs

After 5 years of implementing the Sustainable Development Goals (SDGs), the indigenous peoples across Malaysia remain not just marginalised; in fact, they have been pushed even further behind. This is demonstrated by the continued widespread grabbing of the indigenous peoples' lands and resources, criminalisation, increase in poverty and hunger, loss of livelihood, destruction of cultural heritage, forest degradation, loss of biodiversity, conflicts on resource-use and development, increased violence against indigenous women and girls, rising inequality and lack of access to justice, among others.

In 2017, Jaringan Orang Asal Semalaysia (JOAS) organised several meetings that led to the drafting of a position paper to be sent to the leading government agency involved in the national SDG process to ensure that "no one is left behind", particularly the indigenous peoples.

Among the issues highlighted in the position paper were the recognition of native customary rights and the rights of indigenous peoples to self-determination, protection against bio-piracy, multi-dimensional poverty reduction measures, recognition of small-scale and subsistence economic activities, re-evaluation of definitions, culturally-appropriate aid and support, transparency of development plans and information, participation and consultation of indigenous peoples in decision-making processes, more inclusive school curriculums, recognition of traditional knowledge and Indigenous Community Conserved Areas (ICCAs), necessity of environmental and social safeguards, as well as ensuring the fair and equitable sharing of benefits.

On the whole, it was also recommended that the SDG process involve consultations in all three regions of Malaysia to ensure full participation, gender assessments and proper evaluation of conditions on the ground for development projects to be conducted. Data disaggregation and citizen science should be used to supplement comprehensive data, and full compliance given to Free, Prior and Informed Consent (FPIC), environmental impact assessments (EIAs), safeguards, protection of rights and adhering to international standards, such as the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the Convention on Biological Diversity.

Since then, there have been many initiatives to promote SDGs at all levels including among the Orang Asal communities. This study provides the opportunity to make some observations on the goals of the SDGs and how it relates to the current condition of the Orang Asal of Malaysia.

Goal 1 (no poverty): The Orang Asal communities continue to have the highest number of hard-core poor families especially in the rural regions of Sabah and Sarawak. The poorest districts in Sabah – for example, Tongod, Pitas, Kota Marudu, Pensiangan – correspond with large populations of Orang Asal communities. These areas are also the least developed in the state in terms of infrastructure and economy. The other regions in Sarawak, namely upper Baram and Upper Rajang, also suffer the same fate. Most of the problems can be attributed to the heavy exploitation of resources such as timber as well as cases of land grabbing for large scale plantations which have destroyed the community's livelihood, which are mainly subsistence farming and forest dependent.

Goal 2 (zero hunger): Extreme poverty still occurs within the Orang Asal community even though the government has implemented many programmes to eradicate it. The main cause of extreme poverty is due to land grabs and the destruction of the forest and its resources. Extreme poverty has resulted in some communities experiencing hunger and malnutrition. Climate change also plays a role, resulting in poor or failed harvests due to drought or floods. Some Orang Asal communities have also had problems accessing food supplies during the lockdown and restrictions caused by COVID-19.

Goal 4 (quality education for all): We have seen significant progress in Malaysia, especially when the government has paid extra attention to fixing dilapidated schools in Orang Asal communities, but this has been stalled due to political instability. During the COVID-19 lockdown, schools were forced to close and move towards online learning. This has had major consequences for the Orang Asal communities as many of the remote villages *(kampungs)* do not have good internet connectivity to allow their children to follow online classes. In Sabah there was one famous case in the Pitas district that went viral, where a girl had to climb a tree just to get good internet connection to sit for her exams. This is not an isolated case either as there are thousands of other Orang Asal students who face the same problem.

Goal 5 (gender equality): There is still widespread violence towards women occurring within the Orang Asal communities. Many of the domestic violence cases are linked to alcoholism and a lack of awareness among community leaders. Some of the cases are also related to child marriages which have caused many social issues. There is also persistent discrimination and a lack of participation of indigenous women in decision-making. Women continue to be excluded in major discussions related to any development in their village. The number of women holding important positions in the community such, as Heads *(Ketua)* of *kampung* or in the Village Community Management Council (MPKK), is still very low.

Goal 7 (affordable and clean energy): There have been significant improvements in the level of access to clean energy in the Orang Asal communities. In Sarawak, the launch of the Sarawak Alternative Rural Electrification Scheme (SARES) has greatly increased the supply of electric power to a larger number of rural communities, using renewable energy such as solar and micro-hydro. The Rural Development Ministry has also introduced the Rural Electricity Supply Programme (Bekalan Elektrik Luar Bandar Alternatif) which also utilises renewable energy options for the rural Electrification Programme. Several non-governmental organisations (NGOs) in Sabah and Sarawak are also actively conducting micro-hydro, biogas and biomass programmes to provide the communities with access to clean energy.

However, progress is still slow with regards to access to community-based and appropriate renewable energy programmes. There are also growing concerns with the increasing number of cases of land grabs and human rights violations that accompany renewable energy projects that have been imposed in indigenous territories, such as the construction of mega dams for large hydro power projects.

Goal 8 (decent work and economic growth): Economic growth in the Orang Asal areas still lags very far behind the other communities, mainly because of the geographical locations and the remoteness of the villages. The lack of basic infrastructure also hampers the opportunity for growth. Most communities have a very high potential for eco-tourism and other nature-based industries. However, due to the lack of good infrastructure and coupled with the exploitation by outsiders, the community cannot benefit from economic growth or enjoy decent work opportunities. The Orang Asal communities need to be given good guidance, training and exposure to enable them to participate in activities that can bring economic development to their areas.

Goal 10 (reducing inequality): There are signs of a worsening inequality between the Orang Asal communities and the general population. This can be seen manifested in the areas of lower educational levels, lower salaries/incomes, higher incarceration rates, lower access to basic social services, inadequate representation and participation in decision-making, and the lack of legal recognition of distinct identity and collective rights resulting in massive human rights violations occurring without impunity. The Orang Asal continue to be targeted for money politics during elections.

Goal 13 (climate action): The Orang Asal have the (comparatively) smallest carbon footprint but are at the forefront of the adverse impacts of climate change. Their way of life and *adat resam* (cultural norms) have helped them survive and co-exist with nature by living off the land. However, modern society pays little attention to their practices of conservation and sustainable living. Most climate solutions are not aligned with the protection of indigenous people's rights; for example, the policy of having protected areas in the Orang Asal territories but not involving them in the management of the area. On the contrary, they are seen as the enemy rather than as an ally in conservation. In Sabah, there have been several pilot projects in collaborative management with Sabah Parks, Sabah Forest Department, Sabah Fisheries Department, Sabah Wildlife Department and Drainage and Irrigation Department that use native laws to sustainably manage natural resources. One example is the Tagal system that has been practiced for generations. This system can also be applied to other natural resources such as forest and rivers.

Goal 15 (forest and biodiversity protection): In Sabah, a majority of the existing standing forest outside the established protected areas are still within the Orang Asal territories. This shows how important a role the Indigenous Communities play as custodians of the forest and its biodiversity. The Orang Asal communities also hold a majority of traditional heirloom crops such as rice, corn, banana and other plants, keeping the seeds that have been passed down through many generations. Unfortunately, the government is not giving any support in ensuring that these traditional seeds are kept safe and continue to be planted. The government's incentives that have placed a high emphasis on high-yielding genetically enhanced variety crops are actually threatening the crop biodiversity. Furthermore, the Orang Asal also have an unmatched knowledge in medicinal plants, making them important conservators of plant and genetic diversity.

Conclusion

When the international community agreed on the 17 Sustainable Development Goals (SDGs) in 2015 – a set of targets for improving lives while protecting natural resources by the year 2030 – they included specific mention of indigenous peoples, and acknowledged that there can be no truly sustainable development without protecting the traditional knowledge and territories of indigenous peoples.

The vital role of indigenous peoples was recognized in the 2007 UN Declaration on the Rights of Indigenous Peoples (UNDRIP). In spite of this, our Orang Asal communities continue to suffer disproportionately from high levels of land insecurity, social dislocation and violence, while still trying to defend their traditional lands. They also make up the majority of Malaysia's hard-core poor despite living in resource-rich areas.

Malaysia needs to develop appropriate policies that take into consideration the land, resource rights and views of the Orang Asal communities. The nation has to provide these communities with land tenure options and offer farmers, fishers and forest-dwellers training in updated techniques in climate change adaptation and forest management.

[Part II] Kon Onn Sein

Introduction

In providing policy input for the Twelfth Malaysia Plan, particularly the Sustainable Development Goals (SDGs) approach to developing the economic well-being of the Orang Asli (OA), it is necessary to evaluate the impact of the Eleventh Malaysia Plan (11MP). It is also imperative to acknowledge that the OA suffer from multi-faceted causes of poverty, and no single agency will be effective in dealing with all their challenges. There has to be a holistic and integrated approach which requires the partnership of all stakeholders. This part examines some persistent problems faced by the OA that have not been sufficiently addressed by the 11MP and recommends some practical solutions for the Twelfth Malaysia Plan.

Eleventh Malaysia Plan and problems faced by the Orang Asli

A total of 99 percent of the OA fall within the B40 group, and they are considered the most left behind community in Malaysia.[1] Their poverty is multi-dimensional and there still remain gaps in the current approaches to uplift their marginalisation. The 11MP, besides following through on earlier development plans and economic development strategies through large scale plantation schemes, has also introduced training and social enterprises.[2]

Thus, to better understand the problems faced by the OA, it is first necessary to review the well-meaning 11MP. The well-crafted 11MP has indeed been broad-ranging and is to be commended for recognising the multi-faceted causes of poverty experienced by the OA. Notwithstanding this, there are some areas that could be improved on; particularly in an institutionalised partnership approach between civil society organisations (CSOs) and the private sector where the multi-dimensional poverty issue is deeply complex. This section will look at gaps arising from the plantation schemes and agricultural training to illustrate the silo agricultural training and agencies' approaches. It will also highlight the challenges in empowerment processes and access to fair markets in the context of deep multi-dimensional poverty. Secondly, it is also crucial to understand the OA's identity in relation to the land, and the inability of the state in recognising this OA identity. When policies and the ensuing programmes to improve the OA's well-being fail to appreciate this significant dimension, it will result in a repeat of the structural issues and ineffectiveness to uplift the poverty of the OA.

Plantation schemes – Tanaman Semula Kebun (TSK)

The economic development policies of the 11MP have missed some of the inherently tricky challenges, particularly as seen in the role of the plantation schemes and agricultural training programmes. The TSK, intended to reduce poverty by providing employment and dividends, has, with the exception of a few cases which are community-driven, fallen short of its desired impact. These programmes fall short of the SDGs approach needed to provide a multi-dimensional approach that includes the aspects of land security, loss of natural resources, employment, and access to clean water as well as to fair markets.

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[1] https://www.freemalaysiatoday.com/category/bahasa/2019/07/02/99-orang-asli-dalam-b40-jakoa-seru-participatory-development/.

[2] 11MP 3-19: Large-scale plantation programmes, such as Agropolitan, Ladang Masyarakat, Mini Estet Sejahtera (MESEJ) and Rancangan Penempatan Semula (RPS), will be expanded; 3-20: A systematic approach will be introduced to develop community- and social-based enterprises on the cooperative model to carry out activities such as childcare services or crèches, tuition centres, and orphanages for B40 households in urban areas.

Silo agricultural training and agencies' approaches

Much of the current single line ministry and interventions tend to be silo in nature, and lack integration with other government agencies. These, in turn, are constricted by top-down programmes or departmentalised services. These services are often not flexible enough to address complex conditions of poverty and marginalisation at local levels. For example, the TSK oil palm scheme was designed to alleviate poverty by providing jobs and dividends to the OA. However, in many of these schemes, the management is outsourced to another agency, such as the Rubber Industry Smallholders Development Authority (RISDA) and may further be subcontracted to a contractor who is not mandated to coach the local OA community to take on the management of the plantation. The contractors, additionally, have little commitment to ensure that the OA are empowered and financially able to share profitably in the scheme. The contractor's goal of social inclusion is low as its main priority is profits. So, for the contractor, the logical path is to employ cheap foreign labour; thus, not many OA are able to get jobs in the TSK scheme. They are left jobless and only receive dividends of between RM300-RM600 per month. This will in turn lead to a culture of handouts and dependency.

The Department of Orang Asli Development (JAKOA) is disadvantaged as it has no flexibility to provide capacity building or to compel the contractor(s) to employ and train the OA in estate management. Even the local district JAKOA officers who recognise this flaw are powerless to compel the contractors to transfer skills as these programmes are outsourced by JAKOA at the state or HQ level with other state agencies. Thus, at the district level, the JAKOA officers will only implement and play a monitoring role; they have no discretion or power to adapt the programme to train the OA in estate management or entrepreneurial skills. As such, many of these TSK schemes will not achieve their objectives and the OA community are not equipped to take over the management.

Conversely, the OA have lost a huge part of their forest due to the felling of trees to plant oil palms. Consequently, they have lost their bio-diversity and traditional livelihoods, and have ended up in a more deprived condition than before the TSK.[3] The low dividends received can barely compensate for their loss of livelihood and ecosystem services. A common knock-on effect is the contamination of clean water sources and the destruction of their water shed areas. In some cases, tube wells, and to a lesser extent, piped water is brought in as part of the development package. However, the pumps break down and they are often left in disrepair as the engineering companies tasked to repair them are either located too far away to provide efficient service, or have had their budgets depleted. Thus, the OA are now in a worse condition as they have also lost their access to clean and safe water. It is indeed important to ask if the millions invested into a TSK programme would have been more effective, safer and more empowering had they been invested in programmes that were jointly decided on with the OA community.

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[3] Endicott and Dentan, 2008.

Empowerment processes and access to fair markets

As for agricultural training programmes, these too have not gone far enough in building a sufficiently strong base for the OA to succeed. There is a lack of a multi-dimensional approach towards poverty in the various centralised agriculture training workshops. These workshops lack flexibility in facilitating access to fair markets or in dealing with the challenge of logistics and supply chain connectivity. As a result, trained farmers who return to their village to start farming give up after two or three rounds of planting when they find their produce unable to fetch fair prices, or the transportation services unaffordable. JAKOA's outreach apparatus is inadequate when the OA face a wide range of challenges in supply chain and logistic services; they have no chiller storerooms, no roads, no transport and digital connectivity to access fair markets. Since JAKOA does not have the resources for a holistic solution, their officers are powerless to handle the complex nature of multi-dimensional poverty, compounded by limited budgets.

JAKOA's limited resources to build infrastructure and connect the OA to supply chain logistic services and fair markets, has resulted in social enterprises struggling with sustainability. Once the training programmes are completed, the OA are left to find their own markets. JAKOA is again disadvantaged as it does not have the resources to build this last mile to develop the supply chain connections and ensure access to fair markets. Only the talented and those already connected to existing market networks will benefit from the training.

Furthermore, there is the issue of social work competencies amongst the various agencies which affects the efficacy of programme implementation. The officers recruited are not trained in empowerment approaches in community development and the sensitivities of the OA culture. Thus, trust-building measures to overcome the deep distrust and suspicion that exists in groups that are marginalised, have not been prioritised.

Land conflict

Arguably, the element of the 11MP that is most hindering the marginalised OA from achieving the SDGs, is the denial of the indigenous people's customary rights to land. The OA are the earliest and original occupants and owners of their homelands. Even before the formation of Malaysia and the National Land Code, the OA had their own land laws and ownership systems. They generously shared and opened up their lands to visiting communities, but as these visiting groups dominated the landscape, the OA found their land rights taken away. They were eroded by the enactment of the Aboriginal Peoples Act 1954 and the National Land Code 1965 which pronounced all land, if not gazetted or registered with the land registry, as belonging to the state.[4] With one fell swoop of this new legislation, old land ownership rights under the OA legal traditions were no longer recognised.

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[4] The existing Orang Asli land reservation system under the Aboriginal Peoples Act 1954 (Malaysia) (APA) is inadequate, affording limited recognition of Orang Asli land and resource rights. For example, Orang Asli lands protected under the APA can be terminated by the State's executive at will, and without adequate compensation.... Despite being intended to improve the socio-economic position of Orang Asli, these laws and policies have contributed to the continued erosion of Orang Asli customary lands through encroachment, alienation, state appropriation and the creation of land and resource interests (Subramaniam, 2012).

This paved the way for government development policies that subject the OA to relocation schemes or large clearance of natural ecosystems for the cultivation of plants such as rubber, in the name of economic development. Such development schemes have not only robbed the OA of their homelands and natural resources upon which their livelihoods, customs and cultural wealth are dependant, but have also resulted in more multi-dimensional poverty and deterioration in their quality of life.

Economic development programmes like the TSK and other social enterprises are also handicapped as they assume that the forest is peripheral to the OA worldview. When they detach the OA from their forest, and seek to give a life that is based largely on income and monetary rewards, they fail to appreciate the OA's culture and their special connection to the land. This problem is even greater as the issue of land falls under state jurisdiction and is strongly contested by outsiders.

State's failure in recognising OA identity

Closely tied to the denial of the OA's land rights is the state's inability to recognise the OA as a special people along with their special relationship to the land. The OA regard Mother Earth as part of themselves, and they regard the land as more than an economic resource. Ultimately, the reason why the OA are a marginalised people today can be reduced to a single factor: they are not recognised as indigenous peoples deserving of the rights as enshrined in the UN Declaration on the Rights of Indigenous People (UNDRIP).[5]

Land as Mother

The OA regard Mother Earth as part of themselves – they are intimately bound to land, forests and waters which serve as the base of their identity, cultures and livelihoods. Others may only understand the forest as a source of food, medicinal plants, income and life savings. But it is much more. The OA also have a spiritual connection to the land.

To better understand this deep connection to the land, the writings of the Aboriginals of Australia are instructional. The Aboriginals regard themselves and the land as intimately connected; as if it were their own blood and bones. They regard mother earth in a very literal sense. To them the land is their mother, the giver of life who provides them with everything they need:

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[5] See Nicholas, 2018.

"We cultivated our land, but in a way different from the white man. We endeavour to live with the land; they seemed to live off it. Non-Indigenous people consider land as something they own, a commodity to be bought and sold, an asset to make profit from, but also a means to make a living off ...."[6]

As mother earth nurtures life for them, they too need to sustain mother earth who can in turn continue to give life. This worldview is reflected by how they treat the forest. It is not an economic unit to be exploited but to be sustained. The forest is a spiritual part of their being and one cannot be separated from the other. It is treated with respect and gratefulness.

As a result of this belief, they will share, cooperate and build community. In contrast, modern economic models teach us the theory of scarcity. "The early bird gets the worm" is translated to "he who logs the forest first gets to be rich". Thus, our modern society is built on competition and the striving to be first. Community well-being and the sharing of wealth can easily be sacrificed at the altar of individual privilege.

Implicit in the mother earth relationship of nurturing livelihoods is a healthy respect for nature and the creator.[7] The OA worldview imposes on them the responsibility to look after nature, to use it responsibly and to share its common wealth. Therefore, they will only take what is adequate for their food or use. It is not used for economic exploitation.

Land beyond an economic resource

The OA have a much more sublime notion of the economic value of land. Their land is more than just an economic resource – it is part of their identity, origin and belonging.

"Aboriginal cultural heritage places are an essential part of our library…. Destruction is like ripping pages from our library books, it is like cutting the hearts of our people, cutting our identity and our cultural philosophy that sustains our spiritual connectedness to country. It's just like a big book to us. This whole land. Now, over the years, people been taking – like tearing pages out of our book so there's bits and pieces getting lost…. You know, if we take out the centre part of our country, you know we've taken out a whole gut of our book, we're tearing it right out…."[8]

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[6] https://www.creativespirits.info/aboriginalculture/land/meaning-of-land-to-aboriginal-people#ixzz5ZY3O7 etK%20%20%20%2030%20July%202018.

[7] The Orang Asli share the same conception of land as other indigenous groups throughout the world. Land is a gift from God who created it to provide everything that is needed to sustain life. For the Orang Asli land and everything it contains, are the major source of food, income, medicine, fuel and all materials necessary for their existence. Land therefore is the source of life and is crucial for their continued survival. Besides its material importance, land has special social and religious significance. It defines social relations and it is through common ownership of land that a group is bound into a society. Land is closely associated with definitions of territory, history and most important of all, culture and identity. It is thus a heritage, metaphorically embodied in the statement that "it is from the land that we come and it is to the land that we will eventually go". Land stands for the way of life of the Orang Asli, and symbolises the cultural vitality and continuity of the community (Williams-Hunt, 1995).

[8] https://www.creativespirits.info/aboriginalculture/land/meaning-of-land-to-aboriginal-people #ixzz5ZY2ziVxM%20%20%20%2030%20July%202018.

The forest forms important memory markers in their lives. The forest is their school, playground, favourite foods, growing-up experiences, hunting ground, places of beauty and romance, and their sacred burial and ceremonial sites. The forest catalogues their personal and collective generational history. Thus, to the OA, if we do not sustain the land, and only take and not give back, we are destroying this library.

Hence, the destruction and loss of land effectively causes all other aspects of life – indigenous knowledge and education, sustainable livelihoods, cultural diversity, language, social and political customs, traditional conservation practices and resource management – to be simultaneously destroyed. Deforestation has impoverished the OA in ways under-appreciated and not well-understood.

Practical solutions for Twelfth Malaysia Plan

In moving forward, the practical solutions for the OA's well-being should include a partnership with stakeholders, OA partnership and participation, and community-based forestry.

Partnership with stakeholders (SDG17)

The best way forward for any effective JAKOA programme is to institutionalise and expand the formation of partnerships with more agile groups like Civil Society Organisations (CSOs), and the private sector to develop integrated solutions.

CSOs are more flexible and integrated in their approaches. They are not encumbered with a rigid bureaucracy and can be more innovative in addressing complex and multi-faceted needs. They are not tied down to prescribed fixed services and policies that cannot resolve the problems adequately, nor are they disenfranchised from the felt needs of the people. CSOs can meaningfully consult, break down walls of distrust, and build out-of-the-box solutions with the people. CSOs are also adept at reaching out to other CSOs or corporate bodies for help, besides having the flexibility to also reach out to other line ministries or agencies for help.

The Key Performance Indicators (KPIs) of the CSOs are social impacts, rather than events held, numbers who attended training, budgets utilised or infrastructure built. Their measurable KPIs are impact on the livelihoods and sustainability of the target community.

However, CSOs are limited by small budgets and are unable to construct the needed infrastructure to keep costs of production profitable. This is where the government with large budgets can work in partnership with the community and CSOs.

OA partnership and participation

Many of the current development strategies exclude OA partnership and participation as the programme implementations do not allow the OA to contribute in the design of the programmes. Recruited JAKOA personnel do not have training in social work and are not familiar with a bottom-up approach in seeking community collaboration, resulting in little ownership by the OAs.

The TSK programmes mentioned earlier in this paper demonstrate the approach utilised: a top-down style, lack of appreciation of the OA culture, and weak empowerment processes and impartation of skills. Consequently, there is little OA ownership, further disenfranchisement and growing distrust. In this respect, CSOs have trained people in community development skill sets, who have time to listen, build trust and find ways to incorporate the OA's dreams, values and priorities into practical development strategies. In this way, the development programme is community-driven and much more sustainable.

Partnership is the way ahead. It is not just a good way forward but perhaps is the only way forward that will result in sustainable solutions that uplift the well-being of the OA. Without an institutionalised platform or mechanism for meaningful partnerships, JAKOA's efforts may not effect much change. There is indeed a need for a review of past policies, and new lenses to map the way ahead.

Community-based forestry

In view of SDG 15 and climate change, there is a global cry for protection of our forests. Here we have a potentially powerful way of mitigating climate change and creating economic benefits. Research shows that the forest can give economic and non-economic benefits up to three times greater than logging.

"According to United Nations Forum on Forests (UNFF) over 1.6 billion people depend on forests for subsistence, livelihoods, employment and income generation, but at the end, all of humanity depends on forests. Forests provide a wide range of goods and services, that create opportunities to address many of the SDGs and play an important role in the economy of many countries and rural communities, especially the poorer ones … The annual value of forest contributions exchanged for cash in the developing world is in the neighbourhood of US$250 billion, but it is likely to be two to three times greater for benefits that are not exchanged for cash."[9]

The question is how do we reap these benefits. The answer respectably lies in leveraging on the OA as people of the forest. The OA are special as a forest people and they are best positioned and uniquely gifted as stewards and guardians of the forest. By not perceiving the OA as problems but acknowledging the OA as precious potential to regenerate the forest in an economical way, Community-Based Forestry (CBF) approaches can provide sustainable solutions for the benefit of everyone.

Facilitating the OA in managing their forest is both an important goal as well as a strategy to achieving the SDGs. In particular, targets on climate change, land rehabilitation, wealth distribution, and inclusion and poverty alleviation can be linked to Article 29 of the UNDRIP. Article 29 states that "indigenous peoples have the right to conservation and protection of the environment". This is not only a fundamental right of the OA, but also, one of our best hopes to achieving the SDGs for people, planet and prosperity.

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[9] https://www.un.org/esa/forests/wp-content/uploads/2019/04/UNFF14-BkgdStudy-SDG8-March2019.pdf.

A CBF Stewardship Programme could provide assistance to the OA forest land where good stewardship, including agroforestry practices, will enhance and sustain multiple forest resources, and contribute to healthy and resilient landscapes. Such a programme will also help to create jobs in the rural communities by sustaining local markets for forest products and to increase the demand for niche and green industries. This is in line with SDG 1 (social inclusion) and SDG 15 (life on earth).

A CBF Stewardship Programme which recognises the special role of the OA in conserving the forest would be beneficial specifically in:

- increasing the economic benefits (eg. sustainable timber harvesting) and non-economic benefits of land and related resources;
- restoring biodiversity;
- generating multiple income streams such as eco-tourism, fruits and natural farming, and high value forest produce;
- spinning off down-stream industries and job creations;
- sharing the profits with state and stakeholders such that revenue becomes continuous and sustainable;
- keeping land in a productive and healthy condition for present and future owners; and
- providing additional income through REDD+ by managing climate change.[10]

Through a CBF, which allows the OA to conserve the forest and to plant trees, there will be economic and non-economic benefits generated which in turn share profits with the state and enable continuous and sustainable revenues. Many income streams can be spun out from CBF, such as eco-tourism, sustainable logging, and the natural farming of fruits and value crops.

Conclusion

In short, meaningful social change is unlikely to gain much ground unless the structural areas that disadvantage JAKOA from adopting an SDG approach are restructured. There is a need to recruit personnel with social-based competencies, and to increase budgets to be more holistic in their programmes. JAKOA also needs to form institutionalised platforms for partnerships with CSOs and corporate bodies to combat the complex, inter-linked and multi-dimensional nature of poverty. Furthermore, in order to address the most stubborn inhibitor to improving the OA's well-being, a community-based forestry stewardship scheme is one potentially powerful way to get out of the intransigent win-lose battle between state and OA on land ownership. A CBF will benefit all, including the OA, the state, citizens and the global concern of climate change.[11]

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[10] Smallholder forestry is a well-established and widely accepted forest management modality in Europe and North America. However, smallholder forestry has emerged as a significant form of forest management in the global South only in recent decades, primarily as a result of major forest tenure reforms, for example in China and Viet Nam. Smallholder forestry, operating at the farm−forest interface, is also emerging as an important part of the forest industry in some Latin American countries, although it is largely overlooked by governments and remains in the margins of policy discourse (Cossío et al., 2014). Examples are commercial harvesting of renewable timber like acacia and Eucalyptus for building, paper and furniture (Gilmour, 2016).

[11] This CBF addresses SDG 8, 10, 13, 15, 16 and 17 all at the same time.

In this way, the OA get to conserve the forest to which they are a part of. They continue to conserve their culture, and nurture the land they love. They are able to derive a sustainable income and a higher standard of living, and simultaneously conserve the environment. Their simple lifestyle and low consumption needs which are focused on sufficiency and well-being as opposed to consumerism, can serve as benchmarks for Goal 12 (Responsible Consumption and Production). The state shares from the economic returns. Food security, industries and jobs are created for the young people, and there is a lesser dependency on foreign labour. All these will help to contribute towards climate change control for the well-being of all.

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Conservation Tourism on Mantanani Island, Sabah: Impact on the Indigenous Community

Junaenah Sulehan & Jamal Gabir

Introduction

Sabah, a state endowed with beautiful landscapes and rich biodiversity, has the largest number of islands in Malaysia – 394 islands have been officially named. Its natural terrestrial and marine areas have boosted the tourism sector, the second largest income contributor to the state after agriculture. Indeed, the eco-tourism charms, natural landscapes and diverse wildlife have become major attractions for tourists in Sabah. In 2019, for example, Sabah recorded 3.9 million visitors, with receipts from tourists amounting to RM8.3 billion. This commendable achievement has led the state to emphasise that the tourism sector is the income generator for the state (*Utusan Borneo,* 2019).

For several decades, in order to protect the environment against extreme aggression in the name of development and growth, the state government of Sabah has been overly active in executing policies and long-term planning to manage and protect the natural resources in Sabah. These are manifested in the form of national parks for terrestrial areas and marine protected area (MPA). The well-planned and effective management of terrestrial and maritime areas are crucial to the sustainability of the diverse resources and the people living within the gazetted areas. These areas provide food, shelter and income to the local communities. Tourism, for example, can provide benefits to protected areas and communities living around these areas (Eagles et al., 2002) or rural communities who still depend largely on natural resources (Tosun, 1999, 2000).

Protected areas promote the sustainable use of natural resources and most of the time are used for the tourism industry with the objective to provide income for the local communities. On the eastern coast of Sabah, there are many maritime areas that are suitable and attractive as tourist destinations. There are also several islands on the western coast that are now becoming more prominent in the tourism industry. Mantanani is one of such islands that has profound potential in eco-tourism. The state is making initiatives to create the island as a protected marine area, which means there are plans to manage the island effectively and practice conservation.

Development of the local tourism sector is planned towards sustainable development; this means there will be guidelines for local folks to adhere to. If the guidelines from the United Nations Environment Programme (UNEP) on sustainable tourism is to be imposed (CBD and UNEP, 2007), sustainable development of the tourism sector on this island will need to maintain the essential ecological processes to conserve its biodiversity and natural heritage. This will include the indigenous culture, identity and history, and at the same time be able to provide the economic benefits and social development of its people as the custodian and stakeholders.

Mantanani Island

The azure blue water, golden sand beaches and rustic rural life of island villagers on this island captivate both local and foreign tourists. The island holds enormous potential as a hot spot for tourists. This island has attracted domestic tourists as well as foreign tourists from such countries as South Korea, China and Europe. The island is able to lure divers and snorkelers from all over, thus making Mantanani Island one of the popular tourist attractions on the west coast of Sabah.

Mantanani Island is a group of three islands, namely Pulau Mantanani Besar, Pulau Lingisan and Pulau Mantanani Kecil. The island, located on the North West coast of Sabah, is under the administration of the Kota Belud District office. The Kadazan/Dusun ethnic are the predominant ethnic group (41.54 percent) and Bajau is the second largest ethnic group (34.7 percent) in this district (Malaysian Communications and Multimedia Commission, Sabah, 2015).

Pulau Mantanani Besar, the largest island that forms Mantanani Island, is the important settlement area for the maritime community. On this island, an area, categorised as a secondary forest, has been gazetted under the Sabah State Forestry Department, making the area a habitat for the Jungle Fowls *(Megapodius cumingii)* or *Burung Tambun*. Meanwhile, Pulau Linggisan and Pulau Mantanani Kecil, comprising 30 hectares under the Land Ordinance (Sabah Cap. 68), have been gazetted as a bird sanctuary since 1960; both are also known to be a stopover for bird migration in Sabah.

Plans to conserve this cluster of Mantanani Island under the MPA is important towards the sustainability of the livelihood of the maritime communities and such iconic marine life as dugongs, sea turtles and whale sharks, and other flora and fauna. Since 2016, research by Reef Check Malaysia has shown that the coral reef around Mantanani Island is exposed to several threats, including rampant fish bombing activities, anchoring damage, pressure from fisheries and waste materials that affect the coral reef and marine life (Reef Check Malaysia, 2019).

Ethnic composition of the island community

The Bajau Ubian sub-ethnic group

Apart from the rich biodiversity of marine life, Mantanani Island is dominated by the Bajau Ubian, an indigenous maritime community. The Bajau Ubian is considered a sub-ethnic group of the larger Bajau indigenous people. Generally, the Bajau people can be divided into two main groups, namely Bajau Darat who are located on the west coast of Sabah, and Bajau Laut, or Sama DiLaut, who are concentrated on the east coast of Sabah. The way of life, settlements, economic activities, language and culture can distinguish the breakdown of every Bajau ethnic group on both the west and east coast of Sabah. Among the districts and settlements that have become a symbol for Bajau ethnic traditions in Malaysia are the districts of Semporna (east coast) and Kota Belud (west coast). The Semporna district is well-known for the celebration of Lepa-Lepa Festival, which is celebrated every year. The Lepa-Lepa Festival showcases the colourful culture and traditions of the Bajau Laut ethnic, while the Kota Belud district is well-known for showcasing the culture and traditions of the Bajau Darat, or Bajau Samah, through the Tamu Besar Festival.

The Bajau Ubian mostly inhabit the coastal areas of the west coast of Sabah as well as the archipelago, for example, Kuala Abai, Pulau Banggi Kudat, Landung Ayang Kudat and Mantanani Island. On the east coast of Sabah, the Bajau Ubian are scattered on the coastal areas of Lahad Datu, Semporna and Kunak districts. The Bajau Ubian originated from Ubian Island, an island that was under the administration of Tawi-Tawi district and under the rule of the Autonomous Region in Muslim Mindanao (ARMM) of the Philippines. The Bajau Ubian are also known as being indigenous to Sabah, being one of the earliest communities who have been identified on the coastal areas of Pulau Banggi, Kudat, Sandakan and Semporna. They are also known as skilled sea dwellers (Zaimie, 2016).

The island is separated from mainland Kota Belud district by a distance of 35 kilometres. During the study period, the community on the island included people from the mainland who were working at the holiday resorts, hotels, restaurants and cafes. The predominant occupations of the islanders are fishing, followed by resort employees, operators of local cafes, restaurants, grocery stores and souvenir shops, and local tourist guides. Based on our observations, the livelihood of the islanders depends greatly on the tourism industry, which was booming during the research period in 2019, as well as fishing. The sea harvests are mostly sold to the island's hotels and restaurants while the rest are sold to the villagers.

The Myth of Mantanani Island: Widow Island, *Nani* and the Miracle of *Manta*

According to local folklore, Mantanani Island was originally known as Pulau Janda. Based on oral history, the Bajau Ubian relentlessly opposed the Japanese arrival on the island. Resistance against the Japanese army took place in Kampung Siring Bukit, an early settlement of residents on Mantanani Besar Island. This resistance resulted in many men being killed, mostly husbands or household heads, in the early years of the Japanese army occupation of Sabah in the 1940s. Other male residents, who were captured by the Japanese army, were detained and later believed to have been executed on Dinawan Island, in the district of Papar in Sabah. Many men were killed and hence most of the inhabitants of the island were widowed women. Thus, the villagers decided to name the island as Janda Island (island of widows).

With the passage of time, the people of Janda Island felt that such a name depicts misery. The island's name was no longer suitable to describe the real picture of the island and the increasingly harmonious population of the community, especially after the end of the colonial period in Sabah. Thus, the communities agreed to take the name of a local figure, namely "Nani", a fighter who opposed the tyranny of the Japanese on the people of Mantanani Island.

In an interview with Junaide Jun, Chairman of the Village Community Management Council (MPKK) of Mantanani Island, he recounted that Nani was a fighter who was also a resident of Mantanani Island. Nani was famous for his courage in confronting the Japanese army. He had gained the support of the other villagers and sparked the nationalist spirit especially from the women groups, whose husbands and sons were killed by the Japanese army. During the peak of the confrontation known as the magsabil war involving women, it was believed that this group of women were dressed in the Bajau Ubian traditional dress (Magsablay) and armed themselves only with traditional weapons, namely barong machetes. Eventually they were defeated. Nani and the other followers retreated, but the invading army failed to capture Nani. It was believed that the Japanese army could not capture Nani because of his wisdom and prowess. He was believed to have hidden in a blanket known as Manta in the Bajau Ubian's language. It was said that by simply hiding under this Manta, he was unseen and had finally managed to get away from the enemy who was hunting him down. Due to the struggle of the inhabitants and to commemorate Nani's service and prowess, the island was then named Manta Nani.

Mantanani, the hidden gem of the west coast of Sabah

Mantanani Island is one of the most beautiful islands listed as a diver's spot and holiday destination on the west coast of Sabah.[1] The development of the tourism sector on the island is a mixture of community-based tourism and private businesses. The tourism here, to a certain extent, takes into account the ecosystem that has to be protected and conserved. This will help make the tourism sector here sustainable, which will benefit both the local people and the environment.

MAP 1. A sketch map of Mantanani Island, Kota Belud Sabah

Source: https://digdeep1962.wordpress.com/2012/10/21/pulau-mantanani-sabah-8-oct-2012/

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[1] https://theculturetrip.com/asia/malaysia/articles/the-15-most-beautiful-islands-in-malaysia/.

MAP 2. Location of Mantanani Island

Source: Modified from https://www.mysabah.com/wordpress/mermaid-island-mantanani

Pulau Mantanani Besar, the largest island of approximately 1760 hectares, is generally an island with mesmerising waters, white sandy beaches, coral reefs and rocky shorelines in the North West. The two main settlements, Kampung Siring Bukit and Kampung Padang Besar, are located on this island. This island has often been named a hidden gem and its potential has not been fully explored. A study on the exploited areas for tourism was conducted using the Geographical Information System (GIS) in 2019. It was found that only a small portion of the island, approximately 0.73 percent, had been explored and developed for the use of the resort and tourism industry (Mustapa et al., 2019). Based on discussions with the local community, they believed the protection of these islands is not solely the responsibility of the state government, but also the inclusive participation of the islanders. Along with the increasing population and influx of tourism, the development of the eco-tourism industry must be able to uphold and sustain local values, traditions and natural resources. This is to ensure that the natural resources of the land and sea would not be over exploited in pursuit of modern development.

IMAGE 1. Mantanani Island

IMAGE 2. One of the jetties to facilitate visitors

FIGURE 1. Site of research locations and percentage of heads of household, August 2019

■ Kg. Siring Bukit   ■ Kg. Padang Besar

37%

63%
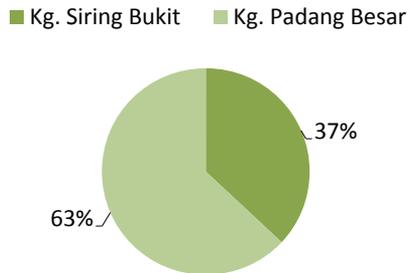
Population, ethnicity, gender and marital status

In 2019, the island had a population of 1,200 people, according to the island's MPKK Chairman. The estimated number of heads of household (HOH) was 190 people. Majority of the people belong to the Bajau Ubian sub-ethnic group. As mentioned earlier, the Bajau Ubian is one of the several indigenous maritime people predominantly living on the islands and coastal areas of the eastern coast of Sabah, such as Pulau Banggi and other smaller islands in Semporna. On the western coast, Pulau Mantanani is one of the islands where they are found in large numbers. The seas and marine life are their world; one which also shapes their values, tradition, folklores and skill in fishing and handling boats.

The socio-economic survey that was conducted on the island involved the participation of 54 HOH. However, with the absence of a few HOH because of their work at sea and some were at the island's resorts, the questionnaire was responded by either their spouse or adult children. The research team faced some difficulties in getting the cooperation from most of the HOH in the villages, especially at Kampung Padang Besar, due to their animosity towards the agencies who were taking initiatives to drive conservation efforts on the island. The fear of losing their homes or income from the seas and the belief that they will be resettled elsewhere once the MPA is activated has caused anxiety and resentment among the villagers.

Table 1 shows the total percentage of respondents, of which almost 90 percent are HOH. The other respondents, who represented the HOH, are their spouses (7.4 percent), daughters (1.9 percent) and relatives who live in the same household (1.9 percent). The average household size among the respondents is 5.4 persons. Majority of the villagers here are Muslims.

TABLE 1. Percentage of respondents, 2019

Respondent	Percentage
Head of household	88.9
Wife	7.4
Daughter / Son	1.9
Others	1.9
Total	100.0

Table 1 displays the percentage of respondents who participated in the survey. Table 2 shows the ages of the respondents with 37 percent within the ages of 41-50 years old; 29.6 percent in the 31-40 range; followed by the rest. The youngest age among the respondents is a 22-year-old male HOH, while the oldest person is an 87-year-old woman who is a widow and the head of her household. Generally, the range of ages among the respondents indicate ages that are economically active. Both women and men of senior ages (50-70 years old) are observed as still actively working and able to earn an income from fishing, drying fish, making crafts and trinkets for souvenirs, and operating petty businesses among the women, such as making local cakes, sweets, coconut drinks and food that are sold to the village cafes and restaurants.

TABLE 2. Age range of respondents

Age range	Percentage
20-30	7.4
31-40	29.6
41-50	37.0
51-60	7.4
61-70	14.8
81-90	3.7
Total	100.0

In terms of the respondents' educational background, 31.5 percent of HOH have a basic education at the primary school level and obtained their Primary School Achievement Test (UPSR) certificate. In addition, 27.8 percent have achieved the Lower Certificate of Education (LCE/SRP/PMR); 18.5 percent hold the Malaysian Certificate of Education (MCE/SPM) certificate and 1.9 percent have acquired their Diploma certificate especially in skill-based studies. Generally, the villagers are literate and practice a modern way of life despite the lack of such essential amenities as electricity and water supply. The homes are supplied with electricity by generators operated by the Sabah Electricity Sdn Bhd (SESB) from 6pm until 6am. However, some resorts have their own generators to provide electricity during the day.

Majority of the respondents (98 percent) who participated in this survey are Bajau Ubian while the remaining 2 percent are from the Iranun ethnic group. In Figure 3, it can be seen that the total percentage of male respondents is 81 percent, while 19 percent are female. The respondents' marital status showed that 89 percent of the respondents are married, 8 percent widowed and 3 percent are single women working at the resorts.
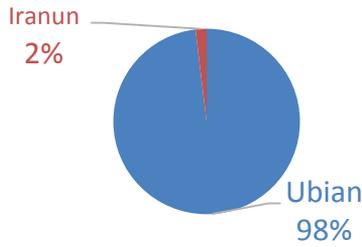
FIGURE 2. Ethnicity of respondents
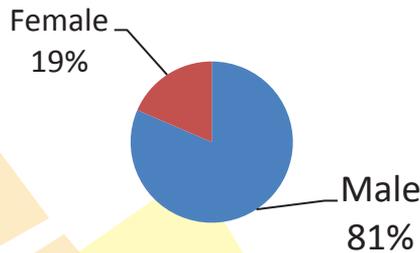
FIGURE 3. Gender

The place of birth for the respondents is highlighted on Table 3, showing 88.9 percent of the respondents were born in Mantanani Island, 1 percent in Kampung Rampayan Laut (on mainland Kota Belud), 1.9 percent in Kota Belud and 1.9 percent at Pulau Gaya.

TABLE 3. Place of birth of heads of household

Place of Birth	Percentage
Kg Rampayan Laut	1.9
Kota Belud	1.9
Pulau Gaya	1.9
Pulau Mantanani	88.9
Semporna	3.7
Tuaran	1.9
Total	100.0

Socio-economy

The predominant source of food for family consumption and income comes from the sea. The community's reliance on marine resources is very obvious. Land on the island is not suitable for paddy planting or other crops. Thus, the Bajau Ubian on this island are active fishermen, while women help to dry fish, doing small businesses and ensuring the household is in order. Daughters and sons work in the resorts, cafes and restaurants.

Based on the socio-economic survey, 55.6 percent of respondents are traditional fishermen, who still use traditional fishing methods and concentrate their fishing at the coastal areas. According to opinions shared during discussions with a few fishermen, the lack of good boats with high powered engines prevent them from fishing in the deeper parts of the sea where fish are plentiful. Figure 4 shows the frequency of fishing and collecting marine resources, where 25.9 percent of the respondents are actively fishing every day and only 9.3 percent go to the sea once a week. This same 9.3 percent of respondents also work in the tourism sector as their part-time job.

The survey on asset ownership and fishing amenities show that 40.7 percent of HOH owned their boat engine. However, 20.4 percent are able to only own the small boat or *kompit,* 16.7 percent own pump boats and 16.7 percent use fishing boats without engines, otherwise known as *perahu*. In terms of home ownership, 98 percent of the respondents live in their own house. Based on the observation of house ownership, most homes are made of wood and modestly constructed. Ownership of the land are mainly based on inheritances from their forefathers. Over the years, new families started to build their new homes within the village areas on several parts of the island. The gradual growth of the tourism sector on this island has encouraged young families to venture into tourism.

FIGURE 4. Survey on frequency of fishing and collecting marine resources, August 2019
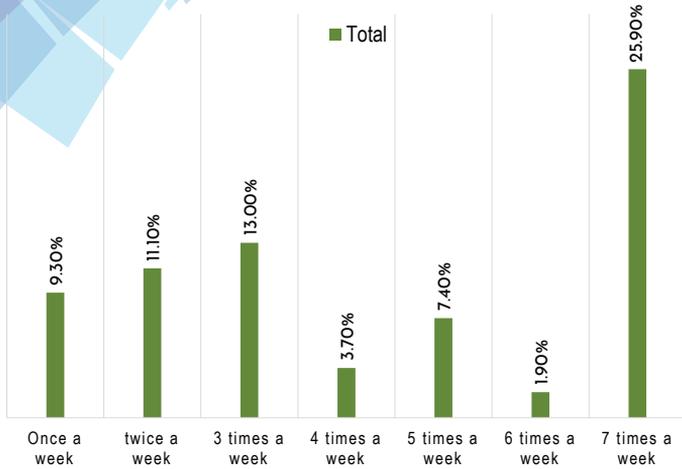
The data on Figure 5, indicates the monthly average household income of respondents is RM712. The lowest household income of the respondents recorded is RM150, which covers 35.2 percent of respondents. The relatively highest household income is RM3,000, which is at a low percentage of 1.9 percent. This low percentage comes from families who have family members working in the tourism sector on the island. According to the poverty line index for rural areas of Sabah in 2019, income below RM2,169 is categorised as B40 families. Based on this data, majority of the respondents in this study fall into the category of below the poverty line. In addition, the average household members for this income group is 4.5 people (Department of Statistics, Malaysia, 2020).

FIGURE 5. Respondents' income
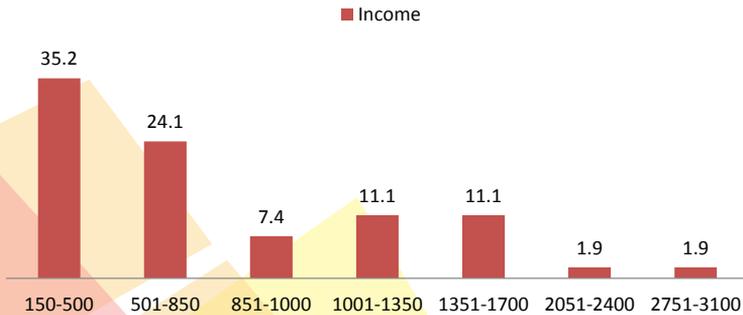
The development of the tourism industry on the island helped increase the household income of the community. Most of the people who participate in the tourism sector on this island are doing so as their side income to supplement their household needs. People on the island perceive the tourism sector as insufficient to sustain their family income because most of the tourists' facilities and resorts are owned by private business people from the mainland. Hence, most will still continue fishing and other village work as sources of income. Twenty-six percent of the respondents generate their income by operating homestays, doing petty business, operating

small restaurants and cafes, and handicraft shops. Seventeen percent of these respondents work in tourist resorts as well as fishing as their part-time work for their family's sustenance. A total of 9.4 percent of the respondents are part-time employees in the resorts. Figure 6 shows the fraction of side income of the respondents participating in eco-tourism industry. The research also revealed that those working at resorts or as tourist guides are paid on a daily basis; meaning they will only be hired when needed by the resorts.

FIGURE 6. Income (RM) from the tourism sector

Side income
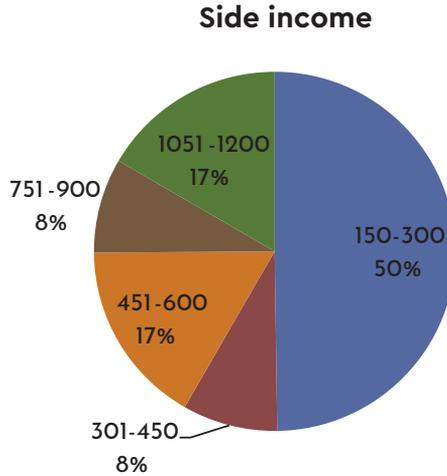
Attractions of Mantanani

The outcome of the household survey in August 2019, provides a general view and perception of the community with regards to the potential of eco-tourism and conservation. A total of 27.8 percent of the respondents believe Mantanani has beautiful beaches and sea water, which is the main attraction – these could possibly be explored in the future to help provide more jobs and income for the people. Meanwhile, 16.7 percent of the respondents highlighted that diving and snorkelling are also part of the island's strength in the eco-tourism industry.

