



### Socio-economic profile

Cambodia's landscape spans low-lying plains, the Mekong Delta, and Gulf of Thailand coastline. The country with a total surface area of 181,035 sq. km. shares borders with Thailand, Viet Nam and Lao PDR. It reached a population of 16.2 million in 2018. The country's population grew by 1.49% between 2008 - 2018. 24.2% of the total population lives in urban area. Despite an average annual Gross Domestic Product (GDP) growth rate of over 8% between 2000 and 2010 and about 7% since 2011, Cambodia remains one of the poorest countries in Asia. GDP (purchasing power parity) in 2017 reached US\$64.21 billion, with per capita GDP at US\$4,000 (2017 est.). The service sector contributed the maximum share to GDP (at 41.9%), followed by industry (at 32.8%), and agriculture (at 25.3%).<sup>i</sup>

The coastal region features beach, forest and strand vegetation, mangroves, including a Melaleuca dominated swamp forest, estuarine ecosystems, seagrass, coral reef. Cambodia's ocean economy (Gross Value Added or GVA, 2015, in constant prices) was US\$2.4 billion or 16% of GDP.<sup>ii</sup>

Threats to Cambodian coastal ecosystem are much the same as those encountered in neighboring countries, including; destructive fishing practices, declining water quality, domestic and industrial waste disposal, and habitat destruction. Cambodian pristine beach and oceans are littered with plastic wastes affecting Cambodia's coastal wildlife and communities.

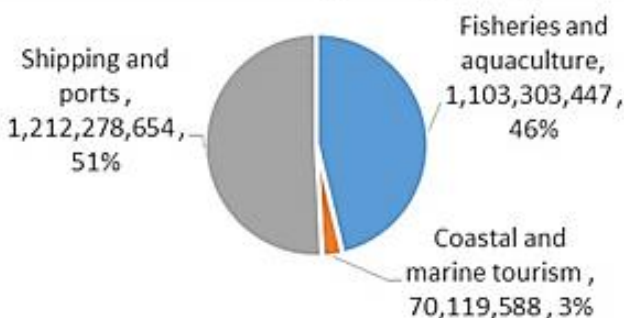
### Coastal and marine ecosystem and economy

The 440 km coastline of Cambodia covers two of its Provinces (Koh Kong Province/Sihanoukville Municipality bordering Thailand in the West; Kampot province/ Kep Municipality bordering Viet Nam to the East) and constitutes about 7.1% of its total population. The offshore marine area contains 64 islands, which have a rich marine environment, with coral reefs surrounding almost all of its islands.

### Plastics and plastic packaging Production and usage

In 2012, 58 Chemicals, Petroleum, Coal, Rubber & Plastic Products factories were registered in the country, which was an increase from 33 in 2008.<sup>iii</sup> With US\$241.7 million worth, plastic and plastic articles (a range of recyclable materials, including PET bottles) was one of the top ten export of Cambodia in 2017.

Ocean Economy, 2015 (in US\$)



#### Fisheries and aquaculture

Total fisheries and aquaculture production in 2016 was 751,000 tonnes. The sector provides livelihood and employment to over 2.4 million people. 88% of people in Cambodia depend on fisheries for their livelihoods.

#### Coastal and marine tourism

In 2016, Preah Sihanouk Province alone welcomed nearly 2.4 million tourists, which generated US\$ 96 million in revenue

#### Ports and shipping

Sihanoukville Autonomous Port earned a total revenue of US\$ 70 million in 2016.

Cambodia exports plastic to several destination including Thailand, Viet Nam, Malaysia, Singapore, South Korea and China.<sup>v</sup> Plastic imports (plastic bags make up a significant percentage) to Cambodia are estimated at over US\$100 million per year, and the majority of these imports are from Thailand and Viet Nam.<sup>v</sup>

According to the estimate of ACRA Foundation, urban Cambodians use more than 2,000 plastic bags every year. In Phnom Penh alone, around 10 million plastic bags are used every day, which is 10 times higher than average consumption in the European Union and China. Globally and in Cambodia, plastic straws are one of the top five commonly used plastic products alongside other single-use plastic items – plastic boxes, plastic bags, plastic bottles, and plastic cups. Reports estimate that 4.6 million bottles end up in Cambodian waterways post-consumption.<sup>vi</sup>

## Solid waste management

Cambodia generated 3.65 million tonnes, or more than 10,000 tonnes per day of municipal solid waste (MSW) in 2017. The per capita waste generation was 1kg in urban areas like Phnom Penh, and 0.5 kg in rural areas. Of the total MSW generated, plastics accounted for 20%. In terms of waste management, Cambodia sent 1.5 million tonnes of waste, or 41% of total waste to dumpsites, only about 11% (400,000 tonnes) of waste was recycled, and remaining 48% was illegal dumped into water bodies or open burnt.<sup>vii</sup> Large cities produce the majority of plastic waste. The nation's capital Phnom Penh produces more than 3,000 tonnes of waste, 17.3% of which is plastic, followed by Sihanoukville with 700 tonnes, 34% plastic, and Siem Reap city with 380 tonnes, 20.7% of which is plastic.<sup>viii</sup>

