

# Natural Resource Management

Program 3

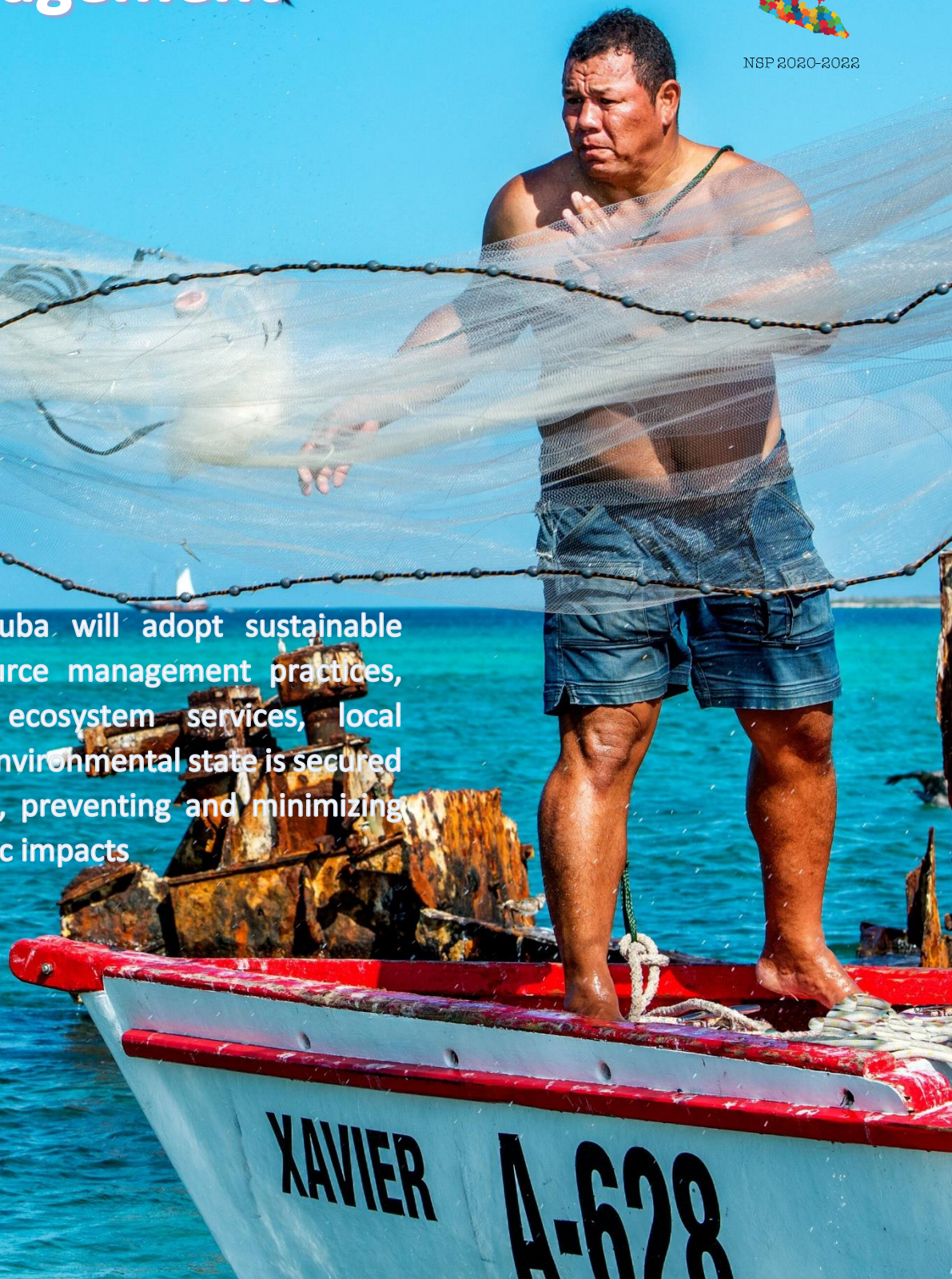


NOS PLAN, NOS FUTURO®



NSP 2020-2022

By 2030, Aruba will adopt sustainable natural resource management practices, where the ecosystem services, local species and environmental state is secured by mitigating, preventing and minimizing anthropogenic impacts







