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MEMORANDUM

FOR/TO : The Directors
Biodiversity Management Bureau
Ecosystems Research and Development Bureau
Environmental Management Bureau
Forest Management Bureau
Land Management Bureau
Mines and Geosciences Bureau

FROM : The OIC Director
Policy and Planning Service

SUBJECT : **REQUEST FOR COMMENTS ON PHILIPPINES COUNTRY BRIEF ON RESOURCE USE**

DATE : 0 8 APR 2022

This refers to the Philippine Country Brief on Resources Use, which will be presented during the Regional Capacity Building Workshop on Resource Efficiency on 27 -28 April 2022.

The said workshop is being held to support the establishment of the ASEAN Resource Panel (ARP). The establishment of the ARP was endorsed during the 30th ASEAN Senior Officials on the Environment (ASOEN) Meeting held on 10-11 July 2019. The ARP is tasked to assess scientific knowledge and translate it into practical policy recommendations for the region, with a particular focus on filling the research gap on resource use and resource management.

In line with this, may we request for your inputs/comments on the Country Brief on or before 12 April 2022.

We have attached the Country Brief and the Concept Note of the Regional Capacity Building Workshop on Resource Efficiency for your reference.

For your information and appropriate action.

GLENN MARCELO C. NOBLE

MEMO NO. 2022 - 224

Australia's National
Science Agency

The Philippines

Country Brief on Resources Use

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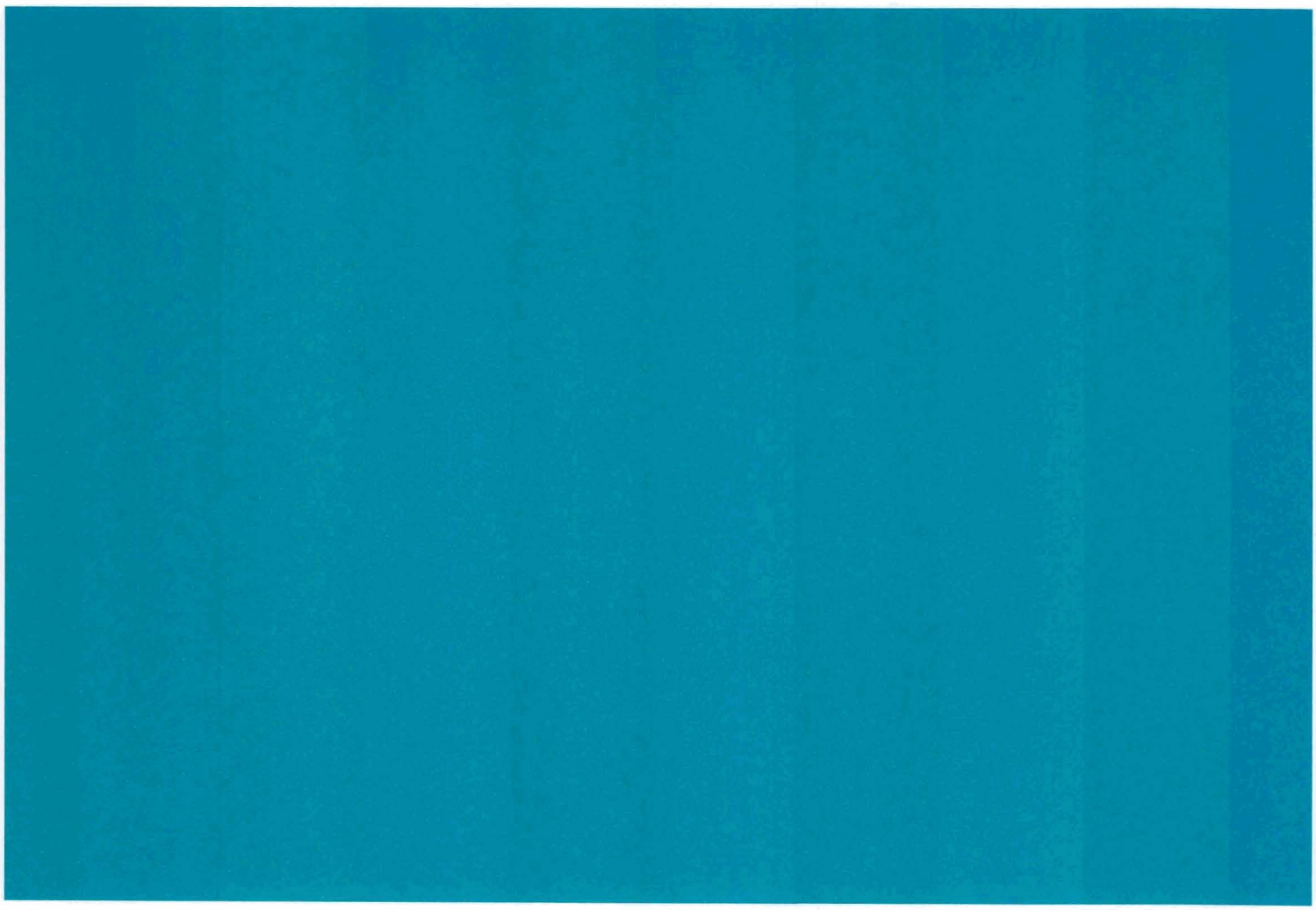
March 2022