The island has given names to certain attractions on the island. One of these is the "blue tears" – luminescent plankton which is food for jelly fish. This attraction is seasonal and comes out in bright blue colours particularly in the night and look like tears in the dark. These have become an attraction, which also means the blue tears can bring income to local tourist guides. Thirteen percent of the respondents believe that blue tears is an important attraction in Mantanani. Apart from the blue tears, 11.1 percent viewed jungle fowls, found largely in the forest, as another attraction. Panoramic natural views received 11.1 percent among the respondents and 9.3 percent see caves on Mantanani islands as another potential to be explored and made accessible to tourists.

TABLE 4. Survey on eco-tourism potentials in Mantanani Island, August 2019

Eco-Tourism Potentials	Percentage
Blue sea waters (Blue Tears)	13.0
Beautiful beaches & sea water	27.8
Jungle fowls (Tambun)	11.1
Sunrise & sunset views	11.1
Caves	9.3
Marine life for diving & snorkelling	16.7
Not too sure	11.1
Total	100.0

Table 4 shows the make-up of the respondents who have participated in the survey on identifying the main or potential tourist attractions on the island. A total of 63 percent of respondents in this study were among the residents who live in Kampung Siring Bukit while 37 percent of the respondents are residents from the Padang Besar village. The small percentage of response from the villagers at Kampung Besar is due to factors that had been explained earlier. The resentment against the agencies will have an impact on future initiatives aimed at the protection and conservation of the island and altering the present form of tourism into a new concept of conservation tourism for the community and the businesses that have investments there.

IMAGE 3. Upcycled shop

IMAGE 4. A local restaurant

Conservation initiatives on making Mantanani Island a marine protected area

On March 2019, a public announcement was made by the state body, Sabah Park, a conservation-based statutory agency, on efforts to gazette Mantanani Island Complex as an MPA before 2023 (*Borneo Today*, 2019).   This was to ensure an effective management of the island and its eco-system from over-exploitation by the tourism industry, and destruction of the marine diversity due to pollution, garbage and sewerage disposals that will eventually degrade the sea environment. Such scenarios will surely impose problems for the socio-economic development of the community. Mantanani is also popularly known as a diving recreational site among local and foreign tourists. The natural charm of the island has become increasingly known among enthusiastic tourists. The hazards of environmental degradation are imminent if intervention is not taken to sustain the island as a rich biodiversity area.

One of the ideas behind the MPA endeavour was to make conservation tourism an alternative approach to the islanders and business community. The concept of conservation tourism is a relatively new concept in the tourism industry, giving emphasis on nature-based tourism. However, this concept may be deceiving as it overlaps with such common concepts as eco-tourism, wildlife tourism or protected area tourism (Ballantyne et al., 2009). Basically, conservation tourism aims to contribute to biodiversity conservation, which is an echo of one of the defining characteristics of eco-tourism (Jafar and Xiao, 2015). This concept puts forward the idea that the development of natural areas is necessary for tourism, and in turn, the tourism industry is compelled to contribute towards environmental conservation efforts. If the initiative towards conservation tourism is implemented on Mantanani Island, partnership with the islanders is pertinent to the success of this effort through several biodiversity conservation projects funded by the income generated from tourist fees and so on. Inclusive participation of the community with agencies, civil society organisations, environmental non-governmental organisations (NGOs), the tourist sectors and state body (Sabah Park as the developer of this mutual partnership) towards conservation is an important factor to the success of this effort.

Referring to data from the survey, opinions from respondents differ with regard to the MPA initiatives by the state government. Table 5 shows the percentage of the peoples' understanding of the government's attempt to gazette the island under MPA. A high percentage (64.8 percent) of the respondents understand clearly what will take place if Mantanani is gazetted under the MPA. However, 35.2 percent confessed they are not clear as to what the MPA means if implemented and the implication to their livelihood in particular.

TABLE 5. Gazettement of Mantanani Island under MPA

Do you understand the MPA gazettement?	Percentage
Yes	64.8
Don't Understand	35.2
Total	100.0

In terms of conservation efforts, although the local people believe Mantanani Island is rich with natural resources, 37 percent of the respondents did not agree with the conservation effort, especially the initiatives to be taken by Sabah Park and other government agencies to conserve and protect Mantanani Island as an MPA. A total of 59.3 percent of HOH agreed with the MPA initiatives and believed they will benefit from these initiatives while 3.7 percent stated they were not sure as they were not clear as to what the MPA was and did not understand the function and meaning of implementing conservation initiatives. However, based on the survey, 64.8 percent of the respondents understood the MPA goals and believed Mantanani Island would be protected in terms of its natural resources, marine life and community's livelihood.

TABLE 6. Community views on the conservation initiatives on the island

Do you agree with the conservation effort on the island (MPA)?	Percentage
Yes	59.3
No	37.0
Not sure	3.7
Total	100.0

Why certain segments of the community disagreed?

From the 59.3 percent of the respondents who agreed with the MPA initiatives towards conservation, as shown on Table 7, 38.9 percent understood that if the island was gazetted under the MPA, their island will be protected by the government, but they will cease to fish because harvesting fishes from the sea will be prohibited. A total of 18.5 percent believed that under the MPA, marine resources will be managed and sustained effectively with and for community use; while 1.9 percent claimed that under the MPA, the government will take over their lands. Among the rest of the respondents, 3.7 percent were unsure while another 3.7 percent disagreed with what the government will do to their island under the MPA.

TABLE 7. Feedback on why they agree or disagree with the MPA initiatives

If yes, what does the MPA gazetting mean?	Percentage
Island will be protected, but fishermen will be prohibited to fish	38.9
MPA will protect and sustain the marine resources to benefit the community	18.5
Government will take villagers' lands	1.9
Not so certain	3.7
Disagree	37
Total	100.0

Within the group of respondents (37 percent) who claimed they did not understand what the MPA gazettement will mean to their life (see Table 8), 25.9 percent did not understand at all what the MPA was. At the same time, 9.1 percent did not understand what conservation under the MPA meant because no information or briefing was given to them about MPA and its goals. This 1.9 percent group have disagreed because they were not sure and have never heard about what the MPA was. The results of these responses indicate resentment among a minority of the villagers towards the government's plan to gazette Mantanani under the MPA. These will be signs for the state agencies and stakeholders to prepare proactively towards early interventions, especially in giving clear information and educating the villagers on what conservation and conservation tourism is about. The collaboration towards a synergic partnership of all stakeholders is deemed necessary at this juncture before resentment increases. Misconception of the MPA goals and the confusion among the villagers need to be resolved.

TABLE 8. Respondents who disagreed with the MPA Plan to gazette Mantanani

If don't agree, why?	Percentage
0	59.3
Will destroy livelihood of villagers	1.9
No information from the government agencies	9.1
Do not understand	25.9
Not clear and never heard of MPA	3.8
Total	100.0

Issues and challenges faced by local communities

Table 9 displays interesting findings of emerging conflicts between the villagers on the island and the challenges of the tourism industry there. Almost 30 percent of respondents opined that tourism activities have led to cultural conflicts with local values and tradition. Generally, the Bajau Ubian on the island are relatively conservative and have a strong attachment to their traditional values. The local people are of the opinion that foreign tourists from the West, China, Korea and Taiwan are very relaxed in terms of their dressing. They ignore local taboos by wearing indecent clothing that conflicts with their local values. But because they are tourists and the villagers need income from this industry, the villagers do not voice out their displeasure publicly.

In addition, they claimed that tourist operators do not abide by safety regulations especially when operating their boats by the coastal villages where there are fishing boats plying in the area, thus disrupting the livelihood of the fishermen. The boat operators, who are mostly from the mainland, do not respect the local culture and refuse to discuss or negotiate on issues concerning their boats. About 20 percent of the respondents said that the weather also imposed difficulties on their livelihood. Pulau Mantanani is known for stormy winds and high waves, which could be dangerous to small boats. Strong waves lead to erosion of the coastal shores, thus endangering the coral reefs close to the shore and to some extent, they claim, the coral reefs are destroyed due to the frequent siltation from erosion. When erosion occurs, jetties are needed for the boats to drop off the tourists.

Getting to the island from the mainland is another big issue for the community who depends a lot on tourism as 9.3 percent are not happy with the boat services. They claimed the services are not frequent and subject to weather conditions. This has affected tourist arrivals to the island. A total of 14.8 percent voiced out their opinion on the inadequate infrastructure and facilities, such as public health amenities and the unstable jetty.

Issues concerning land ownership were highlighted to the researchers as well. About 7.4 percent of respondents were in conflict with families in terms of their agreement or disagreement to use their family land for tourism purposes. This hinders the growth of tourism on the island. Issues of land ownership status is another hurdle. Another 1.9 percent of the respondents viewed security as an issue; apprehension was there even though there is a police centre on this island.

TABLE 9. Issues and challenges of the tourism sector faced by respondents

Issues raised among the community	Percentage
Cultural conflict (improper dressing among tourists, tourist boats intruding fishing areas, workers at resorts are mostly from mainland)	29.6
Boats' services (from mainland to Mantanani Island)	9.3
Inadequate infrastructure and facilities (boat, jetty, clinic, etc.)	14.8
Extreme weather	20.4
Land issues	7.4
Crime	1.9
No issues	5.6
Not sure	11.1
Total	100.0

In addition to the issues deliberated above, field observations include managing the environment on the land and the sea. This is an enormous challenge to stakeholders on the island. However, there has been active intervention by several environmental NGOs, namely Reef Check Malaysia, World Wildlife Fund (WWF), Borneo Camp and Blue Light Coral, to collaborate with the local community on conservation efforts, garbage disposal and management, recycling and sustainable living. For example, from January to October 2020, Reef Check has registered 2,124 kilogrammes of plastic bottles that were recycled. Generally, the awareness of a clean environment among the local people still requires a lot of hard work by the NGOs. Reef Check has been tirelessly working with hotel resorts and chalets since 2016 to overcome environmental issues.

Continuous efforts to educate the local people to reduce, reuse and recycle (3R) have gained success especially among the youths. They were taught the practices of less waste, which help heals the environment, for human health as well as the tourism industry. It is noticeable that efforts towards a clean environment in the village have gradually been picked up by the youths. These are depicted in the pictures below (see Images 6, 7 and 8). Apart from the 3R initiatives, youths are included in the reef rehabilitation programme, sea bed cleaning and management of garbage disposals.

IMAGE 6. Disposal area in Kampung Padang Besar, Mantanani; taken during the survey in August 2019

IMAGE 7. Disposal site managed by Reef Check Malaysia

IMAGE 8. Disposal site managed by Resort

Sustainable development issues on Mantanani Island

The findings of the social surveys from the two villages provided important indications of the social issues taking place on the island. The potential of this island, in terms of the marine resources, beautiful seascape, indigenous culture and local hospitality, has made Mantanani Island akin to the "pot of gold at the end of the rainbow". However, opinions and perceptions of the local communities with regard to the development of their island are central issues, in particular towards the sustainable management of conservation tourism. It is obvious tourism is one of the main economic activities to supplement household incomes.

The Sustainable Development Goals (SDGs) outlined various means and ways to identify issues in order to "Leave No One Behind". In the context of conservation tourism in Mantanani Island, the collation of issues and local responses are tabled as exemplars to identify social groups who are facing predicaments of being further marginalised unless intervention by development agencies is imminent. Listening to the voices of the islanders is crucial and engaging in dialogues to build conservation awareness programmes is necessary.

Suggestions on the relevant SDGs for the marginalised segment of the community are summarised in Table 10. The issues are based on dialogues with the Chairperson of the Council of Village and Community Management, women entrepreneurs, youths, resorts owners, teachers and security forces on the island. This table does not intend to draw final conclusions of the possible SDGs to ensure the inclusion of the people in the local tourism industry while conserving and sustaining the resources, but is an attempt to explore other important issues that may not be covered in this research.

TABLE 10. Issues and implication on sustainable development on Mantanani Island

No.	Issues	Highlights of issues	Relevant SDGs
1.	**Poverty** **Who are left behind?** Fishermen, households, women, and youths on the island who fall within B40 income group (the bottom 40 percent of income earners)	• Communities rely on marine resources and traditional methods of fishing practices • Their sea catch is sold to neighbours, tourists, resorts and also for their own household consumption. Fishermen are not able to fish in deeper waters due to the lack of capital to equip their boats with better engines that affect the volume of their catch • Large household size, featuring extended family • Income is not consistent to place enough food on the table • Increasing numbers of youth are migrating to the mainland and urban areas to seek employment and to further their education	**SDG 1: No poverty** • Identifying households who are living below poverty line • Substantial socio-economic assistance to the poor and the vulnerable • Provision of capacity building, training of relevant skills appropriate to availability of resources • Conservation tourism training and awareness programme towards sustainable household income

No.	Issues	Highlights of issues	Relevant SDGs
2.	**Employment & economy** **Who are left behind?** Youths (both gender)	• Lack of skills, the level of relevant education and no capital • Less confidence about their future • The fear among village adults that youths are likely to turn to drugs if the void still persists • Limited and inflexible labour market on the island creates further dependency on their already poor families • Long term effects of cyclical unemployment among the youths on the island	**SDG 8: Decent work and economic growth** • Promote decent job creation, such as village entrepreneurships focusing on fishing produces/product, tourism entrepreneurship that is eco-friendly, green products from local resources, indigenous crafts, food and traditional arts • Strategy for sustainable youth employment and capacity building in partnerships with stakeholders, local NGOs, state agencies and industries • Ensuring sustainable management of community based tourism and conservation awareness in tourism is consistently being made aware in capacity building and skill training • Developing the "green" awareness in their everyday life is essential
3.	**Health & well-being** **Who are left behind?** Children, young girls & parents	• There is dire need for basic healthcare services (eg. clinic, maternity amenities, public health officials). At present, the community has to travel to the mainland to get access to public health services • Limited infrastructure to support health services (eg. government boat to take villagers to mainland in case of emergencies)	**SDG 3: Good health and well-being** • It is essential that everyone has the right to access health-care services on the island to achieve sustainable development • Quality health services is integral to help end poverty and close the gap of inequality on the island

No.	Issues	Highlights of issues	Relevant SDGs
4.	**Education & training** **Who are left behind?** Youths (both gender), and family of the B40 groups	• Lack of appropriate training in skills, entrepreneurship, and leadership • School dropouts due to poverty • The village has a kindergarten and a primary school only. Most parents cannot afford to send their children to continue their education on the mainland • Children also become family labour to supplement household incomes, thus not being able to go to school	**SDG 4: Quality education** • Ensure equal education access for all girls and boys on the island • Ensure equal access for all girls and boys from the island for affordable and quality technical, vocational and tertiary education, including university • Quality education will provide young learners of this island with capabilities and skills to become economically productive, which will enable development of sustainable livelihood and enhance individual and family well-being • This is the 21st century, no child shall be left behind in having an opportunity to acquire quality education

No.	Issues	Highlights of issues	Relevant SDGs
5.	**Clean water & sanitation** **Who are left behind?** The community	• Lack of few basic amenities and access to clean water due to the distance from the island to mainland • Villagers obtain water supply from underground aquifers using electrical-run pumps and piped to their homes • However, to supply the underground water to their homes they can only do this from 6am-6pm. • Most villagers buy bottled mineral water for drinking. This adds a pressure on their income and also environmentally, the possibility of plastic pollution on land and sea	• **SDG 6: Clean water and sanitation** • Equitable access to safe and affordable drinking water for all • Due to seasonal drought on the island, provision of rainwater harvesting system to collect and store water for drinking • Provision of clean water must be supplied by the state agency to every home on the island
6.	**Conserve and sustainable usage of the sea & marine resources for sustainable development** **Who are left behind?** Fishermen, youth and women	• Destruction of coral reefs due to fish bombs, tour boat anchorage, plastic debris and sewerage, pollution from land that affect marine nutrients • Over-fishing by other fishermen from mainland and other islands including harvesting juvenile fishes • Lack of resources and accessibility to capital, skills and information with regards to sustainable development and conservation tourism	**SDG 14: Conservation and sustainable initiatives on the use of the sea and the resources** • Stakeholders to provide the legal framework for the conservation and sustainable use of the sea and its resources • State agencies to provide inclusive socio-economic plans and strategies to enhance conservation tourism and build partnership with local communities, entrepreneurs, NGOs and service sectors • Improvement and empowerment of the existing community-based tourism entrepreneurship, creating an awareness and capacity building in conservation tourism

Poverty has been the main issue faced by the community for decades and most of them, in particular the traditional fishermen, are categorised in the B40 group. The highlighting of the issues in Table 10 will have major implications towards the success of making Mantanani Island into an MPA, as earmarked by the state government. Reliance on fishing is not enough to sustain household incomes. The tourism sector has been considered by the community as an alternative to supplement and enhance their household income. However, plans by the state government for the sustainable development of the tourism sector on the island is a positive move to avoid future conflicts involving nature conservation, traditions, extensive land and sea pollution, and the increasing number of tourists to the island. The fundamentals for conservation development are engaging the community and listening to their voices about their livelihood, social heritage and nature conservation. Reiterating the ideas of the livelihood framework by Budowski (1976), who classified the interrelationship between nature conservation and tourism into three categories – coexistence, conflict and symbiosis. These elements are also the underlying foundation towards sustainable development. Coexistence depends on the diverging views of nature conservation and tourism which may lead to conflict or into symbiosis. Conflict usually arises when the tourism sector creates detrimental impact on nature or when there is little or no interaction between tourism and conservation efforts. On the other hand, the positive side of this co-existence is the symbiosis of the interaction. In this category, the protection of the environment is enhanced by the tourism sector itself. In this crucial context, the involvement of the local community is pertinent to the symbiotic relationship between tourism and conservation.

Conclusion

The community on Mantanani Island is facing gradual intervention from the state government to establish the island as an MPA. This has raised several concerns. The obvious presence of factions, especially among the villagers of Kampung Siring Bukit and Kampung Padang Besar, is a manifestation of resentment, ignorance and anxiety. Balancing the differences at this juncture is not an easy task. Even so, collaboration between active environmental NGOs and the local communities have been accepted and working on well. Efforts to build the island in the area of conservation tourism are actually extensions of initiatives that have previously been taken by NGOs in mutual partnership with the local community. The trust and acceptance, which have been developed over the years, will help accommodate the government's aim to create the Mantanani complex under the MPA. Although there are resentments, the villagers from the two villages believe that the initiatives to protect and conserve Mantanani will bring positive socio-economic development and help boost the local eco-tourism industry.

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Development Approaches for the Orang Asli Laut as an Indicator of "Leaving No One Behind"?

W. A. Amir Zal

Introduction

"Leaving No One Behind" is an essential concept not only for avoiding the application of double standards to a community, but also for trusting the members of a community to manage themselves and to reach a certain level of empowerment. In the context of the Orang Asli, the typical development approach has been to ignore the people themselves, treating them as an object of development and expecting them to accept the development planned for them by others. This situation has made the Orang Asli passive in their own development, with the result that they have been left behind in terms of being actors in the country's development. In a more specific context, the Sea Indigenous People (henceforth Orang Asli Laut) have received little attention in scientific discussions. This lack of focus supports the perception that the Orang Asli Laut have been left behind, not only in the research discourse but also in terms of mainstream development.

As they are not a dominant group among the Orang Asli, the Orang Asli Laut have rarely taken part in discourse in Malaysia or in the global sphere. They are often categorised with other Orang Asli in Malaysia as a "jungle people". In fact, they are dispersed across a coastal region of the mainland and the archipelagic nations of Southeast Asia. They are fishing specialists, known popularly as "sea nomads", "sea people" or "sea gipsies" (Sather, 1997). They can be categorised into three broadly defined ethnolinguistic groups: the Moken, the Orang Laut and the Sama-Bajau.

The Moken (sometimes called the Selung or Salones) are found in the Mergui Archipelago and the coastal waters of Myanmar (Burma), and around the coasts and islands along the southwest of Thailand (Sather, 1997). The Orang Laut (the Sea People tribe) and related groups identify as Malays or as indigenous Orang Asli. They are found in the Riau Archipelago region of Indonesia, the east coast of Sumatra, Singapore, the islands of Bangka and Belitung, and the coasts of the Malay Peninsula (Wee, 1985; Lenhart, 2002; Chou, 2003). The high biodiversity of island ecosystems in Southeast Asia has enabled each of these groups geographically, linguistically and culturally to develop a range of livelihood attributes (Sather, 1997).

The Orang Asli Laut in Malaysia can be divided into four subtribes (Orang Kuala, Orang Seletar, Orang Kanaq and Mah Meri), each of which has a distinct character, particularly the Orang Kanaq, who are no longer recognised as Orang Asli Laut. This may reflect the absence from their daily lives of knowledge and skills related to the sea, and the fact that their younger generations do not regard themselves as heirs to the sea people group. The other subtribes continue to be dependent on the sea in their daily lives and are proud of their Orang Asli Laut identity. Nevertheless, they differ from one another in the extent of their dependence on the sea and of their involvement in various activities unrelated to the sea. For example, the Orang Kuala are known as efficient traders in used goods from Singapore (Amir Zal, 2013). The Orang Seletar and Mah Meri participate in a range of economic activities, including seafood restaurants and palm oil farming.

The Orang Asli have a different lifestyle from these other groups for many reasons, including their traditional values (Anderson, Dana & Dana, 2006), the vulnerability of some inhabitants (Poirier & Schartmueller, 2012; Cox et al., 2016), development as a push factor (Quitian & Rodríguez, 2016; Howlett & Hartwig, 2017), reactions to development processes (Amir Zal et al., 2016) and implementation of policies (Anderson, 2007). In the present study, we find that the most important of these are external factors, particularly policies that adopt a certain approach to the development of the Orang Asli in promoting competition and innovation (Shi & Wu, 2017).

The issue of the development of indigenous communities is always sensitive and many approaches have failed indigenous people in a variety of ways. There has often been a significant mismatch between how indigenous people see their circumstances and the views of the would-be developers. For example, Tisdell (2018) observed how an indigenous community's lack of involvement in an agricultural project reflected conflicting perceptions of their cultural and economic sustainability; unlike the developers, they regarded their circumstances as affluent and their current socio-economic systems as sustainable (Tisdell, 2018). Likewise, erroneous approaches to development have long created obstacles for communities, tacitly encouraging them to become over-reliant on support from the authorities.

Three development approaches have commonly been used, concurrently, sequentially, in part or exclusively: the top-down, bottom-up and partnership approaches. A top-down approach is one initiated or stipulated by senior managers (Kim, Sting & Loch, 2014). According to Cho (2014) and Peng et al. (2014), the top-down approach is a good choice when there is limited public participation. However, the problems with this approach become apparent when a local government does not implement the development policy correctly (Peng et al., 2014) and this has a direct impact on the community (Yan & Gao, 2007).

El Asmar, Ebohon and Taki (2012) characterise the bottom-up approach as a form of cooperation and collaboration between stakeholders. It allows community members to share their views and values in planning strategies to improve and resolve issues related to their own communities (El Asmar et al., 2012). More specifically, as Cerna (2013) notes, the bottom-up approach involves the local level in policy-making and subsequently has an impact at higher levels. Since, on this approach, community members contribute actively to activities that will affect their community, they have power to control changes in their environment. Thus, the bottom-up approach can be useful not only in ensuring that development work is carried out but in producing better technical results (Bowen & Acciaioli, 2009).

The partnership approach, as explained by Amir Zal (2018), is a pledge, inclusive in principle, that all stakeholders will work together on a development project. The partnership approach is an amalgamation of the top-down and bottom-up approaches; it combines the strengths of each but with greater efficiency and more appropriate emphasis. It acknowledges that both top-down and bottom-up approaches are capable of helping a community at a specific time and place, but it also hopes to address their weaknesses by emphasising the importance of local people in the planning, development, delivery and evaluation of social services (Heenan, 2004).

Each of these different approaches has its principles, focus, strengths and weaknesses. To achieve sustainable development, many scholars have seen the merits of synchronising the three approaches within a project. Kim et al. (2014) found evidence of the complementary roles played by top-down and bottom-up approaches in action plans; Smith (2014) noted that a combination of top-down and bottom-up approaches can bring greater dynamism to a development project.

To decide which approach is suitable in a particular case, many factors should be considered. For instance, as Aguiñaga et al. (2018) found, the bottom-up approach requires a deep understanding of the social, political, environmental and economic characteristics of a community. In the context of the community itself, Li et al. (2016) found a need for strong leadership, in the form of local committees or stakeholder groups, to adapt self-organised activities and to ensure that the approach adopted is aligned with government policy and avoids duplication of efforts.

Approaches to development among Orang Asli Laut in Malaysia

Many studies have attempted to explain the dominant approaches adopted for the development of the Orang Asli Laut in Malaysia. However, most of them have focused on problems that arise in the development process. Amir Zal, Omar and Salleh (2016) used three terms to characterise types of marginalisation discourse in the Orang Asli development process: (i) secluded development activities, which marginalise the community accidentally; (ii) isolated development activities, which marginalise directly and deliberately; and (iii) marginalised, which is when the Orang Asli themselves eliminate or avoid development. Although those three terms do not translate directly into the top-down, bottom-up and partnership approaches, they are useful for revealing how different development approaches have different effects on development and on the participation of the Orang Asli in the development process.

An essential question in this connection is this: how much does a development process consider the identity of the group involved as a traditional community rather than as a modern society? Howlett and Hartwig (2017) explained that, although an aboriginal people in Australia might engage with and potentially benefit from a variety of extractive industries, there are a number of constraints on their ability to engage with particular resource extraction opportunities. They may also experience difficulties in tolerating and adapting to mainstream development, for example in addressing poverty and deprivation through various forms of social welfare (Anderson, 2007).

There is no doubt that the element of traditional identity is an essential issue in the reality of aboriginal people, including the Orang Asli in Malaysia. As Anderson, Dana and Dana (2006) clarified, the traditional identity of the Orang Asli is a central element of their daily lives, and this includes the importance of the land. They are profoundly reliant on their natural resources for food and income (Nordin, Witbrodt and Hassan Yahya, 2016). Anderson et al. (2006) elaborated two aspects of the importance of the land: (i) traditional lands are the "place" of the nation and are inseparable from the people, their culture and their identity; and (ii) land as well as resources are the foundation upon which indigenous communities intend to rebuild their economies and improve their socioeconomic circumstances.

In the context of education, however, there are signs that the orientation of the Orang Asli has changed. As Wahab, Mustapha and Abu Talib (2016) found, Orang Asli parents have aspirations for their children and set them educational goals. They are involved in their children's school activities and take steps to ensure that their children succeed in school. These findings are in line with those of Subhi et al. (2016) that, following several advocacy literacy programmes, awareness of the importance of education among adult learners is high.

This indicates that the Orang Asli's orientation towards development has changed and no longer focuses solely on traditional aspects. This reflects their proactive approach towards their environment. Similarly, Tisdell (2018) found that aboriginal people were no longer focusing on traditional aspects of identity to the exclusion of modern economic activity. Chin et al. (2015) observed that the Orang Asli prefer modern medicine to traditional medicine and that they have changed as a consequence of their interactions with outsiders. Abu and Yusop (2014) found that, although Orang Asli children faced difficulties in mastering the Malay language, they maintained a positive attitude towards that language. Amir Zal (2013) has explained the importance of Orang Asli tradition in shaping their economic activity, whether traditional or modern.

However, Khir et al. (2016) found that this situation depends on the specific background characteristics of the Orang Asli. Their case study showed that the Orang Asli, many of whom have good levels of academic achievement, are optimistic about their future and believe that they are capable of joining mainstream society. This is in line with the findings of Adeeb et al. (2016) that the Orang Asli have good knowledge of their health; however, the most important aspect is contact and interaction with other people, especially through the education system.

Put simply, the orientation of the Orang Asli toward development is changing, with an emphasis on traditional values giving way to considerations of how to obtain a better life. In this context, the following questions arise. What are the development considerations of the government agencies in respect of the Orang Asli? Have they taken into account of the Orang Asli's change of orientation? Do they continue to assume that the Orang Asli have not changed and that they should be encouraged to do so? Answering these questions is one of the research objectives of this study.

Moreover, the issue of the approaches adopted towards the Orang Asli Laut remains underexplored, with few scholarly studies on the topic. In terms of the three development approaches (top-down, bottom-up and partnership), Liu and Ravenscroft (2017) considered that the top-down approach had failed in community projects and should be replaced by a more localised, democratic and ultimately collective approach. According to Phillips (2003), the bottom-up approach might help in numerous ways: promoting cultural and social awareness, acknowledging human rights, supporting political developments, fostering general developments in management practice, deploying technological advances and adapting to economic forces.

However, there remains a strong tendency to adopt a top-down approach in the development process. It has strong support from various agencies (Dimitrov et al., 2013) and provides a good level of control (El Asmar, Ebohon & Taki, 2012), unlike the bottom-up approach, which depends on public participation (Ferreira, Seixas & Marques, 2015). The partnership approach, which combines the other approaches, enables a first step away from a normative governance framework and towards the development of actors' adaptive capacity to deal with uncertainty, increasing the resilience of the full socio-ecological system (Girard et al., 2015).

Although previous studies have focused on these different approaches in community development, there has been almost no investigation of the development approaches adopted for the Orang Asli Laut in Malaysia. Therefore, another research objective of the present study is to identify which approach is dominant within the Orang Asli Laut development process.

Research methodology

This study used a fully quantitative approach to determine which approaches have been adopted for the development of the Orang Asli Laut in Malaysia. The three common approaches considered here are the top-down, bottom-up and partnership approaches (Amir Zal, 2018). Within the quantitative design, a retroductive strategy allows the three approaches to be operationalised and measured in the context of the Orang Asli Laut. The retroductive approach aims to discover an underlying mechanism capable of explaining a particular fact or observed regularity. It is implemented in this study by identifying definitions of the concept under study, and then supported by scientific references and interpretations.

Questionnaire forms targeted two factors: the considerations used by the government in planning development of the Orang Asli Laut and the development approaches implemented by the government. Specifically, developmental considerations are measured by examining whether the government considers traditional elements (which operate by examining the identity and traditional life of the Orang Asli Laut) or modern elements (which are measured by reference to economic elements, increased income and participation in mainstream development). The development approaches implemented by the government to develop Orang Asli Laut are categorised in terms of the three community development frameworks (the top-down, bottom-up and partnership approaches). The questionnaire was developed on the basis of an assessment from the perspective of the Orang Asli Laut.

Although there are four Orang Asli Laut groups in Malaysia, only three were involved in this study, namely the Orang Kuala, the Orang Seletar and the Mah Meri. Each of these groups are in a different location and the number of respondents is also different for each group. The Orang Kanaq were not selected for this study because they no longer share the core characteristics of the Orang Asli Laut in terms of dependence on and frequency of marine activities. The daily activities and practices of the Orang Kanaq are not strongly linked to the sea and the questions in this study targeted sea-related activities directly.

The unit of analysis of this study is the head of household (HoH), the primary person with responsibility for managing household affairs and understanding the development issues that have to be addressed in their communities. Initially, this study aimed to apply probability sampling, which requires a clear sampling frame. However, two factors made this difficult for the researchers in the field: difficulty in finding a sampling frame (ie. a complete list of HoHs) and the absence of some HoHs during the data collection process.

The data was analysed using SPSS software. For the descriptive statistics, percentages and means were used. Multivariate Analysis of Covariance (MANCOVA) was used to explain the relationships between different groups in different development considerations, with level of education as a control variable.

Findings

This study addresses two areas: (i) the development considerations used by government agencies towards the Orang Asli Laut; and (ii) the approaches adopted in developing the Orang Asli Laut. The first area is measured in terms of the preservation of traditional identities and the consideration of economic advantages; the second area is measured in three categories – corresponding to the top-down, bottom-up and partnership approaches.

Development considerations

Figure 1 shows the development considerations towards the Orang Asli Laut in terms of traditional identity and economic factors. The purpose of the traditional identity consideration is to allow development efforts carried out by government agencies to take account of the group's background as Orang Asli Laut specifically instead of Orang Asli in general.

Overall, the implementation of development often (3.5) considered traditional identity instead of economic considerations (3.2). The development of the Orang Kuala is often based on considerations of traditional identity rather than economic considerations. The reality of the Orang Seletar is a balance between these two considerations. Meanwhile, the Mah Meri's development is more concerned with elements of traditional identity than with economic factors.

FIGURE 1. Comparison of developmental considerations for Orang Asli Laut
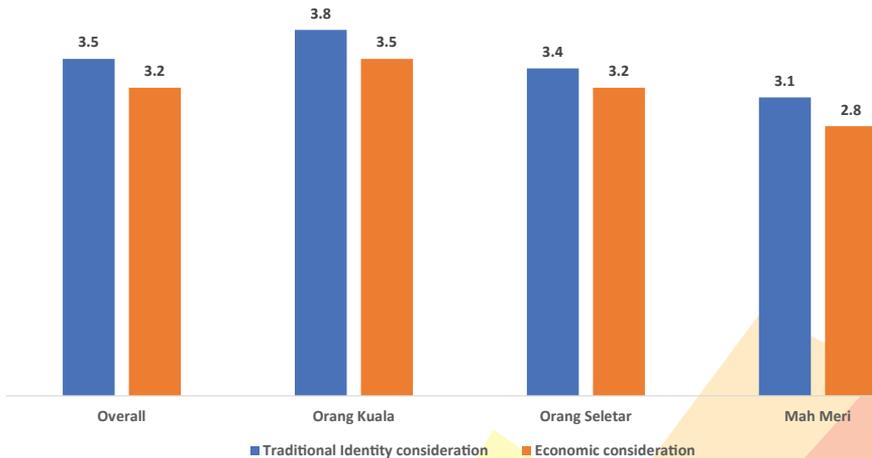
As shown in Table 1, development often preserves a traditional way of life (3.9), and preserves (3.8) and maintains (3.6) the identity of the Orang Asli Laut. This applies to all the groups under study. However, consideration of traditional identity in implementing development is more frequent for the Orang Kuala than for the Orang Seletar or the Mah Meri.

TABLE 1. Consideration of traditional identity in development

Consideration of traditional identity	Overall	Orang Kuala	Orang Seletar	Mah Meri
The development preserves the traditional life	3.9	4.0	3.8	3.8
The development preserves the identity as Orang Asli Laut	3.8	4.0	3.8	3.5
The development maintains the traditional identity	3.6	4.0	3.4	3.4
The development considers the Orang Asli Laut's background	3.2	3.6	3.2	2.4
The development protects the rights of the Orang Asli Laut	3.1	3.4	3.0	2.6
Overall	3.5	3.8	3.4	3.1

Mean score: 1 = Never; 2 = Rare; 3 = Sometimes; 4 = Often; 5 = Very often

As Table 2 shows, economic considerations are sometimes (3.2) implemented, especially in relation to the needs (3.5) and interests (3.4) of the Orang Asli Laut, utilising existing resources (3.1), improving skills (3.1) and increasing income (3.0). Economic considerations are more stable and achievable, with a focus on improving the Orang Asli Laut lifestyle. Compared to other ethnic groups, economic considerations were more consistently a consideration in respect of the Orang Kuala.

TABLE 2. Consideration of the economic aspect in development

Consideration of traditional identity	Overall	Orang Kuala	Orang Seletar	Mah Meri
The development is considered the needs of the Orang Asli Laut	3.5	3.6	3.4	3.7
The development is based on the interest of the Orang Asli Laut	3.4	3.4	3.3	3.4
The development leverages the existing resources in the Orang Asli Laut community	3.1	3.5	3.1	2.4
The development has improved the skills of the Orang Asli Laut	3.1	3.5	3.1	2.3
The development has increased the Orang Asli Laut's income	3.0	3.5	3.0	2.3
Overall	3.2	3.5	3.2	2.8

Mean score: 1 = Never; 2 = Rare; 3 = Sometimes; 4 = Often; 5 = Very often

The results of the MANCOVA procedure (Tables 3 and 4) indicate a significant difference between groups in terms of developmental considerations (F = 655,109, df = 3, p = .000), even after controlling for different levels of education (F = 3.316, p = 0.037). However, when examined comprehensively, this was the case only for economic considerations (F = .54.701, df = 1, p = .017). That means that, although group and level of education led to different developmental considerations, differences were more likely to apply to economic considerations.

TABLE 3. Differences in developmental considerations between the tribe and education level[a]

Effect	Value	F	Hypothesis df	Error df	Sig.
Intercept	.925	2335.111[b]	2.000	380.000	.000
Education level	.017	3.316[b]	2.000	380.000	.037
Tribe	.169	17.546	4.000	762.000	.000

a. Design: Intercept + Education level + Tribe
b. Exact statistic
c. The statistic is an upper bound on F that yields a lower bound on the significance level

As Table 2 shows, economic considerations are sometimes (3.2) implemented, especially in relation to the needs (3.5) and interests (3.4) of the Orang Asli Laut, utilising existing resources (3.1), improving skills (3.1) and increasing income (3.0). Economic considerations are more stable and achievable, with a focus on improving the Orang Asli Laut lifestyle. Compared to other ethnic groups, economic considerations were more consistently a consideration in respect of the Orang Kuala.

TABLE 4. Tests of between-subjects effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Traditional identity consideration	655.109ᵃ	3	218.370	20.038	.000
	Economic consideration	673.295ᵇ	3	224.432	23.493	.000
Intercept	Traditional identity consideration	39391.698	1	39391.698	3614.567	.000
	Economic consideration	34805.128	1	34805.128	3643.383	.000
Education level	Traditional identity consideration	2.879	1	2.879	.264	.608
	Economic consideration	54.701	1	54.701	5.726	.017
Tribe	Traditional identity consideration	634.590	2	317.295	29.115	.000
	Economic consideration	578.548	2	289.274	30.281	.000
Error	Traditional identity consideration	4152.153	381	10.898		
	Economic consideration	3639.681	381	9.553		
Total	Traditional identity consideration	122032.000	385			
	Economic consideration	102969.000	385			
Corrected Total	Traditional identity consideration	4807.262	384			
	Economic consideration	4312.977	384			

a. R Squared = .136 (Adjusted R Squared = .129)
b. R Squared = .156 (Adjusted R Squared = .149)

Development approaches

The second question addressed in this study concerns which approaches are implemented by government agencies to develop the Orang Asli Laut. Figure 2 shows that the bottom-up approach was adopted more frequently (2.4) than the other approaches, while the partnership approach was implemented relatively rarely (2.1).

FIGURE 2. Implementation of three different approaches to development
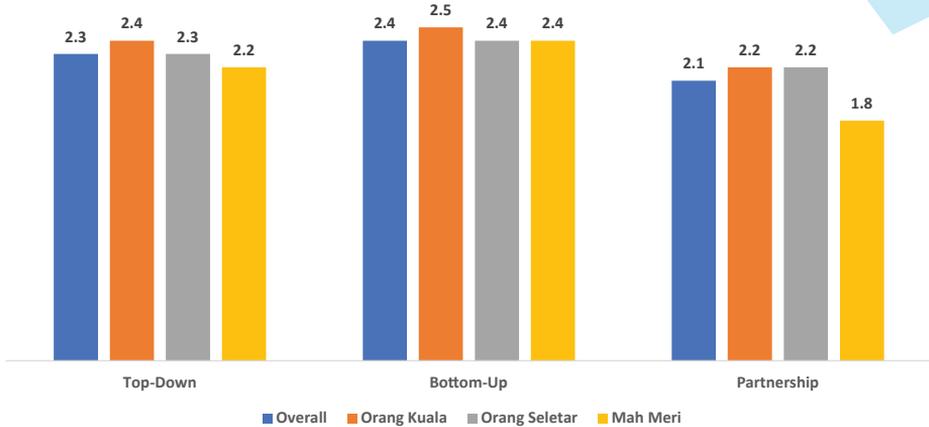
Table 5 shows that the top-down approach was rarely used. This means that government agencies rarely plan, implement, monitor, evaluate or improve development without involving the Orang Asli Laut. Similarly, the bottom-up approach was rarely used (2.4), and was implemented least of all for the Orang Kuala. This result is inversely proportional to that for the bottom-up approach, as shown in Table 6, which indicates that the involvement of the Orang Asli Laut in the development process was occasional. Involvement took the form of planning (2.5), evaluating (2.5), monitoring (2.4) and executing (2.4).

TABLE 5. The implementation of the top-down approach

Top-down approach	Overall	Orang Kuala	Orang Seletar	Mah Meri
Government agency has planned a development by includes the Orang Asli Laut's perspectives	2.4	2.6	2.4	2.2
Government agency has implemented a development by involving Orang Asli Laut	2.3	2.5	2.3	2.1
Government agency has monitored development by includes the Orang Asli Laut's feedbacks	2.3	2.4	2.3	2.2
Government agency has evaluated a development by includes the Orang Asli Laut's perspectives	2.3	2.4	2.3	2.2
Government agency has improved a development planning by involving the Orang Asli Laut	2.3	2.4	2.2	2.2

Mean score: 1 = Never; 2 = Rare; 3 = Sometimes; 4 = Often; 5 = Very often

TABLE 6. The implementation of the bottom-up approach

Bottom-up approach	Overall	Orang Kuala	Orang Seletar	Mah Meri
Orang Asli has planned a development for their community	2.5	2.6	2.4	2.4
Orang Asli has evaluated a development for their community	2.5	2.6	2.4	2.4
Orang Asli has improved a development planning for their community	2.4	2.5	2.3	2.3
Orang Asli has monitored development for their community	2.4	2.5	2.4	2.4
Orang Asli has implemented a development for their community	2.4	2.5	2.3	2.4

Mean score: 1 = Never; 2 = Rare; 3 = Sometimes; 4 = Often; 5 = Very often

The least frequently implemented of the development approaches was the partnership approach (2.1). In other words, the ideal development approach, involving the government agency and the Orang Asli Laut working together to develop the community, was rarely adopted, especially among the Mah Meri. Table 7 shows that the Orang Asli Laut rarely collaborated in planning (2.1), implementing (2.1), monitoring (2.1), evaluating (2.1) or improving (2.1) the development of their community. In conclusion, no single approach is dominant in terms of implementation in the development of the Orang Asli Laut.

TABLE 7. The implementation of the partnership approach

Partnership approach	Overall	Orang Kuala	Orang Seletar	Mah Meri
We were together with the government agency to the planning of our development process	2.1	2.3	2.2	1.8
We were together with the government agency to implementing our development process	2.1	2.2	2.2	1.8
We work together with the government agency to monitor our development process	2.1	2.2	2.1	1.8
We work together with the government agency to evaluate our development process	2.1	2.2	2.1	1.8
We work together with the government agency to improve our development plans	2.1	2.3	2.1	1.8

Mean score: 1 = Never; 2 = Rare; 3 = Sometimes; 4 = Often; 5 = Very often

The MANCOVA procedure, reported in Table 8, identified significant differences among the groups in the implementation of development approaches (F = 223,397, df = 3.00, p = .000). However, differences in level of education did not lead to differences in approach (F = .852, df = 3.00, p = 0.466). As Table 9 shows, implementation through the partnership approach was significantly different from the other two approaches (F = 4.630, df = 2, p = .010). The results of the MANCOVA procedure indicate that groups experienced different development approaches, significantly for the partnership approach. However, level of education appeared to play no role in this difference.

TABLE 8. Development approach and education level[a]

Effect	Value	F	Hypothesis df	Error df	Sig.
Intercept	.634	223.397[b]	3.000	387.000	.000
Education level	.007	.852[b]	3.000	387.000	.466
Tribe	.064	4.258	6.000	776.000	.000

a. Design: Intercept + Education level + Tribe
b. Exact statistic
c. The statistic is an upper bound on F that yields a lower bound on the significance level

TABLE 9. Tests of between-subjects effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Top-down	105.668[a]	3	35.223	1.165	.323
	Bottom-up	73.784[b]	3	24.595	.832	.477
	Partnership	265.263[c]	3	88.421	3.123	.026
Intercept	Top-down	17518.509	1	17518.509	579.577	.000
	Bottom-up	18951.179	1	18951.179	641.317	.000
	Partnership	14588.674	1	14588.674	515.207	.000
Education level	Top-down	.543	1	.543	.018	.893
	Bottom-up	8.744	1	8.744	.296	.587
	Partnership	3.343	1	3.343	.118	.731
Tribe	Top-down	105.589	2	52.795	1.747	.176
	Bottom-up	72.608	2	36.304	1.229	.294
	Partnership	262.195	2	131.098	4.630	.010
Error	Top-down	11758.057	389	30.226		
	Bottom-up	11495.106	389	29.550		
	Partnership	11014.972	389	28.316		
Total	Top-down	64565.000	393			
	Bottom-up	69343.000	393			
	Partnership	54556.000	393			
Corrected Total	Top-down	11863.725	392			
	Bottom-up	11568.891	392			
	Partnership	11280.234	392			

a. R Squared = .009 (Adjusted R Squared = .001)
b. R Squared = .006 (Adjusted R Squared = -.001)
c. R Squared = .024 (Adjusted R Squared = .016)

Conclusion

In respect of the development of the Orang Asli Laut, government agencies continue to take account of traditional identities alongside economic factors. This pattern is similar for the three groups under the study. This means that the government has specific development goals and has not implemented development activity for the Orang Asli Laut on the basis of a blanket strategy. However, much depends on whether the approach the government adopts is the top-down, bottom-up or partnership approach. The results of this study show that, by encouraging the participation of the Orang Asli Laut in the development process, the government can better understand the realities and capabilities of communities. Projects are more effective and have greater potential to improve development when communities participate.

In terms of implementation, no development process is dominant for the Orang Asli Laut. Nevertheless, among the three approaches considered here, the partnership approach is rarely used, and the top-down approach is preferred. The other key finding is that the government adopts different approaches for different groups. For the groups under study, level of education had no influence on which approach was adopted. It should be noted that, although they share some historical background as Orang Asli Laut, the groups are different in a number of ways. For example, the Orang Kuala are relatively advanced in terms of economic empowerment (Amir Zal, 2014), unlike the Orang Seletar, who appear to have been "left behind" in that respect. Meanwhile, the Mah Meri have been exposed to many advanced economic activities, despite not being a main actor in those activities. Differences such as these should inform government decisions to implement particular development approaches in specific cases.

Based on the context of Sustainable Development Goals (SDGs), all communities should be given a choice and opportunity to participate in any activity related to their future. Among the three approaches that should be prioritised is the partnership. Despite efforts to use the partnership approach has taken numerous commitments, it still needs to be started and prevalent. Not only to ensure that they are respected and invited to participate in development, but also to ensure they grasp the same level of equality with the mainstream society, and subsequently, the partnership approach is appreciated and practised.

In light of these findings, two recommendations can be made. Government agencies, especially those involved in planning Orang Asli development programmes, should have an aboriginal framework of thinking. This framework must incorporate knowledge of the Orang Asli's Weltanschauung or values and their way of life into decisions regarding what types of sustainable development are appropriate. Although the importance of economic factors is clear, it is equally important to ensure that the development process is sustainable.

Nevertheless, we should not become too idealistic in our approach to the development of the Orang Asli Laut. It is tempting to choose a partnership approach on the grounds that it promises a higher level of community participation. However, not every community is ready for that approach: we should also consider, among other issues, their level of education, their readiness for involvement and their current situation. This means that predevelopment data is needed to help make correct decisions and community mapping should be carried out for this purpose. The results of the mapping can be used to create a framework in which to understand the development subject and to determine which approach is most likely to yield effective and sustainable development.