Program 3 Report  
December 2019

## Natural Resource Management



# By 2030, Aruba will....

SDG Target  
6.3

Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

SDG Target  
6.b

Support and strengthen the participation of local communities in improving water and sanitation management

SDG Target  
8.4

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

SDG Target  
11.3, localized

Enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management

SDG Target  
11.6, localized

Reduce the adverse per capita environmental impact including by paying special attention to air quality and other waste management

SDG Target  
12.5

Substantially reduce waste generation through prevention, reduction, recycling and reuse

SDG Target  
12.6, localized

Encourage companies (transnational and large) to adopt sustainable practices (by means of certification or carbon offset) and integrate this information in their reporting cycle

SDG Target  
13.2

Integrate climate change measures into national policies, strategies and planning

SDG Target  
13.3

Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

SDG Target  
13.a

Strive to implement the local commitment to the United Nations Framework Convention on Climate Change

# By 2030, Aruba will.... (cont.)

SDG Target  
14.7

Increase the economic benefits for small island developing States from marine resources

SDG Target  
14.a, localized

Increase scientific knowledge, develop research capacity and transfer aquatic technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity

SDG Target  
14.c

Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of "The future we want"

SDG Target  
15.a

Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems

## **SDG targets addressed by NSP Program with target period other than 2030**

**SDG target 14.1** By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

**SDG target 14.5** By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information

**SDG target 15.1, localized** By 2022, ensure the conservation, restoration and sustainable use of terrestrial and dry river beds ecosystems and their services, in particular tropical dry forest and xeric shrub land, wetlands, hills and drylands, in line with obligations under international agreements

**SDG target 15.2 localized** By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded tropical dry forest and xeric shrub land and substantially increase afforestation and reforestation

# Strategic objectives

## **Achieve a national environmental friendly behavior and mindset**

**Pg. 10**

Aruba will achieve a national environmental friendly behavior and mindset under its citizens

## **Enhance legal framework and enforcement**

**Pg. 13**

Aruba will continue to develop the legal framework on nature and environment to enhance enforcement capacity

## **Working towards circular economy**

**Pg. 19**

Aruba will implement principles of circular economy

## **Establish an aligned marine and land protected area system**

**Pg. 22**

Aruba will establish an aligned marine and land protected area system

## **Strengthen institutional capacity for ecological and environmental data, and secure focus on research (including policy support)**

**Pg. 24**

Aruba will foster strong partnership with academia to conduct research on ecology and environmental challenges

## **Stimulate sustainable use of oceans and coastal natural assets**

**Pg. 27**

Aruba will use oceans and coastal natural assets under the Blue Economy Principle of sustainable development

## Introduction

In the past 39 years, it has been observed that economic development has been the primary focus of the government. Continuous, uncontrolled development and lack of insightful spatial planning have led to thinning of green (cunucu) and pristine areas (mondi's, rock formation, coral reefs), extinction of species, degradation of ambient water quality, loss of ecosystem services and functions, impact on human health and the healthcare system. In almost four decades after the "Status Aparte," focus on one source of income, tourism, has not shifted.

Climate change is a global problem, which continues to pose a hazard to our country. It is anticipated that increased rainfall in combination with higher air and surface water temperatures will become recurrent in tropical areas, with more frequent hurricanes in the region. Because of this phenomenon and anthropogenic activity, Aruba can expect regime shifts in our natural system. Regime shifts describe the natural system in a state where perturbations in the form of shocks e.g. floods, hurricane-induced wave action, subtle increments in stress and/or change in external drivers (e.g., continuous nutrient loading from land to sea), lead to a shift towards another state that may or may not be stable. Higher persistence of pathogens in fish (Blackspot) and coral due to temperature stress and nutrient load, weathering of shorelines due to increased wave potential, significant shifts in population dynamics of local species, pervasion of resilient invasive species, and loss of species that maintain ecosystem health and function are but a few results of anthropogenic stress on the natural system. Our climate in the future is expected to provide extended periods of algal blooms

caused by increased surface water temperature and nutrient run-off that will have a negative impact on water quality, productivity, fisheries, and coral health.