Foreword

The Asia-Pacific region consumes over two-thirds of the world's natural resources, at a rate of resource efficiency three times lower than the rest of the world. The region is also in a continued stage of rapid urbanisation and economic growth. Such dynamics partly drive the rate of resource use, as infrastructure and housing are built for the first time and the economy transitions from primary to manufacturing activities.

The United Nations Economic and Social Commission for Asia and the Pacific seeks to support cities integrating resource use sustainability into their operations and development strategies. ESCAP is partnering with an institution with internationally recognised expertise in resource efficiency. The Partner Institution, CSIRO, is the world's leading research institution dealing with resource efficiency and material flows, which are the basis for designing sustainable consumption and production policies. The scientists at CSIRO are part of the UN Environment Programme International Resource Panel (IRP) modelling working group, which developed the modelling framework for the Global Resource Outlook 2019 (GRO2019). The partnership would help in establishing a baseline dataset and preliminary policy studies for countries and cities in the Asia-Pacific region. With access to material flow databases and proprietary systems models integrating global resource flows used in GRO2019, CSIRO is uniquely placed to present historical resource use trends to enhance policy design capacity towards sustainable consumption and production in Asia and the Pacific region.

This report has been produced under an agreement between ESCAP and CSIRO to strengthen the capacity of ASEAN policymakers to analyse the economic, social and environmental effects of resource consumption and the benefits of decoupling economic growth from natural resource use and its environmental impacts.

The Philippines

Country background

The Philippines is one of the fastest-growing countries in Asia. However, it faces issues associated with sustainable consumption and production (SCP) of materials, such as the environmental degradation of air, water and other natural resources. Frameworks, policies and actions involving public and private entities and citizens' engagement are required to achieve sustained economic and environmental improvements.

Due to its topography, the country is also one of the world's most vulnerable to natural disasters (USAID, 2022). The current National Development Plan of the Philippines has the 2022 targets of transitioning into an upper-middle-income country and ameliorating COVID-19 impacts on the economy by lowering poverty rates to 14%, unemployment below 8%, and increasing human development (Government of the Philippines, 2021). These short-term targets are framed in the AmBisyon Natin 2040 framework, which defines a long-term vision for the Philippines encompassing multiple dimensions of well-being. The country has implemented several activities to promote a circular economy, but the degree of circularity achieved across sectors is still below the global average of 8.6 % (ADB, 2020a).

Macro-economic overview

The Philippines' economy grew at an annual rate of 6.4% between 2010 and 2019[1]. However, significant reductions in consumption and investment, exports, tourism, remittances and other COVID-19 related impacts generated a 9.6% reduction in GDP between 2019 and 2020. The economy grew 3.7% in the first half of 2021, which is consistent with expectations of an economic growth rebound in the coming years[2].