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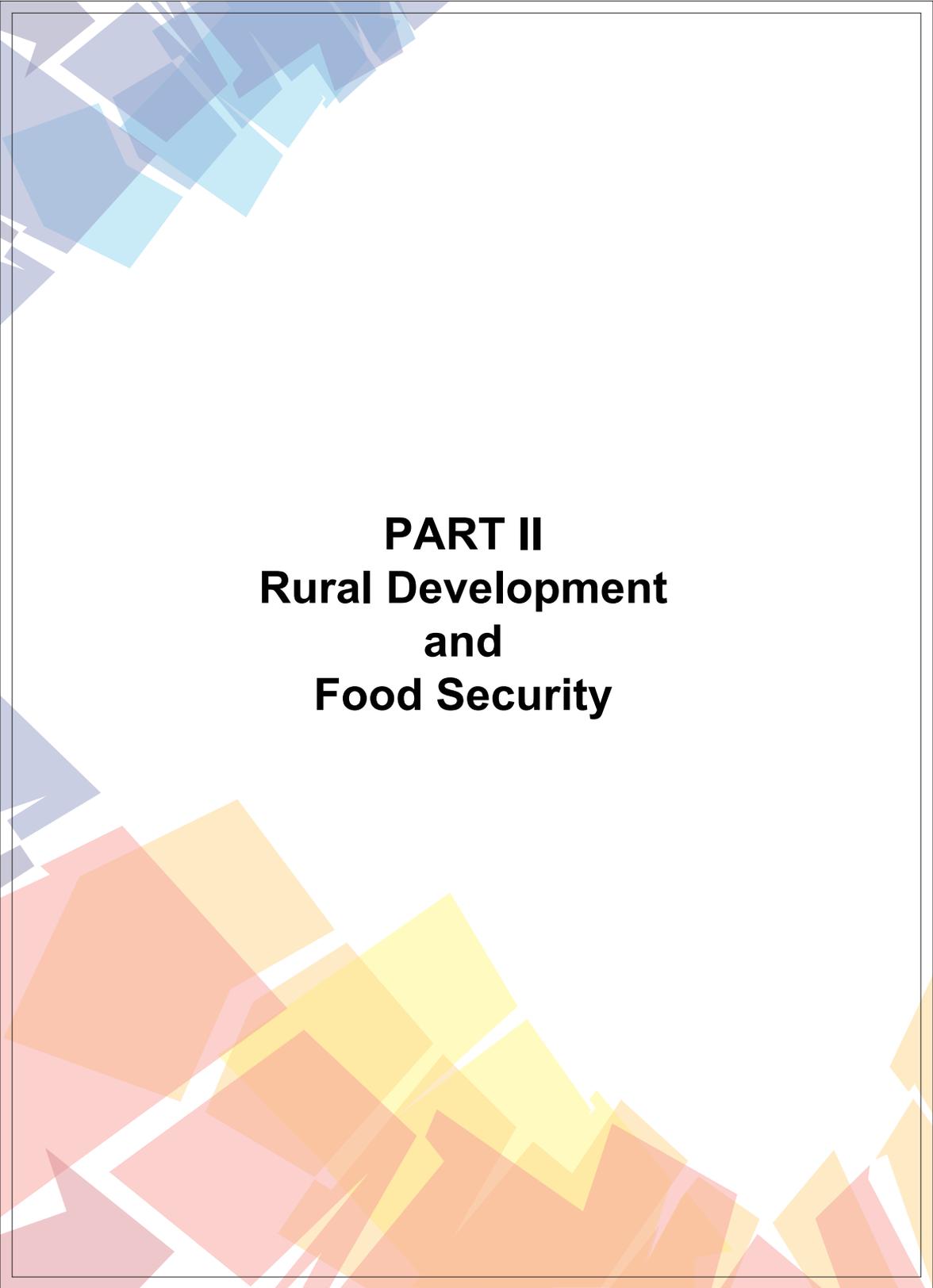
PART II
Rural Development
and
Food Security

Rethinking Malaysian Rural Development and Transformation in Relation to the SDGs

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Introduction

This chapter focuses on rethinking Malaysian rural development and transformation, a reshaping process at the national, state and local administration levels, towards key components of an overall inclusive, sustainable and prosperous Malaysia, in consonance with the Shared Prosperity Vision 2030 as well as the integrated Sustainable Development Goals (SDGs) agenda to "leave no one behind", within a more holistic systems-based approach. It also considers the headwinds and extreme challenges (and some opportunities to those with better peripheral vision and strategic foresight) brought about by the unfolding COVID-19 pandemic as well as future black swan events as we move into the next decade.

It is worth recalling that Agenda 2030 was unanimously adopted by all 193 members of the United Nations (UN) in September 2015 at the UN Sustainable Development Summit. It encompasses 17 SDGs, which underscores the awareness that ending poverty must go hand in hand with strategies that spurs economic growth and addresses pressing needs, while tackling climate change and environment protection, as well as governance, peace and justice. This is a call for action by all countries – rich, poor and middle-income.

Agenda 2030 should be taken together with the 2015 Addis Ababa Action Agenda,[1] a new global framework for financing development as well as the 2015 Paris Agreement on climate change. Taken together, these landmark agreements constitute a single, universal agenda for sustainable development, a new pathway for humanity.

Towards this end, it is contended that inclusive and sustainable rural transformation, a process in which rising agricultural productivity, increasing marketable surpluses, expanded off-farm employment, better services and infrastructure along agribusiness value chains, and the capacity to influence policy and lead to improved rural livelihood and inclusive growth, is crucial to meeting key SDGs in any country. The International Fund for Agricultural Development's 2016 Rural Development Report presented empirical evidence that inclusive and sustainable rural transformation is fundamental to economic and social growth and to poverty reduction at the national level.

The underlying theme of this chapter is that in rethinking rural development and transformation in relation to SDGs, it is crucial to take a systematic, multisectoral, multilevel approach which factors in new evolving dimensions, dynamics and emerging trends and subsequently communicating it to the multistakeholders involved in the various subsystems.

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[1] "With the majority of the poor living in rural areas, we emphasise the need to revitalise the agricultural sector, promote rural development, and ensure food security, notably in developing countries, in a sustainable manner, which will lead to rich payoffs across the sustainable development goals." Addis Ababa Action Agenda, 2015.

Accordingly, the focus of the chapter will be on rural development and transformation and its ecosystem in relation to SDGs, with specific mentions on food and nutrition security and related matters, albeit in passing. Topical stones often associated with SDGs, for example, popularism, governance and the plight of indigenous people, will be left necessarily unturned. However, these are addressed in varying degrees of detail in other chapters of this book.

The chapter is organised such that after this introduction, the next section comprises an overview of the interrelationship of rural development and transformation with intertwined key processes in development; a historical perspective of rural development in Malaysia; how policies and programmes have evolved over the years; and the rationale behind the selection of focus areas in this chapter. Section 3 distils out the salient issues and takeaways from the "Roundtable on the 2030 Agenda for Sustainable Development: Revitalizing Rural Malaysia" held in February 2019 while Section 4 presents considerations that have emerged from the recent COVID-19 pandemic. Section 5 considers the way forward before the conclusion in the final section.

Backdrop

From the outset, it would be prudent to have a systems view[2] of the interrelationship between agriculture development, rural development, rural transformation and inclusive rural transformation within the overall structural transformation of a country.

Agricultural development is about improving the quality of life and economic well-being of farmers, live-stockists, fishers and agricultural workers. It focuses on the proper management of such land-intensive natural resources as agriculture, livestock, forestry and fisheries. It involves improving agricultural services, agricultural incentives and technologies, and the resources used in agriculture, such as land, irrigation, human capital and rural infrastructure.

Rural development is the process of improving the opportunities and well-being of rural people. It is a process of change in the characteristics of rural societies. In addition to agricultural development, it involves human development and social and environment objectives, as opposed to just economic ones. Consequently, rural development encompasses health, education and other social services. It also uses a multisector approach for promoting agriculture, extracting minerals, tourism, recreation and niche manufacturing.

Rural transformation involves raising agricultural productivity, increasing commercialisation and marketable surpluses, and diversification of production patterns and livelihoods. It also involves expanded remunerative off-farm employment and entrepreneurial opportunities, better rural coverage and access to services and infrastructure, and greater access as well as capacity to influence relevant policy processes. All of this leads to broad-based rural (and wider) growth, and to better managed, more sustainable rural landscapes.

With inclusive rural transformation, everyone, without exception, can exercise their economic, social and political rights, develop their abilities, and take advantage of the opportunities available in their environment. This leads to a marked improvement in the economic position and quality of life for small farmers, land poor and landless workers, women and youth, marginalised ethnic and racial groups including indigenous people, and victims of disaster and conflict.

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[2] A systems view is the view that all systems are composed of interrelated subsystems. The systems view referred here draws heavily from the International Fund for Agricultural Development (2016).

Finally, structural transformation is both a cause and an effect of economic growth. It involves rising productivities in agriculture and the urban economy, a change in the composition of the economy from a preponderance of agriculture to industry and services, rising involvement in international trade, growing rural-urban migration and urbanisation, and the realisation of a demographic transition from high to low birth rates. It leads to profound political, cultural, social and environmental stresses, which must be managed for long-term sustainability.

Next, it would be useful to take cognisance that agro-food systems are becoming more complex and consequently there is a general move towards systems-based and nexus approaches (Wong, 2011). Due to the increasing complexity in agriculture and food systems, there is a shift away from a commodity orientation approach to an agri-food systems approach, which allows multiple dimensions of food security and rural transformation to be addressed including nutrition and health, policy, institutions and markets, water, land and ecosystems and climate change. It also enables the study of multisector and multiscale linkages and dimensions and dynamics via Social Accounting Matrix (SAM), Behavioral Economics, Poly-centricity analyses.[3] Relatedly, there are also great strides in applications of the nexus approach particularly with respect to Water-Food-Energy nexus, including in Malaysia. The nexus approach establishes the interconnection between different resources and identifies the requirement of one resource as an input to produce another or from the substitutability of two or more resources across space and time (Andrews-Speed et al., 2014) and there are related applications in industrial ecology and industrial symbiosis as well (Chertow et al., 2019).

Historical perspective of rural development and transformation in Malaysia[4]

In 1957, Tun Abdul Razak, introduced the first Rural Development Transformation initiative which was aimed at developing physical infrastructure and providing basic amenities to rural residents. The government then introduced the Red Book Plan in 1960 as a parallel development programme for all rural areas at the federal, state and district levels with a focus on instilling a sense of community and interest in local development. This later culminated in the New Economic Policy (NEP) which had two main objectives, which were the eradication of poverty and the restructuring of society by removing the identification of economic function by race.

Following 1970, institutions with different roles and responsibilities were either created or mobilised to implement a slew of policies and programmes by the government of the day to achieve economic growth and one of the two main goals of the NEP, that of poverty reduction. Such institutions included the Federal Land Development Authority (FELDA), the Rural and Industrial Development Authority (RIDA), the Rubber Industry Smallholders Development Authority (RISDA), the Federal Land Consolidation and Rehabilitation Authority (FELCRA), People's Trust Council (MARA) as well as Sarawak Land Consolidation Agency (SALCRA) and Sabah Land Development Board (SLDB).

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[3] For example, see Elinor Ostrom's "Tragedy of the Commons"; World Bank. *World Development Report 2015: Mind, Society, and Behavior.*

[4] The following discussion draws heavily from the Ministry of Rural Development (KPLB) website.

In 1984, the New Approach to Village and Rural Development was introduced to improve the economic status of rural communities through the increase in quality and productivity of agriculture. The 1994 New Philosophy and Strategy for Rural Development was implemented to mould rural folks to utilise existing time, information and resources to effect economic development and family happiness. Then prime minister Dato' Seri Abdullah Badawi introduced the Rural Mega Leap Programme in 2007, which focused heavily on poverty reduction through agriculture, with three main components involving infrastructural development, economic development and human capital development.

As more and more of the population moved to urban areas, the government introduced such pro-village policies as Gerakan Desa Wawasan and the 21st Century Villages to attract rural youth to stay in rural areas. In more recent years, there has been a more conscious effort to move from agriculture and the provision of basic amenities and infrastructure towards the empowerment of rural citizens. This includes linking rural areas to modern sectors of the economy, improving rural infrastructure for the promotion of social development and increasing local participation to explore ways to work closely with local institutions. There is also some focus towards ensuring that there is a balance in the management of the utilisation of natural resources and the protection of the environment for sustainability purposes.

Rural development continues to be a central part of the government's policymaking process, where it continues to be referenced in the Eleventh Malaysia Plan (2016-2020) and more recent policy blueprints, such as the Shared Prosperity Vision (SPV) 2030. From an international perspective, the SDG also makes references to rural development, and the SDG framework itself is used to guide policymaking including in the formulation of the Eleventh and Twelfth Malaysia Plans. Today, there is an All-Party Parliamentary Group Malaysia set up by the Parliament to focus on the SDG, in a selected number of constituencies involving largely rural areas.

Arising from these policies and programmes, the national poverty rate fell to 0.4 percent in 2016 under the old Poverty Line Income (PLI) of RM980, which has since been revised to RM2,208 in 2020 – seeing an absolute poverty rate of 5.6 percent but a hardcore poverty rate of 0.4 percent. However, regional disparities between urban and rural populations and areas grew wider. The almost continuous economic growth had consequences, including increasing rural-to-urban migration and rapid urbanisations whereby urban centres developed faster while rural areas stagnated. For comparative purposes, while 72 percent of the population were based in rural areas in 1970, the twenty-first century has seen a complete turnaround where not only did urban population overtake the rural population, 77 percent of the population lived in urban areas in 2018. It is expected that by 2030, 80 percent of the population or 26 million people will live in urban areas.

As rural areas are centres of importance for agriculture, the lack of diversification of economic activities in rural areas led to agricultural productivity being outpaced by manufacturing and services sectors which were prioritised in the NEP-led era. For example, the percentage of employed persons in the agriculture sector fell from 31.2 percent in 1982 to 11.3 percent in 2017. However, it is noted that there may be some political motives involved in the rural policy and decision-making processes, where politicians focused not only on alleviating poverty but also to cultivate the rural vote for partisan purposes. This exacerbated relative poverty and inequality between states and communities in rural areas. This was also not helped by government intervention in the rice industry which benefitted certain farmers over the majority of them, who are poorer.

From a poverty and inequality perspective, poverty rates in rural areas remain higher than in urban areas – and more pronounced in certain states, for example, Sabah saw a poverty rate of 5.3 percent in 2011. Rural folks fell behind their urban peers in such various measures as average gross household income and literacy rates, while also having poorer access to amenities. It is not helped by the rural-to-urban migration, which affected the rural age demographics as younger generations of people moved to the cities for employment opportunities. This has created another issue, where firms made up for the shortfall in supply for local workers by hiring low skilled foreign labour, many of whom work in agriculture, forestry and fishing.

It is also noteworthy that many of the policies meant for the rural areas were focused towards the society rather than natural ecosystem services. A lot of decision-making on public and private projects neglected impacts on the environment, hence leading to its degradation in the form of more conversion of forests plantations and subsequently into urban land. That in itself has other consequences, for example, various forms of pollution and such devastating natural disasters as floods. Although the Environmental Impact Assessments (EIA) was introduced in Malaysia as a mandatory legislative requirement in 1988, it did not stop further pollution and environmental degradation as there were implementation issues in itself, with the EIA reports being largely voluntary for developmental projects, the conflict of interest involved between consultants and developers in the preparation of EIA reports, and the EIA criteria loopholes (Azmi, 2008).

Gaps between rural development policies and implementation

From the above, there is a gap between the policies designed by Putrajaya to benefit the rural masses and the implementation, which have not reached the objectives set. While the government has utilised the SDG framework for the policy formulation process, there is insufficient cohesion and coherence in the policymaking process to ensure that what was and is desired at the top would reach the ground. For policymakers, there is a need to consider the past experimentations with rural policies and understand the new dynamics at play for rural development from both the national and local standpoints.

Although the Ministry of Rural Development is in charge of overall rural development policies, the horizontal and vertical levels of bureaucracy involved in the decision-making and implementation processes – including such agencies as FELDA, RIDA, FELCRA and MARA – make it complicated for even bureaucrats to comprehend and deliver for the rural people. While this may be cliché, there is a clear need to streamline and clarify the overlapping roles and responsibilities of the different institutions involved to ensure that it takes fewer people and organisations involved to deliver better infrastructure and development to rural areas across the country. This would also require taking whole-of-government and whole-of-society approaches when drawing up policies and implementing them – which translates to taking into account the views of different stakeholders to ensure that policies are designed with context and the government remains sensitive towards the needs of the rural people.

In addition to that, there is an important role for strategic foresight in designing rural development policies as it ensures that the government prepares for black swan events, particularly interconnectedness of seemingly unrelated events. Oftentimes, strategic foresight is used to look at long-term trends that may affect the trajectory of a country, taking into consideration different types of disruptions including those caused by technology. This is vital for planning rural development policies, though it is worth noting that in order to do this effectively, more data must be made available and utilised to detect patterns and observe the correlation between different trends.

Some focus areas for consideration in rural development and transformation

Given that Malaysia is endowed with rich natural resources, it is essential for the country to attain strong resource management capacity and ensure that they are used with a view towards the future. As such, policies would need to be designed in such a way to ensure that the country's natural capital is used innovatively and sustainably. On top of that, there is a need to ensure that its human capital is on par to manage the said resources well, particularly in the aspect of good and ethical governance.

From the perspective of federalism and governance, recent political developments have led to more fluid, less stable federal-state relationships which may lead to tensions in jurisdictions, particularly in relations to economic, land and resource management matters. This may also jeopardise the pursuit of such economic corridors as the Northern Corridor Economic Region (NCER), East Coast Economic Region (ECER), Sarawak Corridor of Renewable Energy (SCORE) and Sabah Economic Development and Investment Authority (SEDIA), and regional cross-border growth configurations, for example, the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) and Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA).

Even in the aspect of natural resource management alone, conflicts have occurred between the federal and state governments over issues of jurisdiction. They can be affected by issues over federal regulations, ownership and control, socioeconomic and cultural differences, personality clashes and vested interests involved. This not only occurs between the federal government with Sabah and Sarawak, but also with states in the Peninsula – hence the need to emphasise on better coordination at different levels of bureaucracy between the federal and state governments.

Considering the different disruptive events that have taken place, including the recent COVID-19 pandemic, adaptability and resilience have come to the fore in policy thought leadership. As they refer to the ability to cope with and leverage on disruptive technologies and events, Malaysia must find ways to turn its weaknesses into strengths. In order to do so, the government will first need to improve accessibility, infrastructure and viability of isolated rural areas to ensure that they are connected, adapt to new market conditions and seize economic opportunities. Improving rural-urban synergies and linkages will reduce the gap between both regions, building competitive economies in rural areas to uplift the incomes and living standards of the rural population. Rural development planning should also consider building resilience at the local level through on-the-ground communities and villages – be it on pandemic planning, entrepreneurship and labour capacity.

Lastly, our "rethinking" would be grossly incomplete if we do not take cognisance of the impact and interplay that the unfolding COVID-19 pandemic will have with rural development and transformation and indeed with most of the SDGs. There are various major global, regional and national narratives and trajectories or resets emanating from COVID-19 in the media and literature, some more speculative than others. Be that as it may, it is expected that given the interrelationship and inter-connectedness of the pandemic to, and consequently impact on, rural development and transformation as well as specific SDGs, "leaving no one behind" just got that much harder! This consideration will be taken up further in subsequent sections of this chapter.

Salient issues distilled from the February 2019 Roundtable

Adding further to the conversation on rural development and transformation in Malaysia, the "Roundtable on the 2030 Agenda for Sustainable Development: Revitalizing Rural Malaysia", organised in February 2019, provided a range of insights into the issues and solutions that can be found with regards to rural development and transformation. Here are three key areas that participants were keen to focus on for rural Malaysia. This will be complemented by other takeaway messages distilled from the array of presentations and deliberations at the Roundtable.

The first key area is **broadening**, which involves broadening the policies, processes and the diversification of on-farm activities. This takes into consideration using the SDGs as a guide towards building an integrated model for policymakers to experiment with development planning and solutions – connecting rural development planning with economic development, environmental protection and social development, including gender equity and health. This would also involve promoting rural economic diversification and decent and remunerative employment for rural folks, tapping onto eco-tourism and niche markets.

The second is on **deepening** implementation to ensure that no one is left behind. This would encompass better market linkages and downstream agriculture development particularly in the upscaling of farms and upskilling of farmers to keep up with new advancements. Physical and digital connectivity will need to be upgraded to ensure rural citizens having the adequate infrastructure to tap into the different networks and opportunities available, both online and offline, while attracting younger generations to consider residing in rural regions. Further to that, rural development programmes need to have inbuilt monitoring and evaluation mechanisms to ensure that policy implementation can be constantly improved keeping pace with new dimensions and dynamics and is inclusive of non-government stakeholders (along the lines of Public-Private-People-Partnerships or P-P-P-P arrangements) for accountability and transparency purposes.

The third area relates to **regrounding** the idea of rural development and transformation and its functions in the nation-building context. This entails revisiting the meaning of transformative economies, relooking at colonially-inherited laws and rethinking institutional arrangements for policy implementation. They are crucial elements to examine in order to fully understand the incentives and disincentives for people to participate in rural economic activities, and the sentiment and sensitivities of different ethnic groups especially in Sabah and Sarawak. This will feed into future studies into the institutions involved in rural development and transformation policymaking, taking into consideration the issues of elite capture and political involvement, and ensuring that there are fewer overlapping jurisdictions. A special "interior" category should be contemplated to differentiate those living in interior areas with the rural areas, which may allow for better specialisation and prioritisation in assistance towards the rural and interior communities.

There were also other key takeaways from presentations and discussions. Many discussed the importance of rural-urban synergies and linkages, whereby the rural-urban dichotomy has increasingly been blurred and there is a case to be made to consider agropolitan development strategies – which was part of the ECER Master Plan in 2008 as an integrated scheme to fight poverty and has been implemented in rural parts of the region, though to only mixed success (Abdul Rahman, Osman and Shaharudin, 2020). This would be in tandem with agribusiness and value chains transformation which were discussed at the roundtable – providing rural communities with more income and jobs as well as connecting them to regional and global agriculture related value chains. Food system risks remain at large and is fast gathering more importance in the policy agenda especially with consideration towards dimensions of food security. These considerations were highlighted by Khazanah Research Institute whereby Jomo and Tan (2019) highlighted, among others, the need to move away from using rice self-sufficiency as a measure of national food security and consider food safety as an important component of food systems in Malaysia. In addition, participants noted the fallacy of composition and decomposition and the variations between states and between different crops. There were also discussions on the special needs of marginalised areas, where the potential creation of a new zone or segment called "interior" might be better to differentiate the needs and priorities of the rural and interior people, particularly the indigenous people.

Since the Roundtable: The COVID-19 pandemic

Since the conclusion of the Roundtable in 2019, much has happened over the past year. The COVID-19 pandemic has left the world in the lurch. Strict lockdowns and border restrictions have decimated the global economy and trade. All of this have put agri-food value chains in jeopardy, as well as rural development and transformation. This has magnified the challenges faced by the impoverished and rural communities. While governments have advocated for the use of technology to bypass the inability to connect physically due to the pandemic, this has distanced especially the rural poor from the rest in society as they do not have the sufficient infrastructure and connectivity to access such technologies. Inevitably, as the World Bank (2020) has aptly put it, the pandemic will not only keep people in poverty, but also create a class of "new poor". The United Nations Development Programme (UNDP, 2020) added that the pandemic was superimposed on the tensions between people and technology, people and the planet, as well as the haves and the have nots, and have exacerbated them in varying degrees. The UNDP estimates that global human development, a combination of education, health and living standards, is expected to fall this year – the first time since 1990, when measurements first began.

With specific reference to the SDGs, the UNDP (n.d.) contends that while the pandemic has made SDG 1 (no poverty), the bedrock of the goals more challenging, it also presents an opportunity to completely revolutionise development. For good measure, it goes on to suggest that the pandemic has given us the permission to do something almost unimaginable – the opportunity to redesign the way individuals, communities, organisations (public, private and civil societies) and governments work. Therefore, aligning COVID-19 response and recovery with the prioritised SGDs at the global as well as (and perhaps more importantly) at the our national, state (meso) and local administration levels, can help to address today's challenges while also building more inclusive economies within sustainable and resilient societies in that process.

This makes it important for governments to reconsider their development pathways, particular for their rural economies. The SDGs have become even more crucial to be utilised as policy hooks to drive rural development and transformation. The relevant SDG targets detailed by the International Labour Organization (ILO, 2017) related to the rural economy can and should serve as convenient starting points, specifically:

- **SDG 1.2:** By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

- **SDG 2.3:** By 2030 double the agricultural productivity and the incomes of small-scale food producers, particularly women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment

- **SDG 8.2:** Achieve higher levels of productivity of economies through diversification, technological upgrading and innovation, including through a focus on high value added and labour-intensive sectors

The SDG targets above are highly relevant globally and to Malaysia considering the current government's ambition to "leave no one behind" and provide inclusive development through the SDGs, the Twelfth Malaysia Plan and the Shared Prosperity Vision (SPV) 2030. They ought to be key in formulating national policy objectives for rural development and transformation as they can help uplift the rural and poor communities, bridge the urban-rural gap, and increase the diversification and productivity of the rural economy. In order to attain this, there is greater need for collaboration and cooperation between communities, federal-state governments and countries to provide solutions that work especially for the rural people and ensure that they are not left behind, particularly with the medium- to long-term socioeconomic impacts of the pandemic.

Way forward

Moving forward, there is a need to adopt food policy goals reflecting changing circumstances and consistent with broader economic development aspirations by making food systems more:

- Reliable by ensuring ample availability and affordability of staple and other foods; mitigating production risks posed by weather and other natural factors; mitigating market performance risks, including from external shocks; and accurately monitoring status/performance;

- Inclusive by providing many stable and remunerative livelihood opportunities (from fork to farm); meeting the food and nutritional security needs of low-income households; contributing to improved diets and nutritional outcomes more generally; and making the most effective and equitable use of invested public resources;

- Competitive by attaining higher and sustained levels of productivity; realising synergies and economies of scale/scope; making effective use of locally available raw materials and minimising food losses; and meeting consumer needs and preferences for food variety, quality, safety and ethics; and

- Environmentally sensitive by preventing or minimising adverse environmental impacts associated with food supply and distribution; minimising food waste; adapting and minimising contributions to climate change; and promoting awareness and pursuit of "responsible consumption".

There is also a need for better diversification and coordination as well as maximising finance for development:

- Diversification, which comprises on-farm diversification by adding more crops, livestock, fisheries/aquaculture (from low to high-value mix) or strategic response to potential threats (climate change, price risks or policy changes) as well as off-farm (non-farm) diversification into upstream (certified seeds, bio-fertilisers, mechanisation services), midstream (processing, high-value end-uses) and downstream (packaging, traceability, food safety, branding, logistics);

- Coordination, which comprises horizontal coordination involving producer organisations and cooperatives for purposes of group purchases and sales, linking to expanding markets, as well as vertical coordination involving productive alliance with links to end-buyers or off-takers; and

- Maximising finance for development towards ending extreme poverty and boosting shared prosperity by leveraging private sector guided by Hamburg Principles adopted by G20 in 2017 in-tandem with helping governments to crowd-in private sector to help meet development goals as well as utilise blended finance solutions to facilitate development of more agribusiness value chains/agro-enterprises.

The transformation of agro-food systems for food and nutrition security should be better coordinated and guided in the following manner:

- From protecting farmers to facilitating the structural transformation of agriculture and empowering farmers in the process;

- From production-centric/supply ("farm to fork") orientation to demand-led food system ("fork to farm") perspective;

- From strategic commodities to commodity neutral at the national level and adopt a territorial/meso spatially differentiated approach to food security, taking into account natural resources, demographics, institutional capacities, connectivity and food preferences;

- Improving competitiveness of local production and value chains as well as facilitating (rather than controlling) a healthy and complementary trade in food and food/feed ingredients; and

- Proactively and systematically, including through public-private-people partnerships, avoid the high social costs commonly incurred in "modernised" food systems (linked to obesity, food waste, unsafe food, heavy environmental footprints).

Given the extent of self-imposed rigidities, mostly on the part of federal and meso/state as well as local level public sector reported in the literature and in view of increasing uncertainties, variations and risks moving forward in a post COVID-19 world, there is a basic need to emphasise flexibility/improvisation in implementation, especially at different state and location given their differences, including in resource endowment, natural capital, land use restructure and tenure. In short, we need to develop Malaysia's version of Ang (2016) "directed improvisation", which Ang (2016 and 2017) argues lie at the heart of how China escaped the poverty trap.

For good measure, we will also need to identify and shine a light on iconic, strenuous protagonists (as done in Wong, 2011) at the macro, meso (especially) and local administration levels, including for "interior" areas. The objective is to highlight what is possible and has been achieved by such protagonists.

Lastly, there is an urgent need to utilise "proof of concept" innovative efforts/commitments for particular SDGs that are important for rural development and transformation in the Malaysian biosphere or ecosystem so as to compile flagship examples of successful rural development and transformation through SDG programmes and projects, including those undertaken by the first of its kind, All-Party Parliamentary Group Malaysia on SDGs (APPGM-SDG).

Conclusion

In retrospect, we note with some concern that by 2030, Malaysia's population will increase pressure on food demand, water use and energy consumption. We will witness major demographic shifts, from the long-term trends of increasingly urban populations, including cross-border migration, driven by conflicts, natural disasters and the search for better livelihoods, which will disproportionally populate the already rapidly growing urban areas. Inequalities and disparities will hopefully be lessened, by our focused efforts on "leaving no one behind".

These challenges will be exacerbated by climate change as well as unforeseen events like the unfolding COVID-19 pandemic, which are capable of derailing decades of progress in economic development and food security. In a changing, resource-scarce world, we need new models for consumption and production and economic transformation, especially rural development and transformation.

The fourth industrial revolution technologies, for example, artificial intelligence coupled with the digitalisation of agriculture, will inevitably drive social change, enabling new ways to optimise efforts to effect inclusive and sustainable rural transformation.

Ultimately, in aspiring and striving for transformation, there is a serious need to not only take the above ideas into consideration in crafting rural development and transformation policies, strategies and programmes but also the change in the country's decision-making and implementation processes to accelerate the transition to a new paradigm of rural development and transformation. Good governance and an effective delivery system will form the cornerstone in order to ensure that the revitalisation of rural Malaysia is not a holy grail, but rather a focused national effort to turn rhetoric to reality in many if not all parts of rural Malaysia.

This resonates well with Sultan Nazrin Shah's (2019) pointed conclusion in Striving for Inclusive Development that, "Increasingly, future prosperity and inclusiveness will be co-dependent.... Without more inclusive policies, the country may continue to squander valuable resources, talent, and opportunities, thereby putting at risk the cohesion essential for social progress and the well-being of all Malaysians."

Ultimately, much will depend on Malaysia's collective articulation and clarity of purpose of rural development and transformation in relation to SDGs, dovetailed to an overall desired structural transformation as well as inclusive sustainable growth trajectory that Malaysia as a nation has elected to pursue, coupled with how well key stakeholders at all levels take ownership and exercise unflagging commitment for Malaysia to realise its full potential. There is so much that can be achieved, responding together as a nation!

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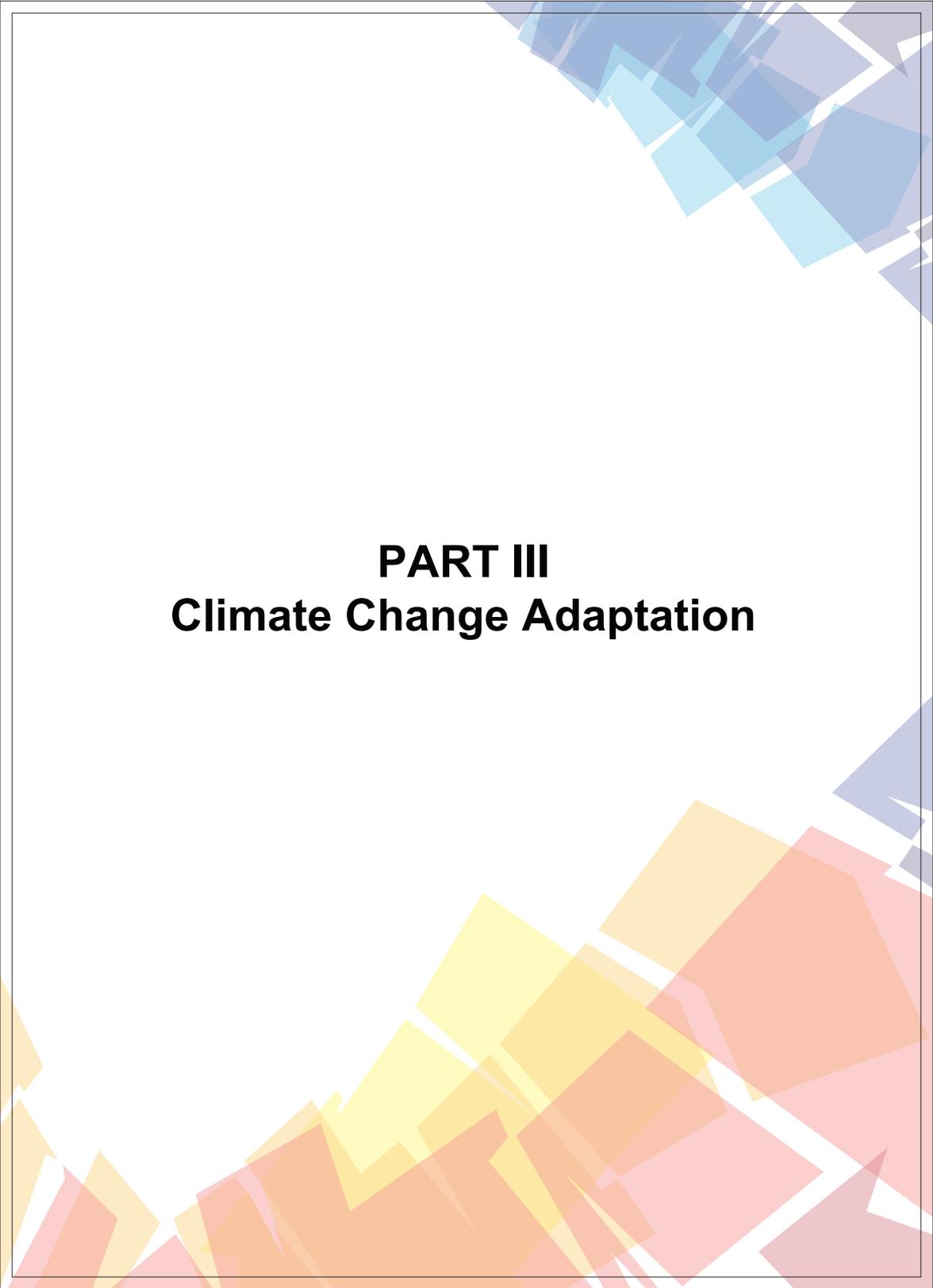
PART III
Climate Change Adaptation

The Relevance of CORDEX Southeast Asia Regional Climate Projection: Malaysia's Perspectives

Fredolin Tangang & Chung Jing Xiang

Introduction

Mounting scientific evidence unequivocally points to the fact that climate change is real, worsening and will pose a major threat to human as well as natural systems in the coming decades if substantial action is not taken to mitigate and adapt its impacts (IPCC, 2014; IPCC, 2018). As the current global mean temperature has already exceeded 1.16°C above the pre-industrial level and the atmospheric carbon dioxide (CO_2) has reached 417 ppm, the Intergovernmental Panel on Climate Change (IPCC) Special Report of 1.5°C indicated that the 1.5°C threshold is likely to be reached between 2030 and 2052 if global warming continues at its current rate (IPCC, 2018). The report had also indicated that climate-related risks in critical sectors including health, livelihoods, food security, water supply, human security and economic growth are projected to increase with global warming of 1.5°C, and elevate further with 2°C and beyond.

Furthermore, the nationally pledged mitigation ambitions submitted under the Paris Agreement would unlikely be able to limit the warming below 1.5°C (IPCC, 2018). In fact, the likelihoods for the world to successfully cap the warming at 1.5°C and 2.0°C have been estimated to be at a mere 1 percent and 5 percent respectively (eg. Raftery et al., 2017). This reflects the great challenges in achieving the target as ambitioned in the Paris Agreement. Therefore, while mitigation needs to be continually pursued and intensified, countries in the world, especially those least developed and developing ones, would need to strategise and adapt to the impacts of climate change for climate resilience.

According to the IPCC, climate change adaptation is defined as a practice of identifying options to adapt to climate change and evaluating them in terms of criteria such as availability, benefits, costs, effectiveness, efficiency, and feasibility (IPCC, 2012a). This implies a broad and wide range of criteria to be considered, and by no means to be a simple exercise. The evaluation process of an option incorporates various disciplines and sciences. However, this action is only necessary if it is robustly determined that the level of risk of climate change impact increases as global warming intensifies. A risk of climate change impact, on the other hand, is determined by the level of vulnerability and exposure to a climate hazard (Figure 1; IPCC, 2012b). The exposure is defined, according to the IPCC, as the presence of people, livelihoods, environmental services and resources, infrastructure, socio-economic or cultural assets in places that could be adversely affected by a climate hazard (IPCC, 2012b). The vulnerability, on the other hand, is defined as a propensity or predisposition to be adversely affected by a climate hazard (IPCC, 2012b). However, the determination of how climate hazards would change in future periods must precede the evaluation of exposure and vulnerability (Figure 1). This emphasises the importance of generating robust future climate information and evaluating changes of mean climate and extremes in future periods.

FIGURE 1. Illustration of the level of risk of climate change impacts as a function of climate hazards, exposure and vulnerability (modified from IPCC 2012b)
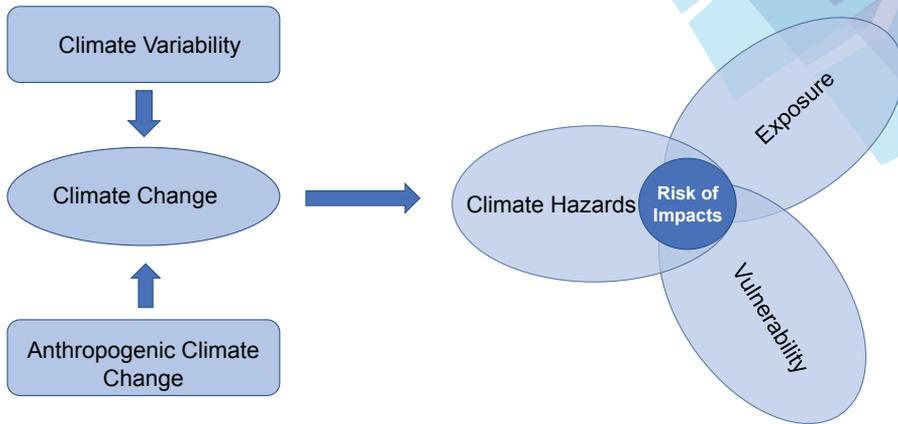
Since the assessment of risk of climate change impacts is usually done at a local scale, future climate information for this purpose must be tailored for such a locality. Incorrect information could lead to failed adaptation strategy or even maladaptation (Barnett and O'Neill, 2010; Magnan et al., 2016; McMullen et al., 2019). This is where the initial challenge lies for most countries, especially those least developed and developing ones including Malaysia. The common issue at hand is the lack of detailed future climate projection that can be reliably used for the assessment of risk and a basis for devising adaptation measures. Such detailed information may not be sourced from the IPCC reports but need to be independently generated. However, the process of generating robust future climate change information at a local scale is highly technical, requires huge computing resources and is time consuming. While most least developed and developing countries do not have the capacity to generate detailed future climate information, the recent progress of the Coordinated Regional Climate Downscaling Experiment (CORDEX) (Giorgi et al., 2009), a top-down initiative by the World Climate Research Programme (WCRP) of the World Meteorological Organisation, can be leveraged.

This article discusses this initiative and the progress made in Southeast Asia under the CORDEX Southeast Asia (CORDEX-SEA), and how countries in the region can benefit from such a well and globally coordinated programme. This article also demonstrates the application of CORDEX-SEA[1] climate projection data in highlighting some key findings of projected climate change in Malaysia.

Regional climate downscaling and CORDEX framework

Projecting future climate requires a global climate model (GCM) (eg. Flato et al., 2013), a tool that allows evaluation of responses of the climate system to various forces. In the case of global warming, GCMs have been the main tool for scientists in evaluating future climate in response to various greenhouse gas emission scenarios. In conjunction with the IPCC, GCM simulations by modelling centres around the world have been coordinated under a common experimental protocol of the Coupled Model Intercomparison Project (CMIP) (Meehl et al., 2000; Eyring et al., 2016). GCM simulations under CMIP became the basis of IPCC key findings of climate change in future periods (IPCC, 2013). There have been a number of CMIPs implemented, with the CMIP6 being the latest one to feed into the on-going IPCC Sixth Assessment Report (AR6).

The limitation of GCMs, however, is their coarse resolution. With typical horizontal resolutions of 100-300 km, GCM is not able to resolve local features such as topography, coastlines and land use, which are important in characterising climate processes at the local scales. Furthermore, impact models such as hydrology models or crop models, which are used to evaluate impacts of future climate change, usually require localised outputs of climate models as inputs.

In Southeast Asia – where topography, coastlines and landmass distribution are significantly complex – GCM simulations may not be adequate in resolving local climate. Figure 2 shows the landmasses and coastlines of the IPSL-CM5A-LR model (Dufresne et al., 2013) that comes with a spatial resolution grid resolution of 1.9o × 3.75o, ie. ~ 200 km × 375 km. Such a coarse grid could hardly capture local climate complexity, although regional climate phenomena (such as a monsoon) can still be reasonably well simulated.

Increasing the resolution to better capture the regional and local processes comes with great challenges, such as huge computing resources. It is only recently that the modelling community had attempted to carry out the high-resolution climate simulation of 50 km under the High Resolution Model Intercomparison Project (HighResMIP v1.0) for CMIP6 (Haarsma et al., 2016). It may take some years for such a high-resolution GCM simulation to become a standard run in CMIP.

FIGURE 2. The model's representation of Southeast Asia landmasses in the IPSL-CM5A-LR GCM (a) and RegCM4 RCM (b) of ~ 200 km × 375 km and 25 km × 25 km resolution, respectively
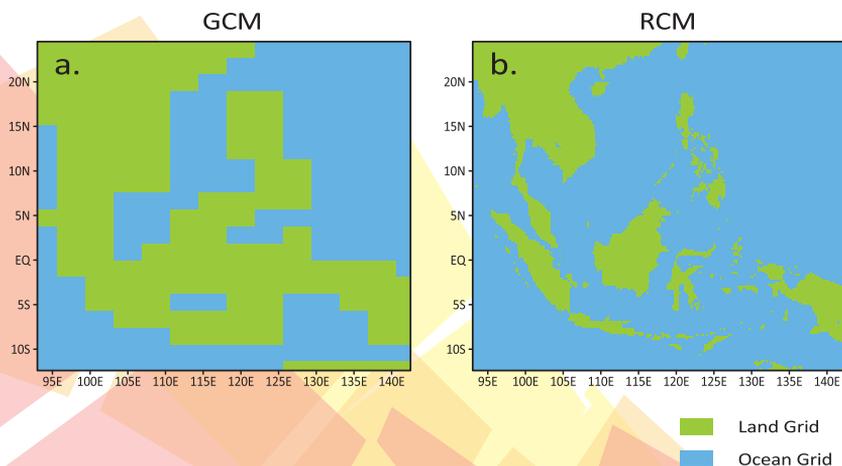
The needs for climate change information at the regional to local scale have long been recognised in order to assess the impacts of climate change on the human and natural system. However, due to the coarser resolution of the GCMs, such needs were unmet. For bridging the spatial scale gap, scientific communities have developed various "downscaling" techniques to refine the climate information derived from the GCMs. These "downscaling" techniques fall into two categories – statistical and dynamical. The statistical downscaling technique relies on the relationship between the large-scale predictors and regional-to-local-scale predictands, which are then applied to the output of GCM simulations for future projection (Hewitson and Crane, 1996). The reliability of this approach is dependent upon long and reliable observation data to build a robust statistical model. However, in places where observational record is short and not reliable, statistical downscaling techniques may not be the appropriate choice. The dynamical downscaling technique, on the other hand, requires a Regional Climate Model (RCM) to be nested within and constrained at the boundary by the GCM outputs. The resolution of the RCM can be set to a scale that can resolve regional and local climate complexities. Figure 2 demonstrates how a 25 km resolution of the RegCM4 model resolves the coastlines and topography in Southeast Asia much better than the IPSL-CM5A-LR GCM.

Recognising the need for a framework for a better coordination in downscaling activities, the World Climate Research Programme (WCRP) of the World Meteorological Organisation (WMO) has established in 2009 the Coordinated Regional Climate Downscaling Experiment (CORDEX) (Giorgi et al., 2009). Much like CMIP for GCMs, CORDEX provides a framework for RCM model evaluation and regional climate projection. For more than a decade after its establishment, CORDEX regional climate downscaling activities have been well recognised with its 14 regional domains covering almost the entire globe[2] and publications of hundreds of scientific articles (Giorgi, 2019). In fact, the generated downscaled data at 50 and 25 km resolutions (12.5 km for EURO-CORDEX) have been made available to user communities through the Earth System Grid Federation (ESGF) data portal.

CORDEX has also created the so-called "Flagship Pilot Project", a framework that allows coordination of projects addressing specific scientific questions within CORDEX domains. The use of CORDEX data for climate change impact assessment at regional to local scales serves to provide a scientific basis for decision-making processes and formulation of adaptation measures. The generated data are also currently being used to produce the Regional Atlas of the IPCC AR6 Report. The CORDEX framework also promotes collaboration in conducting the simulations among institutions. This has been a viable way to produce multi-model and multi-scenario simulations for robust projections that would have been difficult to achieve by a single institution or country. Adequate sampling of probable outcomes by employing a multi-model and multi-scenario approach is necessary for uncertainty estimation in the projection (eg. Valle et al., 2009). This is illustrated in Figure 3 of multi-model simulations where the best estimate of projected changes can come from the ensemble mean with the range as an estimate of uncertainty.

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[2] www.cordex.org.

FIGURE 3. Illustration of projected temperature change best estimate of ensemble mean together with the projection spread (adapted from Kirtman et al., 2013)
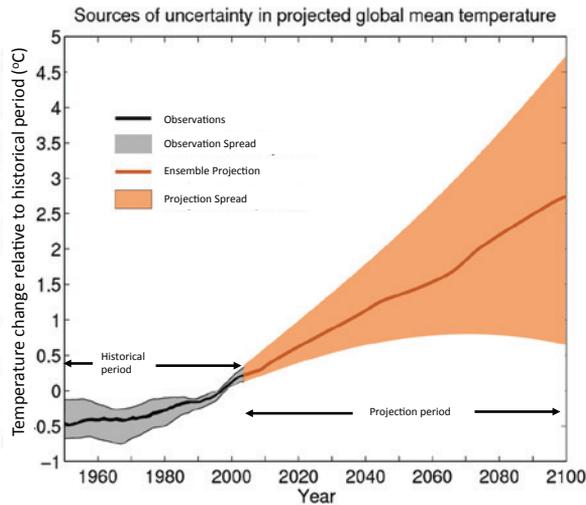
The CORDEX Southeast Asia (CORDEX-SEA) is the 14th domain of CORDEX (Figure 3). This was initially the Southeast Asia Regional Climate Downscaling (SEACLID) project funded by the Asia Pacific Network for Global Change Research (APN), but later streamlined into CORDEX (eg. Tangang et al., 2018). In its first phase simulations, a total of 11 GCMs have been downscaled using seven RCMs at a resolution of 25 km (Tangang et al. 2020). The CORDEX-SEA simulations have been conducted by various institutions from within and outside the regions, and represent the most comprehensive set of simulations in Southeast Asia thus far (Tangang et al., 2020). A number of scientific articles have been published out of these CORDEX-SEA simulations, which contributed to enhanced understanding of how future climate and extremes would be changing in Southeast Asia (eg. Liew et al., 2016; Ngo-Duc et al., 2017; Cruz et al., 2017; Tangang et al., 2018; Tangang et al., 2020; Superi et al., 2020; Nguyen-Thi et al., 2020).

Also, as part of the SEACLID project, a data portal called the Southeast Asia Regional Climate Change Information System (SARCCIS) has been established for CORDEX-SEA data archiving and to facilitate data access to the user community (Tangang et al., 2020).[3] SARCCIS is linked to the Earth System Grid Federation (ESGF), a global climate data archiving system, for worldwide accessibility. With easy access to CORDEX-SEA downscaled climate data, users – especially from the vulnerability, impact and adaptation (VIA) community – would now be able to use the high-resolution climate projection data to assess the risk of impacts on critical sectors and formulate adaptation strategies. Subsequently, this would lead to narrowing down the knowledge gaps of climate change impacts in Southeast Asia as previously highlighted in the IPCC AR5 Report (Hijioka et al., 2014).

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[3] http://www.rucore.ru.ac.th/SARCCIS.
[4] https://esgf.llnl.gov/.

FIGURE 4. The ensemble means of projected mean surface temperature changes relative to the baseline period (left axis) and pre-industrial global mean temperature (right axis) under RCP4.5 and 8.5 emission scenarios, plotted together with plausible ranges. Also shown are the ensemble means during the historical period
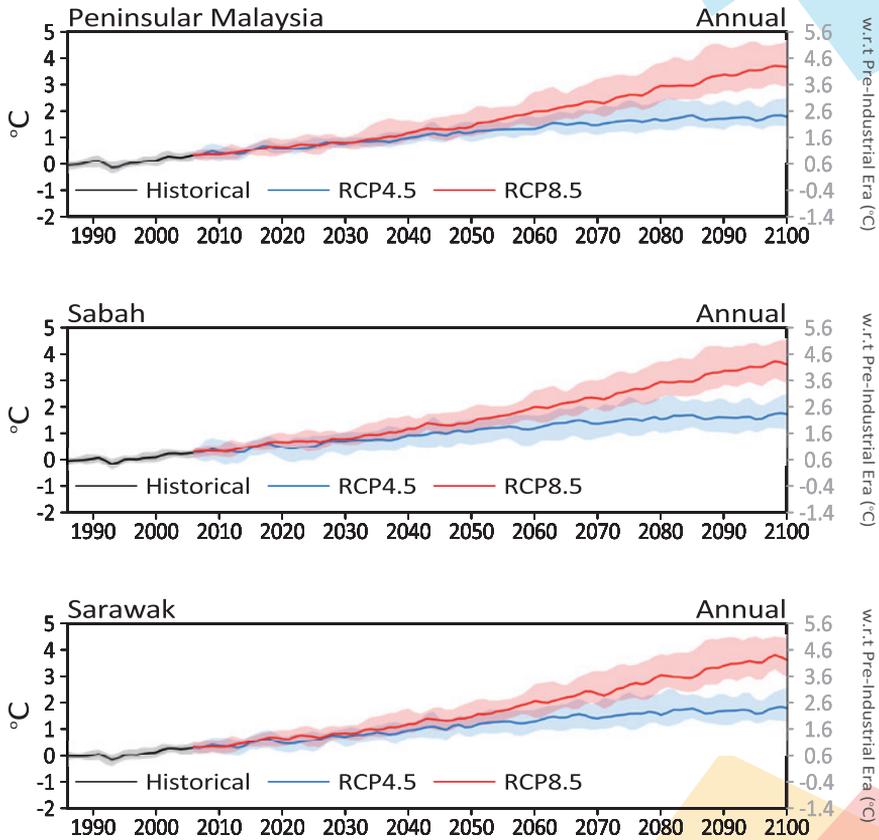
Leveraging CORDEX Southeast Asia: Projected future climate change in Malaysia

Countries in Southeast Asia can leverage on the availability of CORDEX-SEA simulations for climate change VIA studies and national assessment. In countries where climate projection data is not available or limited, CORDEX-SEA climate projections can certainly fulfil some data requirements. For example, CORDEX-SEA data has been used in providing detailed analysis of future climate in Thailand (Tangang et al., 2019). In the Philippines, Indonesia and Vietnam, CORDEX-SEA data has been used for climate change assessment at the national level.