Inadequate waste management services in Cambodia is causing plastic waste to clog drains, rivers and ultimately leaking to the marine environment. In rural Cambodia, plastic is often burned which releases toxic fumes and affects human health. Following China's decision to ban foreign plastic waste imports, developing countries in South-East Asia have become the risk of foreign plastic waste dumping. Cambodia joined with other ASEAN countries such as Indonesia and Malaysia and vowed to send 1,600 tonnes of plastic waste found in shipping containers back to the US and Canada.<sup>x</sup>

Cambodia already has a considerable challenge with domestic plastic waste, with inadequate infrastructure to deal with it. Waste recycling is dependent on informal waste pickers called edjai, and home grown backyard recycling units where plastic waste is washed, dried and shredded into smaller pieces. In 2018, there were 3,000 edjai and 462 middlemen depots operating in the Cambodian plastic recycling industry. According to government estimates, nearly 25,000 tonnes of plastic were purchased by junkshops across the country in 2016.<sup>x</sup> To strengthen recycling in the country, Cambodia is welcoming foreign investment in establishing the recycling industry in the country. A Japanese recycling company Gomi Recycle 101 is constructing two plastic recycling plants in the Phnom Penh Economic Zone and Svay Reing province.<sup>x</sup> Gomi Recycle 101 is currently collecting industrial and commercial plastic waste from Phnom Penh's Special Economic Zone (SEZ) and has finalized a cooperation agreement with Chipmong, Cambodia's largest construction firm, for recovering plastic waste from sites in the south of the city.

## Marine litter status

The Mekong is one of 10 rivers which collectively carry 88–95% of plastics into the world's oceans.<sup>xi</sup> In Cambodia, a survey conducted by Fauna and Flora International (FFI)<sup>xii</sup> in Koh Rong and Koh Sdach islands, revealed that plastics accounted for 80% of coastal pollution found on mainland beaches.

Surveys on one island found an average of 12 single-use plastic bags are used per household per day. Table 1 overleaf describes the plastic debris collected during the coastal clean-up in Cambodia in 2017.

There is no data on marine plastic leakage at country scale. However, studies suggest that plastic bags comprise 20% of waste litter collected by urban street sweepers in the cities of Phnom Penh, Sihanoukville and Siem Reap. In Siem Reap, plastic bags were found to make up 60% of the waste obstructing wastewater runoff. The financial impact of plastic bags on sewerage and drainage systems contributing to urban flooding in Phnom Penh estimated to exceed US\$100,000 per annum.<sup>xv</sup> Solid waste composition analysis conducted at Dangkor Landfill in Phnom Penh indicated 27.1% of plastic waste, out of which 15.04 % were plastic bags.<sup>xvi</sup>

## Action on marine litter: Key stakeholders Government

At the national level, the Ministry of Environment is the leading agency responsible for formulating policies, issuing regulations and coordinating actions on waste management and pollution control. The Ministry of Interior has the mandate to support the Ministry of Environment through coordination with other relevant agencies in capacity-building and experience sharing. The Ministry of Economics and Finance coordinates with the Ministry of Environment and the Ministry of Interior in establishing tariff rates for urban solid waste management services. The Ministry of Environment also serves as the Coordinating Body on the Seas of East Asia (COBSEA) focal point. The recent sub-decree, No. 113 enacted on 27 August 2015 supports the decentralization of the urban solid waste management responsibility to provincial, municipal and district levels. In Phnom Penh, the Waste Management Affair Department (WMAD) of Phnom Penh Capital Hall (PPCH) is responsible for implementing waste management services in the city.

## Private sector

Government policies and programmes encourage the private sector and NGOs to be involved in awareness raising and promotion of 3Rs and sustainable waste management. The Sub Decree on Municipal Solid Waste Management and the Sub Decree on Plastic Bag Management support private sector engagement in MSW management. In cities, private companies (CINTRI in Phnom Penh) are contracted to provide waste management services. There is an exclusive agreement between PPCH and CINTRI for 49 years to deliver the major responsibilities of garbage collection services starting from 2002. Foreign private companies (e.g. Gomi Recycle 101) are also investing in recycling infrastructure in the country. Some local start-ups are also coming forward with innovative business solutions to tackle plastic waste in the country.