From 2010 to 2020, unemployment decreased from 3.61% to 2.52%, per capita GDP (2015 US dollars) increased from $2,433 to $3,270, and the inflation rate was around 2.98% per year[3,4]. Tax revenue as a proportion of GDP increased from 11.6% in 2010 to 14.5% in 2019[5]. Government debt to GDP decreased from 51.48% in 2010 to 41.84% in 2018, but by October 2020, it was around 54.5%[6]. Severe poverty, i.e. people with income below the international poverty line of $2.19 per day (in 2020 prices), has declined sharply from 10.7% in 2009 to 2.7% in 2018[7]. These economic changes contributed to a decrease in the Gini coefficient (a measure of income inequality) from 46.3 in 2009 to 42.3 in 2018[8]. The human development index[9] increased from 0.671 in 2010 to 0.718 in 2019[10] , and during such a period, the country's economic complexity rank[11] moved from 41 to 28[12].

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[1] https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=PH
[2] https://www.worldbank.org/en/country/philippines/overview#1
[3] https://data.worldbank.org/indicator/NY.GDP.PCAP.KD
[4] https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?locations=PH
[5] https://data.worldbank.org/indicator/GC.TAX.TOTL.GD.ZS?locations=PH
[6] https://www.ceicdata.com/en/indicator/philippines/government-debt--of-nominal-gdp#:~:text=Philippines%20Government%20debt%20accounted%20for,S1.2%20%25%20in%20the%20previous%20quarter.
[7] https://data.worldbank.org/indicator/SI.POV.DDAY?locations=PH
[8] https://data.worldbank.org/indicator/SI.POV.GINI?view=chart
[9] The Human Development Index is a composite index measuring average achievement in three basic dimensions of human development-a long and healthy life, knowledge and a decent standard of living.
[10] https://hdr.undp.org/en/indicators/137506#
[11] Countries improve their ECI by increasing the number and complexity of the products they successfully export.
[12] https://atlas.cid.harvard.edu/rankings

reusing waste products from food processing and promoting agroecology and organic farming. Two agricultural practices toward resource efficiency are the National Organic Agricultural Program which promotes regenerative agriculture and biofuels from sugar cane and other bioenergy options. One example of the results generated by such programs is the development of an alternative material to natural leather made of cellulose fibres from pineapple leaves that can be used for clothes, footwear or furniture (ADB, 2020a).

Transportation

The transport sector accounts for the largest proportion of energy consumption, 35% in 2017. It is also the main contributor to air pollution in highly urbanised areas. About 73% of air pollutants in 2018 come from mobile sources such as cars, trucks and motorcycles. The Department of Transport (DOTr) is responsible for improving the potential of public transport to foster green growth and job creation, including shifts to more green modes of transportation (ADB, 2020b). The National Action Plan on SCP includes policies to improve transport infrastructure and provide more sustainable transport choices to residents (The National Economic and Development Authority, 2019). The Philippines is the first country to establish a national framework for ridesharing services such as Uber and Grab. This regulation categorised app-based ridesharing companies as Transport Network Companies (TNC) rather than transport provider companies. Such regulation and digital innovations to develop efficient and effective transportation could reduce vehicle usage and traffic and increase available parking space(ADB, 2020a).

Energy

Consumption of fossil fuels has a significant impact on domestic greenhouse gas emissions and air pollution in the country. In 2019, oil had the largest share of the domestic energy supply (31%), followed by coal (29%), biofuel and waste (18%), wind and solar (15%), and natural gas (6%)[13]. The government passed the Biofuels Act of 2006 to direct the use of biofuels and established the biofuel program to promote the use of biofuels in road transport (biodiesel and gasoline blended with bioethanol). It also established the Renewable Energy Act of 2008 for promoting the rapid development, utilisation and commercialisation of renewable energy (ADB, 2019). Moreover, the Renewable Energy Trust Fund was established under the Renewable Energy Act, aiming to enhance the production and use of renewable energy. This fund:

- finances the research, development, demonstration, and promotion of renewable projects and studies
- supports the development and operation of new renewable energy resources for increasing their competitiveness in the market;
- enhances renewable energy knowledge by accrediting and training institutions (ADB, 2020b).