Likewise, CORDEX-SEA can fulfil the data needs in Malaysia. Malaysia has conducted its own regional climate downscaling, albeit with a limited number of GCMs and RCMs as indicated in its third national communication (NC3). Furthermore, the climate projection data used in NC3 were that of the CMIP3 GCMs. Hence, Malaysia can leverage on the availability of CORDEX-SEA climate projection data, which are based on CMIP5 GCMs. In this section, we highlight key findings of the CORDEX-SEA climate projection for Malaysia. Detailed information of ensemble members of CORDEX-SEA simulations and models' performances during the baseline period can be found in Tangang et al. (2020).

Figure 4 shows the times series of projected ensemble means of surface air temperature changes for Peninsular Malaysia, Sarawak and Sabah, relative to the mean temperature of 1976-2005 baseline period (left axis) and pre-industrial global mean temperature (right axis). Unlike rainfall, the projected changes of mean temperature are roughly spatially uniform throughout the country. Under the worst-case emission scenario of RCP8.5 (van Vuuren et al., 2011), the temperature in Malaysia is projected to monotonic increase to about 4.0-5.0°C relative to the global mean temperature during the pre-industrial era by 2100.

Table 1 provides further details of the projected changes of surface air temperature ensemble mean and respective ranges for early (2011-2040), middle (2041-2070) and late century (2071-2100). These values represent the climatological mean of annual changes of the 30-year periods, relative to the baseline period of 1976-2005. All values are significant and robust where significance is measured at 90 percent level above random noise while robustness signifies at least half of the ensemble members agreed with the sign of changes in the ensemble mean.

TABLE 1. The projected changes of mean surface temperature together with plausible ranges, averaged over Peninsular Malaysia (PM), Sabah (SB) and Sarawak (SR) for Early Century (2011-2040), Middle Century (2041-2070) and Late Century (2071-2100) relative to baseline period (1976-2005). Unit is °C.

Scenario	Early Century			Middle Century			Late Century		
	PM	SB	SR	PM	SB	SR	PM	SB	SR
RCP4.5	0.75 [0.65, 0.94]	0.65 [0.21, 0.94]	0.67 [0.37, 0.93]	1.36 [1.19, 1.75]	1.26 [0.72, 1.69]	1.31 [0.92, 1.73]	1.74 [1.46, 2.39]	1.64 [1.12, 2.29]	1.69 [1.34, 2.32]
RCP8.5	0.81 [0.62, 1.14]	0.8 [0.60, 1.11]	0.82 [0.64, 1.11]	1.82 [1.45, 2.41]	1.81 [1.44, 2.32]	1.84 [1.52, 2.36]	3.15 [2.57, 4.11]	3.14 [2.58, 3.97]	3.17 [2.7, 4.06]

FIGURE 5. The projected percentage changes of mean annual rainfall (PR) of early century (EC), middle century (MC) and late century (LC) relative to baseline period. The forward slash indicates significance at 90 percent level whereas backward slash represents robustness, ie. more than half of the ensemble members agreed in the direction of change to that of the ensemble mean.
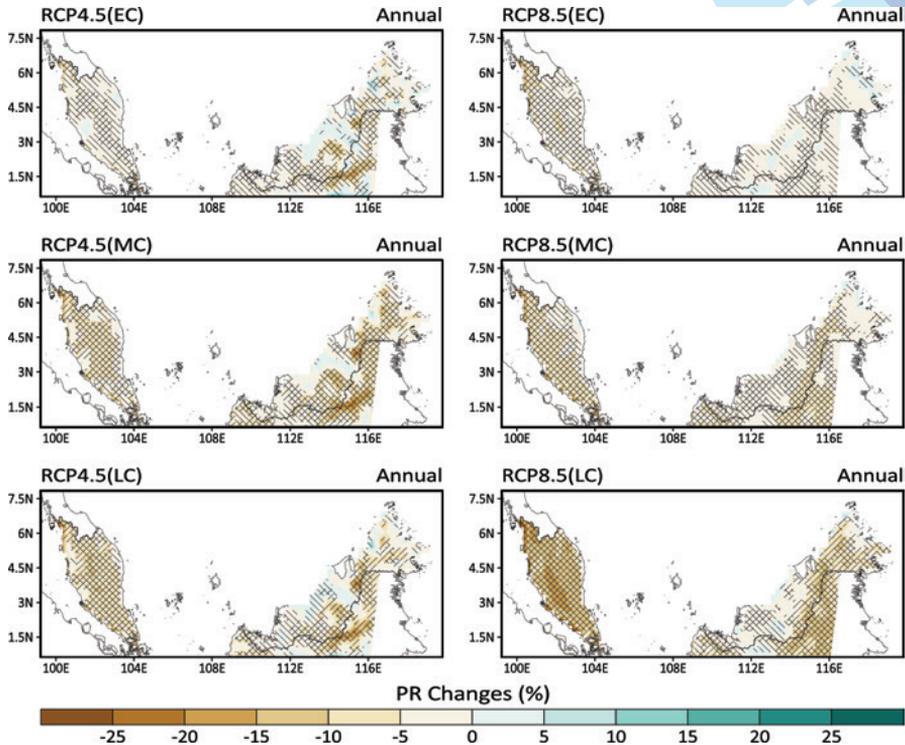
The projected changes in mean annual rainfall (PR) is shown in Figure 5. Generally, the annual mean precipitation in Malaysia is projected to continually decrease, especially in Peninsular Malaysia during the middle and late century periods, with a magnitude of projected reduction of approximately 15 percent relative to the baseline period. However, by the end of the 21st century under RCP8.5, the magnitude of projected rainfall decrease in Peninsular Malaysia increases to 15-20 percent and can be approximately 25 percent in some areas, especially in the northwest and interior regions. It is interesting to note that even in the early period of the 21st century under RCP4.5, signs of drying trend in the northwest region of Peninsular Malaysia already prevailed. The projected rainfall decreases over this area relative to the baseline period is even larger under RCP8.5. Unlike Peninsular Malaysia, the projected drying trend in Sabah and Sarawak does not dominate the entire region. There is a tendency for a drying trend in the interior parts while wetting trends in the coastal areas. There are also seasonal differences in the magnitude of rainfall reduction with largest in the months of June-July-August and March-April-May under RCP8.5 by the end of the 21st century (not shown).

FIGURE 6. The projected changes of seasonal rainfall (PR), extreme rainfall indices (RX1DAY, R20MM and CDD) for December-January-February (DJF), March-April-May (MAM), June-July-August (JJA) and September-October-November (SON) over Peninsular Malaysia during end of the 21st century and under RCP8.5 scenario
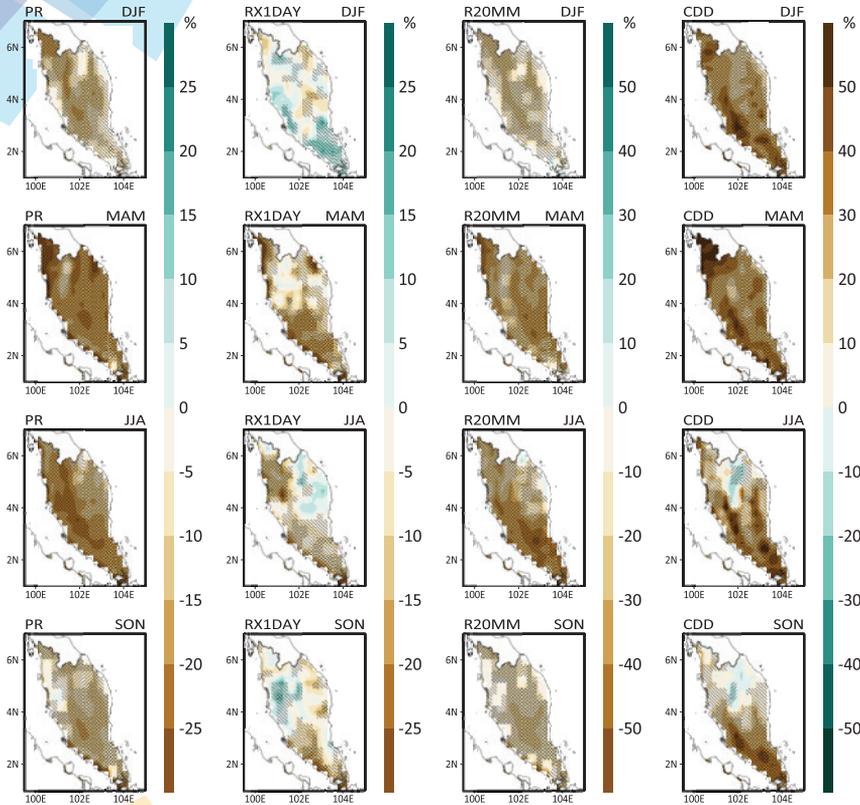
The changes of mean rainfall throughout the year is basically contributed by the changes in the rainfall frequency, duration and intensity. Figure 6 shows the projected seasonal changes of mean rainfall in Peninsular Malaysia during the end of the 21st century under RCP8.5, plotted together with three indices of extreme rainfall (Zhang et al., 2011). The RX1Day is the monthly maximum 1-day rainfall which measures the rainfall intensity. The R20mm is the number of days that the daily accumulated rainfall exceeds 20 mm, a threshold of heavy rainfall (Tan et al., 2019). R20mm measures the frequency of extreme rainfall. The CDD is the number of consecutive days without rainfall measuring the duration of dry spells. The projected changes of mean rainfall vary seasonally with largest reductions during MAM and JJA (Figure 6). It is interesting to note that the reductions in mean rainfall appear to be contributed by the decrease of rainfall intensity, frequency and increase in dry spells. However, during DJF, JJA and SON seasons, in some areas the rainfall intensity is projected to increase compensating the effects of reduction in the frequency of heavy rainfall and increase in dry spells. Interestingly, for extremely heavy rainfall (R50mm), significant increases have been projected in some areas (not shown).

This implies that climate change is projected to intensify dry spells as well as extremely heavy rainfall that can cause flooding. In addition, the projected increase of CDD in Sumatra and Kalimantan, Indonesia during JJA and SON in future warmer periods implies elevated risks of annual forest fires and haze episodes instead of inter-annually, following the El Niño periodicity of once in 3-5 years (Supari et al., 2018; Supari et al., 2020; Tangang et al., 2020). However, much worse droughts could likely happen in these regions taking into consideration the compounding effects of climate change and El Niño in future warmer periods. This represents a major risk factor in terms of transboundary haze episodes and air quality for Indonesia and surrounding countries including Malaysia and Singapore.

Compounding effects of anthropogenic climate change and climate variability

The projected changes indicated in the previous section mainly represent the anthropogenic or human-induced component due to increased greenhouse gases emission and dwindling carbon sink. In the real world however, observed climate fluctuation can be due to both the anthropogenic component and the natural climate variability (Figure 1). In the Southeast Asia region, natural climate phenomena such as the El Niño-Southern Oscillation (ENSO), Indian Ocean Dipole (IOD) and Madden-Julian Oscillation (MJO) can induce significant anomalous climatic conditions even in the current climate. Occurrences of flood and droughts in the current climate are largely attributed to these phenomena. In the inter-annual time scale, ENSO and IOD have been shown to influence mean and extreme rainfall in the region, including Malaysia and Indonesia (Tangang and Liew, 2004; Liew and Tangang, 2005; Tangang et al., 2017; Supari et al., 2018; Amirudin et al., 2020). Similarly, in the intra-seasonal time scales, MJO has been shown to affect mean climate and rainfall extremes in the region, especially Malaysia and Indonesia (Tangang et al., 2008; Xavier et al., 2020).

However, in future warmer periods, the characteristics of these natural climate variability phenomena can also be influenced by global warming. For example, the extreme El Niño equivalent to those of years 1982/1983, 1997/1998 and 2015/2016 is projected to be twice more frequent in a warmer world by the end of the 21st century (Cai et al., 2014a). The characteristics of La Nina (Cai et al., 2015), Indian Ocean Dipole (Cai et al., 2014b) and Madden-Julian Oscillation (Maloney et al., 2018) are also projected to change in future periods of warmer world. Hence, in a future warmer world, anomalous climate conditions may not be entirely due to anthropogenic climate change but a compounding effect of both anthropogenic climate change and climate variability. However, the projected changes highlighted in the previous section mainly represented the effects of anthropogenic climate change. In such analyses, the effects of natural variability are basically not included. This is because averaging analysis of ensemble members in a duration of 30 years would eventually eliminate the natural variability. Besides, the ability of CMIP5 GCMs in simulating the major modes of climate variability was modest (IPCC, 2013). For complete information of future climate hazards, both effects of climate variability and anthropogenic climate change must be considered (Figure 1).

Policy implications in climate change adaptation, disaster risk reduction and sustainable development

A country would need to have a national climate adaptation plan or policy to ensure climate resilience and minimisation of climate change impacts. However, any plan or policy towards climate resilience must be evidence-based to avoid unintended consequences or maladaptation. In the previous section, we have demonstrated the usefulness of CORDEX-SEA multi-model and high-resolution climate projection data for Southeast Asian countries. While such information of future climate is crucial to determine future hazards, it is equally critical to evaluate the levels of exposure and vulnerability of these sectors, communities or areas to these sectors, communities or areas to these climate hazards (Figure 1). However, the details of vulnerability and exposure assessments are sector, community and area specific and beyond the scope of this paper. However, it has been highlighted that knowledge gaps in how climate change would be affecting critical sectors in Southeast Asia remains large (Hijioka et al., 2014). There is a need for more studies in assessing the risk of climate change impacts by researchers from the VIA community. While in the past, lack of access to high-resolution climate projection data hindered such studies, the availability of CORDEX-SEA climate projection data should facilitate and expedite these studies. In fact, in some countries a number of studies have already been implemented or ongoing. For example, Tan et al. (2019; 2020) have utilised CORDEX-SEA climate projection data in their studies in assessing the impacts of climate change on water balance in Johor and Kelantan river basins. Subsequently, the number of risk and impact assessment studies would increase, and the findings would become important inputs to the formulation of adaptation plans or policy for climate resilience.

Addressing the impacts of climate change and increasing climate resilience must not be seen as a separate agenda from those of the United Nations' disaster risk reduction (DRR) and Sustainable Development Goals (SDGs). The Sendai Framework Disaster Risk Reduction (SFDRR) (2015-2030) identifies four priority actions including understanding disaster risk, strengthening disaster risk governance, investing in disaster risk reduction for resilience and enhancing disaster preparedness for effective response (UNISDR, 2015). According to the recently released United Nations Disasters Risk Reduction (UNDRR) report on 13 October 2020, in conjunction with the International Day for Disaster Risk Reduction, in the period of 2000-2019 a total of 7348 disasters events have been recorded worldwide, with 6681 events or 91 percent are climate related (UNDDR, 2020).

Hence, addressing the risk of climate change impacts through adaptation and mitigation efforts would commensurate well with the priority actions in SFDRR. In addition, climate change and disaster risk pose fundamental threats to sustainable development goals (SDGs). The negative impacts of climate related disasters could slow down or even roll back decades of development progress. Hence, addressing climate change through adaptation and mitigation efforts would also be in synergy with SDGs. This reiterates the relevance of generating robust climate information at finer scales in addressing climate change risk, DRR and SDGs.

Conclusion

For climate resilience, countries in Southeast Asia need to have evidence-based adaptation plans or policy. "What to do" and "how to do" in adaptation plans would require information on the levels of risk of impacts of future climate change, which are dependent on the detailed information of future climate hazards, the exposure and vulnerability of sectors, communities or areas. Robust climate projections at local scales are needed to evaluate future climate hazards. In the past, the scale-gap between the GCM outputs and data needed for local impact assessment hindered research in VIA. The establishment of CORDEX has been successful in bridging this scale-gap. In particular, the availability of CORDEX-SEA multi-model and high-resolution (25 km x 25 km) would facilitate such studies in the region. The on-going further initiative in downscaling at 5 km x 5 km resolution over several sub-domains in Southeast Asia under CORDEX-SEA Phase II would be even more relevant, especially for basin-scale studies.[5] Eventually, the findings would help the countries in formulating adaptation plans for climate resilience. In fact, CORDEX-SEA projection data has been or currently being used for climate change assessment at the national level in the Philippines, Vietnam and Indonesia. Detailed climate projection information may not just relevant for assessing the risk of climate change impacts but also DDR and SDGs.

In this paper we have demonstrated the use of CORDEX-SEA climate projections for Malaysia. Based on this analysis, Malaysia is projected to experience drier conditions relative to the baseline period (1976-2005), especially during the middle and end of the 21st century. This drying trend represents a potential risk to critical sectors such as agriculture and water resources. In addition, the compounding effects of climate variability, including ENSO, IOD and MJO and climate change, may exacerbate the risks in future warmer periods.

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[5] https://www.apn-gcr.org/resources/items/show/2048.

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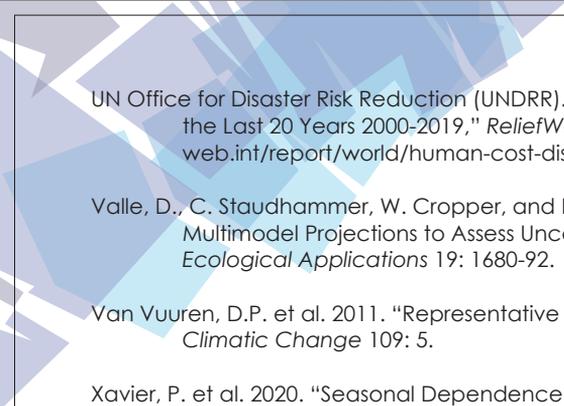
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IWRM as a Systemic Approach to Climate Change Adaptation and SDGs

Salmah Zakaria, Wan Izar Haizan Wan Rosely & Aiman Hafiz Mohd

Introduction

The impact from global warming can be catastrophic. Extreme weather conditions, sea level rise and the changing rainfall patterns have impacted crop and food production. Thus, efforts have been developed to mitigate the impact and/or to adapt to the impact. The Intergovernmental Panel on Climate Change (IPCC),[1] the United Nations (UN) body for assessing the sciences related to climate change, was established in 1988 and has 195 member countries. The UN General Assembly endorsed the action by World Meteorological Organization (WMO) and UN Environmental Programme (UNEP) in jointly establishing the IPCC to provide policymakers with regular scientific assessments on climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation options. The focus of this chapter will be on climate change adaptation in Malaysia, although some of the narratives may cover both adaptation and mitigation.

A key rationale for the establishment of the National Hydraulics Research Institute of Malaysia (NAHRIM) in 1995, as stated by the Delft Study in 1994 (unpublished), was the potential impact of climate change and the need to study climate change projections through the analysis of hydrology, hydraulic and land use data and information that was available and that can be made available over the coming years. Since then, a number of climate change projections by other agencies and universities have also been carried out and the National Climate Change Policy of 2010[2] emerged, recommending the management of resources and enhanced environmental conservation through various principles, strategic thrusts and key actions.

As climate change impact is generally water-related, this chapter will primarily discuss climate adaptation especially from the perspectives of Integrated Water Resources Management (IWRM) and Integrated River Basin Management (IRBM). Malaysia is a signatory to the Sustainable Development Goals (SDGs)[3] targeted to be implemented by 2030. The appropriate management of climate change adaptation on water-related issues will also support the targeted achievements of the SDGs. As embodied under SDG 6.5, IWRM will be a major catalyst in achieving holistic water-related management.

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[1] The Intergovernmental Panel on Climate Change (IPCC). (n.d.). Accessed October 17, 2020. https://www.ipcc.ch/.

[2] Ministry of Natural Resources and Environment, Malaysia. 2009. *National Policy on Climate Change of Malaysia.* Putrajaya: Ministry of Natural Resources and Environment.

[3] United Nations. 2018. *Sustainable Development Goal 6: Synthesis Report 2018 on Water and Sanitation.* New York: United Nations.

Climate impact in Malaysia

Malaysia, a tropical country, has a generally consistent temperature (maximum – 33°C, minimum – 23°C) and a heavy annual average rainfall; 2,420 mm for Peninsular Malaysia, 2,630 mm for Sabah and 3,830 mm for Sarawak. It has two distinct seasons, the southwest monsoon and the northeast monsoon, and two shorter periods of inter-monsoon seasons. Topographically, Malaysia has coastal plains with hills and mountains in the interior. The lowest elevation is the sea levels along the coast, and the highest is Mount Kinabalu in northern Sabah at 4,100m. The natural disasters faced are normally floods, landslides and haze. The country is hardly affected by earthquakes or tsunamis. However, on 6 June 2015 and 26 July 1976, Sabah experienced an earthquake with a magnitude of 6.0 and 6.2[4] respectively. The effects of a tsunami from the Indian Ocean were also felt on the west coast of Peninsular Malaysia on 26 December 2004.[5]

In recent years, extreme weather events have been on the increase and become more severe. Environmental degradation has worsened, with frequent occurrences of flash floods, especially in urban areas. This has been attributed to rapid development, unplanned urbanisation as well as the impact of climate change. Climate change and the melting of ice glaciers have caused sea level rise and exacerbated the occurrences of flooding.

Floods

Malaysia's topography has produced short swift rivers, flowing from the highlands into the surrounding seas. Historically, there have been flooding in the lowlands, downstream plains of river basins during the monsoon. These rainfall/flood occurrences are often accompanied by erosion and landslides, the severity varying depending on the intensity of rainfall, place and time of occurrences.

In general, floods are the most severe type of natural disaster for Malaysia from the perspective of areal extent, population affected and economic impact. The National Water Resources Study in 1982[6] estimated that some 29,000 sq km (9 percent of the total land area) were flood prone and more than 2.7 million people (18 percent) were affected annually.

A study commissioned by Malaysia's Department of Irrigation and Drainage (DID) to Deloitte Kassim Chan[7] estimated the annual cost of flooding in 2000 to be an economic loss of approximately RM3 billion (see Figure 1).

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[4] Bernama. 2015. "Sabah Earthquake a 2015 Shock for the Nation." *Malay Mail,* December 24. Accessed October 17, 2020.
https://www.malaymail.com/news/malaysia/2015/12/24/sabah-earthquake-a-2015-shock-for-the-nation/1029201.
[5] Qiu, Xiaoyi. 2005, "Malaysian Tsunami-hit Areas Recovering." *ReliefWeb*, January 26. Accessed October 17, 2020. https://reliefweb.int/report/malaysia/malaysian-tsunami-hit-areas-recovering-0.
[6] Department of Irrigation and Drainage (DID), Malaysia. 2011. "Review of the National Water Resources Study (2000-2050) and Formulation of National Water Resources Policy: Final Report." Vol. 2, Section 4.52. Accessed October 17, 2020.
https://www.water.gov.my/jps/resources/PDF/Hydrology%20Publication/Vol2WaterGovernance.pdf.
[7] Deloitte Kassim Chan. 2003. *Institutional Study on Department of Irrigation and Drainage*. Kuala Lumpur: Deloitte Kassim Chan.

The need to reposition DID arises from the need to ameliorate the significant water issues facing Malaysia

1) The rapidly increasing Malaysian population…

Population of Malaysia (1982 - 2002)
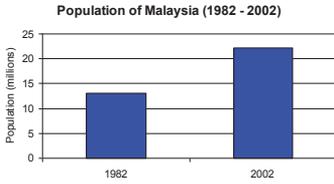
2) …Combined with increasing population *concentration*, especially in urban areas…

Population Density vs. Cumulative Population

Sarawak 16 pax/km[2]

K. Lumpur 5,340 pax/km[2]

Nat. Avg. 67 pax/km[2]
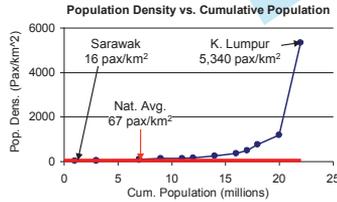
3) …Has led to certain areas suffering conditions of water stress…

Per Capita Surface Runoff vs. Cumulative Population

K. Lumpur 0.2 kcmpa/pax

Sarawak 150 kcmpa/pax

Nat. Avg. 26 kcmpa/pax
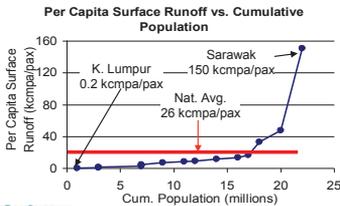
4) …Along with generalised water related problems, flooding being the most evident

Estimated Costs of Flooding in 2000

- RM850 million in direct losses
- RM 1.8 billion in lost GDP arising from lower investment over the previous 20 years
- Significant *but difficult to measure* losses due to disruption of day-to-day operations as a result of flooding
- **Resulting in a probable total economic loss of ~ RM 3 bln. annually from flood effect[3]**

Deloitte KassimChan

Note: (1), (2), (3) For additional calculational details refer to Interim Report of this study;
(4) Refer to Section 8 - Economic Analysis

Table 1 collates the cost of disasters as reported in Malaysia's Country Report to the Asian Disaster Reduction Center (ADCR) from 1998 to 2018.[9] Direct flood cost particularly between 2012 and 2018 was around RM1.0 billion; RM2.9 billion was for the Kelantan flood in 2014. The Country Report for 2011 indicated an annual cost of RM915.0 million. The annual costs for 2007, 2006 and 2005 were respectively RM1.01 billion (US$225), RM1.54 billion (US$343) and RM297 million (US$66), calculated from an exchange rate of US$1=RM4.50. Presumably these were direct flood costs and not inclusive of the gross domestic product (GDP) and other economic losses. Assuming an annual cost of RM1.0 billion for the next 20 years, from the Eighth Malaysia Plan (8MP) to the Eleventh Malaysia Plan (11MP), the total cost of floods would be around RM20 billion. This is only the direct flood costs. The Deloitte Kassim Chan report estimated the total cost, inclusive of loss to GDP and other economic costs, to be triple of direct costs. In a simple direct calculation, this would be around RM60 billion for the period from the 8MP to the 11MP.

These losses are huge, especially when compared to the 5-year allocation for flood mitigation in each 5-year Malaysia Plan from the 8MP to the 11MP (see Table 2), which is around RM19.7 billion (RM2.7+17 = RM19.7 billion). As can be seen, the budget allocation provided for the same duration was slightly less than the direct flood cost or only a third of the possible total economic cost.

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[8] Ibid.

[9] Asian Disaster Reduction Center. (n.d.). "Information on Disaster Risk Reduction of the Member Countries: Malaysia." Accessed October 17, 2020.
https://www.adrc.asia/nationinformation.php?NationCode=458&Lang=en&NationNum=16

TABLE 1. The cost of annual floods from reports submitted to ADRC[10]

Disaster Country Reports (CR)	Floods/haze	Cost (RM '000)	Remarks
CR 2018 Report by Mazni bt Azis, MetMalaysia	Annual flood	1,000	• Affected 4.9 million people; rapid development, unplanned urbanisation, climate change and environmental degradation have caused worse and more frequent occurrences of flash floods especially in urban areas.
	Dec 2014 flood	2,900	• Described as the worst flood in decades; the most significant and largest recorded flood in the history of Kelantan. • A total of 2,076 houses were destroyed and 6,696 houses were damaged. • A "tsunami-like disaster" in which 541,896 victims were displaced and 25 people were killed.
CR 2011 Report by visiting researcher from ADRC	Annual flood	915	• Affected 4.82 million people; rapid development, unplanned urbanisation, climate change and environmental degradation have caused worse and more frequent occurrences of flash floods especially in urban areas.
	Jan 2011 flood	-	• In the state of Johor, 116,660 victims from a total of 30,276 families were evacuated. • 376 of evacuation centres were opened during the period and monitored. • In Segamat, about 54,165 of victims were evacuated. • In Mersing, only 261 victims from 70 families were evacuated to two evacuation centres. • The La Nina phenomenon, which started on 28 January 2011, brought above normal rainfall.
	Nov 2010 flood	-	• Kedah and Perlis faced the worst floods.
2009 Report by MetMalaysia (CR 2008 & CR 2006)	2009 flood	-	• Flood affected 8,470 people.
	2008 flood	-	• Flood affected 10,210 people. • Landslides affected 1,422, with 11 killed and 15 injured.
	2007 flood	US$225	• Flood affected 159,000 people with 33 killed. • Flood occurred from late 2006 to Feb 2007, cost a total of RM1.2 billion.
	2006 flood	US$343	• Flood affected 138,000 people with 19 killed.
	2005 flood	US$66	• Flood affected 100,000 people with 17 killed. • Mud flood affected 2,793 with 3 killed.
	Aug 2005 haze	(900 for cloud seeding)	• Severe haze; the worst since 1997.

10 Ibid.

Disaster Country Reports (CR)	Floods/haze	Cost (RM '000)	Remarks
CR 2018 Report by Mazni bt Azis, MetMalaysia			• Forest fires in peat soils in Selangor and Pahang caused the Air Pollution Index (API) to deteriorate. • The government declared a state of emergency from 11-13 August in Port Klang and Kuala Selangor as the API reached 500 in these two areas. • Cloud seeding costing RM900,000 was carried out.
	26 Dec 2004 Indian Ocean tsunami	Reported damage – US$1,460 (RM5,130 for post-recovery and construction)	• The tsunami was caused by a 9.3 earthquake off northwest Sumatra, 680 km from Kuala Lumpur. • 5,063 people were affected with 80 local deaths and 767 injured (CR 2006). • From the National Disaster Relief Fund (NDRF), a total of RM51.3 million was spent for post-tsunami recovery and construction.
CR 2003	-	-	• No detailed reporting of disaster occurrences. Write-up focused on highland and eco-sensitive areas and slope stability.
CR 1999 & CR 1998	-	-	• Disasters reported were from 1991-1999. • Fire and explosions at Bright Sparklers factory in Sungai Buloh in 1991 claimed 22 lives. • Fire and explosions at South Port Klang in 1992 claimed 10 lives. • The collapse of Highland Towers Condominium at Hulu Kelang in 1993 claimed 48 lives. • Landslide at Genting Highlands in 1995 claimed 20 lives. • Mudslide at the Orang Asli village in Pos Dipang, Perak, on 29 August 1996 claimed 44 lives and damaged 30 houses. • Tropical Storm Greg, which struck Keningau, Sabah, in December 1996, claimed 238 lives. • Severe haze episodes from July-November 1997 caused by forest fires had adverse health effects on the people and economy of the nation. • Landslide due to heavy downpour at Sandakan, Sabah, on 7 February 1999, claimed 17 lives and damaged 4 houses. • Write-up focused on the role of agencies and their action plans under the Disaster Management and Relief Committee at federal, state and district levels, and on future requirements of disaster reductions.

TABLE 2. Flood mitigation allocation in the 5-year Malaysia Plans

5-year Malaysia Plan (MP)	Allocation (RM 'million)	Estimated direct flood cost (RM 'million)
1MP (1966-1970)		-
2MP (1971-1975)	14.00*	-
3MP (1976-1980)	56.00*	-
4MP (1981-1985)	141.00*	-
5MP (1986-1990)	155.00*	-
6MP (1991-1995)	431.00*	-
7MP (1996-2000)	845.00*	850.00 (2000)
8MP (2001-2005)	2,700.00*	297.00 (2005)
9MP (2006-2010)	-	1,540.00 (2006), 1,011.00 (2007)
10MP (2011-2015)	-	915.00 (2011), 2,900.00 (for Kelantan flood only, 2014)
11MP (2016-2020)	-	-

* https://www.water.gov.my/jps/resources/auto%20download%20images/584130f6ea786.pdf.[11]

Note: It was estimated in the 8MP that the direct flood cost would be RM17.00 billion for the next 15 years (9MP, 10MP and 11MP).

Droughts

Malaysia also suffered from the impact of severe drought occurrences in 1997 and 1998 and an extended dry spell in early 2005.[12] At times, the drought occurrences were accompanied by haze.

The northern region of Sarawak and western part of Sabah experienced severe droughts brought about by the El Nino phenomenon in late December 1997. During this period, incidences of bush fires occurred mainly within the vicinity of Miri, Lawas, Limbang and Marudi in Sarawak and Sipitang in Sabah. In Miri, bush fires occurred in the dry peat areas during the first week of February 1998. The fires spread over a total area of more than 3,000 hectares. In Lawas, bush fires occurred in peat areas covering a total area of 1,000 hectares. A few incidences of bush fires covering approximately 70 hectares were also detected in Pahang from March to April. The smoke from these peat and forest fires had resulted in severe haze episodes, especially in northern Sarawak, western Sabah, Peninsular Malaysia, Singapore, Brunei and, to some extent, southern Thailand.[13]

The cost of droughts does not only include damages due to burning of forests and agricultural land, but also of social and health hazards and other economic costs. However, the cost of droughts and related haze occurrences has not been as well calculated as that of the cost of floods.

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[11] Department of Irrigation and Drainage (DID), Malaysia. (n.d.). "Managing the Flood Problem in Malaysia." Accessed October 18, 2020.
https://www.water.gov.my/jps/resources/auto%20download%20images/584130f6ea786.pdf.

[12] Fadhilah Yusof, Foo Hui-Mean, Shariffah Suhaila Syed Jamaludin, and Kong Ching-Yee. 2012. "Trend Analysis for Drought Event in Malaysia." *Jurnal Teknologi* 57 (1): 211-8.

[13] Prime Minister's Department, Malaysia. 1999. *Malaysia Country Report 1999*. Putrajaya: Crisis and Disaster Management Unit, Division for National Security.

Sea level rise

Sea level rise caused by climate change represents around 13 percent of the total land area within 5 km of the coast.[14] The impacts of rising sea levels include increased levels of inundation and storm flooding, accelerated coastal erosion and damage to infrastructures, sea water intrusion, increased loss of property and coastal habitats, increased disease risks, as well as adverse consequences on agriculture, aquaculture, water quality, socio-economy, and so on.

Sea level has also shown a rising trend along the Malaysian coastline. The study on the impact of sea level rise in Malaysia by the National Hydraulic Research Institute of Malaysia (NAHRIM) reported an average rise of 2.73 mm to 7.0 mm per year in 30 stations along the coast of Malaysia from 1993 to 2010. The coast of Selangor and Batu Pahat recorded a total eroded area of 1,878.5 hectares and 415.47 hectares respectively. Among the selected high-risk areas along the coast of Malaysia, Batu Pahat is estimated to have experienced a 100 percent loss of development area followed by Port Klang (40.67 percent), Kedah (38.57 percent), Kuala Terengganu (4.86 percent), Kota Kinabalu (4.46 percent) and Kuching (2.64 percent). The paper by Sofia Ehsan et al. further estimated the cost of coastal flooding in Johor at RM350 million worth of infrastructure and an additional RM2.4 billion of economic losses, which is 6.86 times that of the physical losses.

A one-metre rise in sea level is expected to cause the loss of 180,000 hectares of agricultural land, and 15-20 percent of mangrove forest loss along the coastline.

Current adaptation policies and programmes

The National Policy on Climate Change of 2010[15] with its 3 objectives, 5 principles, 10 strategic thrusts and 43 key actions is well written although generic. However, looking through the key action plans, one may not be able to discern who is responsible for each of the implementations.

Malaysia's Third National Communication (NC3) and Second Biennial Update Report (BUR) to the UN Framework Convention on Climate Change (UNFCCC)[16] provided national updates in 2015. The report noted increasing temperature trends of 0.13°C to 0.24°C per decade, over the last four decades, and a slight decreasing trend in observed rainfall in Peninsular Malaysia and Sabah, but a slight increasing trend in rainfall in Sarawak. About 55.3 percent of the land remained forested with a population increase of 32.8 percent over the period 2005-2015, recording a population of 31.2 million in 2015. The main contributions to the GDP were from services (54 percent), manufacturing (23 percent), agriculture, livestock, forestry and fishing (9 percent), mining and quarrying (9 percent), and construction (5 percent).

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[14] Sofia Ehsan, Rawshan Ara Begum, Nor Ghani Md. Nor, and Khairul Nizam Abdul Maulud. 2019. *Current and Potential Impacts of Sea Level Rise in the Coastal Areas of Malaysia*. IOP Conference Series: Earth and Environmental Science, Vol. 228.

[15] Ministry of Natural Resources and Environment, *National Policy on Climate Change of Malaysia.*

[16] Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC), Malaysia. 2018. *Malaysia Third National Communication and Second Biennial Update Report to the UNFCCC*. Kuala Lumpur: MESTECC.

The NC3 assessment of vulnerability provided detail updates in areas of climate change projections (on temperatures, rainfall, river flows, flood areal extent, dry spell and sea level rise). For water and coastal resources, it provided details on impact, vulnerability and adaptation measures (in reservoir storage and dam security, flood risk management, groundwater security and coastal erosion). In the area of food security and agriculture, details on impact, vulnerability and adaptation measures were updated for rice, oil palm, rubber, cocoa, livestock, fisheries and aquaculture. The impact, vulnerability and adaptation measures for forestry included that of the inland forest, peat swamp forests and mangrove, while in terms of biodiversity, it included terrestrial fauna (birds, orang utan and elephants) and marine ecosystem (coral reefs and marine turtle). For infrastructure, the impact, vulnerability and adaptation measures were provided for buildings and flood relief centres, roads and drainage, transportation, water supply facilities, sewerage facilities and solid wastes. In the area of energy, the focus was electricity generation, transmission and distribution. NC3 provided details on healthcare facilities, dengue, malaria, and foodborne and waterborne diseases.

On issues of general gaps and improvement plans, NC3 provided details on floods, dry spells, integrated hazards, and capacity building and awareness. Details were provided on specific improvement plans of climate change projection, sea level rise projection, water and coastal resources sector, food security and agriculture sector, forestry and biodiversity sector, infrastructure sector, energy sector and public health sector. NC3 also touched on the need for better capacity building, technology transfer and financial requirements.

There have been substantial improvements from NC2 to NC3; these are expected to be further improved and fine-tuned in the future. What seems to be missing is the integrating of all these assessments in a holistic planning and implementation within each specific river basin and within the National Physical Plan (NPP) to ensure better understanding of the challenges and effectiveness. There have been river basin master plans and urban drainage master plans completed around the country, and more will be studied in each 5-year Malaysia Plan. Implementation of the master plans are related to land use management, which is under state jurisdiction and at the local level. It is a similar case with the federal NPP, structural plans and local plans.

Integrated Water Resources Management

The global and national development of IWRM is well documented in Transforming the Water Sector: National Integrated Water Resources Management Plan – Strategies and Road Map.[17] Managing water resources projects in Malaysia has always been an integration of various factors in overcoming multiple challenges of the time. As the population grows and development and urbanisation continue to ramp up, the need for sustainable management becomes critical. The IWRM has been endorsed as a national policy since 2001 in the 8MP. It is also part of SDG 6 under 6.5, underlining the need to "implement integrated water resources management at all levels, including through trans-boundary cooperation as appropriate" by 2030.

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[17] See chapter 1 of volume 1 in Shahrizaila Abdullah, Fateh Chand, Salmah Zakaria, and P. Loganathan, eds. 2016. *Transforming the Water Sector: National Integrated Water Resources Management Plan – Strategies and Road Map.* Kuala Lumpur: Academy of Sciences Malaysia. https://issuu.com/asmpub/docs/web_vol1_gf.

The NC3 assessment of vulnerability provided detail updates in areas of climate change The definition and detailed discussions of IWRM can be found in both of the papers by Agarwal[18] and T. Jønch-Clausen.[19] Agarwal defined IWRM as "… a process which promotes the co-ordinated development of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the vital ecosystems …". The challenge is to strike a balance between the use of resources as a basis for the livelihood of the world's increasing population and the protection and conservation of resources to sustain its functions and characteristics (see Figure 2). Figure 3 explains the IWRM Universal Framework of Economic Efficiency, Equity and Environmental Sustainability through the three pillars of management instruments, enabling environment and institutional framework.

FIGURE 2. The challenge of water resources management
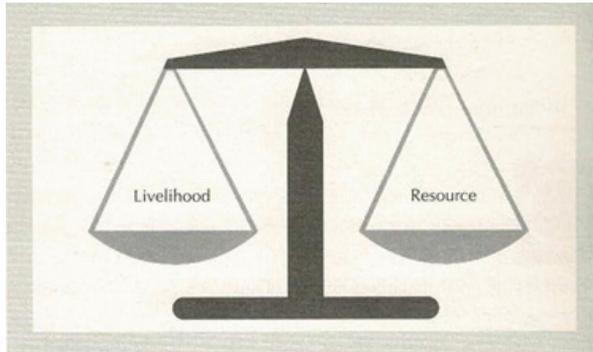
FIGURE 3. The "three pillars" of IWRM

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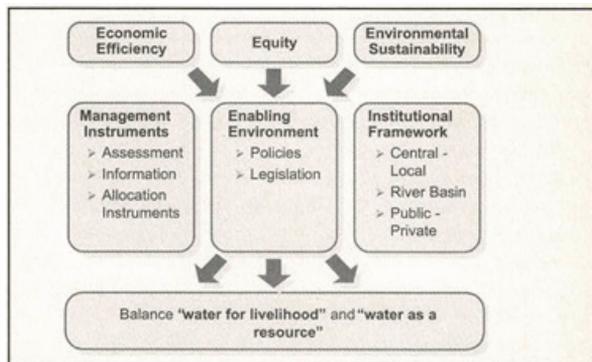
[18] Agarwal, Anil, Marian S. de los Angeles, Ramesh Bhatia, and Ivan Chéret. 2000. *Integrated Water Resources Management.* Global Water Partnership Technical Advisory Committee (TAC) Background Paper No. 4. Stockholm, Sweden: Global Water Partnership.
[19] Jønch-Clausen, Torkil. 2004. "… Integrated Water Resources Management (IWRM) and Water Efficiency Plans by 2005: Why, What and How?" Global Water Partnership Technical Committee (TEC) Background Paper No. 10. Stockholm, Sweden: Global Water Partnership.

The IWRM concept focuses on integration within and between the "natural system" (which determines the resource availability and quality) and the "human systems" (which fundamentally determines the resource use, waste production and pollution of the resource and the development priorities). While the policies and legislative requirements should be cross-cutting over the whole country, the actual implementation unit of IWRM is the river basins, namely the IRBM. Malaysia has more than 2,700 river basins with 189 major river basins as shown in Figure 4; indeed, we are all stakeholders of the river basins.

FIGURE 4. River Basin Management Units[20]

River Basin Management Units (RBMU)

Definition of River Basin
"River basin" is an area of land from which all surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta

Area	No. Of Basin	Main Basin (>80km2)	Small Basin (2)
Peninsular Malaysia	1,235	74	1,161
Sabah	1,468	75	1,393
Sarawak	283	40	243
Total	2,986	189	2,797
Total Area	327,897.031	312,863.713	15,033.858
% Total Area	-	95%	5%

From DID HQ website: https://www.water.gov.my/index.php/pages/view/501?mid=246

The IWRM concept has evolved over the years to ensure effective management. Recently, IWRM added three more pillars to its framework: Adequate Financing, Effective Strategies and Operating Mechanism (bridging strategy setting to problem solving). Figure 5 and Figure 6 indicate the changing focus. The implementation focus of IWRM is now on all development initiatives as well as actors and stakeholders (see Figure 6).

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[20] Department of Irrigation and Drainage (DID), Malaysia. 2017. "The Main River Basin in Malaysia." Accessed September 2020. https://www.water.gov.my/index.php/pages/view/501?mid=246.

The IWRM concept focuses on integration within and between the "natural system" (which determines the resource availability and quality) and the "human systems" (which fundamentally determines the resource use, waste production and pollution of the resource and the development priorities). While the policies and legislative requirements should be cross-cutting over the whole country, the actual implementation unit of IWRM is the river basins, namely the IRBM. Malaysia has more than 2,700 river basins with 189 major river basins as shown in Figure 4; indeed, we are all stakeholders of the river basins.

FIGURE 5. Initial focus of IWRM

- **Previous focus on developing the sciences of**
  - o **enabling environment**
  - o **institutional roles**
  - o **management instruments**

GOVERNMENT (all agencies)

IWRM
IRBM
IFRM DRR

SCIENCES

SOCIETY (communities & private sectors)

- **IWRM requires a crosssectoral, multilevel approach**

Components:
IWRM– Integrated Water Resources Management
IRBM– Integrated River Basin Management
IFRM– Integrated Flood Risk Management

Source of Basic Diagram: Kim & Salmah - UNESCAP 2012

FIGURE 6. Current focus of IWRM

Updated big picture ASM 2016 and 8WWF8 2018

- **The proposed 6 pillars of IWRM @ 8WWF Brasilia, 2018**

1. *Enabling environment*
2. *Institutional roles*
3. *Management instruments*
4. *Adequate financing*
5. *Effective strategies*
6. *Operating mechanism, bridging strategy setting to problem solving*

GOVERNMENT (all agencies)

IWRM
IRBM
IFRM DRR

SCIENCES

SOCIETY (communities & private sectors)

- **IWRM requires a crosssectoral, multilevel approach**

Components:
IWRM– Integrated Water Resources Management
IRBM– Integrated River Basin Management
IFRM– Integrated Flood Risk Management
AWM– Agriculture Water Management
UFWM– Urban Flood Water Management
DRR– Disaster Risk Reduction
CCIA– Climate Change Impact Adaptation
Storm water management etc

Source of Basic Diagram: Kim & Salmah - UNESCAP 2012

The impact of climate change is felt locally on the ground. It is therefore imperative that the planning, implementation and monitoring of climate change adaptation be carried out at the river basin level and, in each river basin unit, to gain community support and ensure effective implementation.

Moving forward – Broadening the horizons

At an estimated direct annual cost of RM1.0 billion, the total cost of floods from the 8MP to the 11MP would be around RM20 billion. This does not include economic costs, which was estimated by Deloitte Kassim Chan to be triple that of the direct flood costs.[21] The development budget for the same period was estimated to be less than the estimated total flood cost. The estimation for economic costs due to sea level rise is even higher at 6.86 times that of the direct costs. There are also costs from droughts. Thus, the total direct, economic and social costs of climate change impact is very high. A full study may be needed to understand the full impact.

Moving forward in the climate change adaptation, it is vital to integrate the various policies and proposals for implementation in the field – within the land use management plans, various river basins master plans and urban drainage master plans. These plans have been developed for various state and local authorities. If these are fully implemented, it will increase the effectiveness and provide the necessary linkages among the various sectors.

A water sector transformation was proposed by the Economic Planning Unit (EPU) on 6 August 2020 (see Figure 7).[22] Figure 8 shows the first phase of the Water Sector Transformation 2040, as stated in the Twelfth Malaysia Plan (2021-2025). If this proposal is on track, then policies and budget allocations can be better supported and synchronised.

FIGURE 7. Proposed Water Sector Transformation 2040

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[21] Deloitte Kassim Chan, *Institutional Study on Department of Irrigation and Drainage.*

[22] Economic Planning Unit (EPU), Malaysia. 2020. "Transformasi Sektor Air Negara, Majlis Pelancaran Kajian Roadmap 2040."

FIGURE 8. Proposed 12th Malaysia Plan

There are a number of other policies and approaches, which are available and have been piloted, in Malaysia or elsewhere around the world. For example, green growth or green economy and water-energy-food nexus. In addition, three other approaches – circular economy (CE), constructed wetlands and alternative energy management – can enhance our efforts in climate adaptation.

Circular economy

Promoting a CE preserves the environment, establishes a resource-saving and environmentally-friendly society, and achieves a harmonious balance between the environment, resources, economic growth and population. To successfully implement a CE, both top-down and bottom-up approaches are required. The Government of Malaysia has embarked on a CE by undertaking steps to raise public awareness and provide financial incentives to such companies as the medium-sized enterprises.[23] This is in line with the 11MP – pursuing green growth for sustainability and resilience through sustainable consumption and production practices and waste-to-wealth initiatives in ensuring a more efficient use of indefinite natural resources.[24] There is also a limited legal framework for the implementation of the CE under several regulations of the Environmental Quality Act 1974, which promotes the practice of resource circulation.[25]

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[23] Xuxin. 2019. "Malaysia Set to Lead Circular Economy in Southeast Asia." *Xinhua,* June 11. Accessed October 17, 2020. http://www.xinhuanet.com/english/2019-06/11/c_138134041.htm.

[24] Ghosh, S.K., ed. 2020. *Circular Economy: Global Perspective*. Singapore: Springer Nature Singapore.

[25] International Urban Cooperation (IUC) Asia. 2020. Malaysia: Webinar on Circular Economy Cooperation Between Petaling Jaya And EU Cities, Petaling Jaya, June 29. Accessed September 14, 2020. https://www.iuc-asia.eu/2020/06/malaysia-webinar-on-circular-economy-cooperation-between-petaling-jaya-and-eu-cities/>.