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Table 1: International coastal clean-up efforts and marine litter items (number) found in Cambodia<sup>iv</sup> <sup>xiv</sup>

Country / location						People	KG	KM of coast	Total items collected
Cambodia						109	1,402	2.1	14,739
Cigarette butts	Food wrappers (candy etc.)	Straws stirrers	Plastic forks Knives spoons	Plastic beverage bottles	Plastic bottle caps	Plastic grocery bags	Other plastic bags	Plastic lids	Plastic cups plates
407	529	983	321	2,674	445	814	2,127	189	817

## Policy frameworks on MSW and marine litter

### Global frameworks on marine litter

Cambodia is a Party to a number of conventions, treaties and regulations related to coastal and marine environment protection including:

#### International Convention for the Prevention of Pollution from Ships (MARPOL)

Cambodia has ratified (date of entry into force or succession from 28 February 1995) the Annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL) in 1997. MARPOL is the key international agreement to prevent marine environment pollution caused by ships' operational and unintended activities. Annex V, enforced since 31 December 1988, specifically addresses the issue of plastic dumping from ships: 'The disposal into the sea of all plastics, including but not limited to synthetic ropes, synthetic fishing nets, plastic garbage bags and incinerator ashes from plastic products which may contain toxic or heavy metal residues, is prohibited'. Besides prohibition of plastic waste disposal, Regulation 3 number 2 of the Convention also calls for stricter regulations on mixed garbage discharge.

#### Basel Convention on the Control of transboundary Movements of hazardous Wastes and Their Disposal and the Ban Amendment

On 02 March 2001 Cambodia acceded to the Basel Convention. The Basel Convention was designed to eliminate the risks from transboundary movements of hazardous and other wastes. In its initial version, the Convention covered several categories of waste, including wastes collected from households, but did not include the movement of solid plastic waste (including scrap plastic of non-halogenated polymers and co-polymers, cured waste resins or condensation products, and fluorinated polymer wastes) as listed in B3010 of Annex IX. In 1995, the Ban Amendment was adopted by the third meeting of the Conference of the Parties. Cambodia has not ratified the Basel Convention Ban Amendment on 24 October 2005.

### Regional frameworks on marine litter

Cambodia as an ASEAN member State has adopted the [Bangkok Declaration on Combating Marine Debris in the ASEAN Region](#) and the [Framework of Action on Marine Debris](#) in 2019.

#### The ASEAN Framework of Action on Marine Debris

The Framework was developed to act on the recommendations from the ASEAN Conference on Reducing Marine Debris in ASEAN Region in Phuket in November 2017, taking into account the East Asia Summit (EAS) Conference on Combating Marine Plastic Debris in Bali in September 2017.

The Framework comprises four (4) priority areas namely: (i) Policy Support and Planning; (ii) Research, Innovation, and Capacity Building; (iii) Public Awareness, Education, and Outreach; and (iv) Private Sector Engagement. Each priority area consists of actions and suggested activities for further collaboration in ASEAN region and among ASEAN and its partners in combating marine debris.

#### Bangkok Declaration on Combating marine debris in ASEAN region

ASEAN ratified the Bangkok Declaration on Combating Marine Debris and the ASEAN Framework of Action on Marine Debris at the 34th ASEAN Summit in Bangkok, Thailand on 22 June 2019.

#### The Coordinating Body on the Seas of East Asia (COBSEA) Regional Action Plan on Marine Litter

COBSEA brings together nine countries – Cambodia, People's Republic of China, Indonesia, Republic of Korea, Malaysia, the Philippines, Thailand, Singapore and Viet Nam in development and protection of the marine environment and coastal areas of the region, for the health and wellbeing of present and future generations. At the 24th Intergovernmental Meeting of the Coordinating Body on the Seas of East Asia (COBSEA) in June 2019, participating countries adopted the revised Regional Action Plan on Marine Litter to guide action on marine litter in the East Asian Seas region. The Regional Action Plan on Marine Litter will thereby directly support COBSEA participating countries to deliver target 14.1 of Sustainable Development Goal 14, to prevent and significantly reduce marine pollution of all kinds, particularly from land based activities, including marine debris and nutrient pollution, and also contribute to the achievement of other Sustainable Development Goals and associated targets.

### National policy frameworks on municipal (plastic) waste management

The Sub-Decree on Urban Solid Waste Management No. 113 (2015) tasks sub-national administrative units with the responsibility of preparing annual waste management action and budget plans, coordinating waste service provision with the private sector (including issuing contracts for collection, transport and disposal), determining appropriate fees for waste services, generating source revenue through the collection of service fees and accessing financial resources from central authorities. Inter-Ministerial Declaration of Ministry of Interior–Ministry of Environment on Waste and Solid Waste Management in Province/Municipalities of Cambodia No. 80/2003 aims to establish efficient solid waste management (covering all activities related to waste management, including collection, storage, transportation, recycling, and disposal) in provinces and cities to protect

health, the environment, and biodiversity (Article 1). Likewise, Cambodia's Sub-Decree on Water Pollution Control (1999) prohibits the storage or disposal of any solid waste that leads to pollution of public waterways. At city level, there are specific regulations guiding city's waste management:

- Sechkdey Chun Damnoeng (Notification) On Waste Storage, Cleansing, Waste Discharge and Penalties on Improper Waste Disposal in Phnom Penh Municipality, No. 13 (2013)
- Instruction Plan on the Application of Penalties to Promote Environmental Sanitation Raising in Phnom Penh Municipality, No. 09 (2010)
- Sechkdey Nainoam (Instruction) on Penalties on Waste Disposal in Public Areas, No. 16 (2010)
- Instruction Plan on Waste Separation Promotion in Phnom Penh Municipality, No. 08 (2010)
- Waste Storage, Cleansing, Waste Discharge and Penalties on Improper Waste Disposal in Phnom Penh Municipality (2013)

## National policy frameworks on marine litter

There is no specific frameworks on marine debris management in Cambodia. The National Action Plan for Coral Reef and Seagrass Management in Cambodia (2006-2015) was established by the Fisheries Administration, aiming to design a master plan for Kep and Sihanoukville addressing the development of infrastructure, port, industry and urbanization in marine and coastal areas.

Specifics to plastic waste management, the Ministry of Environment introduced a new regulation Sub-Decree No. 168 on the management of plastic bags in 2017 that aims to increase effectiveness of plastic reduction on importation, production, distribution and the use of plastic bag in order to improve the public health, environment and landscape. Beginning 10 April 2018, Customers at shopping centres and supermarkets are charged 400 riel cents per plastic bag. In April 2019, the MoE established a special taskforce to promote the 4Rs - refuse, reduce, reuse and recycle plastic. Sweden, the World Bank, the Global Green Growth Institute, and UNDP are supporting the government's efforts to promote the 4Rs for building of a strategic coalition of stakeholders to combat the overuse of plastics, and finally, business support for recycling, alternatives, and non-plastic innovations.

## Fiscal incentives

Cambodia's waste management sector severely faces inadequate financing. Funding for waste management in Cambodia is derived from user fees, government budget, and through development partners such as Asian Development Bank (ADB) and Japan International Cooperation Agency (JICA).

In 2017, the Ministry of Environment managed to collect over US\$300,000 in fees to the government environment foundation and about KHR3 billion in revenue from a service offering. In 2016, a budget of US\$2 million was attributed to waste management alone.<sup>xvii</sup>

In Phnom Penh, the private company CINTRI provides collection and transportation of MSW based on user fees ranging from US\$1-100. Service fee collection can be considered nominally successful as such tariffs are included in private electricity bills, following a cooperative agreement reached between CINTRI and the Electricite du Cambodge (EDC).<sup>xviii</sup> Although service fees adequately finance waste collection and transport services, at present there are not sufficient funds to cover additional costs of operations such as street cleaning and final disposal.

Cambodian municipalities continue to spend as much as US\$600,000 for urban street sweeping per year.<sup>xix</sup> Moreover, the financial viability of the Dangkor landfill site, operated and managed by PPCH, another issue of concern. Currently, the site charges a disposal fee of US\$1.00 for every ton of waste brought onto its premises. However, an analysis of Dangkor landfill site conducted by JICA (in 2005) suggested that for managing the sanitary landfill to a satisfactory level would require increasing the disposal fee to US\$ 4.4/t with additional grant assistance, or USD 5.92/t without the grant assistance. On the other hand, CINTRI has suspended the payment of disposal fee since January 2018 due to insufficient funds. This non-payment continues as of July 2018 despite repeated request by PPCA for payment.

In order to reduce plastic consumption habits, beginning 10 April 2018, customers at shopping centres and supermarkets are charged 400 riel cents per plastic bag.

## Conclusions

Increasing plastics production and consumption (mostly single-use plastic packaging) and mismanagement of the waste due to inadequate services and facilities is choking Cambodia's terrestrial, waterways and marine environment with plastic litter.

The Cambodian government has been working towards reducing the usage of single-use plastic through application of the economic and regulatory measures. The country is also investing in 4Rs - refusing to use plastic, reducing it use, reusing where possible, and recycling the materials efforts, and multilateral organizations Sweden, the World Bank, and Global Green Growth Institute, UNDP are supporting country's fight against plastic waste. Nonetheless, Cambodia needs a systemic change in improving the overall waste management services in the country. This includes strengthening institutional capacity and addressing coordination issues, effectively implementing various sub-decrees on waste management, promoting engagement of all actors involved in plastic value chain, implementing regulations and providing financial incentives aimed at reducing plastic pollution, and enhancing waste management facilities and recycling infrastructure.

In terms of marine plastic pollution, Cambodia requires a national marine litter hotspot assessment, monitoring programmes and action plan to reduce marine plastic litter.

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