The country also released the Philippine Green Building code in 2015 and the Energy Efficiency and Conservation Act in 2018. The National Action Plan on SCP listed interventions to improve energy consumption and efficiency. These include constructing and renovating public buildings to comply with the Philippine Green Building Code and the Energy Efficiency and Conservation Act and mapping renewable energy sources as part of the research and development (The National Economic and Development Authority, 2019).

Water

Challenges to the sustainable management of water resources include inadequate wastewater treatment facilities, a lack of water pollution control measures, and weak monitoring and evaluation systems (e.g. wastewater discharge and treatment capacity) that could prevent timely and appropriate interventions (Government of the Philippines, 2021).

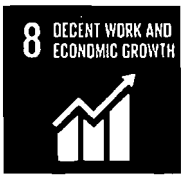
[13] https://www.iea.org/countries/philippines

enterprises in agricultural value chains that could improve climate resilience and productivity, create jobs and income in rural areas, and develop green business indicators for MSMEs.

The Philippines' Performance on Resource Efficiency Indicators (SDG 8 and SDG 12)

According to the UN Global Material Flow Database (International Resource Panel, 2022), the Philippines' Material Footprint (MF) per unit of GDP (indicator 8.4.1) decreased from 3.08 kg per USD of GDP in 1970 to 2.02 kg in 1983 (Figure 1). From 1984 to 2013, this indicator oscillated around 2.2 kg per unit of GDP and increased to 2.79 kg in 2014. Domestic Material Consumption (DMC) per unit of GDP (indicator 8.4.2) decreased from 4.46 kg per USD of GDP in 1970 to 1.76 kg in 2013. This indicator then increased to 2.6 kg in 2014 and has remained around that level in recent years (Figure 1). These indicators have been consistently below the average for the ASEAN region, indicating higher resource efficiency in the Philippines.

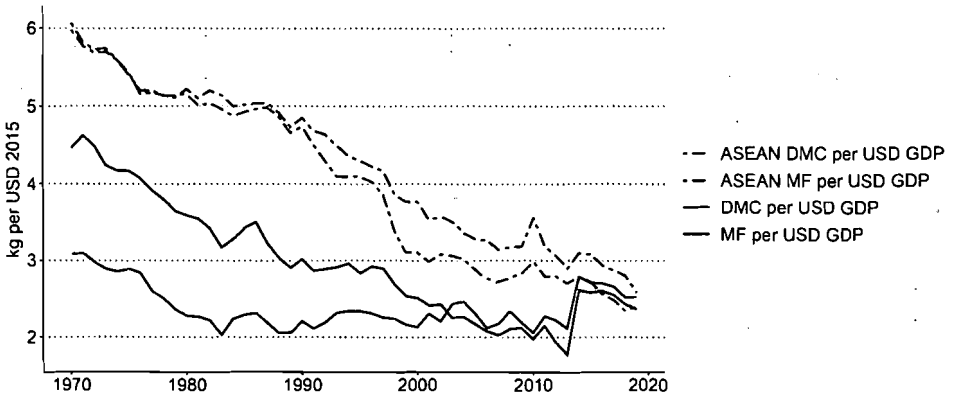
DMC and MF per capita have also been below the average for ASEAN countries from 1970 to 2019 (Figure 2). From 1990 to 2013, DMC per capita was below 5 tonnes. Afterwards, it started increasing until reaching 8.2 tonnes in 2019. MF per capita oscillated around 4 tonnes from 1970 to 2003 and then increased until reaching 8.77 tonnes per capita in 2019 (Figure 2).



SDG Target 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead.

Indicator 8.4.1 Material Footprint[14] (MF) per unit of GDP: 2.52 tonnes per 2015 US$

Indicator 8.4.2 Domestic material consumption (DMC) per unit of GDP: 2.36 tonnes per 2015 US$



Data source: International Resource Panel (2022)

[14] The total material footprint is the sum of the material footprint for biomass, fossil fuels, metal ores and non-metal ores, measured in tonnes per person per year

Land and Water

Citation

Soonsawad N, Marcos-Martinez R, West J, Emami N, and Schandl H (2022). The Philippines Country Brief on Resources Use. CSIRO, Australia.

practices related to ecological waste management and the Pasig City exemplary municipal waste management which relies on citizens engagement in related activities (ADB, 2020a).