Efforts to implement CE concepts at the state, local authority and agency levels are sporadic. Small-scale collaborative partnerships between stakeholders as well as providing city-to-city dialogue platforms to enhance understanding and share best practices are conducted at city levels.[26] Current CE practices normally involve solid waste and food waste management,[27] wastewater treatment,[28] built environment[29] and manufacturing.[30] Reported benefits gained at the agency level include the reduction of resource and energy consumption, waste generation as well as gaining of economic and environmental protection.

Closed-loop water cycle and IWRM

The CE also provides alternative pathways for a transformative change in water resources/services management, from linear to circular, putting fair price on water, increasing added value as well as creating incentives and disincentives to reduce water use and pollution control. In this regard, CE offers an opportunity to accelerate the implementation of IWRM, which will provide a strong foundation for transforming the water sector. Additionally, the CE is imperative to address the water demand between the biggest sectoral water users – agriculture and energy. There is opportunity for synergistic strategies to water, energy and food nexus in meeting the growing and changing demand for food and energy.

Based on the analysis of relevant policy documents, the Government of Malaysia recognises the importance of embarking on a CE in the water sector (or the closed-loop water cycle) to protect water resources, ensure sustainable and reliable supply for all, and improve resilience against climate change. The Green Technology Master Plan Malaysia (GTMP) 2017-2030 highlighted the need to explore CE practices in the urban set up through the Integrated Urban Water Cycle (IUWC). The IUWC proposes water conservation and efficient use of water as part of the urban design. The GTMP also targets recycling one-third (33 percent) of treated effluent, maximising the recycling of sludge up to 100 percent and utilising sludge for renewable energy production for usage at sewage treatment plants (STPs) by 2030 through the development of the Integrated Resource Recovery Centre (IRRC).[31]

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[26] Mohd Reza Esa, Anthony Halog, and Lucia Rigamonti. 2017. "Developing Strategies for Managing Construction and Demolition Wastes in Malaysia Based on the Concept of Circular Economy." *Journal of Material Cycles and Waste Management* 19 (3): 1144-54.

[27] Ibid.

[28] Indah Water. 2013. *Cleaning the Unseen for a Sustainable Future: Sustainability Report 2012-2013.* Kuala Lumpur: Indah Water Konsortium.

[29] Wong, Yee Chong, Karam M. Al-Obaidi, and Norhayati Mahyuddin. 2018. "Recycling of End-of-life Vehicles (ELVs) for Building Products: Concept of Processing Framework from Automotive to Construction Industries in Malaysia." *Journal of Cleaner Production 190: 285-302.*

[30] *International Urban Cooperation (IUC) Asia, Malaysia:* Webinar on Circular Economy Cooperation.

[31] Ministry of Energy, Green Technology and Water, Malaysia. 2017. *Green Technology Master Plan Malaysia 2017-2030. Putrajaya:* KeTTHA.

Apart from awareness and technological readiness, the successful implementation of CE in the water sector requires clear motivation of the outcome. Insufficient available water resources is a major concern for countries like Israel, Pakistan and other Middle East states; hence these countries are motivated to adopt the CE as part of their solution.[32] Meanwhile, the CE perspective in China is more concentrated in industrial areas, with an aim to control pollution, reduce waste and resources through recycling and reusing water in protecting the surrounding environment and water bodies.[33] Due to its limited water catchment areas to harvest water resources for the entire population and industry, Singapore is more advanced in adopting the CE to address water supply issues as compared to its neighbouring states. Its treated water using home-grown water treatment technology known as NEWater contributes to at least 30 percent of local water needs.[34]

Despite receiving abundant rainfall, the management and governance issues facing the Malaysian water sector is affecting the availability of water resources. In general, the river water quality has been declining over the years mainly due to land-use change, non-compliance to the standard discharge of wastewater including those from sewage treatment systems, illegal pollution-discharging activities and insufficient river's loading capacity to receive effluent especially in highly industrialised areas. Water supply disruptions are also worsening each year. The main causes for this problem are the declining quality of raw water resources due to pollution and land-use changes, ageing water supply infrastructure leading to high non-revenue water (NRW) levels, poor infrastructure maintenance leading to inefficient services as well as declining quantity of water resources due to natural causes, including droughts and changes in rainfall patterns. There are also conflicts in the use of water resources for the purpose of water supply, agriculture and energy generation especially in water stress states. In the meantime, managing surface runoffs continue to be challenging, resulting in increased recurrences of flash floods especially in high-density urban areas.

Implementation status

There is no published data on CE activities undertaken in the Malaysian water sector except for some wastewater treatment by-products reuse initiatives. It was reported that 10 percent of sewage by-products produced by STPs were recycled for internal use, housekeeping and landscaping purposes, cleaning works, clearing blockades and electricity generation within STPs.[35] The Port Dickson Municipal Council also collects treated effluent from a number of STPs for landscaping purposes within the city.[36] Wastewater reuse is undertaken at agency levels as part of CE efforts, which contribute to the reduction of operating costs.[37]

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[32] International Urban Cooperation (IUC) Asia, Malaysia: Webinar on Circular Economy Cooperation; and Voulvoulis, N. 2018. "Water Reuse from a Circular Economy Perspective and Potential Risks from an Unregulated Approach." *Current Opinion in Environment Science & Health,* 2: 32-45.

[33] McDowall, W. et al. 2017. "Circular Economy Policies in China and Europe." *Journal of Industrial Ecology* 21 (3): 651-61; and Li, Y., and C. Ma. 2015. "Circular Economy of a Papermaking Park in China: A Case Study." *Journal of Cleaner Production* 92: 65-74.

[34] Lefebvre, O. 2018. "Beyond NEWater: An Insight into Singapore's Water Reuse Prospects." *Current Opinion in Environmental Science & Health* 2: 26-31.

[35] Indah Water. 2013. *Cleaning the Unseen for a Sustainable Future: Sustainability Report 2012-2013.*

[36] Azman Tuan Mat, Jamil Shaari, and Voon Kok How. 2013. "Wastewater Production, Treatment, and Use in Malaysia." Paper, 5th Regional Workshop for Southeast and Eastern Asia: Safe Use of Wastewater in Agriculture, March 5-7, Bali, Indonesia.

[37] International Urban Cooperation (IUC) Asia, Malaysia: Webinar on Circular Economy Cooperation.

Furthermore, interests to enhance understanding of CE can be seen at city levels whereby a number of seminars or knowledge sharing sessions between cities on CE have taken place. Several cities or townships, such as Kuala Lumpur, Penang, Subang Jaya and Iskandar Malaysia, have also adopted the smart city concept as their way forward whereby the wise management of natural resources and CE are part of the objectives.[38] However, the component of closed-loop water cycle has not been elaborated further in those policy documents or action plans.

Moving forward

Based on the country's water issues, the CE approach in Malaysia should not be limited to wastewater recycling. The CE must be optimised to improve the overall water management, enhancing resilience against the impact of climate change and ensuring water security while offering added value to the area, local community and businesses particularly in cities. The complexity of water governance in Malaysia helps explain the slow uptake of the closed-loop water cycle concept in the country. Currently, the State Government has jurisdiction over water resources while the Federal Government provides overarching national development policies and is the main source of funding for the development of most water-related infrastructure. The local authorities are responsible for land-use planning and monitoring the implementation of projects within the river basins. Water supply services are provided by state-owned companies and sewerage services are provided either by Indah Water Konsortium, a company owned by the Federal Government, local authorities or other state agencies. The water services industry is regulated by the National Water Services Commission (SPAN). Meanwhile, the Drainage and Irrigation Department (DID) is responsible for supporting the states in water resources management, irrigation and drainage as well as developing flood mitigation infrastructure.

With such complexities and the strong interconnection between CE and supply chain management, designing for closed-loop water cycle as part of the smart city efforts requires strong leadership at the state or local authority levels, and the involvement of all the important water-related stakeholders at the federal, state and local authority levels as well as domestic and industrial users. The action plan should be developed starting from identifying water-related issues, relevant agencies, risks and opportunities involved as well as potential gains from the CE approach. Data is also the most important component to determine the estimated costs and identify potential sources of investment, either from the public or private sector.

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[38] International Urban Cooperation (IUC) Asia. 2020. Penang Stakeholder Consultation on Circular Cities, Penang, July 2. Accessed 14 September 2020.
https://www.iuc-asia.eu/2020/07/penang-stakeholder-consultation-on-circular-cities/.

Constructed wetlands and IWRM

Non-structural measures are often more cost-effective in the long-term than purely structural measures and can produce important additional socio-economic benefits for the environment, community and local economy. However, there is currently a heavy focus on the use of structural measures, especially for flood mitigation, river restoration, coastal protection and wastewater treatment, which are very costly and expensive to maintain. Although Malaysia has policies and guidelines on non-structural measures, which incorporate elements of green infrastructure practices, these do not seem to be given enough emphasis. This is manifested in the degradation of buffer or riparian areas of river systems, commonly found in urban areas. The river channels are commonly modified, with the naturally vegetated riverbanks replaced by concrete embankments. Most investments in the water sector are channelled to such reactive measures as mitigation or remediation works to ensure continuous protection from water-related disasters and water sources for livelihood continue to be available and of an acceptable quality.[39]

Moving forward, it is important to emphasise the non-structural measures and nature-based approaches in managing water resources, such as constructed wetlands and natural flood management. These approaches can offer long-term cost-effective solutions to address water-related issues. Constructed wetlands are wetlands that are artificially constructed in areas where wetland ecosystems do not occur naturally, emulating natural wetlands in both form and function to treat and purify water sources. Wetlands can also be built in riparian zones, along the rivers or lake shores and as part of a park or garden. Besides treatment purposes, wetlands can provide a variety of typical ecosystem functions – wildlife habitat, evapotranspiration and thus cooling, water storage and management, recreation, landscaping and greening the built environment. The water treated through these wetlands can then become a source of water during a water crisis.

Implementation

The Putrajaya Wetlands, completed in 2002, resembles a successful constructed wetland initiative in Malaysia. It was planned and constructed with the main objective to collect and filter surface water to meet appropriate water quality standards for safe body contact downstream, at the water sport recreational area. This helps promote the wetlands as an outstanding water recreational park. In the upstream area, the wetland provides conducive habitat for aquatic flora and fauna, enhancing the biodiversity of Putrajaya. Complementing this, Putrajaya Wetlands also helps mitigate flood risks during the rainy season through the intermittent inundation zone surrounding it.[40] The Frangipani Resort in Pulau Langkawi uses constructed wetlands with an integration of six species of aquatic floating and submerging plants to treat the wastewater in a closed-loop system since 2009. Study shows that the plants are effective in removing nutrients from wastewater.[41]

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[39] Ghosh, *Circular Economy*.

[40] Sim, Cheng Hua, Mohd Kamil Yusoff, Brian Shutes, Sinn Chye Ho, and Mashhor Mansor. 2008. "Nutrient Removal in a Pilot and Full Scale Constructed Wetland, Putrajaya City, Malaysia." *Journal of Environmental Management* 88 (2): 307-17.

[41] Mohd Shafiq Asnawi Md. Akhir, Ahmad Aldrie Amir, Mazlan Mokhtar, and Anthony Wong Kim Hooi. 2016. "Constructed Wetland for Wastewater Treatment: A Case Study at Frangipani Resort, Langkawi." *International Journal of the Malay World and Civilisation (Iman)* 4 (Special Issue 1): 21-28. Accessed September 14, 2020. http://www.ukm.my/jatma/wp-content/uploads/makalah/IMAN-2016-04SI1-03.pdf.

Way forward

After the initial discovery of constructed wetlands to treat wastewater in the 1950s by K. Seidel and Kickuth,[42] environmental engineers across the world have made significant advances in imitating the natural treatment capabilities of natural wetlands involving wetland vegetation, soils, and the associated microbial assemblages and employ them to remove pollutants and treat wastewater in constructed wetlands. In this regard, it is crucial to empower scientific communities to contribute further in developing this bioengineering technology to suit a specific local situation as well as to develop understanding on the cost-effectiveness of such approaches in the Malaysian context. Furthermore, enabling nature-based approach policies and legislation must also be developed to enhance its adoption to not only treat surface runoffs collected but also to treat wastewater and to control water pollution.

Capitalising on energy management

Adapting to the climate change according to National Aeronautics and Space Administration (NASA) involves adjusting to the actual or expected future climate.[43] Considering the effects that have already taken place, such as global temperature increase and the rise of sea levels, requires investing resource development which reduces the vulnerability to harmful effects of climate change. This section focuses on the adaptation that can be done through the energy sector in relation to river basin management for Malaysia.

The effects of climate change can be traced down to such human activities as the burning of fossil fuels, agriculture and deforestation, which has led Earth to experience the greenhouse effect. The contribution to the greenhouse effect mainly comes from the greenhouse gases (GHGs), such as water vapour, nitrous oxide, carbon dioxide and methane.[44] The composition of these gases in the atmosphere have changed drastically in the past five decades; Figure 9 shows the rising level of carbon dioxide in the past millennia.

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[42] Vymazal, J. 2005. "Constructed Wetlands for Wastewater Treatment in Europe." In *Nutrient Management in Agricultural Watersheds: A Wetlands Solution,* edited by E.J. Dunne, K.R. Reddy and O.T. Carton, 230-44. Wageningen: Wageningen Academic Publishers.

[43] NASA. (n. d.). "Responding to Climate Change." Accessed August 1, 2020. https://climate.nasa.gov/solutions/adaptation-mitigation/.

[44] NASA. (n.d.). "The Causes of Climate Change." Accessed August 1, 2020. https://climate.nasa.gov/causes/.

FIGURE 9. Carbon dioxide level throughout the millennia[45]
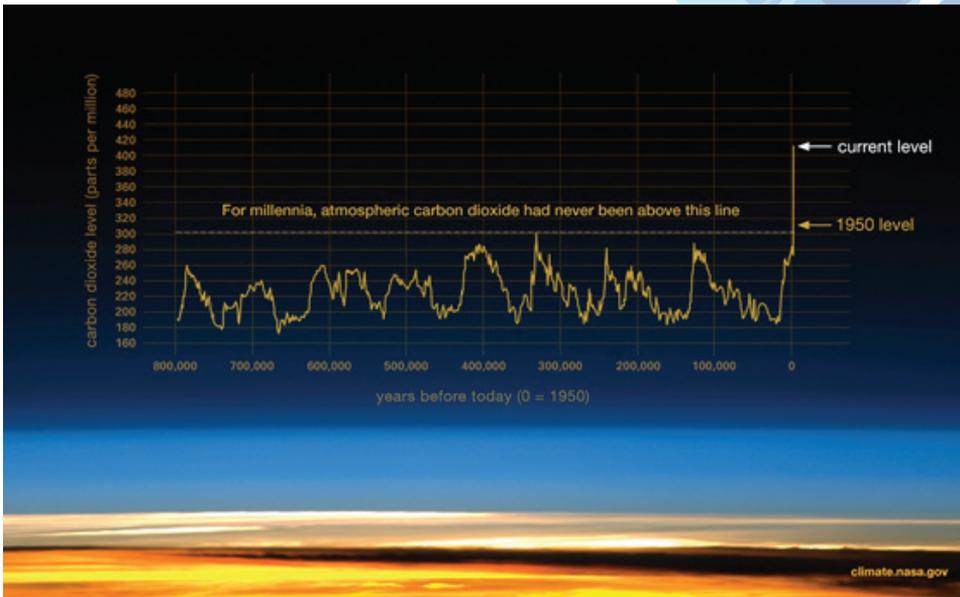
There is a necessity to manage issues and challenges from the source. For energy, diversifying the energy sources to reduce dependency on fossil fuels and concurrently fully utilising all available resources, such as various alternative energies to fossil fuels, will help minimise additional GHGs to the atmosphere.

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[45] NASA. (n.d.). "Climate Change: How Do We Know?" Accessed August 1, 2020. https://climate.nasa.gov/evidence/.

FIGURE 10. Relation between alternative energy and renewable energy
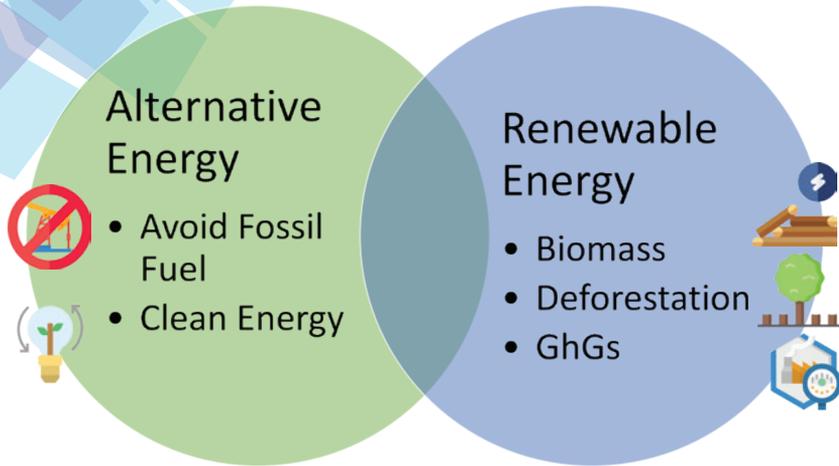
As shown in Figure 10, alternative energy must not to be confused with renewable energy that may still contribute to the production of GHGs through wood burning (biomass renewable energy), which will also lead to deforestation.[46] Nevertheless, alternative and renewable energy are not mutually exclusive either.

Hydroelectric

Malaysia is located in the tropical region and experiences heavy rainfall during certain parts of the year; the annual average rainfall is up to 2,420 mm in Peninsular Malaysia, 2,630 mm in Sabah and 3,830 mm in Sarawak.[47] Besides using it just for water supply, rainwater harvesting can also take place, if managed properly. Hydroelectric power depends on water flow and, if appropriately integrated, it can be holistically managed to regulate as a source for domestic and industrial water supply as well as in enhancing flood mitigation. Energy generation using hydroelectric also does not generate GHGs that contribute to the greenhouse effect.

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[46] Amadeo, K. 2014. "Renewable Energy in the US Economy." *The Balance,* last modified November 2, 2020. Accessed August 1, 2020.
https://www.thebalance.com/renewable-energy-industry-current-state-trends-outlook-4684187.
[47] Fauziana Ahmad, Tomoki Ushiyama, and Takahiro Sayama. 2017. "Determination of Z-R Relationship and Inundation Analysis for Kuantan River Basin." Research Publication No. 2. Petaling Jaya: Malaysian Meteorological Department (MMD), Ministry of Science, Technology and Innovation (MOSTI). Accessed August 1, 2020.
http://www.met.gov.my/data/research/researchpapers/2017/researchpaper_201702.pdf.

Solar

Sunlight is the source of its energy and requires a huge area layout for energy generation to be economically viable. Fortunately, in Malaysia there are dams or lakes where the water surfaces are still underutilised. These underutilised surfaces can be used to generate energy through a floating solar farm. The development may also assist in reducing the rate of evaporation of the water body, hence securing it to be used as a water supply for the community and industries. Similar to hydroelectric, solar energy also does not contribute to the greenhouse effect as it does not produce GHGs.

Biomass waste

Human activities generate lots of waste, which are then disposed at landfill areas. Landfill areas are notorious for contributing to the pollution of rivers as the landfill itself is a part of the river basin. There are several methods to dispose waste and at the same time generate energy, such as through stoker incinerators, gasification or the pyrolysis process. These systems offer the potential to substantially reduce the land area used for landfills as well as reduce pollution to the rivers. Although energy generation through biomass still generates GHGs, it does reduce land and river pollution and can significantly reduce transmissible diseases from flooding of polluted water, caused by extreme climate change rainfall events. This can be part of adapting to the impact of climate change.

Biogas waste

Agriculture, specifically palm oil and the poultry industry, produces methane, which is said to be 84 times more potent as a GHG compared to carbon dioxide.[48] Other sources of methane come from the wastewater treatment process. Methane can be used to generate energy through an internal combustion engine using a biogas engine. If the system is integrated properly within the wastewater treatment facility, it can help in improving the quality of wastewater discharge into the river, thereby reducing water pollution. This will improve the sources of water supply and boost the water sector. The power generation also helps in lessening the effects of climate change by reducing the amount of methane that is released into the atmosphere.

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[48] Environmental Defense Fund (EDF). (n.d.). "Methane: The Other Important Greenhouse Gas." Accessed August 1, 2020.
https://www.edf.org/climate/methane-other-important-greenhouse-gas#:~:text=In%20the%20first%20two%20decades,more%20potent%20than%20carbon%20dioxide.&text=Because%20methane%20is%20so%20potent,the%20rate%20of%20warming%20now.

As is the norm in development and implementation initiatives, the alternative energy sector will require joint and concurrent involvement and efforts from the government, private sector and academia for implementation to be effective and efficient. The government can provide oversight and policy guidelines, identify benefits from the perspectives of the economy, social and environment to ensure sustainable development, as well as exploring and endorsing potential financing models. The private sector, as implementers of such projects, is expected to have a wider range of global networking for better technology access. A healthy competition between companies will help to improve and provide better deals, packages and technologies to the consumers.

There are a number of local public and private education institutions, universities and university colleges that can focus on dedicated research and support system to steer the project initiatives into cutting-edge and frontier technology. Higher education institutions have the capability to conduct researches better than many of the private sector in terms of the quality and quantity of research and can further add value to the industry with their contributions. Joint research between the private sector and education institutions should be improved to help develop the potential experts needed. A potential internship programme alternative can also help employees to adapt and be well-versed in the nature of related businesses.

Conclusion

As mentioned earlier, the estimated direct total flood costs from the 8MP to the 11MP was around RM20 billion, not inclusive of other economic losses. The allocated budget for flood mitigation projects within the same period, at around RM19.7 billion, was slightly less than the direct cost. The total cost, inclusive of other economic losses can be three times or more of the direct cost. Besides, the costs from the impact of droughts and sea level rise have not been as comprehensively studied. There may also be other direct impact costs that have yet to be collated. These need to be studied for better positioning.

It is critical that climate change adaptation be effectively implemented to ensure not only public security but value for money in our development initiatives, investments and projects. Detailed adaptation plans and who should be executing them would probably merit another paper. However, any design in water infrastructure and adaptation plans depend on how the current hydrological patterns have skewed from historical records. While this may have been currently studied, research must be made known for better public understanding and effective technical inputs. Water can best be managed effectively in an integrated manner within each river basin as changes to hydrological patterns influence each basin management.

Over 2,700 river basins are units of Malaysia's land mass, hence the river basins should be part of the narrative in the NPP. The latest NPP, namely NPP3,[49] emphasised sustainable development and has a targeted plan to achieve a resilient and liveable nation by 2040. It has three thrusts, with the second thrust being "Spatial Sustainability and Resilience to Climate Change".

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[49] PLANMalaysia. 2011. "Rancangan Fizikal Negara." Accessed October 18, 2020.
https://www.planmalaysia.gov.my/index.php/en/lihat-rancangan-fizikal-negara.

When discussing sustainable development, the UN 17 Sustainable Development Goals (SDGs),[50] come to mind (see Figure 11). SDG 6 focuses on water challenges with SDG 6.5 outlining the need to implement IWRM. In general, SDG 1 to SDG 16 is premised on having adequate water of appropriate quality to execute the targeted programmes. Target 17 is developing partnerships to support their implementation.

FIGURE 11. Sustainable development goals

While SDG 13 is looking at the required climate action plans, SDG 6 focuses on the various aspects of water management. Parts of managing SDG 7 is also climate adaptation. Achieving SDG 11 will include protecting cities from extreme rainfall and drought events. SDG 14 is connected to sea level rise while SDG 15 is about the better management of water. Thus, it is clear that water plays a very significant role within the SDG framework.

More than 90 percent of the climate change impacts are water-related. Indeed, IRBM and IWRM are integral parts of land use planning for a more effective climate change impact adaptation agenda.

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[50] UNDP. (n.d.). "Sustainable Development Goals." Accessed October 18, 2020.
https://www.undp.org/content/dam/undp/library/corporate/brochure/SDGs_Booklet_Web_En.pdf.

A New Approach to Climate Change Policy in Malaysia

Darshan Joshi

Introduction

Five years have passed since both the Sustainable Development Goals (SDGs) and the Paris Agreement were agreed upon and adopted. Both represented critical milestones in the global effort to curb climate change and adapt to its consequences. Many of the SDGs directly relate to climate change and a number of others are implicated in some manner by its consequences, including goals relating to health, hunger, inequality, and economic growth. With a decade left for countries to achieve them, it is important to take stock of Malaysia's progress in meeting the SDGs. Equally important is the development of a set of strategies in order to hasten their achievement.

While the SDGs are comprised of a universal set of aims to be achieved by all member states of the United Nations, pledges under the Paris Agreement vary significantly in their ambition across countries. While Malaysia is on track to meeting its baseline target, of a 35 percent reduction in the emissions intensity of gross domestic product (GDP) by 2035, relative to 2005 levels,[1] this approach has not translated into a reduction in total emissions. Climate change mitigation, however, requires this. Malaysia has a pressing need to invest in its low-carbon infrastructure and in its efforts to improve the country's resiliency to the effects of climate change. Such strong action would also allow further and necessary progress in Malaysia's achievement of the SDGs, a significant number of which are in some way linked to climate change.

The aim of this chapter is to propose a realistic and transformative climate change policy for Malaysia, built around the use of carbon pricing. Beginning with the economy-wide application of internal carbon prices and later transitioning into a federally-administered carbon tax, this policy can play a key role shifting free market dynamics in favour of the development of low-carbon infrastructure and technology. Additionally, its revenue-generating capacity provides a financial platform through which the government can invest in enhancing Malaysia's resiliency to climate change, all while playing a significant role assisting Malaysia in its achievement of the SDGs.

On an international level, it is proposed that Malaysia revises its approach to its commitments to the United Nations Framework Convention on Climate Change (UNFCCC) by targeting explicit reductions in aggregate emissions and committing to a carbon pricing framework. Malaysia should also engage with its regional allies in the creation of a multilateral carbon pricing mechanism and play a role in stimulating low-carbon development across Southeast Asia. Ultimately, such a holistic approach would only better the prospects of global efforts to mitigate climate change, which in the long-run will require significant levels of global coordination.

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[1] A further target of a 45 percent reduction in the emissions intensity of GDP relative to 2005 is conditional on Malaysia's receipt of financial assistance and technological transfers from more developed nations.

Malaysia, climate change and the SDGs

Climate change and sustainable development are intricately linked. The latter requires the decoupling of economic growth from greenhouse gas (GHG) emissions, the primary cause of global climate change. Such decoupling can be achieved through the widespread adoption of low-carbon practices and technologies across all sectors, especially those which contribute the most to emissions in Malaysia.

The most comprehensive source of emissions data in Malaysia is its Biennial Update Report (BUR) submissions to the UNFCCC. These documents provide the most detailed breakdown of emissions in the country and a list of the major sources of emissions in Malaysia, based on the data provided in Malaysia's most recent BUR,[2] is provided in Table 1. This is an important starting point in the context of developing policy solutions to mitigate Malaysia's contributions to climate change, since effective climate action requires shifts from high- to low-carbon practices and technologies within many of these sectors.

TABLE 1. Breakdown of major sources of emissions in Malaysia, 2014

Activity	GHGs	Emissions, in tCO_2e	Share of Total GHG Emissions
Electricity and Heat Production	CO_2	98,963,480	31.16%
	CH_4	41,200	0.01%
	N_2O	293,030	0.09%
Transport	CO_2	63,019,560	19.84%
	CH_4	493,320	0.16%
	N_2O	871,800	0.27%
Waste	CH_4	27,809,630	8.75%
	N_2O	363,650	0.11%
Manufacture of Solid Fuels and Other Energy Industries	CO_2	25,509,630	8.03%
	CH_4	11,370	0.00%
	N_2O	13,550	0.00%
Fugitive Emissions from Oil and Natural Gas	CO_2	1,728,930	0.54%
	CH_4	23,194,370	7.30%
Manufacturing Industries and Construction	CO_2	22,906,470	7.21%
	CH_4	27,460	0.01%
	N_2O	48,590	0.02%
Industrial Processes and Product Use	CO_2	15,814,700	4.98%
	CH_4	265,310	0.08%
	N_2O, Others	4,177,840	1.32%
Agriculture	CO_2	3,884,250	1.22%
	CH_4	4,150,880	1.31%
	N_2O	6,132,780	1.93%
Petroleum Refining	CO_2	8,624,040	2.72%
	CH_4	8,820	0.00%
	N_2O	21,040	0.01%
Total		**308,375,700**	**97.09%**

Source: MESTECC (2018).

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[2] See MESTECC (2018).

Given the magnitude of emissions arising from electricity generation and transport, which together account for over half of Malaysia's total emissions, it is natural to direct considerable attention to these two sectors. Through renewable energy and energy efficiency measures, alongside the longer-term electrification of the vehicle fleet and measures to maximise the fuel efficiency of internal combustion engine vehicles, Malaysia can curtail its emissions greatly from these two sectors. What is necessary are the appropriate policy levers to effectively stimulate these transitions. Meanwhile, the oil and gas industry, which production processes on aggregate account for a total of almost a fifth of national emissions, is another significant source of greenhouse gases, as is waste, which accounts for close to a tenth of the total. From the perspective of adaptation to climate change, on the other hand, it remains important for Malaysia to take steps to enhance its agricultural resiliency and long-run food security, as well as protect its natural physical infrastructure through improved forest and wetland management.

Of the 17 SDGs, five involve climate change mitigation action, while progress towards six other goals may be threatened by the consequences of climate change. Many of these additionally have implications for Malaysia's resiliency to climate change. In this section particular attention is paid to the former group. These five SDGs, along with those which achievement is threatened in some capacity by unmitigated climate change, are listed in Table 2. The table also includes current assessments of Malaysia's progress towards meeting these goals, based on research conducted by Sachs et al. (2020).

TABLE 2: Assessment of Malaysia's progress towards SDGs

SDG No.	Goal	Current assessment based on Sachs et al. (2020)	Relationship with climate change
7	Affordable & Clean Energy	Some challenges	Involved in mitigation
11	Sustainable Cities & Communities	Some challenges	Involved in mitigation
12	Responsible Consumption & Production	Significant challenges	Involved in mitigation
13	Climate Action	Significant challenges	Involved in mitigation
15	Life on Land	Major challenges	Involved in mitigation
1	No Poverty	Achieved	Affected by consequences
2	Zero Hunger	Major challenges	Affected by consequences
3	Good Health & Wellbeing	Major challenges	Affected by consequences
8	Decent Work & Economic Growth	Some challenges	Affected by consequences
10	Reduced Inequalities	Major challenges	Affected by consequences
14	Life Below Water	Significant	Affected by consequences

For all but one of these goals, Malaysia still faces challenges in meeting them. If further progress is not made on climate change mitigation, it is very likely that progress towards those which are threatened by its consequences will slow, or even reverse. In effect, the better Malaysia's resilience to climate change, which can anyway be improved by transitioning to a low-carbon economy, the more likely it is that progress will continue towards meeting second set of goals listed in Table 2. This underscores the importance of implementing policies which successfully lower the trajectory of future emissions in Malaysia. In order to understand the nature of the challenges remaining in achieving these mitigation-related SDGs, it is useful to highlight the

individual indicators under each of these goals and Malaysia's progress towards achieving each of these. These are presented in Table 3 and this approach allows for a comparison between the remaining roadblocks in Malaysia's progress towards achieving the SDGs against the sectors which contribute most to national emissions.

TABLE 3: Assessment of Malaysia's progress towards SDG indicators

SDG	Indicator and Status
Affordable & Clean Energy	Access to electricity
	Access to clean fuels, technology for cooking
	CO_2 emissions from fuel combustion for electricity and heating
Sustainable Cities & Communities	Annual mean concentration of PM2.5
	Access to improved water source, piped
	Satisfaction with public transport
Responsible Consumption & Production	Municipal solid waste
	Electronic waste
	Production-based SO_2 emissions
	SO_2 emissions embodied in imports
	Production-based nitrogen emissions
	Nitrogen emissions embodied in imports
Climate Action	Energy-related CO_2 emissions
	CO_2 emissions embodied in imports
	CO_2 emissions embodied in fossil fuel exports
Life on Land	Mean area of protected terrestrial sites
	Mean area of protected freshwater sites
	Red List Index of species survival
	Permanent deforestation
	Terrestrial and freshwater biodiversity threats embodied in imports

Note: The status of the achievement of each target indicator is based on the current assessments of Sachs et al. (2020) and are colour-coded as per Table 2.

Of the 20 indicators within the five SDGs on this list, only four are considered to have been achieved. Meanwhile, challenges of varying complexity pose hurdles to the attainment of the others. This includes action on emissions reductions within electricity generation, the largest single source of emissions in Malaysia. The transport sector also shows up in both cases as being a problem: on top of being responsible for a fifth of Malaysia's emissions, it is a key contributor to particulate matter (PM) pollution.[3] Improving public transport infrastructure and services across the country would also provide commuters with better low-carbon transport options, as well as have positive repercussions for economic inclusivity. As Malaysia's two most polluting sectors,

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[3] Much of this is the result of emissions arising from road transport, which accounts for 88 percent of total transport emissions. See MESTECC (2018).

any actions taken to achieve emissions reductions within electricity and transport will have positive ramifications for the country's attainment of the SDGs. The final two areas of concern, as per the SDGs, relate to waste and land use. The former is the third-largest single source of emissions in the country, and while the latter is not a significant direct source of emissions, the proper maintenance and, in some cases, renewal of Malaysia's natural rainforests would protect not only their unique biodiversity but also their role as valuable carbon sinks and natural infrastructure that aids in resilience against climate change.

With such a wide variety of issues all playing some role hindering Malaysia's achievement of these climate change-related SDGs, policymakers have their work cut out. While tailoring specific policies to meet equally specific objectives or targets, for instance the SDGs, is a worthwhile endeavour, Malaysia's performance in meeting many of these indicators would be greatly improved by a single policy which addresses the market failures that drive climate change: carbon pricing. Across all sectors to which it is applied, such a measure serves to mitigate emissions by curbing aggregate demand for emissions-intensive goods and services,[4] incentivising the adoption of low-carbon means of production and encouraging economic actors to invest in and employ emissions abatement technologies.

There are two major drawbacks to the immediate enforcement of an external carbon price, whether through a carbon tax or cap-and-trade policy. First, external carbon prices inflate the costs of carbon-intensive goods and services, thus have political economy consequences. This reality is only worsened by the current global economic crisis. Second, industries in Malaysia are unused to functioning in the presence of carbon pricing. The immediate enforcement of an external carbon price would alter market dynamics within any sector that contributes to emissions across the country. In the short-run, such stark change might cause more harm than good. Yet at the same time, economic rationale is unwavering in its affirmation of carbon pricing as a critical tool in the fight to combat climate change. The importance then lies in designing a clearly-defined and phased approach to the implementation of carbon pricing in Malaysia. This is the aim of the next section.

Carbon pricing

Carbon pricing is considered by economists to be the optimal solution to climate change, since it efficiently corrects for two significant and interrelated market failures: carbon emissions as a negative externality and the atmosphere as a global public good. These market failures are the drivers of climate change, primarily through the multifaceted impacts of the growing atmospheric concentration of carbon. Pricing carbon addresses these issues by ensuring only appropriate – not excessive – levels of emissions are released into the atmosphere in any given year. Without this market mechanism, excessive emissions will continue to cause in the significant economic damage across the planet. In Malaysia, these damages are projected by Rasiah et al. (2016) to reach up to RM40 trillion by 2110, although strong mitigation action has the potential to greatly truncate this figure.

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[4] Since a carbon price would increase variable costs of production, the prices of such goods and services would face upward inflationary pressures. In cases where consumption can be substituted with lower-carbon options, aggregate demand for carbon-intensive goods and services will fall. The same rationale plays out for economic actors within production supply chains, where carbon-intensive primary and intermediate goods also face increased variable costs.

Compounding the problem of emissions as a negative externality is the fact that the Earth's atmosphere is a shared global resource: it is the quintessential public good. Public goods, which by nature exhibit the qualities of non-rivalry and non-excludability, are in the absence of regulatory action or policy theorised to be over-exploited. The conservation of public goods is in no one individual's rational private interest should they derive a benefit from using it, since there are no costs associated with transferring carbon content to the atmosphere. Both the increase in emissions and subsequent increase in the concentration of carbon in the atmosphere are entirely unsurprising when analysed through the lens of market failures. Without the appropriate measures in place to correct them, individual actors do not face the true costs of their contribution to the mix of pollutants in the atmosphere.

Should GHG emissions be priced in a manner which reflects their full societal cost through their impact on climate change, however, emitters and consumers alike would be forced to re-optimise profit- and utility-maximising behaviour by embedding the full cost of carbon into decision-making. Such private internalisation of the negative externality would serve to depress overall emissions by strengthening the relative fiscal attractiveness of the adoption of emissions mitigation options and processes. In this way, the pricing of carbon is a manner through which to remove a large, inherent subsidy that presently exists for carbon-intensive technology.

The failure to do so has two major implications: it implies that the damages caused through the burning of fossil fuels is costless, and entirely disregards the environmental benefits of utilising renewable energy technologies over more polluting alternatives. This is a poor approach in the face of scientific evidence which projects with alarming consequence the climate impacts that would arise from business-as-usual economic practices. Pricing carbon thus represents a critical step towards the optimisation between carbon-driven economic productivity and carbon-driven environmental degradation – a process which will necessitate shifts in anthropogenic behaviour.

Scientists and economists have repeatedly called for such a measure, even before the conception of the IPCC in 1990. In 1997, over 2,500 economists (including eight Nobel laureates) in an unprecedented move co-signed the "Economists' Statement on Climate Change", suggesting that "the most efficient approach to slowing climate change is through market-based policies [...] nations can most efficiently implement their climate policies through market mechanisms, such as carbon taxes [...] revenues generated from such policies can effectively be used to reduce the deficit or to lower existing taxes".[5] The economic theory is unequivocal and unchanging: IPCC (2018) makes numerous references to the need to enforce a price on carbon emissions. Furthermore, in early 2019, over 3,500 economists, including 27 Nobel laureates, supported the "Economists' Statement on Carbon Dividends", which calls directly for a robust and gradually rising carbon tax, complete with border adjustments to prevent cross-national carbon leakage, as well as lump-sum rebates to the public to maximise the fairness and political feasibility of such a proposal.[6]

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[5] DeCanio (1997).
[6] Climate Leadership Council (2019).

As of 2020, 61 carbon pricing initiatives have been either implemented or scheduled for implementation around the world, covering over a fifth of global emissions.[7] The prevailing carbon prices across these schemes vary greatly across countries, ranging from as low as under US\$1/tCO$_2$e in Mexico, Poland and Ukraine to as high as US\$119/tCO$_2$e in Sweden. For comparison, the World Bank's High-Level Commission on Carbon Prices cites the need for carbon price of US\$40–80/tCO$_2$e in order for emissions reductions outcomes to be consistent with the temperature goals of the Paris Agreement.

At present, only a handful of countries, all of which are in Europe, meet these recommended rates. At the same time, such "restraint" is to a degree reflective of the political realities associated with the use of carbon pricing. The majority of the world's carbon pricing policies were implemented only in the past decade and many countries are utilising schemes featuring a gradually rising price of carbon. These include the Canadian states of Alberta and British Columbia, as well as France, the Netherlands, and Singapore. To further drive the point home that carbon pricing benefits from being introduced in a gradual manner, five of the six European countries whose carbon prices currently meet the World Bank's recommendations first implemented these policies before 2008.[8]

As a developing nation unused to the pricing of emissions, it is proposed that Malaysia takes a similarly restrained approach to introducing carbon pricing. The transformative effects of such a policy must be managed to ensure that all economic actors, from industry players affected by the imposition of a carbon price to those tasked with the regulatory and oversight aspects of the policy, have time to adjust and transition to a new regime where the costs of GHG emissions are, for the first time, recognised. One way to circumvent the consequences that may arise from the immediate adoption of an external carbon price, such as a tax on GHG emissions, would be to mandate the initial use of internal carbon prices across the public and private sectors. This approach does not necessarily add to variable costs of production since each tonne of CO$_2$ emitted, for example, does not translate into a cost owed by a polluter to an external party, such as the government, as it would do in the presence of an external carbon price. Instead, it can play a major role influencing long-term internal investment and planning decisions, as well as business operations and strategies of all economic actors, since the costs associated with GHG emissions would factor into internal cost-benefit analyses.

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[7] World Bank (2020).
[8] World Bank (2017).

Internal carbon prices, which typically come in the form of either shadow carbon prices or internal carbon taxes,[9] serve further risk mitigation purposes in addition to incentivising the adoption of low-carbon practices and technologies. In the context of this chapter, emphasis is placed on the role internal carbon prices can play in preparing economic actors in Malaysia for future, externally-administered carbon pricing legislation. The aim of the short-run policy focus on mandating internal carbon prices is to provide economic actors with time to position themselves to function in the presence of a carbon price, as well as for the government to build the regulatory and oversight capacity required for such a measure to function effectively and efficiently.

In the longer-run, an external carbon price reflective of the global social cost of carbon (SCC) is necessary in order for polluters to fully internalise the negative externality costs of their emissions. Future international climate agreements may also culminate in the creation of regional, continental, or even global carbon pricing frameworks or markets, which best address the global public good nature of the atmosphere. Applying a domestic carbon price would allow Malaysia to prepare for such an eventuality and in doing so adapt to potential regulatory risks.

Given all this, Table 4 presents an overview of this chapter's proposed long-term carbon pricing policy. For the first four years, it is recommended that legislation is drafted mandating the adoption of internal carbon pricing measures across all private sector entities within the list of industries highlighted in Table 1. From the fifth year, it is recommended that economic actors within sectors that are the biggest contributors to national emissions – electricity and heat generation, transport as well as oil and gas production and its associated processes – are placed under an external, federally-administered carbon tax. This group of industries is responsible for over 70 percent of Malaysia's emissions and this single policy framework can play a role stimulating decarbonisation across each of them. Finally, in the seventh year all other private entities within the list of industries in Table 1 should be placed under this federally-administered carbon tax regime. In this way, all of Malaysia's GHG emissions will, within seven years, be subject to a carbon tax. Over time, it will allow for a full internalisation of the negative emissions externality.

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[9] Shadow carbon prices are a theoretical cost of carbon applied to GHG emissions arising as a result of any business operations, investments and other projects. In this way, it acts as a nudge for companies to invest in low-carbon projects and technologies than would otherwise be the case. Internal carbon taxes, meanwhile, are tangible costs imposed by companies themselves on emissions they generate because of any business operations, investments and other projects. This policy is most effective when these internal revenues collected are used to invest in decarbonisation. See Institute for Climate Economics (2016).

TABLE 4. Carbon pricing policy proposal for Malaysia

Carbon Pricing Policy	Sectoral Scope	Prevailing Carbon Price
Shadow Carbon Price Internal Measure Requirements: Monitoring, reporting and verification of GHG emissions, to be included within sustainability reporting procedures	All private sector entities within: 1. Electricity generation 2. Transport 3. Oil and gas 4. Waste 5. Manufacturing 6. Construction 7. Industrial processes 8. Agriculture	Years 1 and 2: RM35/tCO$_2$e Years 3 and 4: RM70/tCO$_2$e Years 5 and 6: RM100/tCO$_2$e
Carbon Tax External Measure Requirements: Monitoring, reporting and verification of GHG emissions, to be included within sustainability reporting procedures	Staggered shift, by sector, from internal carbon pricing schemes to a federally-administered carbon tax Group 1, Transitioning in Year 5 Economic actors within: 1. Electricity Generation, as a per-kWh tax levied on power producers, based on the carbon content of fuel inputs. 2. Transport, as a per-litre tax levied on individuals upon refuelling, based on the carbon content of fuel inputs. 3. Oil and Gas Production, as a tax levied per tonne of CO$_2$e emissions generated by the manufacture of oil, natural gas transformation, petroleum refineries, and all fugitive emissions during the production of oil and natural gas. Group 2, Transitioning in Year 7 Economic actors within: 1. Waste 2. Manufacturing 3. Construction 4. Industrial processes 5. Agriculture In all situations, tax levied per tonne of CO$_2$e emissions generated by any activities performed	Years 5 to 9: RM100/tCO$_2$e Year 10 onwards: RM150/tCO$_2$e Carbon Border Taxes (CBTs)[10] applied to carbon-intensive imports at the rates described

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[10] Carbon border adjustment taxes (CBTs) are applied on the carbon content of imports based on the discrepancy in carbon prices between Malaysia and the exporting nation. In doing so, CBTs level the playing field between domestic producers and imports, particularly those imports from jurisdictions with significantly lower carbon prices.

It is proposed that the initial internal carbon price be set at RM35/tCO$_2$e. This figure is based on Malaysia's country-level SCC developed by Ricke et al. (2018), of roughly US\$7.90/tCO$_2$e (RM33), as well as estimates by Rasiah et al. (2016), who recommend a carbon price of at least RM40/tCO$_2$e. Recognising the atmosphere as a global public good, however, it would be prudent to prepare for a future where carbon prices eventually equalise across countries: differentiated prices across jurisdictions risks the occurrence of emissions arbitrage. To that end, it is recommended that Malaysia's carbon price rise gradually over time, in order for Malaysia to make a smoother transition towards achieving a carbon price closer to the global-level SCC, estimated by US-IAWG-SCC (2016) to reach roughly US\$50/tCO$_2$e (RM209) by 2030. Accordingly, this proposal sees the internal carbon price rises to RM70/tCO$_2$e in its third and fourth years, and RM100/tCO$_2$e from the fifth to ninth years. Beyond that, it is recommended that the carbon tax rate be set at RM150/tCO$_2$e, a figure which would bring Malaysia closer to both the carbon price range recommended by World Bank (2017) and the global SCC computed by US-IAWG-SCC (2016).

In the short-run, requiring all private sector entities to apply internal carbon prices would serve to drive internal investment towards low-carbon projects and technologies, and encourage the adoption of low-carbon practices within firms. It would also allow these firms to hedge against future regulatory climate policy risks, such as the proposed transition to an externally-administered carbon tax, as well as any further emissions reductions pledges or future regional or global carbon pricing frameworks that Malaysia may commit to or enter into. From the perspective of the government, it would be useful to draft new legislation outlining a new framework for the accounting, reporting, and verification (ie. emissions audits, both internally and externally) of emissions in firms' sustainability reporting procedures. Such actions would also serve to create high-skilled jobs in the process and develop Malaysia's capacity in this area.

The shift to a carbon tax from the fifth year of this policy's existence will not only have effects within the industries and sectors it encompasses. It will also have indirect effects on the prices faced by consumers, particularly for emissions-intensive goods and services. The effects of carbon taxes of varying rates on electricity prices and transport fuel costs, for example, are estimated by Joshi (2019). Importantly, however, three factors can mitigate the inflationary effects of a carbon tax on the general cost of living.

First, the greater the number of firms who shift towards the adoption of low-carbon practices and the use of low-carbon technologies, the lower this impact. Second, consumers may be driven towards the consumption of low-carbon goods and services in place of higher-carbon alternatives in order to avoid facing the incidence of the tax. Finally, part of the revenues raised by this carbon tax can be used to finance stronger social protection systems for low-income Malaysian households, as well as allow reductions in individual tax rates. In doing so, it can play a role increasing disposable incomes instead of reducing them.

Just as importantly, the revenues generated by a carbon tax mechanism can also create the financial platform through which the public sector can invest in the development of low-carbon public infrastructure, as well as research and development of low-carbon technologies, that can hasten the country's transition to a low-carbon society and enhance its resiliency to the effects of climate change. MESTECC (2018) cites a funding gap of roughly RM20 billion for Malaysia to advance efforts in mitigation and adaptation efforts – including the development of a "National Adaptation Plan" – as well as improving its GHG inventory management systems.

Even if this gap is met, it is almost certainly the case that sustained mitigation and adaptation efforts will require further funding in the longer-run, and carbon taxation is well-placed to provide a stable source of financing for these efforts in perpetuity. In doing so, it will add further momentum to the growth of domestic low-carbon industries that will be the centrepieces of sustainable development over the coming decades. There are numerous other options the government should consider with regard to reducing the emissions intensity of, for instance, the transport sector, through an emphasis on public transportation and the use of energy-efficient vehicles. Successfully carrying out these endeavours would also require large sums of investment. This illustrates succinctly the fact that MESTECC's cited climate funding needs are far from exhaustive.[11] Malaysia's ability to effectively manage and reduce emissions nationwide is heavily dependent on the ability of the government to raise the requisite funding for all important climate initiatives. In this regard, carbon pricing can play an almost irreplaceable role.

Carbon pricing and the SDGs

In addition to representing progress towards correcting the key market failure driving climate change, this carbon pricing policy has both direct and indirect implications for most of the SDG indicators listed in Table 3 due to the effects the policy has on the financial incentives faced by emitters across each industry it covers. These relationships are summarised in Table 5. The application of internal and external carbon pricing measures on electricity generation, transport, waste, oil and gas production, as well as agriculture and land use sectors, coupled with the use of carbon border taxes (CBTs), would stimulate progress in Malaysia's achievement of all the climate-change related SDGs. Further, by driving investment towards low-carbon infrastructure and technology, this policy would limit any effects that unmitigated climate change would have on the six SDGs whose progress would likely otherwise stall.