The synergistic effect of uncontrolled development and global climate change may well push our natural system to its limits. Resilience to climate change can only be secured by diversifying and modernizing our economic activities, sustainably approaching spatial development, and recognizing that decentralized governance and good governance practices are tools to achieve a national sustainable development.

Although our focus here is to manage the natural resources sustainably, this strategic plan will provide policies to address the negative uses of our environment by concentrating on the necessary actions for specific target groups and citizens. These actions will also be a call for action within the realm of sustainable tourism, enhancement of institutional capacity, and informed decision-making since these areas heavily interconnect with natural resource management.

The fulfillment of these strategies in word and through our actions will require fundamental shifts in the manner we, the local population, view the natural environment in relation to anthropogenic development. Our citizens and visitors must embrace a commitment to the protection, enhancement, and enjoyment of our natural resources in their daily lives and for future generations. We must recognize that a strong economy and a healthy environment support one another. To achieve the strategic objectives and reach our desired outcomes in the next three years, we are

tasked to implement the actions coherently across ministries, departments, and national goals. There are significant opportunities for synergies between government departments that are tasked with natural resources management. To ensure the success of the desired outcomes and to minimize resource constraints and conflicts, we carefully planned the measures and approaches by involving some groups in the planning phase.

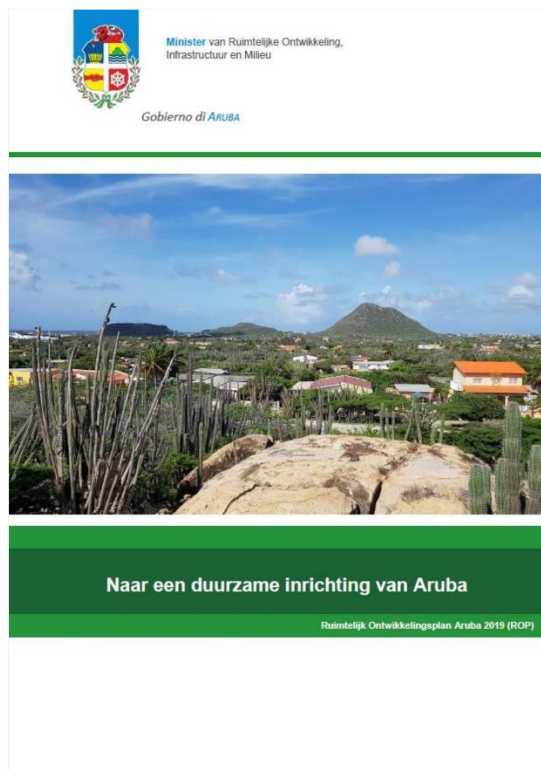
The six identified Strategic Objectives will lead us directly towards sustainable natural resources management by 2022. Last but not least important, with our vision statement, we focus on what we want to achieve. How we want to achieve it is as follows. The main Ecological Structure will function as a functional layout for nature conservation and nature development. The Spatial Development Plan will bring a

balance between urban development and nature conservation. Moreover, the private sector, residents, and non-residents will act in harmony with nature.

This report is made with direct contribution and in collaboration with different agencies within the nature and environment sector in Aruba after a series of deliberations during the various EXWG meetings.

The departmental policy documents shown below, obtain detailed information on the various topics written herein.

Finally, reducing the impact of climate change is a strategic objective that will be approached in collaboration with EXWG Energy Efficiency and Diversification. Readers are referred to the Energy Efficiency and Diversification report.







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Aruba adopted the SDGs to achieve a better and more sustainable all-embracing future for our citizens. With the NSP we demonstrate that we have strengthened our efforts to achieve our goals. By achieving a well-balanced natural resource management, we support the following goals.