3. Green job creation: It is projected that from 2017 to 2040, the energy demand in the Philippines will grow by 80%. Therefore, promoting renewable energy production and consumption and energy efficiency are critical to achieving sustainability goals. The tourism sector is growing rapidly and transforming to adopt SCP practices e.g. the target of zero-carbon tourism supported by the Switch-Asia (SWITCH-Asia, 2021). There are opportunities to create jobs in these two sectors as the government aims to promote renewable energy generation and use and sustainable tourism.

4. Encouraging behavioural changes: Positive reinforcement and indirect suggestions could provide enabling conditions to influence people's decision making processes and behaviours. This approach of "soft nudges" could help the community to become more circular by increasing environmentally-conscious actions. Some examples include recognising best practices for promoting a circular economy in the country through business awards, e.g. Circular Economy Business Awards for sustainability reporting practices (ADB, 2020a).

5. Economic incentives: Tax mechanisms, preferential loan rates, subsidies, etc., could be used to expedite the adoption of SCP practices or disincentivise unsustainable practices. This is consistent with the "Polluter Pays Principle" for consumers and "Extended Producer Responsibility" (EPR) for manufacturers that the Philippines government is implementing. Some examples of this approach include agricultural policies to incentivise biomass recycling (ADB, 2020a) and the Philippines Green Jobs Act passed in 2016 that offer incentives to enterprises generating green jobs. Such incentives include tax deduction from the taxable income for 50% of the total expenses for skills training and research development; and tax-free and duty-free for importing equipment to create green jobs (ADB, 2020b).

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Regional Capacity Building Workshop on Resource Efficiency

Assessing & Identifying Policy and Knowledge Needs for Sustainable Use of Natural Resources in the ASEAN Community

27 April 2022 (09:30- 12:00 GMT+7) & 28 April 2022 (09:00-12:00 GMT+7)

Background

The ASEAN Resource Panel is set up to address the need for efficient and sustainable resource management in ASEAN and is one of the flagship initiatives of the complementarities report and initiative. The complementarities initiative identified common objectives from both the ASEAN Vision 2025 and the UN 2030 Agenda that could be taken forward in tandem to achieve the aims of both agendas. The relationship between economic development and natural resource management requires special policy attention in the populous ASEAN region, especially during a period of economic recovery after the COVID-19 pandemic and a focus on improved human well-being and environmental sustainability that underpins it.

In 2020, two expert consultations were held to examine this issue and make recommendations for the establishment of the ARP. In these meetings the focal points of ASOEN (ASEAN Senior Officials on the Environment) agreed to a draft text for the establishment of the ARP and adopted its terms of reference in 2021. The remit of the ARP is to assess scientific knowledge and translate it into practical policy recommendations for the region. As a science-policy interface, it is the ARP's mandate to engage policymakers and other stakeholders in alignment with the objectives

Programme

Wednesday, 27 April 2022

Time (GMT+7)	Topics	Presenters/ facilitators	Duration
09:30	Welcoming remarks	Moderator	5
09:35	Opening speech	ASEAN Secretariat	5
09:40	Opening speech	ESCAP	5
09:45	Presentation on the current state of natural resource use and resource efficiency in ASEAN	CSIRO	30
10:15	Introduction to the next session and break	Moderator	15
10:30	Best practices of policies for sustainable resource use from ASEAN countries	1-2 country presentation, discussion	20
10:50	What forms of policy and capacity building support are needed to strengthen science-based policy?	Breakout sessions	40
11:30	Feedback from group discussions	Breakout group rapporteurs	20
11:50	Closing	Moderator	10

Thursday, 28 April 2022

Time (GMT+7)	Topics	Presenters/ facilitators	Duration
09:00	Recap from Day 1 and introduction to the day	Moderator	5
09:05	What are some international experiences in science-policy interfaces on the sustainable use of natural resources? (1/2)	EU (TBC)	10
09:15	How is policy supported by science in your country? What processes are in place for data and analysis?	Small group exercise by country	30
09:45	Feedback from groups	Rapporteurs from small groups	30
10:15	Break		10