TABLE 5. SDG indicators, carbon pricing and affected industries

Indicator	Affected by Carbon Price?	Affected Industries
CO_2 emissions from fuel combustion for electricity and heating	Yes	Electricity Generation
Annual mean concentrationof PM2.5	Yes	Electricity Generation, Transport
Satisfaction with public transport	Yes	Transport
Municipal solid waste	Yes	Waste
Electronic waste	Yes	Waste
Production-based SO_2 emissions	Yes	Electricity Generation
SO_2 emissions embodied in imports	Yes (with CBT)	-
Production-based nitrogen emissions	Yes	Electricity Generation, Agriculture, Waste
Nitrogen emissions embodied in imports	Yes (with CBT)	-

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[11] MESTECC, which stands for the Ministry of Energy, Science, Technology, Environment, and Climate Change, has since Malaysia's change of government in February 2020 been split into three Ministries. These are Energy and Natural Resources; Environment and Water; and Science, Technology, and Innovation.

Indicator	Affected by Carbon Price?	Affected Industries
Energy-related CO_2 emissions	Yes	Electricity Generation
CO_2 emissions embodied in imports	Yes (with CBT)	-
CO_2 emissions embodied in fossil fuel exports	Yes	Oil & Gas Production
Mean area of protected terrestrial sites	Indirectly	-
Red List Index of species survival	Indirectly	-
Permanent deforestation	Yes	Agriculture & Land Use
Terrestrial and freshwater biodiversity threats embodied in imports	Yes (with CBT)	-

As carbon pricing would not stimulate progress across all these indicators, and given that it might take a high carbon price to engender the levels of investment required in low-carbon development to mitigate emissions significantly enough, it is further proposed that targeted instruments be used which support the growth of the industries comprising Malaysia's low-carbon economy. In order to do this, revenues generated by the carbon tax – along with federal budgetary allocations to the relevant ministries – should be directed towards industries that can play a big role enhancing the nation's low-carbon technological capacity.

The goal of such targeted policy mechanisms should be two-fold: to enhance Malaysia's mitigation of and adaptation to climate change, as well as to generate long-term jobs in strategic and future-proof industries and sectors. The industries that stand to benefit – because they can play a significant role in climate change mitigation and adaptation – include renewable energy, electric and other low-carbon vehicles, agriculture (through the adoption of advanced farming techniques such as precision agriculture, as well as the cultivation of strong urban and vertical farming industries), and waste management. Further, funding can be diverted towards the local production of carbon capture-and-storage (CCS) technologies, which can be used to mitigate emissions across many other carbon-intensive industries. Efforts should also be made to better manage Malaysia's natural resources – particularly its rainforests. Improvements in forest management and preservation, including stronger and better-enforced legislation protecting primary forests, would both create jobs and protect valuable carbon sinks.

Together, carbon pricing and these supplementary policies can play an instrumental role in helping Malaysia not only achieve the climate change-related SDGs, but take strides in its attempts to mitigate and adapt to climate change. Ultimately, adaptation is necessary regardless of the progress made in mitigation domestically, because of the final market failure which causes climate change: the role of the atmosphere as a global commons. Emissions reductions in Malaysia mean little if they are matched with equivalent increases in other countries; for this reason, carbon pricing would ideally be a global-level policy. To that end, the final recommendation within this paper is for Malaysia to play a role in the creation of a Southeast Asia-wide carbon pricing framework.

Concluding thoughts and next steps

In its ideal state, carbon pricing would be a global policy. This is for the simple reason that the global atmosphere knows no national boundaries. Emissions reductions in one part of the world mean little if matched, or outmatched, by increases elsewhere. For this reason, too, the global price of carbon should be uniform. The possibility that this will be a significant topic for discussion at future international climate agreements means Malaysia should strive to mitigate any potential risks of noncompliance by aiming, over time, to reach a domestic carbon price which approaches estimates of the global SCC.

This is addressed by the policy proposed in this chapter. The gradual approach it recommends to the embedding of a carbon price across the Malaysian economy would alleviate any potential short-term costs the policy might otherwise create, while the formulation of a clear plan for the use of carbon tax revenues further bolsters its political appeal. Yet it is due to the corrective effects of carbon pricing, by solving a critical market failure that drives climate change, that it is proposed as the foundation of Malaysia's future climate change policy efforts. From this foundation, carbon pricing sets the stage for a long-term shift to a sustainable future across the country by incentivising – and in some cases enabling – public and private investment in low-carbon infrastructure and technology. Climate change is also a prominent threat to the achievement of many SDGs and this policy can play a key role in ensuring Malaysia meets its targets in this regard.

Carbon pricing can, as demonstrated, play an instrumental role addressing multiple SDGs. On the other hand, the SDGs can also be leveraged as a multidimensional framework which itself raises the importance of carbon pricing. It allows for progress to be made in achieving many of the SDGs efficiently and this can be used to enhance the political palatability of any external carbon pricing measure, atop the positive effects it can have on climate change mitigation and adaptation.

Beyond the policy proposed in this chapter, efforts must be made to expand carbon pricing policies from a domestic focus to one much broader, in order to account for the global nature of the atmosphere. Again, a gradual approach is preferred. At present, there is little coordination amongst members of the Association of Southeast Asian Nations (ASEAN) with regard to environmental policies, even though climate change is likely to have similar affects across countries in the region. Further, environmental emergencies that are not direct results of climate change, such as the transboundary haze, often affect multiple countries simultaneously. ASEAN Member States would benefit from bringing to the discussion the possibility of designing a regional climate policy, beginning with the adoption of uniform carbon prices within each country. This would allow for an addressing of the market failures causing climate change on a far greater scale than a domestic carbon pricing policy would.

Over the coming years, Malaysia is likely to implement an internal carbon pricing scheme, which would later transform into a federally-administered carbon tax. This should allow Malaysia to play a leading role in creating and designing an ASEAN-level carbon pricing initiative along with other ASEAN Member States who have either implemented or are considering the implementation of either a carbon tax or cap-and-trade scheme. These states include Indonesia, Singapore, Thailand and Vietnam. With climate change being a global threat, Malaysia's efforts to curb it cannot be limited to a domestic focus.

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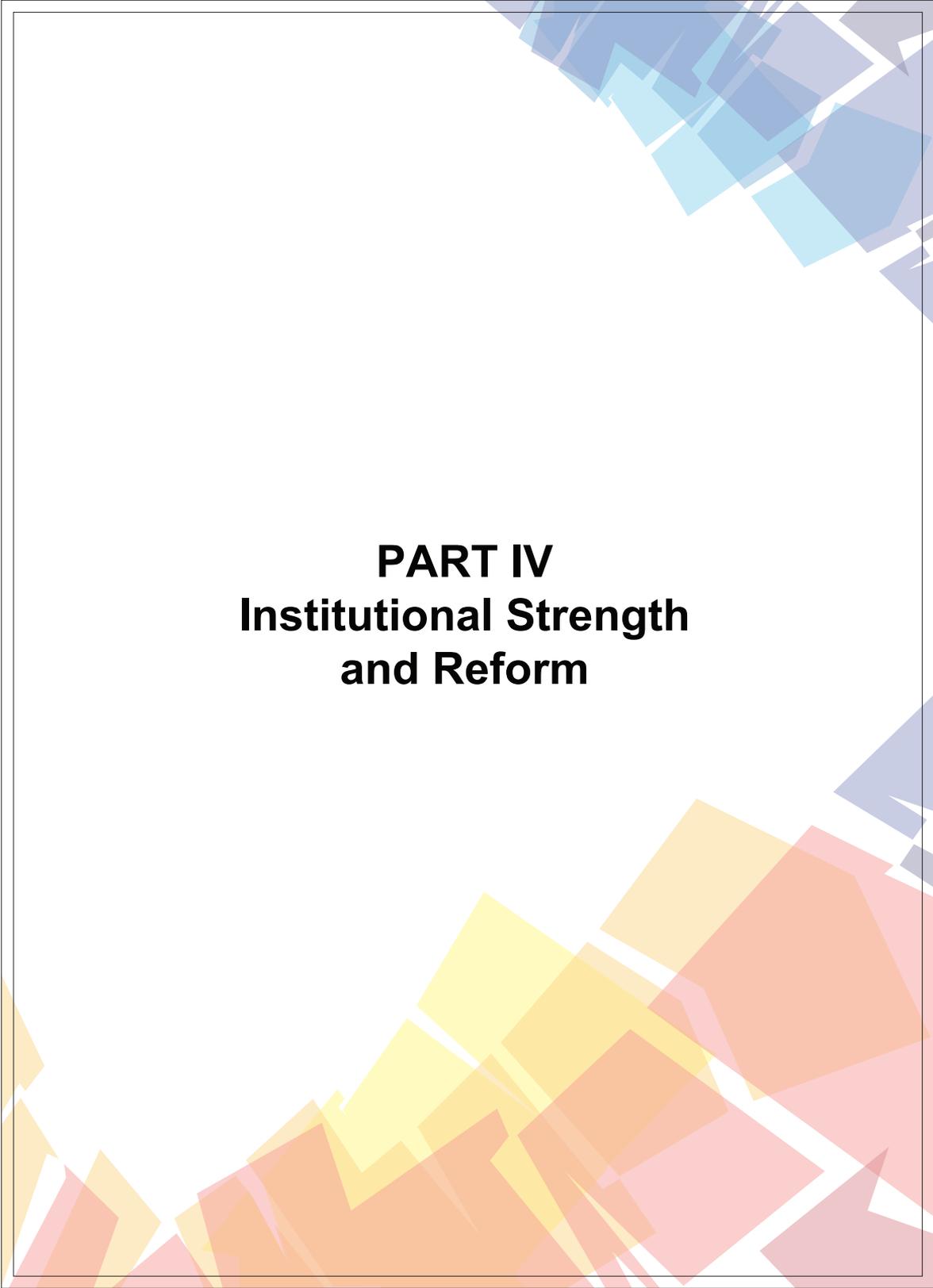
PART IV
Institutional Strength and Reform

Localising SDGs: Observations from the All-Party Parliamentary Group on SDGs

Alizan Mahadi

Introduction

The effectiveness and influence of the Sustainable Development Goals (SDGs) are dependent on their feasibility to be translated into and implemented at local context. While the Millennium Development Goals (MDGs) were lauded for halving poverty and achieving its various goals, the achievements were imbalanced across and within countries. One of the key principles of the SDGs to address this shortcoming is the principle of "Leave No One Behind". This entails that the achievement of the SDGs is not only at the aggregate level, but also at the disaggregated level. To uphold this ambitious principle, the SDGs are required to be applicable not only to the national context, but also to the local level.

The translation of global goals into the local context, firstly, must ensure that the goals are relevant and applicable to the local level (Rivera and Lagos, 2013). As a global agenda, the design of the SDGs must be universal, in the sense that it is relevant to all contexts. While local development issues are contextual, understanding the relevance of the SDGs to the local context will further highlight whether the formulation of the SDGs, which was an outcome of the largest multi-stakeholder consultation process the United Nations has ever conducted, is indeed universal.

Secondly, translation and implementation of the SDGs at local level will require functioning governance systems at both national and local levels (Biermann, Kanie, and Kim, 2017). This is evidenced by the fact that, unlike the MDGs, the SDGs consist of a stand-alone goal on governance (SDG 16). In this sense, functioning governance systems should include a development delivery system that reaches local level, including the most vulnerable communities. This incorporates developing "effective, accountable and transparent institutions at all levels" (SDG 16.6) and ensuring "responsive, inclusive, participatory and representative decision-making at all levels" (SDG 16.7).

Thirdly, the sustainability of the SDGs itself will depend on the local capacities to take ownership of the SDGs itself (Gupta and Nilsson, 2017). Local capacities often refer to the local government's capacity to implement the SDGs and development delivery more generally. However, non-state actors, such as civil society organisations (CSOs), academics and community leaders may also be crucial actors and partners in development. The availability of such local champions may galvanise local action and advocacy towards implementation of SDGs.

This chapter assesses the three criteria above in understanding the prospects for the SDGs to be localised in the context of Malaysia. In addition, it assesses both: (i) how, or through what mechanisms, can the SDGs be localised – whether it be from the hierarchical national level planning, or via other mechanisms; and (ii) to what extent do the SDGs influence the local level development delivery. It leverages on observations as part of the research undertaken by the All-Party Parliamentary Group Malaysia on SDGs (APPGM-SDG) in localising SDGs in 10 parliamentary constituency areas.

This chapter assesses the relevance of the SDGs at the local level by summarising the 10 constituencies identified below. It also assesses the overall governance system in localising the SDGs. Furthermore, it looks at local capacities while also briefly discussing the prospects of localising the SDGs through identifying the mechanisms and the extent to which they are influential at local level.

The relevance of SDGs to the local level

One of the major challenges of the SDGs is the need for it to be universal and relevant at multiple levels – global, regional, national and local levels (Allen, Metternicht, and Wiedmann, 2016; Coopman et al., 2016; Gupta and Nilsson, 2017). In this sense, it must balance broad development challenges with local contexts. As nations have begun implementing the SDGs, it is worthwhile to investigate at this point, how relevant are the SDGs at local level?

The APPGM-SDG was established with the aim of localising SDGs in 10 parliamentary constituency areas. As part of the research component of the APPMG-SDG, the activities included mapping the local challenges to the SDGs. In this sense, researchers undertook focus group discussions with local stakeholders to map the local challenges against the SDGs to understand its relevance to the SDGs. The local challenges are subsequently prioritised. The 10 constituencies are scattered across Malaysia as well as consisting of different strata (see Table 1).

TABLE 1. APPGM-SDG list of parliamentary constituency case studies

No.	Constituency	Urban / Rural
1.	Bentong, Pahang	Semi-urban
2.	Tanjung Piai, Johor	Semi-rural
3.	Selayang, Selangor	Urban / semi-urban
4.	Kuching, Sarawak	Urban
5.	Papar, Sabah	Rural
6.	Batang Sadong, Sarawak	Rural / semi-rural
7.	Pensiangan, Sabah	Rural
8.	Petaling Jaya, Selangor	Urban
9.	Pendang, Kedah	Rural
10.	Jeli, Kelantan	Rural

The selection of constituencies ensures a coverage of the entire Malaysia including the three regions – Peninsula Malaysia, Sabah and Sarawak, as well as the different economic regions with the Peninsula, namely Central, South, East and North. Furthermore, the constituencies also represent different context across the strata including urban, rural, semi-urban and semi-rural.

The mapping exercise was undertaken using a bottom up process whereby the local stakeholders were broadly asked about the most pressing development issues faced. Subsequently, the researchers mapped the issues identified with the SDGs. The rationale for using this approach was due to the fact that, when questioned, the awareness of the SDGs at the local level from both the local government and local stakeholders were largely very low. In this sense, local stakeholders found it difficult to map their own contexts to the SDGs due to the unfamiliarity with the SDGs, as well as the large numbers of goals and targets. The researchers, as an actor, therefore, play an important role in translating the local issues into the context of the SDGs.

The results of the mapping exercise demonstrate that the local issues are highly relevant to the SDGs. At the first level, many issues occur that consists of many goals and targets of the SDGs which resulted in similarities across all local constituencies. These include the lack of infrastructure (SDG 9) especially in rural areas, quality education (SDG 4), poverty and inequality particularly across low income groups (SDG 1 and SDG 10), decent work opportunities (SDG 8), and waste disposal (SDG 12).

When prioritised further in terms of the most pressing issue as well as the root causes of those issues, various unique local and contextual issues were identified. An example for this is the case of Bentong where the land is fertile and has a number of agricultural products, such as the Bentong ginger. Bentong suffers from the lack of agriculture land for community sustenance due to agricultural land largely being converted to monocrop plantations. Selayang faces challenges to managing the social fabric of local populace and ensuring the principle of "leave no one behind" due to the high number of foreign migrants and refugees there. Despite Petaling Jaya's high density, low income areas face various challenges to the livelihood of the people, such as the lack of maintenance in low-cost housing, facilities for leisure as well as low performances and facilities in education. This demonstrates that without deliberate planning and actions, urban areas and high density does not automatically translate to increased access to development.

Furthermore, despite being on the tip of the Eurasian geographical continent, Tanjung Piai is lacking the facilities and conditions sufficient to support tourism: uncontrolled waste disposal is a problem there. In Papar, large infrastructure projects are affecting agriculture practices (such as irrigation) and subsequently causing loss of income amongst farmers.

The rural community in Pensiangan face difficulties and loss of opportunities for women to join the workforce due a combination of problems, such as the lack of decent work opportunities and cultural practices of gender inequality, including child marriages. Squatter communities lack access to basic amenities in Kuching, which are often not considered as welfare programmes due the squatters' status.

Morever, despite the vast agricultural products in Batang Sadong, the marketing of these products is insufficient and thus are sold at a low cost in the local markets, resulting in the farmers' lack of income. Many issues arise due to the governance of land ownership such as among local Siamese population in Pendang, which result in difficulties to develop agricultural activities. Finally, in Jeli, a large part of the population is highly dependent on smallholder schemes (such as rubber) which are dependent on fluctuating global prices as well as a high reliance on foreign labour, with many of the younger generations migrating to urban areas for better job prospects. These challenges give a snapshot of the unique contextual challenges at the local level.

When juxtaposing these issues to the SDGs, a few interesting observations emerge. Firstly, challenges that occur at local level and in the real world are often interlinked. In this sense, prioritisation of issues should not be done in accordance with the SDGs as it may not be relevant to the local contextual issue. The issues are often covered by multiple SDGs and targets (see Table 2). Rather, the issues should be identified from this bottom up perspective and subsequently mapped to the SDGs. In this sense, the SDGs act more as a guiding checklist of issues to feed back into the development agenda at the local level. In other words, in terms of agenda setting, the SDGs do not act as a starting point, but rather as a comprehensive checklist of guiding principles, goals and norms that can identify the gaps in development delivery. Secondly, the issues are largely related to governance issues in the translation from federal to local levels. This will be explored further in the next section.

TABLE 2. Major themes identified in Issue Mapping Exercise (from the Preliminary Report of the APPGM-SDG, unpublished)

No.	Parliamentary Constituencies	Major Themes	Major Themes
1.	Bentong (P089)	Sustainable Agriculture	SDG2 and SDG 15
2.	Selayang (P097)	Migrant and Poverty	SDG 16 and SDG 1
3.	Petaling Jaya (P105)	Urban Poverty and Urban Density	SDG 11 and SDG 1
4.	Tanjung Piai (P165)	Sustainable Tourism	SDG 14 and SDG 12
5.	Papar (P175)	Development Impact on Agriculture	SDG 10 and SDG 11
6.	Pensiangan (P182)	Youth and Women's Empowerment	SDG 1 and SDG 5
7.	Kuching (P195)	Squatters	SDG 11 and SDG 16
8.	Batang Sadong (P200)	Connectivity and Accessibility	SDG 4 and SDG 9
9.	Pendang (P011)	Agriculture and Land Ownership	SDG 2 and SDG 16
10.	Jeli (P030)	Smallholder Schemes and Decent Work	SDG 8 and SDG 2

Governance system in local development delivery

In the context of Malaysia, the MDGs, and subsequently the SDGs, have been enshrined at the national level through being mainstreamed across the agenda of the federal government. Institutionally, the focal point of the SDGs is the Economic Planning Unit (EPU), which is responsible for resource allocation as well as formulating the five-year development plans. The five-year development plan is the key document in national development planning and sets the agenda of development for the nation.

In this sense, the SDGs and sustainability generally has strongly been enshrined in the five-year development plans. This included a focus on an integrated approach in the Eighth Malaysia Plan (2001-2005), a balance between development and environment in the Ninth Malaysia Plan (2000-2010), valuing our natural endowment in the 10th Malaysia Plan (2011-2015) and a focus on green growth in the 11th Malaysia Plan (2016-2020). The Mid-term Review of the 11th Malaysia Plan mapped out the SDGs in accordance with its selected outcomes for each strategic thrust. The 12th Malaysia Plan is also expected to feature SDGs as a major element. This demonstrates that arguably, from a national development planning perspective, the SDGs are both highly relevant and utilised as a tool for planning.

Institutionally, the EPU, as the focal point and coordinator both plans and allocates government resources via the Malaysia Plans. The implementation mandates fall within specific line ministries. As a federal system, functions are divided across federal, state and local agencies.

At the local level, the governance of cities is covered under the Town and Country Planning Act (Act 172). In terms of planning, while Act 172 clearly demarcates the hierarchy, responsibilities and duties at each level of government, its effectiveness in delivery will depend on the capabilities of the local authority to translate the higher-level policies, such as the SDGs.

Findings from the APPGM-SDG demonstrate that there is generally a lack of awareness of the SDGs. Furthermore, there is a disconnect between higher level policies, such as the Malaysia Plans, and "umbrella policies" including the national social policy, biodiversity policy, climate change policy and others at the local level. The local authorities largely are responsive to the immediate needs of the local areas such as focusing on blocked sewerage and potholes.

The government agencies, on the other hand, are also divided into federal and state government agencies depending on their functions and responsibilities. The stakeholder consultations raised various issues regarding the challenges that arise from this arrangement, whereby the outcome is largely agencies working in silos. Direct mandates that fall within their jurisdictions and exact responsibilities are often addressed. However, issues that are either cross-cutting or fall outside the mandates are often not addressed. For example, in terms of waste disposal, the responsibilities depend on type of waste, with there being seven type of waste which are distributed across different agencies. Furthermore, if the waste is part of an area that does not pay assessment or does not fall into any jurisdiction, there are no collections. This was the case that was highlighted by stakeholders, for example, in a village that sits above the water, as well as squatter areas, both of which are outside the jurisdictions of the local authority. The capacity to address even more complex issues such as the link between climate change and increasing floods as well as the vulnerability of its communities are even more challenging.

This challenge of silos is exacerbated by the recent political landscape in Malaysia post the 13th and 14th General Elections where the states are governed by different political coalitions and parties. Consultations raised multiple issues where there is a lack of communication and cooperation across different political configurations. This is particularly so when either the state government is in opposition with the federal government, where there is a lack of cooperation between the federal and state agencies; or when the parliamentary constituency is in opposition to the state government, where there is a lack of cooperation between the state government and the office of the Member of Parliament. The impact is often on the delivery of development where joint coordination of cross-cutting issues are not resolved.

In terms of governance capacity generally, consultations also highlighted challenges in more direct implementation of existing mandates such as on social welfare and infrastructure maintenance which have not been resolved over the years. While these challenges differ and still exist, it varies across the different local agencies depending on capacities and the local context. It must be highlighted that the capacities and capabilities differ across different local authorities, though there are many that also implement good governance principles. Nonetheless, these are fundamental structural challenges that will impede the implementation of the SDGs at local level. While the SDGs, as a global tool, will unlikely resolve these structural governance challenges, implementing the target on developing "effective, accountable and transparent institutions at all levels" (SDG 16.6) – not only from a national governance perspective, but also local governance – will be crucial.

Another aspect of governance is community participation towards ensuring "responsive, inclusive, participatory and representative decision-making at all levels" (SDG 16.7). Previous efforts have been made to address local participation. Directly related to sustainability, the Local Agenda 21 was established in Malaysia in 1999, where all local authorities were directed to implement it in 2001. While it is a good outlet for community participation, the results differed and were highly dependent on the capacity of the local councils. Ultimately, it was found to be ineffective as it failed to create a sense of ownership to the communities.

More generally, the stakeholder consultations raised the issue that there has been a lack of participation for overall decision-making. This includes major infrastructure projects where residents felt they were not consulted before these projects impacted their activities such as agriculture and fishing. From a broader point of view, the structure in Malaysia is top-down and hierarchical, whereby there is little room for input by local stakeholders towards national agendas such as the five-year plans. While Inter-Agency Planning groups consult various line ministries and stakeholders horizontally, vertically the distance between local stakeholders and decision-making can be considered large.

Local capacities to implement the SDGs

Internationally, local governments and their agencies are those that are most well placed to implement the SDGs (Global Taskforce of Local and Regional Governments, UN Habitat, and UNDP, n.d.). However, currently, there is no institutional structure to translate SDGs from the national level to the state and local levels in Malaysia. What this means is that there is no specific mandate for SDGs implementation at the local level. Nonetheless, the mandates are more in the form of the national agenda that are aligned to the SDGs and which should be translated to local authorities.

However, in the case of Malaysia, local authorities are often under-capacity and under-resourced. The programmes at local authority level often do not deal with development issues but rather short-term reactive measures. For example, the focus of social welfare programmes is mostly on relief rather than on development, while the focus of environment is on cleanliness, rather than building resilient communities against climate change.

The lack of future and long-term planning has resulted in various challenges in terms of sustainability. In one specific example, a low-cost housing project was meant to be a transitory accommodation for squatters. However, after almost 20 years, the residence is largely made of permanent residents with various challenges in maintaining its high-density and the social well-being of its residents. The lack of long-term planning has resulted in undesirable outcomes such as poor maintenance.

A further challenge in the Malaysia context is the lack of local elections. Under the Local Government Act 1976, local government elections were suspended in 1965. Although the reason for the suspension was due to the Indonesia-Malaysia confrontation, the suspension was never lifted. While there has been ongoing debate on whether the local government elections should once again take place, the outcome is a local government that has little accountability and little interaction with local stakeholders.

Due to this, the APPGM-SDG was deliberately designed to collaborate with parliamentarians as local champions. Although parliamentarians' mandates are for national policymaking, as an elected representative, they have the accountability, influence and structure for facilitating local level community interactions. While the APPGM-SDG is only in its pilot phase, preliminary observations demonstrate that parliamentarians can play a crucial role in being champions for localising the SDGs. Parliamentarians have the convening power to bring together local stake-holders to discuss cross-cutting issues. Furthermore, depending on the parliamentarian, the influence at local level and of local stakeholders can catalyse action towards implementing the SDGs.

The prospects of localising the SDGs

The findings from the APPGM-SDG provide insights on the prospects of localising the SDGs. In particular, they highlight the mechanisms to translate SDGs to local level and the challenges as well as opportunities to understand the extent to which the SDGs are likely to be implemented.

In terms of mechanisms, the SDGs can be utilised in different ways across the policy cycle. At the agenda setting and policy formulation stages, the mapping exercise demonstrated that the SDGs should not necessarily be used at the starting point to set the agenda of local development. This direct mode of implementation of the SDGs is top-down, and may not take into the local context and, therefore, can be deemed to be not relevant to local development needs. Its utility is more in the form of alignment and assessing gaps against local development issues and challenges. In this sense, a bottom-up approach is required to map the local development issues and the SDGs.

In the context of Malaysia, a further practical reason for this is due to the fact that the SDGs are mainstreamed at the national development plan level, thus, development issues that have relevance to SDGs are likely to receive resource allocation. By mapping the local development issues in the context of SDGs (rather than vice versa), not only will local issues be contextualised intellectually to global concerns, the local challenges are likely to have the benefit of having access to resources to resolve these challenges. One lesson in the context of Malaysia is that the SDGs can be utilised via resource mobilisation through overarching national planning tools.

While this seems quite direct, findings from the APPGM-SDG demonstrate that many local issues are often not framed in the context of broader development challenges as enshrined in the SDGs. For example, the issue of waste collection is often seen to be simply an issue of inefficiency and not health. Similarly, maintenance issues are blamed on poor management of low-cost housing flats, but often not related to the impacts on safety, security and overall welfare. The SDGs, as an overarching framework, allow the drawing of interconnections between the various challenges and highlights the need for integrated solutions. While government mandates have clear responsibilities, the SDGs therefore act as an important tool for identifying interlinked issues.

It must be noted that the complexity of identifying these interlinked issues requires a process that is facilitated. In the APPGM-SDG, researchers and CSOs act as the facilitator as well as actors to translate the issues into the broader development goals. In this sense, a second mechanism of the SDGs is the process of facilitation in issue identification and mapping of the SDGs at local level.

At the policy implementation stage, the prospect of SDGs utility as a problem-solving tool is promising. In particular, the additionality of the SDGs, as identified above, is to resolve issues that are cross-cutting and that are not sufficiently addressed in the existing development delivery system. The SDGs can provide a space and arena for different stakeholders to come together to resolve cross-cutting issues based on defined goals as opposed to mandates. For this to occur, it requires a process, structure and buy-in from local stakeholders.

The process for local decision-making is often ad hoc. While Local Agenda 21 did not prove to be successful, the SDGs provide a goal-based mechanism to mobilise local stakeholders towards problem-solving identified issues. Moving forward, there is a need for an iterative process to identify and find solutions to issues related to the SDGs. The process utilised by the APPGM-SDG could act as a starting point.

From an institutional structure point of view, for local participation in decision-making, in the absence of local elections, parliamentarians play a crucial role as champions of the SDGs. Nonetheless, the top-down structure in Malaysia is evident whereby many analyses highlighted that the Parliament itself often acts to rubber stamp government bills rather than a space for deliberation. This is clear in the current structure of government where there is little room for feedback to be provided from the Parliament into the planning process (see the black arrows in Figure 1). Member of Parliaments can play an active role to facilitate consultations with local stakeholders and feedback the views as national policy issues within parliament (see red arrows in Figure 1). This would increase the deliberative role in parliament as well as act as another mechanism for localising the SDGs.

FIGURE 1. A bottom-up structure for deliberating development issues (APPGM-SDG Preliminary report, unpublished)
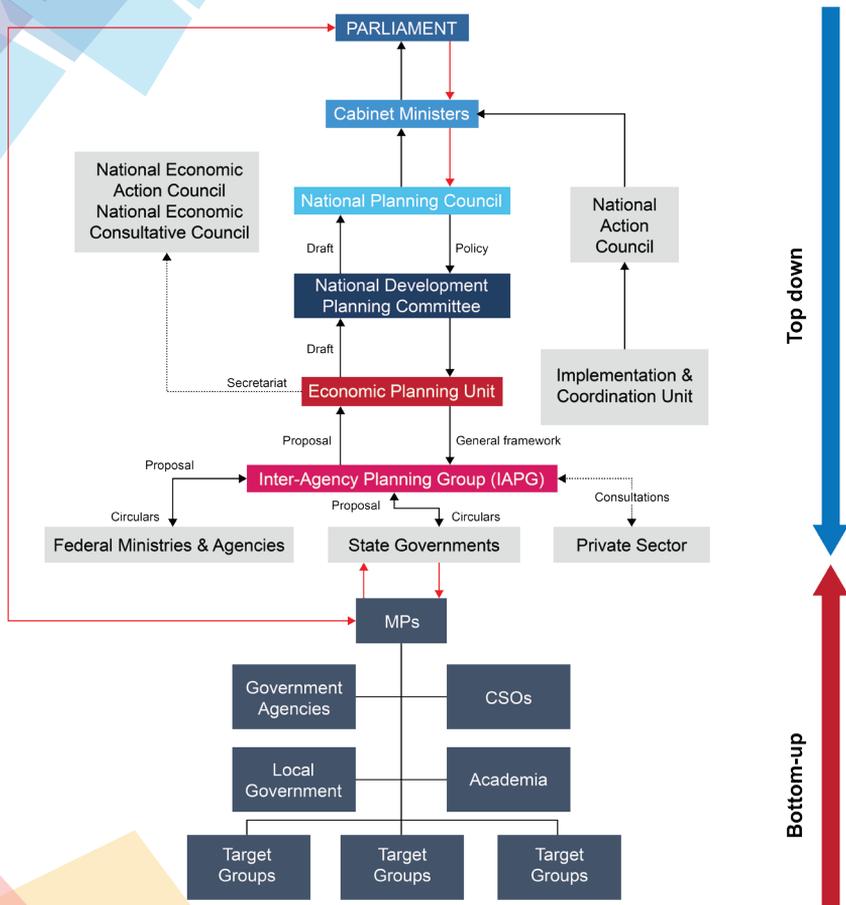
At the monitoring and evaluation stage, the design of SDGs is promising to monitor the progress towards its goal attainment. Nonetheless, the indicators need to be contextualised to the local level where, depending on the indicators, there may be little relevance. In the context of Malaysia, the lack of data at the local level is a major challenge. Nonetheless, the need for disaggregated data as part of the SDGs can act as a rationale for data collection at the local level. While utilising the SDGs to monitor development at the local level will require a tremendous effort in collecting and managing data, utilising the SDGs to monitor and evaluate local development is a final mechanism as well as opportunity to be explored further.

Conclusion

Translating the SDGs to local level is arguably the determining factor of the influence and impact of SDGs. This is particularly so in achieving the principle of "Leave No One Behind", as many of the vulnerable communities fall between the cracks in mainstream development due to various reasons including geographical location (eg. rural and slums) and being ineligible to be listed under social welfare programmes. In order for the SDGs to be addressed universally, it has to be implemented and translated to address local development needs. However, as a goal-based framework, it is not very evident how the SDGs can be utilised to further local development. The contribution of this chapter is that it demonstrates the mechanisms of how SDGs can be utilised across the policy cycle based on observations of the APPGM-SDG project. In short, it can be used for the following purposes: (i) to translate local development needs to broader development goals at the agenda setting and policy formulation stages; (ii) as a process and space for problem solving at all stages; (iii) as an institutional structure for policy implementation; and (iv) as a tool for monitoring and evaluation. Nonetheless, there are various challenges for the SDGs to be sustained and the recommendations provided within this chapter provide the potential solutions. The key consideration is that it requires a bottom-up process and structure to be institutionalised rather than on an ad hoc basis. The APPGM-SDG model provides a tested model towards that effect.

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Peaceful, Just and Inclusive Societies: Good Governance and Institutional Reform Proposals in Malaysia

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Introduction

Good governance of a nation is crucial to its overall economic, political and social flourishing. History, geography, politics and presence or absence of "natural resources" are not the absolute determinants of a nation's well-being. Much depends on good governance and on the quality of leadership. A wealth of natural resources does not guarantee prosperity and a high quality of life. Natural wealth can be squandered or abused or hoarded for non-productive purposes.

No country is totally without "natural resources" though of course some are better endowed than others in the conventional understanding of the term. A country does not have to be rich in natural resources to be prosperous. If there is imagination, entrepreneurship and good leadership, even the wind and waves, sunshine and sand, water and wild grass can become assets. In this age of the "knowledge economy" of copyright of ideas and of electronic business, one does not always need huge resources to produce ideas and seduce others to pay for them.

What is good governance?

There is no magic formula of excellence and many factors need to coalesce to produce an economically vibrant and a politically just society. This essay highlights these factors: peace and stability; eradicating poverty and promoting equality of opportunity; a free market system; sustainable development; partnership between the public and private sectors; permitting workers to be shareholders; promoting competitiveness; openness and transparency; controlling corruption; taming the bureaucracy and cutting red tape; unshackling statutory bodies and government-linked companies (GLCs); strengthening checks and balances; creating expeditious and impartial dispute resolving mechanisms; a democratic political system; developing human capital; and good leadership.

Peace and stability

Life, liberty and property cannot be protected, human dignity cannot be promoted, and security of expectations cannot be guaranteed unless the conditions that promote wars, racial or religious riots and internecine conflicts are removed. A further factor is high rates of street crime.[1] It is a failed state if people do not have the freedom to live without fear.

Eradicating poverty and promoting equality of opportunity

Avoiding famines, preventing starvation and malnutrition, ensuring an abundant supply of essential commodities and controlling prices of basic goods and services are essential for the achievement of the finer graces of civilisation.

A free market system

Command economies are better than capitalist economies at fairer distribution and reduction of drastic inequalities. However, command economies generally fail to create wealth and to encourage and reward entrepreneurship. They redistribute poverty and often produce equality in misery.

An open, market economy with rewards for entrepreneurship and yet some controls on the excesses of capitalism provides the right balance between growth and the demands of social justice as well as social welfare.

Sustainable development

Nothing is limitless and it would be part of good governance to nourish and sustain the cycles of life and to give back to nature what we got from it. At the economic front, there should be an inter-generational "just savings principle" to require mandatory preservation of a certain amount (about 20 percent) of capital accumulation for the future. This would also help to protect the "rights of future generations".[2]

Partnership between the public and private sectors

Harnessing the power of the private sector and encouraging private enterprise has been a commendable policy in Malaysia. People have been allowed to soar to the heights they wish to reach. This use of the economy to give people a stake in the country did much to bring development as well as to unite the people.

At the same time, corporate crime must be controlled and the excesses of unbridled capitalism need to be guarded against. A close tab must be kept on the quality of services and prices in the private sector. These jobs need not be left entirely to public agencies. Strategies, principles and methods must be devised to enrol the help of civic-minded citizens, consumer and environmental groups, residents' associations, civil society groups, independent intermediaries and public interest litigators to act as the eyes and ears of law-enforcement agencies which are often infiltrated by powerful vested interests.

A feature of our economy is widespread clandestine "Ali-Baba" relationships between Malays and non-Malays. These relationships are spoken of with derision because they involve "rent-seekers" who lease out their preferentially obtained licenses for a fee. Actually, inter-ethnic business cooperation must be encouraged in an open, transparent way because that will do much to promote national unity and to create a genuine entrepreneurial Bumiputra[3] class.

Permitting workers to be shareholders

Workers must be given an economic stake in the companies they work for by granting them a right to buy shares at reduced prices. Besides promoting social justice, this may improve productivity.

Promoting competitiveness

The way to bring up a nation or a race is to teach it to be hardworking, competitive and resilient. A mountaineer will never achieve his heights if every time he faces a challenge, we shave the mountain-top to enable him to "succeed" in reaching the summit. We must remember that over-reliance on government largesse has in many countries created a vested interest in backwardness.

Nevertheless, those disadvantaged must be helped. Affirmative action policies, though controversial, have considerable support in constitutional and legal philosophy.[4] However, state aid must be with opportunities and not with hand-outs. It must be based on need and not just on ethnicity or religion.

Openness and transparency

Openness and transparency would curb corruption and misuse of power, legitimise the decision-making process and promote efficiency. Unfortunately, the Official Secrets Act sweeps much that is suspicious under the carpet.

Public access is needed to the declaration of the assets of public and political officials as well as local and public authority accounts. There should be openness about political donations and competitiveness in the tender process. These are urgent tasks in Malaysia.

Controlling corruption

In every society, a large percentage of national expenditure is swallowed up by corrupt practices. A serious problem of corruption and looting of public funds by politicians and senior government officials has surfaced in recent decades in Malaysia.

Malaysia's economic success would be strengthened if an impartial and efficient system of investigation and prosecution of corruption through a constitutionally protected, independent Integrity Commission can be put in place.

Taming the bureaucracy and cutting red tape

Good governance requires effective public sector management, proper hierarchies and effective delivery of public services. Much has been done, though in patchwork, to improve administrative efficiency. In general, however, the public sector needs structural and psychological overhaul in some areas. It is too imbalanced racially. It is bloated in numbers.[5] It lacks openness and transparency in its decisions.

There are unconscionable delays for some types of applications and this arouses the temptation to grease palms. The absence of an independent ombudsman, the lack of a Freedom of Information Act and the non-elective nature of all local authorities do not gel with the ideal of a government that is responsible to the *rakyat* and responsive to the felt necessities of the times.

Within the higher echelons of government, there is obsession with the "systems approach" that good systems will produce good results. Consequently, the country keeps on spending money to improve our structures and processes. But we pay no heed to the fact that systems are as good as the people who administer them. The human dimension of recruiting the most suitable people is often ignored.

Unshackling statutory bodies and GLCs

A problem quite peculiar to Malaysia is how statutory bodies and GLCs are subject to the crippling control of civil servants. In the theory of administrative law, the central purpose of setting up statutory bodies, public corporations and GLCs is to give them operational autonomy while enforcing some social responsibility.

Barring a few honourable exceptions, our senior civil servants treat statutory bodies including universities like a department of the government and resort to micro-management. There is no appreciation of the difference between post-decisional accountability (which everyone supports) and pre-decisional controls (which add layers and layers of excruciating procedures). In relation to universities, it could be said that despite what the law says explicitly and despite ministerial assurance, university autonomy in this country is an unfulfilled dream. There is no dearth of university boards and vice-chancellors with soaring dreams for their citadels of learning but virtually all top posts, all important financial decisions and academic policies require prior clearance from the bureaucracy.

In some areas, civil service control over universities and statutory bodies is illegal because the relevant laws confer considerable autonomy on universities and statutory bodies. Such control is also undesirable in the light of new imperatives of globalised education.

Strengthening checks and balances

The desirability of a strong and determined government clashes with the need to tame naked power and make it conform to the rule of law.

The balance between these two competing aims is sought to be achieved by a host of institutions, principles and procedures like the judiciary with power of judicial review, a representative legislature with the power to hold the political executive accountable, an ombudsman system, independent intermediaries like the Auditor General, Election Commission, a Human Rights Commission and an Integrity Commission. Some developments in Malaysia like a whistle-blowers law and the appointment of the Judicial Appointments Commission hold much promise.

Sadly, the check and balance role of constitutional and administrative law in Malaysia is very much in its infancy. Virtually no check and balance mechanism has lived up to its promise.

Creating expeditious and impartial dispute resolving mechanisms

A booming business environment requires an expeditious, inexpensive and impartial machinery for resolving the inevitable conflicts and disagreements of commercial dealings. We have a mature system of Alternative Dispute Resolution. Regrettably, it has become as expensive, if not more, than the court system. Indigenous techniques for resolving disputes must be explored.

A democratic political system

An enduring democracy must support majority rule but with minority rights. The Constitution and the laws must contain a substantive dimension of just and fair rules, respect for human rights, the right of citizens to know, a fair and just electoral process, a free but fair media, participatory processes, and inexpensive, informal and expeditious remedies for infringement of rights.

Developing human capital

Good governments must recognise that a successful knowledge-based economy relies on a large public investment in developing human capital through education and training. Malaysia has done commendably in this area. The literacy rate is above 90 percent. There are also efforts to create a knowledge-environment to incubate entrepreneurial activities.

Good leadership

Finally, good governance requires leaders who are prepared to take risks, to lead, to inspire, to cajole and to go where even angels fear to tread. The imposition of unorthodox economic controls after the economic meltdown of the late 90s is a case in point. On the role of leaders, the Reverend Jesse Jackson once said, "Leaders of substance do not follow opinion polls. They mould opinions, not with guns or dollars or position, but with the power of their souls".

Malaysia in its first six decades

For about four decades after independence, Malaysia was regarded by much of Asia and Africa as an exemplar of a society in which peace and prosperity, democracy and development flourished in symphony.

On the score of peace and stability, Malaysia has done well. In the 1970s, the communist insurgency was overcome not through arms alone but by winning over hearts and minds.

In 63 years of independence, there have been only two serious breakdowns of peaceful coexistence. In 1963 there was a military confrontation with Indonesia over Malaya's formation of an enlarged federation with Sabah, Sarawak and Singapore. History was marred again by a serious racial conflagration in May 1969 that cost hundreds of lives, resulted in the declaration of an emergency and the suspension of the Parliament for about 21 months.

Other than these blots, there have been no coup d'états or warnings from the army. No religion, region or race is at war with the central government. Malaysia has peace, stability and prosperity. The dazzling diversity of the nation is permitted and even celebrated. Except for a fringe group of hate mongers, we are a multihued nation in which the colours are separate but are not apart.

On the matter of inter-ethnic relations, Malaysia's Federal Constitution is a masterpiece of compromise, compassion and moderation. In recognition of the fact that prior to the advent of British rule, Malaya was the land of the Malays, the Constitution incorporated a number of features indigenous to the archipelago. Among them are: Islam as the religion of the Federation; the grant of a "special position" to the Malays and the natives of Sabah and Sarawak; Malay reserve lands; Bahasa Melayu as the official language; a pluralistic legal system that recognises Syariah courts and customary laws and courts; and weightage for rural areas in electoral boundaries.

At the same time, the Constitution is replete with safeguards for the other communities in citizenship provisions, electoral laws, grant of fundamental rights, including freedom of religion and preservation of vernacular languages as well as cultures. Primary and secondary education is free and is open to all.[6]

Since independence, racial, religious and regional conflicts have been contained by a unique power-sharing formula. There is a moderateness of spirit on ethnic, cultural and religious issues that divide the nation of dazzling diversity.[7] The economy is employed to give everyone a stake in the country. Roxane Gudeman observes that Malaysia has achieved remarkable economic and educational growth – thus far has avoided almost all of the destructive ethnic violence that has been the fate of too many new nations built, phoenix-like, from the ashes of exploitative colonial regimes".[8]

In the human rights arena, though political and civil liberties remain under stringent executive control, socio-economic rights are well protected. In many areas like primary and secondary education, medical care, women's emancipation, poverty eradication, Malaysia has done quite well. All in all, the country offers everyone a chance for upward mobility.[9]

In Malaysia's six decades of fairly enlightened economic policies have tackled poverty fairly successfully. The country offers opportunities for upward economic and professional mobility. However, for a host of reasons including corruption and politicisation of the economy,[10] only a dent has been made on the problem of concentration of wealth in the hands of the few and the inequitable distribution of wealth among the races and within each race. The identification of race with function continues in both the public and private sectors.

Since the turn of the century, dark clouds have been looming over the horizon. The social fabric is under strain and extremist and fringe groups emboldened by media attention and official inaction are trying their best to incite racial and religious hatred. It is a tribute to the Malaysian public that the baits being offered by extremist politicians have not been taken up. A commentator has observed that there is individual harmony but group tensions.[11]

Constitutionalism faces threats from many quarters. The system of check and balance among the organs of state has broken down. Hooligan politics, hate speech, religious extremism and enforced disappearances have marred our legal and political landscape.

In many areas of governance, economy, law and social life, decisions are made or thwarted by powerful elements who constitute a "state within a state". Corruption and looting of public revenues have become widespread. Race and religious polarisation have become endemic and is growing worse.

The Institutional Reform Committee (IRC)

It is in this background that an Eminent Persons Council, an Institutional Reform Committee (IRC) and several Sub-Committees of the Eminent Persons Council were formed by the government immediately after the 14th General Election of May 2018.[12]

The Committee's goals were in line with the 2030 Agenda for Sustainable Development Goals (SDGs), which calls for good governance through promotion of the rule of law (SDG 16.3), effective institutions (SDG 16.6) and participatory decision-making.

At the very outset, members of the committee took note of a number of challenges. First, a "systems approach" that concentrates on institutional reforms is not enough. Institutions are as good as the people who administer them. The success of structural and institutional reform needs political leaders of courage and conscience, and capable as well as honest public servants to implement the reforms.

Second, the Committee was conscious that reform is a continuing journey. It has a long-time frame. It is like a banyan tree that takes root only over time.

Third, law is only one of the many factors and forces that shape society. Reform has many other dimensions besides the legal dimension. The "national institutions" that need scrutiny cannot be confined to constitutional and legal institutions but include economic, religious, cultural, administrative, and social institutions that play a crucial role in the life of any nation.

Due to constraints of time, the IRC concentrated on 10 institutions, which will be explored below.

Human rights institutions and laws

The IRC adopted a broad and holistic view of human rights which are not confined to enumerated civil and political liberties. Human rights also encompass unenumerated, socio-economic, developmental rights like food, water, shelter, health, education, roads, employment, minimum wages and other necessities of life. Poverty alleviation and environmental protection are part of human rights. The aborigines and natives have the right to preserve their way of life and live in harmony with the rivers and forests where the souls of their ancestors dwell.[13]

The IRC acknowledged that sustainable development requires us to show concern for the rights of future generations. The IRC made recommendations for the strengthening of the National Human Rights Commission (SUHAKAM). It recommended the immediate withdrawal of the National Human Rights Action Plan issued under the Najib government. It proposed the repeal or reform of oppressive laws that impinge on human rights. Recommendations were also made to address specific human rights issues like enforced disappearances, abuse of the transgender community and selective prosecution. It recommended that Malaysia accede to core international human rights instruments and optional protocols and withdraw reservations from human rights conventions to which it has already acceded.

The judiciary

An independent, competent and empowered judiciary is crucial to a constitutional democracy and can also affect the economy as investor confidence can be adversely affected by a judiciary perceived to be compromised either in independence or competence.

Judicial powers which have been eroded by constitutional and legal developments in past decades should be restored (eg. the 1988 attempt to take away the inherent, review, or supervisory power of the superior courts by an amendment to Article 121(1) of the Constitution).

The judiciary will be strengthened if allowed to operate with collegiate self-governance instead of being subject to the prevailing hierarchical command and control.

An independent judicial appointments system is vital to ensure that judges are chosen purely on merit. (At present the Judicial Appointments Commission merely recommends).

The current system of ethics and discipline within the judiciary needs an overhaul to prevent disciplinary procedures being open for use as a means to influence judges to be partial. At the same time, these procedures must not allow condonation of misconduct.

It is also important for the judiciary to be provided with sufficient support to carry out its functions effectively. The system of promotion, transfer and grant of honours to judges should be rationalised and de-politicised.

Law officers and legal service

The fused roles of the Attorney General and the Public Prosecutor must be reviewed. Since the Attorney General acts in the best interest of the government and the Public Prosecutor in the interest of the public and criminal justice, conflicts of interest arise when there is a need to prosecute ministers or public servants.

The IRC recommended a separation of the two offices and for an independent Office of Public Prosecutions to be set up. The IRC also recommended that the Judicial and Legal Service Commission be divided to form: (i) the Judicial Service Commission, (ii) the Legal Service Commission, and (iii) the Public Prosecution Service Commission. This is to strengthen the independence of respective judicial and legal officers and prevent the undue influence of the Attorney-General and the Public Service Commission on judicial and legal officers.

Anti-corruption

The Malaysian Anti-Corruption Commission (MACC) was established under the Malaysian Anti-Corruption Act 2009 as an independent, transparent and professional body to manage the nation's anti-corruption efforts. However, the MACC has been ineffective in eradicating corruption. It is not seen as independent. It does not enjoy public confidence.

Institutional reform was recommended for "constitutionalising" the Anti-Corruption Commission under the Federal Constitution. The agency should have the power to prosecute without the permission of the Attorney-General.

Amendments to laws such as the MACC Act, the Whistleblowers Protection Act 2010 and the Witness Protection Act 2009 also formed part of the recommendations.

The police

The IRC urged the implementation of the outstanding recommendations of the 2005 Royal Commission of Inquiry, including the establishment of an Independent Police Complaints and Misconduct Commission, with some adjustments proposed by the Committee. The Committee also recommends the decentralisation and de-politicisation of the police, as well as for the development of a human rights culture in the police.

Immigration

The government must address issues in the Immigration Department like smuggling, human trafficking and must establish the facts behind the Wang Kelian migrant "death camps".

Reform of the Parliament

Parliament has a myriad of constitutional functions, four of which are: the making of laws, keeping the executive accountable and answerable, scrutinising national finance, and providing a platform for redressing constituents' grievances.

Except for the last function, the others are not being performed effectively. For this reason, about 50 recommendations were made by the IRC, the most prominent of which are as follows.

Legislation

The Government should issue policy papers on legislative proposals. There should be a lifting of the veil of secrecy surrounding Bills and Bills should not be subject to the Official Secrets Act. Legislation Committees must be appointed regularly after the second reading to facilitate public participation and scrutiny. A Joint Committee of the Houses on Subsidiary Legislation should be established. An independent law reform commission must be set up to keep laws under review and to report to parliament

Overseeing the administration

Departmental Committees of Parliament must be established to oversee all ministries. Other key investigatory committees should be established on human rights, environment, and public grievances. A Parliamentary Committee must be established to oversee key public appointments. An independent ombudsman should receive and resolve public grievances and report to Parliament.

Control of finance

There should be a parliamentary committee to examine long term budgetary policies. The Public Accounts Committee (PAC) should be headed by a member of the opposition. The jurisdiction of the Public Accounts Committee (PAC) and the Auditor-General should be enhanced. The Official Secrets Act (OSA) should not apply to parliamentary papers.

Support services

An Institute of Parliamentary Affairs on the lines of the Judicial and Legal Training Institute (ILKAP) and National Institute of Public Administration (INTAN) should be established.[14]

Elections

The IRC focused on reforms to resolve long-standing weaknesses affecting the integrity of Malaysia's elections. To this effect, the formation of an independent and empowered Election Commission was addressed. Wide-ranging changes were proposed to the process of constituency re-delineation. The IRC noted that if more constituencies are mixed, candidates will be encouraged to avoid narrow, racial and religious issues, and to look at problems and prospects through a national lens.

A Royal Commission of Inquiry must be undertaken into the "first past the post", single member constituency electoral system. Several proportional representation and hybrid alternatives need examination. A comprehensive clean-up of the electoral roll is needed. The introduction of automatic voter-registration is needed.[15] Lowering of the voting age to 18 was recommended.[16] Improvements to the provisions for absentee voting were proposed. Political financing must be regulated.

To strengthen local democracy, the re-introduction of local government elections was proposed.[17]

Communications, media and information

Media reform is important to ensure that the media is free to act in the public interest and hold the government to account. The IRC recommended the repeal of the Printing Presses and Publications Act 1984 and proposed the setting up of a statutory Media Council, where membership is voluntary. The IRC's Report also recommended the enactment of a Freedom of Information Act and a review of the Official Secrets Act 1972 to bring it in line with the proposed freedom of information law.

Reforms to the Malaysian Communications and Multimedia Commission (MCMC) were proposed. This body wields wide powers involving billion-ringgit industries and plays a key regulatory role impacting the public's ability to access information and communications services. It is imperative that the MCMC functions as an independent body and is seen to be independent and corruption-free. Unfortunately, the MCMC has been used as a political tool to silence government critics over the Internet. Reforms are required to make the MCMC more independent, transparent and accountable. These include reforms to the appointments process and the curtailment of the Minister's powers to issue directions to the MCMC.

Public services

In relation to public servants a large number of issues were examined.

Pensions

Reducing the government's pension burden is absolutely necessary. "Pension, gratuity or other like allowances" are protected by Article 147 of the Federal Constitution and parliamentary legislation like the Pensions Act 1980 (Act 227) and the Pensions Re- Computation Act 1980 (Act 228). The Federal Constitution in Article 147(1) provides a constitutional protection against reduction of pension benefits. Benefits can be enhanced but not made less favourable than under the law applicable on the "relevant date", namely the date on which the person became a member of the public services.

If the government can muster a two-third majority in Parliament, Article 147 can be amended to decrease the government's unbearable financial liability. The amendment can be dated prospectively to affect only new recruits or be made retrospective. In either case, the political fall-out will be serious and will have to be managed.

Alternatively, the government can draw up an attractive, alternative pension scheme that offers a new, holistic package to public servants. It can then offer public servants, serving or retired, an option to choose the new scheme over the scheme in operation on the "relevant day". Under Article 147(3), it is provided that "where the law applicable to an award depends on the option of the person to whom it is made, the law for which he opts shall be taken to be more favourable to him than any other law for which he might have opted".

In relation to persons not yet recruited, the relevant laws can be redrawn to offer new terms. Pensions can be abolished or privatised for the future. Consequently, any fresh recruits will enter the public service on new terms. The law will not be in violation of Article 147 if it does not affect those already in service.

It is noteworthy that the pension rights of employees of statutory bodies, statutory corporations and local authorities are not protected by Article 147 of the Constitution but by the Statutory & Local Authorities Pensions Act 1980 (Act 239). This Act can be amended in any way and Article 147's "not less favourable" rule will not apply.

Disparities in salaries

Issues were raised about the very wide disparities between top and bottom salary schemes. It is also alleged that due to membership, chairmanship or directorship of GLCs, many top civil servants, especially those in the Ministry of Finance, receive up to 200 times the salary of those at the lower scales.

Lack of literal literacy

At all levels of the bureaucracy, this is a serious problem of lack of constitutional and legal literacy which needs to be addressed. A serious problem is that many civil servants prioritise policies over laws. Many civil service circulars are in disregard of the Constitution or of the statutes involved.

Politicisation

The Constitution has created many independent Commissions and Councils – among them the National Land Council (Article 91), National Council for Local Government (Article 95A), National Finance Council (Article 108), Election Commission (Article 114), Armed Forces Council (Article 137), Judicial & Legal Service Commission (Article 138), Public Services Commission (Article 139), Police Force Commission (Article 140), Education Service Commission (Article 141A). Regrettably, these constitutional bodies have become politicised and have lost their independence.

Appointees to the public services are required to observe a neutrality and reserve in politics. They are expected to give their best no matter which party is in power. This neutrality has been seriously questioned in opposition-controlled states where civil servants remain loyal to the ruling federal elite. The politicisation of the public services is a serious problem.

Failure of check and balance role

Public servants with professionalism and integrity can do much to provide a brake against the over-exuberance of politicians, the disregard by many of them of the Constitution and the laws and the indulgence by many of them in corrupt practices. Behind the scenes, top public servants probably supply the needed, constructive critique of governmental policy. But the public perception is that politics reigns supreme and check and balance has broken down. The spate of mega economic scandals, mismanagement of environmental resources, poor town and country planning, and the serious problem of illegal immigrants indicate that the role of the civil service – as not only executors but also initiators and formulators of national policy for ministerial consideration – has not been effective. The financial tragedies relating to 1Malaysia Development Berhad (1MDB), Tabung Haji, Employers Provident Fund (EPF), Federal Land Development Authority (FELDA), Majlis Amanah Rakyat (MARA), Bank Negara and Private Finance Initiative (PFI) prove a serious breakdown of the check and balance role of civil servants.

Bureaucratisation of statutory bodies

Malaysia allows its top civil servants to sit on the Boards of virtually every government linked entity – whether a university, other statutory bodies or a commercial enterprise. This bureaucratisation has stifled creativity.

Official secrets

The Official Secrets Act was meant to prevent security leaks. It mostly prevents information about corruption and nepotism from being exposed. Civil servants with a conscience who may wish to play a mole or whistleblower role are seriously hampered in their patriotic duty to serve the nation. The Whistleblowers Act does not override the OSA.

Corruption

Corruption in the public services has reached a critical point. A secretive area is that top civil servants do favours in return for lucrative positions in the sector after retirement. Regrettably, there is no rule barring a civil servant from working for a prohibited period in an industry connected with his official work.

Impartial treatment

Despite Article 136 (impartial treatment of federal employees) and a clear-cut provision in clause (5) of Article 153 that "This Article does not derogate from the provisions of Article 136", ethnic disparities in the public services, statutory bodies and GLCs are extremely serious and growing. Meritocracy (subject to Article 153 quotas) can do much to restore our nation's position as a leading player in the region.

Discipline: The law relating to the discipline of public servants is unnecessarily complex and contradictory. There is no rational distinction between situations when the right to a fair hearing is granted and when it is denied.

Quo vadis on institutional reforms

Less than two years after winning a historic victory at the General Election of 2018, the Pakatan Harapan government of Tun Dr Mahathir Mohamad lost its majority in Parliament and was replaced. With the fall of his government, the future of reforms proposed by the IRC remains in serious doubt.

Even during Mahathir's stewardship, old power dynamics were still in place. Many institutions of the state remained steeped in old ways. Some royal houses, elements in the police, the Syariah establishment and the civil service often failed to show respect for the letter and spirit of the Federal Constitution or the results of adjudicated civil court cases.

Change takes time, especially in a democracy. Democracy appears suitable for piece-meal and incremental changes but is unable, due to the electoral process, to push for unpopular structural reform. Sixty-three years of authoritarian and feudal governance cannot be reversed immediately. Democracy's dilemma is that it has to deal with undemocratic forces in a democratic way!

The new government needs a firmer conviction to do what is right even if that is not popular. On their part, citizens need to set up alliances of human rights groups to counter the power of the deep state that seeks to maintain the status quo. Everyone with a conscience has a role to play.

The SDGs, international law and the Malaysian legal system

The SDGs provide a commendable blueprint for good governance, inclusive societies and sustainability. Some of the indices of good governance discussed in this essay overlap with the admirable goals numbered 1, 2, 4, 8 and 16. To what extent do these goals bind Malaysia? What is the status of international law in the Malaysian legal system?[18]

International courts

As a member of the United Nations, Malaysia is bound by customary international law in its relations with other states. If it commits a breach of its international obligations, it cannot absolve itself by pleading sovereignty or the authority of its domestic law and will incur liability in the international courts.

Domestic courts

Malaysia has a supreme Constitution and no law, whether municipal or international, can violate the supreme Constitution. The definition of "law" in Article 160(2) of the Federal Constitution does not include international law. In domestic court proceedings, international law is not self-executing. In the jurisprudence of Malaysian courts, the monism versus dualism debate is generally in favour of the dualistic approach. Unlike Article V1 paragraph two of the Constitution of the United States of 4 March 1789, which embodies the "doctrine of incorporation" whereby treaties are part of the law of the land, the Malaysian Constitution has no explicit provision to require automatic incorporation of international law into domestic law. International law is not ipso facto part of municipal law.

Nevertheless, there are several ways in which international law principles can become part of the *corpus juris* of Malaysia.

Incorporation by legislation

International law can be incorporated by explicit legislation. In line with this "transformation doctrine" several international Conventions have been adopted, wholly or partly, into the Malaysian legal system through Malaysian legislation like the Geneva Conventions Act of 1962, the Diplomatic Privileges (Vienna Convention) Act of 1966, the Carriage by Air Act of 1974, the International Organization (Privileges and Immunities) Act of 1992, and the Consular Relations (Vienna Convention) Act of 1999. An example of selective incorporation of provisions of the Convention is reflected in the Diplomatic Privileges (Vienna Convention) Act of 1966. The Human Rights Commission Act of 1999 in Section 4(4) allows regard to be had to the Universal Declaration of Human Rights of 1948 to the extent that it is not inconsistent with the Federal Constitution.

Adoption in a judicial precedent

There is some, though hesitant, reception of international norms in Malaysian courts. As a generalisation, it can be noted that a distinction is drawn between treaties and customary international law. Treaties are not self-executing unless transformed into law by legislation. But the domestic courts are often receptive to adopting and applying customary international law in some areas like immunities and privileges.

The High Court in *Hii Yii Ann v Deputy Commissioner of Australia & Ors* [2018] 7 MLJ 393 followed *Midford v Commonwealth of Australia* [1990] 1 MLJ 475 which had adopted the principle of restrictive immunity into her common law. The Supreme Court rejected the contention that there is a need for statutory intervention to change the doctrine of absolute immunity. It held that Malaysian courts may progress to adapt and develop the Malaysian common law.

Privileges and immunities of heads of states are largely uncodified at an international level. In the case of Sultan of *Johore v Tungku Abu Bakar* [1950] 1 MLJ 3 the initiation of suit and submission to proceedings constituted a waiver of privilege. A similar more flexible approach to accommodate international customary law is adopted in war related matters: *Sockalingam Chettiar v Chan Moi* [1947] 13 MLJ 154.

In Noorfadilla Ahmad Saikin v Chayed Basirun [2012] 1 MLJ 832, a temporary school teacher was dismissed on the ground that she had become pregnant. In a civil suit on the ground of gender discrimination under Article 8(2) of the Federal Constitution, the learned Justice Zaleha Yusof referred to the Convention on the Elimination of Discrimination Against Women (CEDAW) in clarifying the terms "equality" and "gender discrimination" in Article 8(2). In a groundbreaking judgment, she held that as the CEDAW was binding on member states including Malaysia, the courts have a duty to interpret domestic legislation in the light of CEDAW.

The court also held that where the law is ambiguous, the courts have a duty to interpret local statutes in such a manner that their "[l]*anguage will be in conformity and not in conflict with international law".*

Regrettably, there are plenty of cases that disregard international norms. In *AirAsia Bhd v Rafizah Shima bt Mohamed Aris* [2014] 5 MLJ 318, the respondent had signed an agreement with the appellant forbidding her from getting pregnant during the four-year training programme. As she did get pregnant within the period, she was terminated. She sued for damages citing violation of the constitutional protection against discrimination and her rights under the Universal Declaration of Human Rights and the Convention on Elimination of All Forms of Discrimination Against Women (CEDAW).

In dismissing her case, Court of Appeal Judge Zawawi Salleh held that CEDAW did not have the force of law in Malaysia because, despite the ratification of CEDAW by the executive, it had not been expressly incorporated into legislation. In case of conflict between international law and domestic law, the domestic law prevailed. In the Federal Court case of *Bato Bagi & Ors v. Kerajaan Negeri Sarawak & Another Appeal* [2011] MLJ 297, Raus Sharif FCJ stated that "*international treaties do not form part of our law, unless those provisions have been incorporated into our law".* A rule of international law on the right of innocent passage in territorial waters was outright rejected by the court in *PP v Narogne Sookpavit* [1987] 2 MLJ 100 because the rule had not been enacted into Malaysian legislation then.

Rule of presumption

As globalisation and interdependency of nations increases, nations should seek to be good citizens in the global arena by conforming to international commitments. Malaysian courts and public servants could, as in England and Australia, adopt a prima facie presumption that their Parliament does not intend to legislate in breach of international commitments. Therefore, to the extent possible, a domestic law should be interpreted to conform to international obligations.

Foreign courts

The Malaysian courts are not bound by the decisions of foreign courts on international law. However, a decision of an international court is highly persuasive if Malaysia had voluntarily subjected itself to the decision of the international court: *Insas Sdn Bhd v Param Cumarawsamy* [2000] 4 MLJ 727.

Endnotes

[1] SDG 16.

[2] John Rawls, *A Theory of Justice: Revised Edition* (Cambridge: The Belknap Press of Harvard University Press, 1999), 251.

[3] This is a term used to describe the indigenous communities as opposed to those with descent from immigrants.

[4] Thomas Sowell, *Affirmative Action Around the World: An Empirical Study* (New Haven; London: Yale University Press, 2004).

[5] For a country of merely 32 million, there are 1.7 million public servants. It must be noted, however, that unlike many other countries, the armed forces, the police, public sector hospital staff, and the teaching staff on the payroll of the Education Ministry are included in the 1.7 million count.

[6] SDG 4.

[7] Shad Saleem Faruqi, "Towards a Shared Destiny: Nation-Building in a Divided Society," in *Our Constitution* (Subang Jaya: Sweet & Maxwell, 2019), 285-291.

[8] Roxane Harvey Gudeman, "Multi-Culturalism in Malaysia: Individual Harmony, Group Tension," *Macalester International* 12: 138-160.

[9] SDGs 1, 2, 4 and 8.

[10] Jomo Kwame Sundaram and Wee Cheng Hui, "The Political Economy of Malaysian Federalism: Economic Development, Public Policy and Conflict Containment," *Journal of International Development* 15, issue 4 (2003).

[11] Ibid.

[12] The author was a member of the Institutional Reform Committee (IRC) and also appeared before several sub-Committees of the Eminent Persons Council. The IRC submitted its report to the then prime minister in July 2018. Unfortunately, the Report of the Committee was not made public.

[13] Simon Wood, "Indigenous Land Rights in Malaysia: Review of the Law Post Sandah's Case," *University of Malaya Journal of Law and Policy* 1 (2020): 1-24.

[14] ILKAP is charged with training subordinate court judges. INTAN trains civil servants.

[15] This proposal is being implemented.

[16] The Constitution has been amended accordingly.

[17] This proposal has been rejected by the present government.

[18] This portion of the essay is a summary of an unpublished essay by Prof Emeritus Dr Shad Faruqi and Dr Usharani Balasingam of the Faculty of Law, University of Malaya.

Whole Institutional Transformation for a Sustainable University: The Case of Humanising Education at IIUM

Zainal Abidin Sanusi

Introduction

The continuous change in the higher education landscape has forced universities to respond with diverse models of a university to make themselves relevant. Despite a more demanding need for a contextualised model, the predominant force of neoliberalism still significantly influences and shapes the outcome. Against this trend, International Islamic University Malaysia (IIUM) has embarked on a journey to showcase a Malaysian model of university that addresses sustainable development issues in a holistic manner – taking the whole institutional transformation (WIT) process as its approach. This WIT model aims at changing the university ecosystem by pushing the university agenda to systemically serve the community with other stakeholders, namely government agencies and industry/business players.

Towards implementing the WIT, IIUM has outlined two clusters of change initiatives: (i) structural change to break the institutional silos (holacracy) while integrating the principles of sustainable development into the organisational structure; and (ii) knowledge management change to bridge interfaculty interactions towards generating and disseminating new knowledge for sustainability (a shared platform). This WIT approach, through the two initiatives, is aimed at making IIUM a multidimensional enterprise that draws on the full range of human capacities for "learning to know", "learning to do", "learning to be" and "learning to live together" – in the spirit of making W-hole I-nstitution T-Transformation for H-umanising U-niversity, Making A Novelty – WIT for HUMAN.

Established in 1983, the university has gone through various processes towards achieving its vision and mission. Since January 2019, IIUM has embarked on an intensive journey of WIT to solidify its vision of becoming a sustainable university. The whole journey is clearly outlined in a document called IIUM Roadmap. The WIT process seeks to reinvigorate the operationalisation of the university's mission statements in the context of present and future scenarios – becoming a sustainable university – while standing firm on the foundations set forth by the philosophy and vision of the university.

The philosophy of IIUM is unique in such a way that it is based on two main tenets – that man is the servant of Allah and man is the vicegerent of Allah on earth (M. Kamal Hassan, 1983). This philosophy leverages heavily on the roles of knowledge in achieving the totality of human development, both physical and spiritual, consistent with Allah's creation of man, body *(jasad)* and soul *(ruh)*. Thus, knowledge imparted at IIUM must also be total, complete and inclusive of intellectual, spiritual and moral dimensions integrated with the knowledge needed as a global player not only in the field of Islamic studies, but also in other such issues that the world is facing as sustainable development.

With this foundation set for the university, the concept of WIT is nothing new to the origins of IIUM. Sustainable development serves as a new momentum triggered by the global call and resurgence of bringing back the soul of the university beyond the commodification of knowledge. This effort of reviving the original spirit of IIUM, with an additional element of the sustainable development agenda, has proven to be a significant move towards WIT when IIUM was accorded the prestigious Green Gown International Award for the 2020 Sustainability Institution of the Year in New York.

Universities and whole institutional transformation for sustainability

As an institution of higher education, universities should be the phase when learners are exposed and trained to address various issues in a very comprehensive way. Sustainability is not a discipline of study that can be studied through conventional means. It is an approach to be understood and practised holistically. But what does the "whole-institution approach" mean and entail?

An institution-wide approach for sustainability implies a structure designed in a manner that enables all stakeholders – leadership, academics, learners, administration – to jointly develop a vision and plan to implement education for sustainable development (ESD) in the whole institution. For this purpose, changes are advocated and carried out at all levels with predesigned stages and scopes towards addressing the whole institutional need for changes. Within this context of ESD, the comprehensiveness of the transformation needs to be structured and planned so that it will not end up being another fragmented initiative. The ESD is not yet another discipline to be taught, but rather a purpose and process of education – a way of addressing locally relevant economic, environmental and social matters in culturally appropriate ways – making education relevant for students and incurring social transformation that enables sustainable development (McKeown et al., 2012).

Therefore, the success of initiatives towards becoming a sustainable university are very much dependent on the success of the whole transformation process. This process needs to always offer a standing invitation to be critical of the concept of sustainable development and keep questioning and improving it as a normative principle. It is even more important that, in the spirit of localising the sustainability agenda, the process could lead to contextualisation of the spirit. Here is where the Malaysian narrative of *sejahtera* could possibly be a better term for sustainable development in Malaysia. The United Nations (UN) and UN Educational, Scientific and Cultural Organization (UNESCO) fully "… emphasize the potential of ESD to empower learners to transform themselves and the society they live in by developing knowledge, skills, attitudes, competences and values required for addressing global citizenship and local contextual challenges of the present and the future …" (UNESCO, 2014).

There are several means of promoting WIT. A more feasible approach is for universities to participate in an assessment process that looks at the whole function of a university in the aspects of academic, governance and community relations. The following are examples of award schemes that recognise many aspects of the whole-institution approach:

- Green Gown Awards;
- International Sustainable Campus Network (ISCN) Awards;
- Sustainability Tracking, Assessment & Rating System (STARS) by the Association for the Advancement of Sustainability in Higher Education (AASHE);
- Learning in Future Environments (LiFE) Index by Australasian Campuses Towards Sustainability (ACTS);
- Times Higher Education Impact Rankings – it promotes elements of a whole-institution approach in the categories of research, outreach and stewardship; and
- UI GreenMetric World University Ranking by Universitas Indonesia – it focuses on environmental aspect operations as well as economic and social sustainability questions, among others.

Although IIUM is agreeable to some aspects found among these schemes, it has designed and developed its own trajectory of WIT for sustainability. The WIT approach entails the integration of sustainability aspects in every area of university governance and administration and the delivery of the three fundamental functions – teaching and learning, research and development, and community engagement – in a more structured and predesigned way. Along with the integration of *maqasid shariah* into the university's strategies and performance measurement, the IIUM community recognises that all the environmental practices are aligned with the teachings of Islam and concept of Islamisation, which the university has been advocating for the past many years.

Whole institutional transformation at IIUM

The journey of WIT at IIUM intensively began mid-2018 as part of an attempt to bring about a more holistic and transformative perspective in "humanising education". The concept of humanising education is derived from Malaysia's National Education Philosophy – to nurture a "balanced and harmonious person" as the outcome of the education system. The philosophy, which was developed in 1987 – many years before the 1992 Bruntland Report on Sustainable Development – jives very well with the idea of ESD as an implementation for achieving sustainable development. In the UNESCO Four Pillars of Education, "Learning to Be" and "Learning to Live Together" are regarded as key, while "Learning to Know" and "Learning to Do" are accepted in many conventional systems.

At the institutional level, IIUM is administered based on the Islamic framework of *maqasid shariah*, which outlines five existential qualities of being human – namely the promotion and protection of faith, life, intellect, lineage, wealth, and a balanced way of life. With many common elements between the sustainable development agenda, Malaysia's national philosophy of education and IIUM's mission for transformation through humanising education, the WIT at IIUM is an interesting case of top-down and bottom-up approach of transformation for sustainability. Collectively, they form a value-based education that repurposes university for a sustainable human existence and progress.

Specifically, like in any other institutional change process, the WIT in IIUM is a transformation approach that involves everyone on campus. Changes and transformation are made in totality – rather than in piecemeal or an ad hoc basis – while leaving no one behind, including the surrounding and far-off communities impacted by the existence of the university (Dzulkifli Abdul Razak, 2020). Basically, there are five major aspects of WIT in IIUM:

- breaking down of academic and administrative silos in total, transformational and transversal ways;
- building of voluntary teams and teamwork across the academia or structure based on shared aspirations and interests (IIUM sustainable development goals flagship programmes) in humanising education;
- allowing for greater creativity and (social) innovation in translating SDGs into a local context and relevance in problem finding and solving;
- enhancing community engagement and empowerment in co-problem solving based on the 17 goals and beyond (when local worldviews are not met – for example, SDG 18); and
- new combination of data and information capture transforming into "new" Key Intangible Performance (KIP) indicators over time.

These five aspects aim to provide the most conducive ecosystem to propel the necessary changes both at a structural level and knowledge orientation. Besides, these aspects seek to trigger initiatives at all levels of the university community so that everyone is involved in the process. In carrying out these changes, IIUM is adopting and adapting them into a local concept called *sejahtera*. Sejahtera can be described as balanced lifestyles summarised by at least 10 different elements: spiritual, physico-psychological, intellectual, cognitive, cultural, ethical, emotional, ecological, economic and societal dimensions. While these elements serve as core values in the university, they are designed to be able to reflect myriads of *sejahtera* practices in the economic, social or environmental aspects of the Malaysian society.

Specifically, the three major processes of WIT in IIUM can be described as such: (i) structural change; (ii) knowledge management change; and (iii) synergising IIUM's WIT and whole community transformation (WCT) through the platform of the Regional Centre of Expertise (RCE) on Education for Sustainable Development, namely RCE Greater Gombak.

Structural change

Structural change is very critical to support and induce change and transformation towards sustainability. Without any necessary structural changes, the above aspirations and planned initiatives remain merely as great ideas or, if successfully implemented, will be disconnected. Therefore, IIUM has identified and started introducing changes in two layers of operational components as its critical strategies.

First is the level of institutional readiness that forms the foundation to embark on the process. One aspect of readiness is a strong understanding in the IIUM community on the concept of *maqasid shariah* to ensure it is consistently embraced and embedded through the entire execution and evaluation process. For this purpose, the Office of Institutional and Academic Quality Management was renamed Office of Knowledge for Change and Advancement, with a new mandate to promote understanding on key approaches in the university that include *maqasid shariah*, the national philosophy of education and sustainable development. Another structural change was the renaming of the Office of the Deputy Rector of Students Affairs and Development to Office of the Deputy Rector of Student Development and Community Engagement. This shift of focus from co-curricular activities to community engagement as part and parcel of the institution was significant.

Institutional readiness also means that the whole community of IIUM must be ready to implement and support the WIT process. The university management, academic staff, administrators and the students are engaged on a continuous basis through a designed programme. For this purpose, IIUM has created 29 flagship projects to bring in the changes needed. These projects must be carried out in collaboration with at least two different *kuliyyah* (faculties) to ensure interdisciplinary spirit. The projects must be community-based and community-driven besides having to address either one of the pillars of *maqasid shariah* and SDGs. All 29 flagship projects are strategically linked to the overall WIT organisational processes. This linkage is vital to ensure the collective institutional impact of the projects to mainstream the *maqasid shariah* and SDGs agenda in IIUM. The whole university performance will be monitored and evaluated based on this structural organisational link.

At a higher operational level, the implementation of these flagship projects is governed by three components – Islamisation, Integration and Internationalisation – in order to achieve Comprehensive Excellence (CE). These three components have been part of the strategic framework of IIUM for the past many years. The connection between these three components and the fundamental concept of sustainable development demonstrates that sustainable development can be a guiding framework for operationalisation. In addition, sustainable development also needs to be synergised with other guiding principles of IIUM. The first component of internationalisation emphasises on working beyond faculties as well as administrative and geographical sections. It encourages the spirit of working together towards the same goal, regardless of race and geography. It also serves as a platform for Muslims around the world to share the benefits of Islam and actualising the principle of *Rahmatan lil Alamin*, which literally translates as "Mercy to all Beings".

The second component, integration, implies "breaking the silos" among different fields of knowledge. The expansion of networks globally would have limited benefit if barriers across different disciplines remained strong internally. The third component, Islamisation, is the process and outcome of integrating Islamic values in all the initiatives at the conceptual and practical level. Among these three strategies, the most challenging one is to integrate the players either at the institutional or knowledge generation and dissemination level. For the past many years, all *kuliyyah* have functioned based on the traditional division of disciplinary-based knowledge. However, sustainable development issues are very interrelated and interlinked, and these require interdisciplinary, multidisciplinary or even transdisciplinary approaches. Therefore, changes in the way knowledge is developed, imparted and disseminated are inevitable.

The whole university approach for sustainability will not be able to function optimally if workplace silos are still predominant. Realising the potentially limiting impact of silo mentalities, IIUM is advocating a different reference to knowledge groupings, internally known as a shared platform. The Tetrahedron Model, as it is referred to in the IIUM Roadmap, is aimed at embracing connectivity, collaboration and communication by collapsing the traditional or conventional way of knowledge division, namely science, engineering, social science, humanities and liberal arts. It is hoped that through the shared platform, it will promote more intensive inter-*kuliyyah* collaborations, which will encourage a new knowledge discourse and content that can directly address sustainable development issues.

Knowledge management change

The COVID-19 pandemic has posed a problem to the value and purpose of knowledge that are being developed and disseminated in the universities. Universities are now challenged to rethink their roles and purposes as they seem unable to respond to a crisis in a timely and effective manner. This further highlights the existing debate on the disconnection between the education given by the university and the actual action and outcome from the process. The task of implementing the institutional change within a university is a very challenging one.

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In translating the concept of knowledge for sustainability into action, the transformation of knowledge management (generation, management and dissemination) at IIUM are categorised into three main clusters: (i) system knowledge; (ii) target knowledge; and (iii) transformation knowledge. System knowledge is about the current situation in IIUM that is critical for its community to know as the basis for everyone's action. Target knowledge is the information provided about the university's mission to be achieved or prevented. Based on these two clusters of knowledge is transformation knowledge, which is to be shared among the IIUM community to provide knowledge stocks that indicate the path to IIUM's goal of becoming a sustainable university. Since the journey of WIT started in mid-2018, many series of discourses and direct engagement sessions have taken place to ensure a wider and deeper understanding of sustainable development is being integrated into the existing body of knowledge in the IIUM community.

For IIUM, the transformation of the culture and content of knowledge is a pragmatic process whereby a person uses their head to know (cognitive ability), their hand to do (psychomotor for mastering skills) and their heart to be (the affective domain of forming values and attitudes which in turn become actions). These three components that make up a person will then learn to live together with others in a harmonious, respectful and peaceful society. This is in line with the four pillars of education set out in a report for UNESCO by the International Commission on Education for the 21st Century in 1996 – "Learning to Know", "Learning to Do", "Learning to Be" and "Learning to Live Together".

Most formal education stops at "learning to know", which focuses on numeracy, literacy and critical thinking. While "learning to do" is concerned with skills and competency, little emphasis has been given to "learning to live together", which involves the development of social skills and values. However, "learning to be" would foster personal development to act with creativity, judgment and responsibility. Putting it together, the head, the hand and the heart must integrate to materialise "learning to live together" (Dzulkifli, 2019). Here is where the IIUM model of university distinguishes itself from the other teaching and learning models.

Several initiatives are being taken to transform the whole generation and management of knowledge in IIUM. One of these is the creation of a continuous and connected learning process throughout a student's stay on campus. For this purpose, the university has carried out a campus-wide engagement process to assess the effectiveness of the curriculum and co-curriculum in light of sustainable development issues. As a result, IIUM has introduced what is called the Sejahtera Academic Framework (SAF). The SAF seeks to connect and integrate various knowledge elements to address the physical and spiritual aspects of human development.

Like in any WIT, strategies are commonly linked to each other to create wholeness in transformation. Strategic implementation must be supported by strong and appropriate structures; hence a new administration and execution model ought to be put in place. In the case of the SAF, several measures have been undertaken to ensure the right models are put in place to support the framework's implementation. One critical new component of the SAF is the introduction of a new compulsory course – Sustainable Development: Issues, Policies and Practices – to ensure every student has an exposure to sustainable development. This course is strengthened with another two compulsory action-based courses – Usrah in Action I and Usrah in Action II; students must conduct actual sustainable development projects on the ground as a requirement of the course.

With these two major transformations taking place at the structural and knowledge management level, the next scope of transformation for a complete implementation of the WIT process is synergising the process and ongoing community engagement initiatives at IIUM. This process includes new programmes being introduced and implemented with the direct involvement of the community, government agencies and business players, specifically in issues that were collectively identified.

Synergising whole institutional transformation and whole community transformation

It is conceived that a university is a microcosm, containing most aspects of society. This recognition of the institution can be seen as equivalent to a small to mid-size town, complete with collectable data, and capable of measuring and monitoring its own impacts, such as water, energy and waste flows. It can also lead to an understanding of a university as a living laboratory for exploring sustainable lifestyles, new ways of conducting enterprise and documenting the benefits of sustainability practices. Therefore, the university and its surrounding entities can be considered as one community. The concept of an ivory tower has long been obsolete and universities must play a more direct role in transforming the community to become a sustainable society. As the Secretariat for RCE Greater Gombak, IIUM is now set to play this role.

An RCE is a network of existing formal, non-formal and informal organisations that facilitate learning towards sustainable development in the local and regional communities. The term community is part and parcel of the university's learning ecosystem, and not just to serve as a venue for co-curricular activities. The purpose of an RCE is to connect formal education institutions with local stakeholders in the effort towards sustainable development. Hence, the term community university – "communiversity" – has a strong potential to mainstream this change from WIT to WCT. The community is not only limited to the neighbouring community, but society at large in different areas beyond Gombak, either in the region or internationally where the community is facing sustainable development challenges. The RCE network is global enough that it can serve as another platform to fulfil the mission of IIUM No. 6 & 7: "To enhance intercultural understanding and foster civilisation dialogues in Malaysia as well as across communities and nations; and to develop an environment that instils commitment for life-long learning and a deep sense of social responsibility among staff and students."

The RCE framework synergises very well with the WIT of IIUM. The university, as the epicentre of the RCE, has long been striving to promote the concept of learning environment within its institution and the surrounding community. The success of the RCE agenda on ESD starts inside out whereby it is very much dependent on how IIUM, as a sub-community, can itself function as a sustainable community before extending its internal culture to the surrounding community. In a more general implication of the RCE's framework, the whole university's functions – from the formal graded courses to extra-curricular activities, to various research activities, to everyday operations in administrative offices, cafeterias, hostels and every place in the university – should be geared and reoriented towards a sustainable development-oriented ecosystem, with the *maqasid syariah* reinstated in all appropriate occasions.

The university, as a sub-community of the Greater Gombak society, has created and aligned its living and learning environment with Islamic practices, which by default encapsulates the concept of *maqasid shariah*. The introduction of the sustainability concept is perfecting the ecosystem of the university. With the WIT, IIUM views the operations and facilities management of the university as not just a physical operation, but part of an academic tool to provide learning opportunities to its students' and staff's daily routines. It is undeniable that a student's learning time spent outside the formal curriculum is relatively higher. Thus, in IIUM, all routine operations and facilities, which have been usually taken for granted, need to be adjusted so that it would showcase a sustainable lifestyle. In realising this need, it is not an overstatement to suggest that until and unless this model is fully adapted and adopted, efforts to achieve institutional sustainability will not be successful. While this process of strengthening IIUM as a member of RCE Greater Gombak is taking place in various aspects of ESD, collaborative activities between IIUM and other members of RCE Greater Gombak are intensively taking place in the area.

Specifically, RCE Greater Gombak has identified three focus areas of sustainable development in which the stakeholders are working on – "Whole Community Transformation Towards Sustainable Society", "Spirituality and Sustainability in Creating Balance and Harmonious Living", and Sejahtera, that is "Mainstreaming Indigenous Knowledge and Local Wisdom". These three areas were decided based on the prioritisation of major sustainable development issues in the area of Greater Gombak. There are now at least 15 stakeholders representing different agencies, including schools, government agencies and non-governmental organisations (NGOs), that are directly engaged with RCE Greater Gombak. To date, several activities have already been carried out and many more are in the pipeline. It is interesting to note that RCE Greater Gombak has brought together various actors, who under normal circumstances would not have been found to work collectively. This is a very significant contribution of SDGs towards transforming the community to become a sustainable society.

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Unlocking the Paradox Between SDG16 and Democratic Governance in Malaysia

Khoo Ying Hooi

Introduction

The Sustainable Development Goals (SDGs) 2016-2030 is set out with 17 goals and 169 targets with the tagline, "leaving no one behind". It took a long process of negotiations and amendments among the policymakers to finally agree on the 17 goals (Breuer, Janetschek and Malerba, 2019). These goals are: No Poverty; Zero Hunger; Good Health and Well-Being; Quality Education; Gender Equality; Clean Water and Sanitation; Affordable and Clean Energy; Decent Work and Economic Growth; Industry, Innovation and Infrastructure; Reduced Inequalities; Sustainable Cities and Communities; Responsible Consumption and Production; Climate Action; Life Below Water; Life on Land; Peace, Justice and Strong Institutions; and Partnerships for The Goals.

In the Agenda 30 document, SDG16 is stated as to "promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable and inclusive institutions at all levels." The inclusion of SDG16 within the post-2015 development framework after the Millennium Development Goals (MDGs) has been characterised as a transformative move that can drive a new form of sustainable development (Radović, 2019). It is also considered an enormous breakthrough, as it had not been touched upon extensively in the previous MDGs.

The interconnectedness of the 17 SDGs has been widely discussed and agreed upon (Stevens and Kanie, 2016; Waage et al., 2015). Among all these 17 goals, SDG16 stands out as many argue that progress on SDG16 is crucial for achieving the other SDGs (Whaites, 2016). This is because SDG16 recognises that independent and inclusive institutions are needed to fulfil the other goals that are cross cutting in nature. The associated targets and indicators address a wide range of issues related to democratic governance ranging from reducing violence and corruption to strengthening institutions at all levels, to promoting the rule of law, to upholding human rights and to protecting social justice. This implies that the commitment to values related to democratic governance – such as human rights, justice, rule of law and good governance – are all essential dimensions of sustainable development as these values are considered as prerequisites to ensuring an enabling environment for any governments to achieve the targets and indicators for SDG16.

Guided by this idea, this chapter looks into the link between SDG16 and democratic governance by using Malaysia as a case study. Malaysia's political system is long known as a mixture of authoritarian and democratic structures, where it is exemplified in the political sphere by the mixture of coercive elements with electoral and democratic procedures. Various scholars (Ufen, 2009; Case, 2009) classified Malaysia under the category of an electoral authoritarian regime. Although there are regular elections that allow the opposition to compete, these do not fulfil the minimum standards required for democracy to allow the institutions to function effectively.

Issues related to governance have, of late, become matters of growing concern in Malaysia. This is especially so when allegations of mismanagement of funds in the state investment fund 1Malaysia Development Berhad (1MDB) surfaced in 2015 (Jones, 2020; Case, 2017) that triggered a national crisis of confidence and trust. Corruption is recognised as a major obstacle for reaching not only SDG16 (Whaites, 2016) but also all the other SDGs as it hinders economic growth and increases inequality. In this context, the effective implementation of SDG16 is vital for Malaysia. However, progress is significantly challenged by the failure of the country to deal with systemic and structural problems. Consequently, efforts to create stability and address governance issues should be accompanied by efforts towards a paradigm shift focusing on the rights-based approach and implementing fair redistribution of economic policies.

The SDG Roadmap Malaysia is divided into three phases as follows: Phase I (2016-2020) – prioritising SDG according to the 11th Malaysian Plan (11MP); Phase II (2020-2025) – focus on post 2020 goals and targets; and Phase III (2025-2030) – remaining goals and targets in line with Malaysia's capacity and global role. The Department of Statistics has launched an initial assessment of the SDGs indicators for Malaysia in 2018. 244 indicators were used for the assessment, using three dimensions of sustainable development: social (137 indicators, 56 percent), environmental (58 indicators, 24 percent) and economic (49 indicators, 20 percent).

In this chapter, I raise two concerns with SDG16 and attempt to fill in the gaps. First, a significant shortcoming is the difficulty in measuring progress. Second, while SDG16 is widely recognised as the central feature for achieving the other SDGs, little is known academically about the causal link to explain such concerns. This leads to the question of this chapter on whether a political system of a country can impact on the SDGs implementation and how can we overcome such challenges.

Drawing on the author's observation, from being part of the local human rights non-governmental organisations (NGOs), this chapter provides an analysis of the importance of SDG16 to achieving all of the SDGs and the principal challenges that countries are encountering in the implementation of SDG16, and proposes a set of policy recommendations to overcome those challenges.

In order to do so, this chapter is organised and divided into three main sections. The first section explores SDG16 and democratic governance in Malaysia. The second section consists of analysis and recommendations while the last section concludes the chapter.

SDG16 and democratic governance

The attention of SDG16 is on good governance, which refers widely to institutional issues that include social justice and inclusivity. Through a closer search of the SDG targets and indicators, the term ''governance'' is only mentioned once in target 16.8 that states "Broaden and strengthen the participation of developing countries in the institutions of global governance".

Throughout the Agenda 2030 document, different dimensions of governance are distributed amongst the different SDG16 targets and indicators, by using different terms including, among others, rule of law, corruption, accountable and transparent institutions, and access to information. This is not surprising as according to Cling, Razafindrakoto and Roubaud (2018), the inclusion of SDG16 took place after a long debate about how to measure governance, what targets and indicators to include, and what specific terminologies to use, due to its sensitivity politically. As highlighted, SDG16 is recognised as the catalyst to progress for all other 16 SDGs. Nevertheless, there has been a lack of emphasis on its governance dimension (Blind, 2020). This is especially so for countries that are not fully democratic in nature, since its main focus is on governance, justice, peace, human rights and security.

Governance systems can be divided into two characteristics: formal and informal. Both elements are closely interlinked in an indirect way and not explicit (Brinkerhoff and Goldsmith, 2002). The concept of democratic governance combines features of a political regime in which citizens hold the right to have a say in the government affairs and mechanisms that are employed to manage government affairs according to rules and procedures that are transparent. According to Brinkerhoff (2000), democratic governance allows the creation of a broad institutional framework that enables market-led economic growth to occur. One instance can be a conducive environment that can open the door for a more accountable and transparent system to be in place. Once the conducive environment is put in place, it is an indication of improved governance which can then lead to creating conditions that facilitate political liberalisation, such as the openness of policy dialogue, media freedom, respect for human rights and the rule of law. All of these strengthen the foundations on which it can increase economic performance and empower citizens (Frischtak and Atiyas, 1996). Accordingly, this applies to all other goals whether related to education, health, economic growth, climate change and so on.

The Barisan Nasional (BN) ruled Malaysia from independence until 2018 when the Pakatan Harapan (PH) took over the administration through the ballot box in the 14th General Election. PH was later brought down by another coalition, Perikatan Nasional (PN), in February 2020. In linking the SDG16 to democratic governance in Malaysia in the more recent years, it is important to note these different transitions.

During the administration of PH, its election manifesto focused on political and institutional reforms that directly related to the targets and indicators of SDG16. For instance, the formation of the National Centre for Governance, Integrity and Anti-Corruption (GIACC) that coordinates and monitors all activities related to governance, integrity and combating graft. It is responsible for planning, formulating strategies and evaluating policies in ensuring all government affairs are done based on good governance, integrity and zero-tolerance towards corruption (Abas, 1 June 2018).

From an operational perspective, good governance is about quality basic services. The formation of the All-Party Parliamentary Group on SDGs (APPG-SDGs) that aims to engage with more local communities to achieve the SDGs (Malay Mail, 7 November 2019) is one important initiative to operationalise good governance through an engagement approach with different stakeholders.

The different layers of governance are interdependent. For instance, a human rights-based approach is intrinsically related to socio-economic and other rights (Brinkerhoff, 2000). It should therefore come as no surprise that 18 out of the 23 global indicators of SDG16 are directly relevant to human rights and 12 of them are enshrined within the International Covenant on Civil and Political Rights (ICCPR). However, Malaysia is not yet a party to it. That said, it is difficult to establish empirical linkages among SDG16 targets and between SDG16 and other SDGs due to the challenges in measurement methods (Hope, 2020). Recognising this, the next section provides analysis to elaborate further on the connection between SDG16 and democratic governance.

Analysis and recommendations

Effective democratic governance influences how societies progress in a more holistic way (Brinkerhoff, 2000). In this section, I provide analysis on the linkage between SDG16 and democratic governance in Malaysia by providing three recommendations: data and information sharing, strengthening the role of civil society, and the promotion of human rights-based approach.

Data and information sharing

In 2017, Malaysia volunteered and presented the report for the National Voluntary National Review (VNR). Malaysia's SDGs VNR highlighted the country's commitment to obtaining the agenda's "ambitious" targets. As provided in the report on the initial assessment of the SDGs indicators for Malaysia (Department of Statistics, 2018), among the 23 indicators, the report stated that 26 percent of data is available, 35 percent is partially available, 26 percent is partially available and needs further development, and 13 percent is not available. This highlights the importance of data and their availability in order to measure the progress of SDG16. Data availability is a challenge across the wide-ranging indicators to track its overall progress. Data, and especially data of good quality, are essential for the government and institutions to accurately plan, fund and evaluate sustainable development activities.

Access to information is a critical ingredient for participatory decision-making. Freedom of information and access to information remains a challenge in Malaysia as some data continues to be deemed as sensitive, for instance statistics on deaths in custody is not always available. As such, this imposes challenges to measure the progress of SDG16. However, as shown in the VNR 2018, data availability remains a challenge in Malaysia due to various reasons such as lack of capacity, poor quality, insufficiency and being mostly outdated. Yet, in order to implement a strong link between SDG16 and democratic governance, basic development data that is accurate is essential for an accurate picture of a country's development status. This includes a country's progress towards specific development goals and improving its citizens' socio-economic conditions. In addition to the obvious need to better fund national data collection efforts and enhance the capacity and autonomy of national statistics bureaus, data needs to be freely shared and made available across all available platforms. Furthermore, it must be acknowledged that although there is a clear conceptual link between SDG16 and the other SDGs, the empirical link cannot be clearly established and the lack of data offers a potential explanation for this.

Strengthening the role of civil society

The 2030 Agenda document makes at least 12 direct references to the role of civil society organisations (CSOs) alongside the public and private sectors, while noting that each country has primary responsibility for SDG implementation. Apart from that, there is also a clear commitment for inclusion of CSOs in the review process and this includes the voluntary review process. The establishment of the APPG-SDGs is a good sign of progress in Malaysia, as it signals the strengthening of civil society involvement in the SDGs and it also highlights the important element of a multistakeholder approach. This is more so for SDG16 as when it comes to independent institutions, the check and balance mechanism must exist.

Learning from the previous experiences during the MDGs, the CSOs in Malaysia, in advocating for the SDGs to the government, have taken a lead role. The Malaysia CSO-SDG Alliance is an informal grouping of CSOs committed to the effective implementation of the SDGs in Malaysia (Denison, 2017). Realising the restrictions as imposed on the role of civil society in the past, the membership-based Alliance has "created" the opportunity available in engaging with the government even before they launched their SDGs Roadmap. Based on the author's experience being part of the Alliance, factors such as leadership and the shift of strategy from confrontational to engagement are particularly crucial (Khoo and Tan, 2019). This strategy fits well into the argument of localising the human rights norms and the norm diffusion (Acharya, 2004) in view of the challenges of human rights interpretation in Malaysia. The Alliance, while mostly based in the main cities, recognises the tremendous potential of link with the grassroots (Khoo and Tan, 2019). The grassroots organisations outside of the city centre and issues such as indigenous peoples are particularly useful in strengthening the prior local norms and to improve the credibility and prestige of local agents. In this framework, the role of civil society looms large for holding the local political leadership to account in its commitments to peace and security and the other SDGs as well. This will also further promote the necessity to nationalise and localise the 2030 Agenda, in order to create true ownership of the SDGs as envisioned.

Prioritise human rights approach

This chapter also indicates that human rights norm setting in Malaysia involves the contestation between the global, regional and domestic frameworks. Putting this within the human rights-based approach, the top-down nature of human rights norm setting is increasingly being challenged over times, both by practitioners and by scholars who propose a range of methodologies and approaches to draw attention to the daily realities of human rights users as well as to the ways in which human rights are received by these rights-holders (Khoo and Tan, 2019).

Under a semi-democracy political setting like in Malaysia, a series of questions of the implications of different interpretations of human rights in implementing SDGs is important, looking at their strengths and shortcomings that may impact on the effectiveness of the domestic actors in putting forward their advocacies to the governments. Such a challenge is more so for the implementation of SDG16 that involves the concepts of rule of law, justice and democracy. In terms of policy reform, it needs to be recognised that the variety of structural and sectoral adjustment policy reform provide impact to the institutional and governance factors on the success rate of any policies that the government intends to formulate (Gordon, 1996). For instance, only if the government approach to human rights is adopted at both national and international level will it be possible to implement and fulfil human rights obligations over the long term.

In the human rights context, all goals are relevant since human rights are cross cutting issues. The improvement of one right facilitates advancement of the others and this applies to all 17 SDGs. Appropriate measures in legislative, judicial, educational, social and administrative should be used in order to satisfy the four types of state obligations to respect, protect, promote and fulfil human rights using the human rights-based approach. Acknowledging this, the next step should be the close partnership between the civil society and the government, in which it can help to foster the norm diffusion of and norm localisation of SDGs given that the CSOs – in this case referring to groups such as the APPG-SDGs – is able to sustain its norm entrepreneurship through upholding the local norms and values. Linking advocacy on the implementation of the SDGs to human rights can strengthen advocacy and can be an effective way of pushing for progress at national level. For instance, the stakeholders can use existing review processes such as the Universal Periodic Review (UPR) and reports produced by the Special Rapporteurs mechanism available in the United Nations to set the implementation plans for the goals and targets and integrate it into the SDGs Roadmap.

Conclusion

While we recognise that SDGs are both an opportunity and a challenge for Malaysia, the question is how do we align the existing or future policies with those of the SDGs. This is particularly challenging for SDG16 as elaborated in the above sections, since the framework of SDGs requires broad coalitions to be formed: of governments (national and local), multilateral and regional organisations, CSOs, academic and research organisations, and the private sector.

Reshaping coalition strategy in line with the SDGs is important. Through broad coalitions, it is hoped that it can contribute to leaving no one behind by forging multilateral partnerships that would also include the marginalised and vulnerable groups, and creation of local ownership for the SDG implementation process. Moving forward, only by better identifying and recognising such links, as well as to provide an enabling environment, would there be the potential to maximise progress with the SDGs, whereby supporting progress in specific aspects of SDG16 in a country may generate improvements in other SDGs.

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Role of Civil Society Organisations in Localising SDGs in Malaysia

Denison Jayasooria

Introduction

Multistakeholder partnerships are a key thrust of the Sustainable Development Goals (SDGs).[1] This is clearly noted in the partnership model envisioned with an emphasis on all stakeholders.

In SDG 17:17, it is clearly stated that for these partnerships to be effective, all the three actors must actively participate – the public (government), private (business) and civil society (including all non-state or business actors). Most often, the partnership between public and private is clearly seen. However, the dimension of public and civil society is seen as a challenging one.

The SDG Agenda 2030 document is full of references to partnerships in fostering an inclusive society with calls for full and effective partnerships, including equal opportunities for leadership and decision-making for all, especially women, as described in SDG 5:5. There is a call in SDG 16:6 and 7 for effective, accountable and transparent institutions as well as responsive, inclusive, participatory and representative decision-making at all levels. In this context, public access to information and protecting fundamental freedoms are viewed as a fundamental right. In addition, the participation of local communities in improving water and sanitation management (SDG 6b) is an important component. In the context of inclusive urban cities, the direct participation of civil society organisations (CSOs) in urban planning and management as stated in SDG 11: 3 is a key feature.

It is on the basis of such a strong reference to a partnership model that this Chapter, on the experiences of Malaysian CSOs over the past nine years (2011-2020), is written. The CSOs are very active, well organised and network well both domestically and globally. This is a strong, active movement of CSOs – although there was little resources as well as no registered organisation nor office and staff in the early stages, they have managed to become a major mover for SDGs in Malaysian society. It was their social capital, partnership, determination and firm belief that a better Malaysia can be built on a partnership model as well as through a multidimensional development agenda – economic, social, environmental, good governance and human rights. This Chapter is divided into four main thrusts. The first is on CSOs in the pre-SDG stage. The second is on the involvement of CSOs in national, regional and international SDG events after the SDG launch in 2015. The third part is on how the CSOs are working with the Parliament and government agencies in localising SDGs. Finally, drawing lessons from this experience is an important exercise in the strength and potential of the third sector in Malaysian society in localising SDGs.

CSOs in the pre-SDG stage (2011-2015)

Malaysian CSOs are active in national, regional and global levels pertaining to sustainable development. While CSOs have specific niche areas and often work in their particular fields, CSO have begun to network across their specialisations to address sustainability concerns due to an agenda for balanced development, which includes economic, social and environment concerns. Malaysian CSOs have hosted discussions on these matters.

In this context, two global documents were very important, namely the Millennium Development Goals (MDGs) Report and the preparatory document to the Rio+20 discussions titled "The Future We Want". These discussions were informative and provided the substance for the policy advocacy initiatives by CSOs in Malaysia. It provided the ideology and philosophy behind the policy advocacy work on sustainable development.

CSO discussions in preparation for SDGs

On 28 April 2011, the Malaysian government and United Nations (UN) in Malaysia released a report on the ten years of Malaysia's achievements in MDGs. The Society for the Promotion of Human Rights (PROHAM) hosted a Round Table Discussion (RTD) on 18 July 2011[2] at the Human Rights Commission of Malaysia (SUHAKAM) Office with a panel of speakers, including representatives from the Economic Planning Unit (EPU) and the UN Office in Malaysia.

The MDGs were launched in 2000 by world leaders with eight goals aimed at achieving a more peaceful, prosperous and just world while upholding the principles of human dignity, equality and equity. While it was acknowledged that Malaysia had performed well in the MDGs, the PROHAM discussion called for the adoption of a stronger human rights approach towards the socio-economic development agenda. It was also highlighted that the MDG indicators were too low a benchmark for Malaysia and also recognised the need for greater participatory, community-based consultations with a stronger policy for social inclusion.

CSOs gathered again at another RTD on 4 June 2012, hosted by the Centre for Public Policy Studies (CPPS)[3] on the theme "The Rio Agenda (green economy, poverty eradication and sustainable development)". The panel of speakers included representatives from EPU and the United Nations Development Programme (UNDP). The context here was to review the agenda of the Rio+20 for the global conference, which was a forerunner to the SDG. The first Earth Summit was held in 1992 and the second in 2012. The Rio meeting was not just to review the past 20 years, but to also formulate a new agenda for sustainable development. One landmark development from the first Rio Summit was the Local Agenda 21 (LA21), which was adopted by a number of local governments in Malaysia. One objective of the RTD was to review the zero draft of a UN document entitled "The Future We Want",[4] which served as the preparatory document for the final document of the SDGs. This document was released on 10 January 2012.

The Rio+20 UN gathering (2012)

The UN Conference on Sustainable Development (Rio+20) was held on 20-22 June 2012 at Rio de Janeiro, Brazil.[5] The People Summit was held from 15-22 June 2012. About 12,000 delegates and 9,000 non-governmental organisations (NGOs) participated. There were many plenary discussions and side events. The author participated at the Rio meeting as Board Member of the Intercontinental Network for the Promotion of Social Solidarity Economy (RIPESS),[6] which has issued its statement to the UN gathering.[7] On the last day, the UN released a document titled "Future We Want – Outcome Document".[8]

Post-Rio discussions

CPPS hosted a second RTD[9] on 9 July 2012 to review the outcome of the Rio+20 event and the outcome document. The panel consisted of three Malaysians, who were at the Rio gathering – each shared their experiences. Although there were negative and positive comments on the outcomes, there was consensus that CSOs/NGOs would move the sustainable development agenda in Malaysia forward through a multipronged, integrated approach, including bringing the networks together.

UN Sustainable Development Summit (2015)

It is important to note that there was a long consultative process at the global level over the outcome document leading up to September 2015. The UN, on 25-27 September 2015, hosted the United Nations Sustainable Development Summit[10] in New York during which time the 17 Sustainable Development Goals: Agenda 2030 was released. At the summit, the Malaysian Prime Minister[11] made a commitment of support to the implementation of SDGs in Malaysia. PROHAM[12] issued a statement calling the federal government to establish a National Consultative Council on Agenda 2030 with participation of all stakeholders including civil society. There was also a call for creating greater space for civil society.

CSOs hosted a discussion on SDGs

Malaysian CSOs, led by PROHAM, hosted a panel discussion on SDGs and Human Rights, a framework for conflict resolution and mediation, on 27 October 2015. There was a 13-member panel including representatives from EPU. This was the first CSO discussion held in Malaysia after the UN global endorsement of SDGs. The findings of the discussion[13] was published for further study and reflection. One of the objectives was to discuss the formation of a Malaysian civil society alliance on SDGs for policy advocacy and monitoring. As a follow-up, a number of CSOs expressed interest, and the Malaysian CSO-SDG Alliance, a network of organisations representing a cross section of the CSOs, was formalised. The documentation of these discussions and policy advocacy showed the active interest and participation of CSOs on sustainability-related issues, linking it to poverty and human rights.

Organising the Malaysian CSO-SDG Alliance

CSOs resolved to establish an alliance of organisations working on SDG issues. There were already other specific networks on gender, human rights, indigenous communities, people with disabilities, the environment and sustainability, but not a single body in a multidimensional way. Therefore, the alliance was open to all groups working on economic, social and environmental concerns, including specific target groups – they could work together in the Malaysian CSO-SDG Alliance as long as they were using the SDGs as the governing basis.

Fifty organisations are members of the Alliance. Of these, nine are umbrella organisations, such as the Malaysian Youth Council (MBM), Malaysian Environmental NGOs (MENGO), National Council of Women's Organisations (NCWO), Indigenous Peoples Network of Malaysia (JOAS), Sarawak CSO SDG Alliance, Penang Forum, Global Compact Network Malaysia (GCMY), Federation of Malaysian Consumers Associations (FOMCA) and MyCommunity4SDG. The remaining 41 are individual organisations focused on a target group or service.

We agreed to a flat-based organisational structure with two representatives from each organisation, which could be an umbrella or individual organisation. We set up a WhatsApp group to share all information and meet from time to time to review developments or jointly work on advocacy themes that are SDG-related.

We undertook early on a mapping of CSOs and a number of publications documenting this emerged.[14] In this mapping exercise, it was noted that the Alliance partners are focused in eight[15] specific roles. First, in awareness-raising work on SDGs. Second, in service provision and projects. Third, community development. Fourth, capacity building and training. Fifth, financial services and income generation projects. Sixth, data collection, research and monitoring. Seventh, policy advocacy as well as a watchdog and accountability role.

CSOs in national, regional and global SDG discussions (2016-2019)

Participation at national programmes

The Malaysian CSO-SDG Alliance participated in the National SDG Symposium on 29 February 2016 and SDG Roadmap Conference on 15-16 November 2020,[16] organised by EPU and UN. The Alliance partners played an active role as panel speakers as well as providing input from the floor.

We met up with EPU officials and provided input for the 2017 Voluntary National Review (VNR) report, which Malaysia presented at the UN High-level Political Forum (HLPF) in New York in July 2017. There were also many discussions in cluster groups in early 2017, such as Cluster 1 on Inclusivity; Cluster 2 on Well Being; Cluster 3 on Human Capital; Cluster 4 on Environment and Natural Resources, and Cluster 5 on Economic Growth. While Malaysia released its VNR report, the SDG Roadmap was not released.

CSOs played an active role in the review of the SDG Roadmap for Malaysia (2016-2020). We were given a draft copy and met up with EPU officials on 24 October 2019. Thirteen members of the Alliance provided feedback and we made a written submission. However, the SDG Roadmap was still not released.

Three members of the Alliance were appointed to the National SDG Steering Committee, which held its first meeting on 21 December 2016, and a second meeting was held on 15 October 2019. We appealed for two more seats and managed to secure five. These were represented by the Malaysian CSO-SDG Alliance, MENGO, Coalition of Malaysian NGOs (COMANGO), MBM and NCWO.

Placing the SDGs at a high level is a key recognition for CSOs. However, our disappointment was that this National SDG Steering Committee had only met on two occasions between 2016 and 2019. In 2020, over the past nine months, it has not met at all. This is a major weakness in strategic planning and coordination at both the top macro level as well as at the ground level although EPU has been very busy with various development plans. Nonetheless, on 24 October 2017, a significant recognition was given by the UN Country Team for the work undertaken to promote SDGs in Malaysia through the Malaysian CSO-SDG Alliance.[17]

The UN and Ministry of Economic Affairs (MEA) hosted the SDG Summit on 6-7 November 2019.[18] The Malaysian CSO-SDG Alliance hosted a parallel session, namely the Civil Society Forum. A 73-page report entitled "Accelerating SDGs in Policy and Services at the Local Levels: Civil Society Perspectives"[19] was prepared for the summit and submitted to the MEA and UN.

The report obtained input from 20 different CSO leaders on 11 key themes or papers. There were five major concerns and recommendations: (i) the development framework must not be charity-based, but rights-based; (ii) inclusivity and more realistic measurements of poverty must be introduced; (iii) a strong shift towards environmental justice and sustainability; (iv) localising the SDGs and effective delivery; and (v) robust engagement, moving from being consulted to becoming a partner.

Between June and September 2020, the Malaysian CSO-SDG Alliance initiated 11 discussions directly with EPU to provide feedback for the drafting of the Twelfth Malaysia Plan (2021-2025), feedback on the UN poverty report as well as strengthening the poverty line income (PLI) and Multidimensional Poverty Index (MPI), and on issues pertaining to localising the SDGs.

The Malaysian CSO-SDG Alliance is also a member of the CSO Platform for Reform, leading the SDG cluster. This is a monitoring and advocacy group. It is the largest grouping of CSOs in Malaysia. On 9 September 2020, the Reform Platform released an Analysis Report entitled "Pakatan Harapan's 22 months and Perikatan Nasional's first 100 days".[20] The Alliance wrote the reflections on SDGs.

Participation at regional discussions

At the regional level, UN Economic and Social Commission for Asia and the Pacific (UNESCAP) hosts the annual gatherings for member states and CSOs – the Asia-Pacific Forum on Sustainable Development (APFSD) and the Asia-Pacific People's Forum on Sustainable Development (APPFSD). The Alliance partners have been participating in these regional level discussions and side events in Bangkok.

On 24-25 February 2017, a Malaysian case study – Review of National CSO Engagement on the SDGs[21] – was presented in Bangkok at the Regional Workshop on National Implementation of SDGs for the VNR of the UN HLPF.

On 30 March 2018, the Malaysian experience was presented at a side event in Bangkok entitled "CSO Participation in the VNR Process and Follow-up Mechanisms".[22]

In the UNESCAP 2019 Report entitled "Accelerating Process: An Empowerment, Inclusive and Equal Asian and the Pacific,"[23] the Malaysian CSO-SDG Alliance was featured as a case study for effective multistakeholder engagement. This is good recognition of the work of the Alliance.

Participation at regional discussions

Malaysia presented its VNR report[24] on 17 July 2017 at the UN HLPF in New York. In that year, six[25] Malaysians from CSOs were present in New York and three[26] had the opportunity to raise questions in the UN after the Malaysian VNR was presented.

The Malaysian CSO-SDG Alliance hosted a side event in New York on 18 July 2017[27] to review the Malaysian VNR; the event was participated by representation from EPU, a UNESCAP speaker and Malaysian CSOs. We released a report on CSO reflections in which we noted the current gaps and also highlighted the role of civil society in complementing the government as well as holding the government accountable to the SDG goals, targets and indicators.

These national, regional and international exposures strengthened the CSOs' understanding, capacity and networking with global actors, thereby learning from other countries' experiences as well as sharing the Malaysian experience. However, funding and effective participation on SDG matters are a few major issues.

The Malaysian CSO-SDG Alliance hosted a dialogue on 27 August 2018[28] with the Malaysian Foreign Minister on these matters for the inclusion of CSO representatives in the official delegation to both regional (UNESCAP) as well as global (HLPF). We were told that the government will review this process, including CSOs that have regular dialogues on the Universal Periodic Review (UPR). The Foreign Minister eventually established a Consultative Council on Foreign Policy[29] in which a number of CSOs were appointed, including the author as the representative on SDGs.

CSOs in localising SDGs via APPGM-SDG

Dialogues with the Speaker of Parliament

The 14th Parliament Speaker, HE Tan Sri Dato' Mohamad Ariff Bin Mohd Yusof started a series on parliamentary reforms[30] in 2018, including hosting public forums and discussions and opening up Parliament for the participation of non-parliamentarians in these forums. The vision was to enable the Parliament, as an institution, to be close to the people and to foster a thinking public.

In December 2018, the author had the opportunity of participating in two of these forums that provided the space for CSOs to engage with parliamentarians on SDG matters. The Speaker hosted a "Seminar on Parliamentary Reform" on 8 December 2018 – one of the topics was on "Parliamentary Role in the Achievement of SDGs" and the speaker was UN Resident Coordinator, Mr Stefan Priesner. In this session, the 17 SDGs were highlighted, including the theme of "Leaving No One Behind". The need was for greater SDG awareness amongst the parliamentarians in order to effectively monitor implementation at the local level.

A few days later, there was another public event at Parliament. This time it was the Speaker's lecture series on the topic of "Parliament and Civil Society: The Voice of the Rakyat?"[31] with YAM Tunku Zain Al-Abidin as the guest speaker. In his speech, he called for a formal engagement process for civil society, which must not be an ad hoc approach.

As a follow-up to these two parliamentary forums, a series of three meetings were held among the CSO leaders of the Malaysian CSO-SDG Alliance. On 19 December 2018, about 15 CSO leaders met the Speaker with a proposal for the setting up of a Special Parliamentary Caucus on SDGs with a team of parliamentarians, civil society activists and academics. The Speaker was very supportive of the idea of parliamentarians, civil society and academics working together. However, he counter-proposed and called on the CSOs to study the UK model of the All-Party Parliamentary Group (APPG),[32] which is a multistakeholder group. It is estimated that there are over 700 APPG groups in the British Parliament and they can be divided into two types, namely APPG on a particular country and others that are thematic.

A smaller team of CSO representatives met up with the Speaker for the second time on 30 January 2019. There was a clear discussion on the structure and objectives of the APPG and we were invited to secure the support of seven to eight members of Parliament (MPs) from across the political divide as well as from the two houses of Parliament.[33]

By 18 March 2019, the CSO team was able to secure the support of YB Puan Maria Chin Abdullah (Petaling Jaya MP) and YB Tuan William Leong Jee Keen (Selayang MP). We agreed to visit their service centres in April 2019 to explore SDG matters pertaining to localising SDGs.

CSOs were fortunate to meet up with a representative of the Westminster Foundation for Democracy (WFD), Ms Zoe Watts.[34] Ms Watts had a good working knowledge of the UK APPG and she met up with about 10 CSO leaders on 22 March 2019 in Kuala Lumpur. The discussion and introduction were a good eye-opener to the UK system and we discussed the possibilities of establishing the APPG in the Malaysian Parliament.

By our third meeting with the Parliament Speaker, held on 16 May 2019, we had secured the support of six MPs from the lower house and three from the upper house. We had some ideas on localising SDGs having undertaken field visits in April 2019 to two parliamentary constituencies. At this meeting, we requested the Speaker to host a discussion in Parliament between the parliamentarians and CSO leaders on the setting up of the APPG on SDGs.

The Speaker agreed and hosted a dinner meeting on 1 July 2019[35] with the MPs and some very important persons (VIPs), including the UN Resident Coordinator at Parliament House. All the preparatory work had been done; only the approval of the Parliament House Committee and eventually the tabling of a resolution in Parliament were needed.

On 4 July 2019,[36] the Parliament House Committee agreed to the establishment of the All-Party Parliamentary Group Malaysia on SDGs (APPGM-SDG).

On 19 July 2019, the Speaker – with the support of the UN Country Team, Strategic Institute for Asia Pacific (KSI) and Malaysian CSO-SDG Alliance – hosted a "National Forum on Sustainability, CSR and SDG" at the Parliament with an opening keynote from the Speaker entitled "The Role of Parliament in the SDGs". Our supporting MPs together with representatives of the Alliance participated as speakers during the panel sessions.

The establishment of the APPGM-SDG

On 17 October 2019, YB Datuk Liew Vui Keong, Minister in the Prime Minister's Department, read a resolution on the formation of the APPGM[37] and the first on SDGs. He told the Parliament House that the APPGM is a platform for MPS, NGOs and academics to work as partners on a topic of common interest. Each of the APPGM must be registered with the Secretary of Parliament using the official form.

The Minister then read the statement informing that the Parliament House Committee had approved the setting up of the APPGM on SDGs with the Malaysian CSO-SDG Alliance as the secretariat and the author as Head of the Secretariat. The Parliament House accepted this resolution without a debate and with full support of all.

The first meeting of the APPGM on SDGs was held on 22 October 2019 to review the Terms of Reference and elect the office bearers from among the MPs. Five MPs[38] were present and YB Puan Maria Chin Abdullah[39] was elected Chair and YB Dato' Sri Hajah Nancy Shukri as Deputy.

The application for the formation of the APPGM-SDG on the required form was submitted immediately and an official reply informing of the formation was dated 23 October 2019. This was the first APPGM established by the Malaysian Parliament and was a major landmark[40] for CSOs working on SDGs. To become recognised as being part of the formal mechanism of Parliament was indeed significant.

However, with the change of government in late February 2020, a new chair from among the government back-benchers had to be elected in accordance with the APPGM rules. On 17 August 2020, the APPGM Committee[41] elected YB Dato Sri Hajah Rohani Binti Abdul Karim (GPS-PBB, Batang Lupar, P201) as the new Chair and YB Puan Maria Chin Abdullah (PKR, Petaling Jaya, P105) as Deputy Chair. Previous members who were appointed to the Cabinet no longer served as members of the APPGM Committee. Nevertheless, they are still involved in the pilot study on localising SDGs at their parliamentary constituency.

Malaysian CSO-SDG Alliance as the APPGM-SDG Secretariat

We had the specific commitment of a number of CSOs, academics and think tank institutions.[42] These were made up of individuals on a volunteer basis who have been part of the process from the early days of the dialogues and conversations.

There was a need to register a society by end of December 2019 as the Malaysian CSO-SDG Alliance had made representations to the Ministry of Finance (MOF) for a project fund to undertake the localising of SDGs. The 2020 Budget, which was released on 11 October 2019, indicated a grant of RM5 million[43] and was allocated to Parliament for the work of the Select Committee as well as SDGs. It was later clarified by MOF officials that RM2 million was the allocation for localising the SDGs. The approved project fund from MOF is divided into four parts as indicated in Table 1.

TABLE 1. Financial Breakdown 2020

PURPOSE	PERCENTAGE	ALLOCATION
Awareness and capacity building	15%	300,000.00
Mapping, research, documentation and publication	15%	300,000.00
Community projects – SDG solutions and innovations at the parliamentary constituency level	60%	1,200,000.00
Administration and coordination of APPGM-SDG	10%	200,000.00
Total	100%	2,000,000.00

We had long discussions on the compliance requirements by MOF for the fund transfer to the secretariat as the Alliance was a network and not a legal entity, although all the partners were legally registered bodies. It was finally decided that a new society named "Society for the Promotion of SDGs" would be registered. We received our registration from the Registrar of Societies on 7 January 2020 with a preterm committee. We opened our bank account in early January 2020 and received the first grant payment from MOF for the SDG project by March 2020.

We held our first Annual General Meeting on 9 July 2020 to elect the various officer bearers.[44] It was agreed that the Malaysian CSO-SDG Alliance would be the main body open to CSOs to join as members with two representatives each. The newly registered society will act as the secretariat for both the APPGM as well as the Alliance.

The APPGM Secretariat reports to the APPGM Committee of Parliamentarians and requires their approval for fund utilisation. The secretariat is also required to submit a monthly activity report and financial statement to the Parliament administration for MOF monitoring of the funds. The secretariat is staffed by a voluntary head with two full-time staff – a programme officer and a finance officer.

There are three working committees, namely the Research and Policy Committee; Capability Building and Solutions Projects Committee; and Finance Committee. Each has a voluntary head and members from among the CSOs and academics. In addition, 10 project committees with a lead coordinator, lead researcher and a number of committee members, would be focused on a parliamentary constituency. All these positions are on a voluntary basis with some honorariums and provisions for claims. We have managed to enlist academics from public universities to be involved in undertaking the field study data and write up the socio-economic needs' assessment on the ground.

The multistakeholder engagement among MPs, government agencies at the district and local government level on the ground, neighbourhood and residential communities, CSOs and academics is the strength of this partnership model, which is reflective of SDGs' principle on partnerships.

The pilot projects

The pilot phase of the APPGM-SDG will be undertaken in seven states and 10 parliamentary constituencies as indicated in Table 2.

TABLE 2. Project Location and Details

NO.	STATE		PARLIAMENTARY CONSTITUENCY	NAME OF MP	DATE OF VISIT
1	Kedah	1	Pendang	YB Tuan Hj Awang Bin Hashim (PAS, Pendang, P011)	18-20 July 2020
2	Kelantan	2	Jeli	YB Dato' Sri Mustapa Bin Mohamed (BERSATU, Jeli, P030)	7-9 August 2020
3	Selangor	3	Selayang	YB Tuan William Leong Jee Keen (PKR, Selayang, P097)	18-20 January 2020
		4	Petaling Jaya	YB Puan Maria Chin Abdullah (PKR, Petaling Jaya, P105)	19, 23 February; 5 June 2020
4	Pahang	5	Bentong	YB Tuan Wong Tack (DAP, Bentong, P089)	14-16 January 2020
5	Johor	6	Tanjong Piai	YB Dato' Sri Dr Wee Jeck Seng (BN-MCA, Tg Piai, P165)	18-20 January 2020
6	Sabah	7	Papar	YB Tuan Hj Ahmad Bin Hassan (Warisan, Papar, P175)	21-23 February 2020
		8	Pensiangan	YB Tuan Arthur Joseph Kurup (Parti Bersatu Rakyat Sabah, Pensiangan, P182)	25-27 February 2020
7	Sarawak	9	Kuching	YB Dr Kelvin Yii Lee Wuen (DAP, Bandar Kuching, P195)	2-4 February 2020
		10	Batang Sadong	YB Dato' Sri Hajah Nancy Shukri (GPS-PBB, Batang Sadong, P200)	24-26 February 2020

The pilot projects will be conducted over 15 months (January 2020 to March 2021) instead of the initial 12 months due to delays caused by the COVID-19 pandemic. There were also some delays in undertaking the field study in the case of Pendang and Jeli due to the Movement Control Order (MCO).

Each parliamentary constituency will go through the four phases of implementation starting with field visits, prioritisation of local issues, designing capacity building programmes and solutions projects. In addition, each parliamentary constituency is allocated RM8,800 for capacity building projects and RM120,000 for solutions projects.

TABLE 3. Project Implementation Phases

MONTHS	AREAS	DETAILS
Phase 1: January to March 2020	• Mapping and awareness-raising • Identification of issues and stakeholders	• Mapping of local issues, key state and non-state actors • Awareness-raising • Identifying local solutions • Documenting the findings by researchers
Phase 2: April to June 2020	• Project/programme design phase • Solutions focus	• Drawing up the SDG project proposals • Presentation to APPGM-SDG JK for approval of grants • Conducting of capability building workshops at the parliamentary level
Phase 3: July 2020 to January 2021	• Project/programme execution	• Execution of community-based SDG solution projects at the parliamentary level • Monitoring project implementation • Research synthesis, including identifying cross-cutting issues
Phase 4: February to March 2021	• Project review and drawing conclusions	• Project completion • Impact assessment and review • Financial audit • Empirical research, including undertaking impact assessments • Policy evaluations and integrated APPGM report

Policy inputs to EPU and networking with ICU and DOSM

While the localising of SDGs is a major task of the APPGM, where MPs serve as local champions, we have also undertaken policy inputs, which is part of our advocacy role as CSOs.

The initial findings from our field studies have been presented to the Speaker of Parliament, EPU, the UN Country Team and officials at the Department of Statistics Malaysia (DOSM). Besides, we are seeking appointments to present to the MOF and Implementation Coordination Unit (ICU). We plan to host a number of policy discussions based on our findings from our field studies and in the localising of SDGs.

Lessons in utilising SDGs as a framework for CSOs

What lessons can we learn from the experiences over the years and the role played by CSOs in the promotion of SDGs in Malaysia? In this review of events between 2011 and 2020, we can draw out six key lessons from the practice of public advocacy role and provide implications for future action.

Perseverance in policy advocacy

First, advocacy and networking are not quick processes, hence perseverance is needed. Focus is essential to stay on the course for long-term changes. Indeed, the CSO discussions and preparations before 2015 were very important in laying the foundations for the future work.

Evidence-based policy advocacy work

Second, evidence-based advocacy over the years set the foundations for the SDGs – Agenda 2030 for Sustainable Development. CSOs consistently engaged with the government, drawing on grounded evidence and analysis to advise on such public policies as the PLI and MPI, the integration of SDGs in development planning, the SDG Roadmap as seen in the Eleventh Malaysia Plan and the Mid-Term Review of the development plan, as well as the preparation of the Twelfth Malaysia Plan.

Multidimensional nature of SDGs

Third, CSOs recognised that they needed to work together since the three aspects of development – economic, social and environmental concerns – must merge, and these are linked to good governance, partnerships and the human rights agenda. It is multidimensional and cross-cutting as well as moving beyond the silo understanding and approach to delivery and implementation. Therefore, key partners representing different interests and target groups is a key development within the CSO/NGO community in Malaysia.

SDG champions

Fourth, CSOs recognised that they needed champions and allies in both policy work and localising the SDGs. The Speaker of Parliament, EPU Minister and MPs each played a role in recognising that the agenda of leaving no one behind required the active participation of all sectors of society – government, private sector, civil society, grassroots communities and academic community. Indeed, the multiethnic dimension as well as the multidisciplinary nature of the personalities and their organisations are very significant. SDGs are fostering social inclusion among the various actors to work together for the common good.

A number of CSO leaders[45] who started since 2011 are still working closely to advance CSOs' participation in public policy advocacy as well as in the localising of SDGs. Many new actors from CSOs, academic partners, grassroots community leaders and social enterprises have now joined us and are undertaking solutions projects in the pilot phase.

Bipartisan nature of SDGs

Fifth, the APPGM is a unique partnership across political party lines as this is a bipartisan effort from the MPs participating in the APPGM-SDG Committee and in the pilot phase. Yet there are challenges as political parties are constantly in conflict and the grassroots find it difficult to obtain bipartisan local cooperation at times. Nevertheless, addressing development concerns on the ground should enable us to work together for the common good of all Malaysians to ensure no one is left behind.

CSO strategy in working from confrontation to engagement

Finally, we can draw from Khoo Ying Hooi and Tan Lii Inn on strategies adopted by CSOs in working with the government. They made an interesting observation, which serves as a helpful last word, on the lessons learnt of CSOs' role in SDGs:

"Learning from the experience during the MDG period and restrictions imposed on the role of civil society in the past, civil society in Malaysia has taken a lead in advocating for the SDGs to the government. In particular, the CSO-SDG Alliance has arguably 'created' the opportunity through engaging with the government even before it had launched its SDG roadmap. Based on the first author's experience as part of the Alliance, factors such as leadership and the shift of strategy from confrontation to engagement appear to have been particularly crucial. This strategy aligns well with the view that localizing the SDGs and human rights norms is necessary due to the challenges presented by human rights interpretation in Malaysia."[46]

The adoption of a non-confrontational approach does not mean compromising on the fundamental principles of a multidimensional approach to development from a SDG framework, which is concerned with economic, social, environmental, governance and human rights issues. The work has just begun and we have another nine years to 2030. The next major task is really localising SDGs at the grassroots level to ensure no one is left behind.

Conclusion

In this review, we can recognise the dynamism of CSOs in complementing the role of the government in localising the SDGs. CSOs with smaller organisational structures and decision-making processes can be effective in reaching out to vulnerable individuals and communities at the local level. In the grassroots field visits and ground discussions, we see how local communities can analyse local issues and indicate what local solutions are needed. There is a need for a decentralised decision-making process and for the public space to facilitate this. Both federal and state institutions must recognise this and facilitate greater grassroots involvement in decision-making at the local level. SDGs provide a good framework for the localising of sustainable development and ensuring no one is left behind.

Endnotes

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[24] https://sustainabledevelopment.un.org/content/documents/15881Malaysia.pdf.

[25] The five Malaysians were Ms Lavanya Rama Iyer (WWF Malaysia), Ms Chee Yoke Ling (Third World Network), Mr Rizal Rozhan (Empower), Mr Atama Katama (Indigenous People), Mr Alizan Mahadi (ISIS Malaysia) and Prof Datuk Dr Denison Jayasooria (Malaysian CSO-SDG Alliance and KITA-UKM).

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[40] https://www.malaysiakini.com/news/505817.

[41] The following MPs were elected to the APPGM-SDG Committee: Chair – YB Dato Sri Hajah Rohani Binti Abdul Karim (GPS-PBB, Batang Lupar, P201); Deputy Chair – YB Puan Maria Chin Abdullah (PKR, Petaling Jaya, P105); Secretary – YB Tuan William Leong Jee Keen (PKR, Selayang, P097); Treasurer – YB Dr Kelvin Yii Lee Wuen (DAP, Bandar Kuching, P195); APPGM Members (DR) – YB Tuan Wong Tack (DAP, Bentong, P089) and YB Tuan Hj Ahmad Bin Hassan (WARISAN, Papar, P175); APPGM Members (DN) – YB Senator Tuan Adrian Banie Lasimbang (DAP Sabah) and YB Senator Datuk Paul Igai (Progressive Democratic Party, Sarawak).
[42] Partners in the Secretariat: Prof Datuk Dr Denison Jayasooria (YKPM and KITA-UKM); Tan Sri Michael Yeoh (KSI); Mr Alizan Mahadi (ISIS Malaysia); Dr Lin Mui Kiang (PROHAM); Ms Lavanya Rama Iyer (WWF); Prof Dato' Dr Rashila Ramli (NCWO and IKMAS-UKM); Ms Omna Sreeni-Ong (ENGENDER); Mr Muhammad Faisal Bin Abdul Aziz (ABIM); Mr Kon Onn Sein (YKPM); Mr Jeffrey Phang (MyPJ); Assoc Prof Dr Zainal Abidin Bin Sanusi (IIUM); and Mr Khalid Kamil (Philandure).
[43] https://drive.google.com/file/d/1MF2Gm_VkBXgc-XrD63ArVDXS7yiyTNHB/view, 73, para 179.
[44] Society for the Promotion of SDGs (Persatuan Promosi Matlamat Pembangunan Lestari): Chair – Prof Datuk Dr Denison Jayasooria; Deputy Chair – Dr Lin Mui Kiang; Secretary – Mr Alizan Mahadi; Assistant Secretary – Mr James Raj; Treasurer – Mr Kon Onn Sein; Committee Members – Ms Lavanya Rama Iyer, Ms Omna Sreeni-Ong and Prof Dato' Dr Rashila Ramli; Internal Auditors – Mr Kiu Jia Yaw and Mr Jeffrey Phang.
[45] Tan Sri Michael Yeoh, Dr Hezri Adnan, Mr Gurmit Singh, Datuk Yusof Kassim, Dr Lin Mui Kiang, Mr Alizan Mahadi, Dr Khoo Ying Hui, Ms Ommna Sreeni-Ong and Prof Datuk Dr Denison Jayasooria.
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Conclusion – A Whole of Society Approach towards the SDGs and Leaving No One Behind

Alizan Mahadi

The Sustainable Development Goals (SDGs) have been celebrated as a watershed moment for implementing sustainable development across the world. With the target of improving upon and addressing the challenge of its predecessor, the Millennium Development Goals (MDGs), one of the aims is for the SDGs to be attained at the disaggregated level. This requires the SDGs to be achieved not only at the global or national levels, but also at the subnational levels and reach the most vulnerable communities around the world. Towards this end, this book focuses on how and why the SDGs is utilised in its implementation towards the overarching principle of leaving no one behind.

In this concluding chapter, the key findings in this volume are synthesised. The main contribution of the book is to understand these issues from an actor perspective, and in particular, non-state (or non-government) actors as forces for SDGs implementation. Specifically, due to the need to translate the SDGs from the international, to the local and community levels, and at the same time addressing the cross-cutting nature of the SDGs, its implementation is required to be addressed at various levels, scales and by various actors and stakeholders. In this sense, this chapter firstly looks at the mechanisms and forces of implementation from a vertical perspective, in efforts to translate the SDGs from an international level to the local level. Cognisant of the fact that the SDGs need to be addressed in an integrated manner across its 17 goals and 169 targets, Section 2 focuses on the mechanisms of implementation at the horizontal level. Section 3 discusses the need to look into the systemic level and the final concluding section proposes a whole of society approach towards leaving no one behind.

Vertical forces and mechanisms of SDGs implementation

Scholars have previously theorised and provided evidence on the different forces that translate international agreements to the local level (Kanie and Haas, 2004; Young, 2006; Young, King and Schroeder, 2008). The importance of understanding both the process of translation as well as interaction across various levels, and in particular from the international to the national and local levels, is crucial towards understanding the potential and utility of the SDGs for its implementation. This is because implementation occurs at the domestic level, both at the national as well as local levels. In this sense, the influence and overall effectiveness of the SDGs is dependent on the ability for it to be translated to the local level.

Previous studies have suggested the various mechanisms and forces for vertical interaction include government agencies through policy and institutional linkages, NGOs and CSOs through sharing of norms, epistemic communities through the power of knowledge as well as influence of the market (see Bernstein and Cashore, 2012; also see Kanie and Haas, 2004). This volume has observed the implementation of the SDGs to understand and identify the key actors that act as major forces, as well as the mechanisms in how these actors play a role towards increasing vertical interaction. Put simply, it provides the real world context of SDGs implementation.

As highlighted above, while the focus of analysing international development tools has previously been mainly at the policy advocacy stage, the policy implementation stage highlights other stakeholders beyond those mentioned above. Most pertinently, case studies focused on indigenous peoples, whether for example in Pulau Mantanani or the Orang Asli Laut, demonstrate the need to include the local stakeholders as key partners in development. While it may be too simplistic to say the current system is exclusively top-down, observations within this volume highlight the process of implementation can be more participative and implement a partnership model. The inclusion of local community and stakeholders in the whole policy cycle will ensure firstly, that the SDGs are seen to be relevant to the development challenges faced at the local level. This is arguably one of the major accomplishments of the SDGs itself, that by design, it should be universal, in the sense that it must be relevant to all societies. Early observations demonstrate that this is generally the case, interestingly, even in indigenous societies where the livelihoods are generally considered not aligned to mainstream development. The focus on universal goals, however, has highlighted that the SDGs is highly relevant and applicable at various levels. The compilation of this book has demonstrated that whether consciously or not, the SDGs are indeed relevant as a policy agenda. However, it requires a deliberate process to map the local issues in accordance with the SDGs.

The means to achieve the goals, however, differ depending on the type of challenge or problem, the local prevailing setting as well as the capacities to address those challenges. The focus on policy implementation means that the utility of the SDGs to go a step further than a policy agenda and to facilitate implementation requires it to not only be relevant but also practical. In this sense, while local stakeholders continue to play an important role, more "traditional" actors continue play a key role in catalysing implementation; namely government agencies continue to be the key nodes of implementation. In the context of Malaysia, with the Economic Planning Unit (EPU) playing the coordinating role for national implementation, development planning and resource mobilisation has strongly been aligned to the SDGs. However, the challenge remains in translating it from the national to the sub-national levels. In particular, the structure in government is still predominantly based on specialisation and task disaggregation in the development delivery process (see Hezri, 2014). Observations in this volume repeatedly highlight the challenge of silos in development delivery (also see next sub-section further). The structured approach to development delivery in Malaysia that consists of three tiers – federal, state and local, has often resulted in either diluted or leakages in development delivery and implementation. The consequence, in many cases observed in this volume and beyond, is that the most vulnerable communities continue to be left behind.

One area of research and policy experimentation required is for a more decentralised model of development delivery (see Koontz, Gupta, Mudliar and Ranjan, 2015; Hess and Ostrom, 2001; Ostrom, 2009). Authors within this volume have also agreed to such mechanisms, such as through community based forestry in indigenous communities. Malaysia's highly centralised system of governance has been equally successful in coordinating development planning as well as facing challenges for development delivery. This area of research deserves much more attention moving forward.

However, it must be cautioned that it would be too simplistic to suggest that a more decentralised and polycentric model can result in better development delivery. Deliberations within this volume also demonstrate that actors such as civil society leaders and organisations, as well as academics or the wider epistemic communities (see Haas, 1992) play an important role as a bridge within the vertical interactions. Observations from the All-Party Parliamentary Group on SDGs (APPMG-SDG), for example, strongly demonstrated the role of civil society, think tanks and universities in the evolution of the SDGs (both pre and post adoption) in Malaysia. Furthermore, international organisations also act as crucial players, whether through international bureaucracies, namely the United Nations, to orchestrate implementation, or through efforts such as by Konrad-Adenauer-Stiftung (KAS) that has facilitated the dissemination of knowledge through facilitating roundtable discussions as well as publications as evidenced by this volume.

Overall, there is no one force or mechanism that has either even been observed or proposed to enhance development delivery to ensure no one is left behind. Rather, it is the interactions across the various forces and mechanisms that have the potential to increase vertical linkages towards SDGs implementation. The local stakeholders are a major force and play a crucial role in both identifying the challenges in their own context as well as the solutions to those challenges. The government continues to play a crucial role in coordinating development delivery. However, civil society and academia have a major role to play in bridging the different areas together.

Ultimately, when analysing and observing the vertical plane of interactions in relation to governance, the focus has often been on the top-down versus bottom-up debate. While this volume has raised that in the context of Malaysia, the prevailing setting is predominantly top-down with a more bottom-up approach required, ultimately there is no silver bullet. Rather than selecting a side in this never ending debate, the authors argue that more crucially, a partnership model is required across all the stakeholders mentioned above.

Horizontal forces and mechanisms of SDGs implementation

As mentioned in the previous section, one of the major challenges remains breaking down the silos across various issue areas. While the SDGs are made up of 17 individual goals, its implementation is meant to be addressed in an integrated manner. While there is no official guidance on how this is to be addressed, and often the interlinkages across issue areas are highly dependent on context, addressing the need for leaving no one behind requires holistic solutions to avoid "band aid" solutions that do not address the underlying drivers in a multidimensional manner.

The notion of leaving no one behind adopted here, as well as within the United Nations, points to a multidimensional approach that includes factors beyond income to include other factors such as discrimination due to identity, geographical factors, effectiveness of governance and vulnerability to shocks. This multidimensional approach opens up the notion of leaving no one behind to various issue areas beyond poverty to include issues such as vulnerability to the impacts of climate change (adaptation), food security and rural development (areas of focus within this book).

Addressing many development challenges are serious problems. They are complex in nature where its drivers and consequences interact with various other factors and issue areas. For example, the multiplier effect of climate change is now well recognised as it can result in vulnerability to our livelihoods, affect biodiversity loss as well as water security. These types of difficult challenges usually do not have a starting point or an ending point as they are dynamic. For example, access to water, even if achieved at a 100 percent rate, can be reversed in the future due to the attenuating effect of climate change to water security.

Rather worryingly, this volume, while establishing some of the interconnections across key issue areas, for example, water security and climate change, resilience and climate change, and rural development and agriculture, demonstrates that largely, there is still a knowledge and evidence gap that exists in identifying and understanding the interlinkages and interconnections across various issue areas. Nonetheless, the SDGs, as a common framework, provide a potential tool to identify the interlinkages across various issue areas and policy domains.

Unsurprisingly, the lack of understanding and clarity in the interlinkages has resulted in little evidence of policy implementation to address interconnected areas that were explored within this book. While rural development and agriculture have long been seen as twin objectives, the fragmentation in delivery as well as the lack of foresight to address emerging threats and areas in what is an increasingly complex landscape, has been argued to result in the area not being addressed in a holistic manner and not having the periphery vision. Similarly for climate change, the lack of evidence based adaptation plan and downscaled risk maps hamper efforts to link climate change impact with vulnerability of local communities.

Nonetheless, risking inaction due to incomplete knowledge, the authors have also highlighted the need to implement existing policy interventions that can provide systemic impacts. This includes Integrated Water Resources Management and Carbon Pricing, both well-established tools. The impetuous is on its enforcement and implementation that fits the context of Malaysia. In terms of the forces and mechanisms at play, the expert and epistemic communities have played and will continue to play an important role towards furthering the understanding of the complex interconnections of the issue areas. Moving forward, there is an urgent need for transdisciplinary and interdisciplinary research as well as multistakeholder platforms that not only establishes the interconnections across the various issue areas but find solutions to these challenges. This includes going beyond the natural sciences to include both the social sciences as well as practitioners.

Systemic forces for SDGs implementation

While this volume focuses mainly on the role of various actors and, mainly, non-state actors to influence SDGs implementation in partnership with government, the reality is that the actors operate in a prevailing setting and system. These factors cannot be ignored and deserves some attention.

Institutionally, as already mentioned in this chapter, development delivery is widely viewed as driven by the systematic government system in Malaysia. While different actors, such as academics and NGOs, have played significant roles in advocating SDGs as well as in its implementation, the lack of space for interaction to complement development delivery was previously criticised. The SDGs have demonstrated the potential of opening up this space through engagements by the EPU, including the SDGs Summit, as well as the Parliamentary led APPGM-SDG. Nonetheless, existing institutional structures, including at the local level, depending on the different contexts, remain a challenge in implementing the SDGs. This includes silos across government agencies as well as the complex political landscape combined with the federalism, often resulting in fragmentation across political allegiances.

The prevailing economic system is also a major force and determinant in the outcome towards implementing policies to leave no one behind. While this is not explored in detail within this book, understanding the notion of leaving no one behind cannot ignore the long debate whether the capitalism system applied in Malaysia (and large parts of the world) is conducive in distributing resources in a fair manner. In the context of Malaysia, a small and open economy, big picture questions such as how to balance the export-oriented economy with social protection needs further examining. While these are beyond the scope of this book, policy implementation will be influenced by the economic system and priorities linked to them.

Focusing on priorities, especially of key actors, the interaction between the political and economic systems, both at the national and local levels cannot be ignored. In the context of Malaysia, as the nation goes through a relatively politically unstable period, policy implementation will likely be driven by the political economy. In reality, in Malaysia and beyond, policy objectives, including in the context of this book, such as the aim of leaving no one behind may not be motivated by international frameworks (ie. SDGs) or evidence and knowledge but by interests and the acquisition of power. While this deserves another book to elaborate, for the scope of this book, the APPGM-SDG experience provided a mechanism to this challenge. While the political economy is largely seen as a systemic barrier to implementation, the leadership of Member of Parliamentarians, as SDG champions, provides a promising example of how political capital can be used for implementation.

Finally, from a temporal perspective, we also cannot ignore history. As many scholars have argued in the past, path dependence matters and the current situation of Malaysia is a legacy of previous structures and processes. This includes being a post-colonial country, whereby Malaysia inherited the constitution and administrative structures from the British as well as the previous and more recent policy and institutions that govern the country. Successful implementation of the SDGs must take into consideration the historical context of Malaysia, including the local histories, practices and culture, such as within the various indigenous communities to ensure that it is implemented based on the existing context.

Towards a whole of society approach in leaving no one behind

As the concluding section, all the above and large parts of this book argue for a whole of society approach to achieve the SDGs. The different actors, including government, NGOs, academia, local stakeholders and the private sector are major forces and have influenced SDGs implementation towards the goal of leaving no one behind in various ways. In an increasingly complex landscape, where interdependent issues such as climate change become more critical in sustaining our livelihoods, the conventional silo and top-down mode of operation can no longer address the development issues that are faced currently and in the near future.

While there is no one size fits all in terms of models and systems, what is apparent is that a partnership model needs to be established to address these complex challenges. Partnership is a key component of SDG, with SDG 17 focused on partnership as a means of implementation. While this goal is predominantly focused on global partnerships, models of partnerships at the national and local levels are crucial to be established or continued to enhance the effectiveness of SDGs implementation.

The SDGs, as a flexible and voluntary international framework, mean that the establishment of such partnership models will not be automatic in the implementation of the SDGs. It has to be deliberate, with actions that are convened by authoritative bodies. In other words, the various actors play a crucial role in deliberately catalysing and establishing such processes and structures.

In this way, the title of this book is extremely apt. Making the SDGs matter requires deliberate efforts by multistakeholders to identify issues and solutions, advocate policy, mobilise resources, convene stakeholders and implement solutions towards leaving no one behind. No single segment of society can undertake all these tasks by themselves. In the course of implementation, this book has highlighted various examples that, while being a work in progress, demonstrate the potential of the SDGs in being utilised as a framework to initiate a partnership towards achieving common goals. The way forward is to strengthen the existing best practices and institutionalise them as a partnership model and structure.

Many of the words used, such as leaving no one behind, risk falling into buzzwords or confined to policy language with little relevance to implementation. By reviewing and observing the reality of SDGs implementation, the contribution of this book is to put these concepts into context. Similarly, a whole of society approach, while widely accepted, provides little meaning without context and practice. By identifying some of the forces and mechanisms by which different actors play a role in the overarching goal of leaving no one behind, this book provides some building blocks towards a whole of society approach in achieving the SDGs.

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