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**3.1 Achieve a national environmental friendly behavior  
and mindset**

**Aruba will achieve a national environmental friendly behavior and  
mindset under its citizens**



## Overview

All local relevant agencies regarding nature and/or environment matters are invited to promote natural resource management principles and ensure effective communication among relevant agencies through a national awareness campaign. The aim is to promote natural resource management principles to the public and encourage community ownership. Furthermore, the national awareness campaigns will also improve sustainable management principles within business operations to adopt more concepts of eco-efficiency in their processes.

The success factor of our natural resource management will be primarily determined on how effectively it mobilizes the community and businesses and can offer and encourage consistent beneficial behavior in terms of ecological sustainability, as well as providing economic and social benefits.

### Desired outcome 1

**The relevant departments have the necessary resources to run (consumer-focused) awareness campaigns on the adopted policies, and environmentally conscious behavior is fostered**

Human consumption patterns are seen as a major driver in the depletion of our environment<sup>1</sup>. This consumption pattern has only gotten worse in the last decade. Therefore there is a great need for consumers to monitor and change their consumption behavior to more eco-friendly ones. The government has the responsibility to invest in and adopt policies that fosters a more environmentally conscious behavior through awareness campaigns. This campaign will stimulate and encourage consumers to read product labels and increase the consumer's general awareness of green products. Furthermore, public campaigns will focus on social norms regarding human behavior, and these norms will be implemented in all levels of education.

### Actions

- A. Draft guidelines for *sustainable use of natural recreational areas* and apply a *participatory approach*
- B. Develop a national *environmentally education curriculum* for preschool to secondary education (voortgezet onderwijs)
- C. Develop a *widespread social responsibility system* based on social ethics and environmental standards and *advertise* for a higher quality of life
- D. Post campaign on social media accounts of relevant GO and in collaboration with various sponsors, on their product packaging (branding)
- E. Create a national platform to facilitate knowledge and data sharing
- F. Create a law to implement a yearly obligation for all companies to contribute to an Environmental Trust Fund in order to physically preserve the environment

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<sup>1</sup> De Sherbinin, Carr, Casseli, & Jiang, 2007: 345

## **Desired outcome 2**

**Sustainable incentivized programs are developed, targeting suppliers (all businesses) and consumers**

The government, businesses, and the general public will need to invest in new products and services that are environmentally friendly. It is critical that the consumers and the producers/importers are conscious of their footprint, and that the government provides access to sustainable products and introduces systems to deter the use of waste and polluting technologies.

### **Actions**

- A. Introduction and implementation of tax incentives for environmentally friendly goods and products, tax levy to deter goods, and non-environmental friendly products and technologies. The obtained taxation amount is transparent to the public and repurposed to offsetting greenhouse gas emissions and/or sustainable waste management
- B. Develop a platform for tax incentives and levies
- C. Provide households and companies with the tools to separate waste in recyclable and burnable materials



An aerial photograph of a person in a clear kayak on turquoise water. The person is wearing a white tank top and shorts, and is holding a paddle. The water is very clear, showing the bottom and some rocks. The kayak is a clear plastic shell with a white frame. The person is sitting on a black seat. The water is a vibrant turquoise color with some white foam from the paddle.

## 3.2 Enhance legal framework and enforcement

Aruba will continue to develop the legal framework on nature and environment to enhance enforcement capacity



## Overview

The legal framework for the National Ordinance of Spatial Development, the Nature Management Act, and Environment Management legislation will be in place, strengthening enforcement capacity. The Spatial Development Plan (ROP) of Aruba has been published and is supported by the Spatial Development Ordinance. A ROP(v) with specifications will be published soon and will provide a guideline for urban development and nature conservation. The Nature Management Act will be amended to include additional ecological parameters (e.g. rock formations, invasive species) and categories of protected areas. For the Environment Management legislation, an Environmental Impact Assessment will become mandatory in large urbanization projects. Waste management legislation will be created for all types of waste (clinical, hazardous, solid, and wastewater). Furthermore, the regulation of environmentally relevant and hazardous activities and substances will be essential to develop.

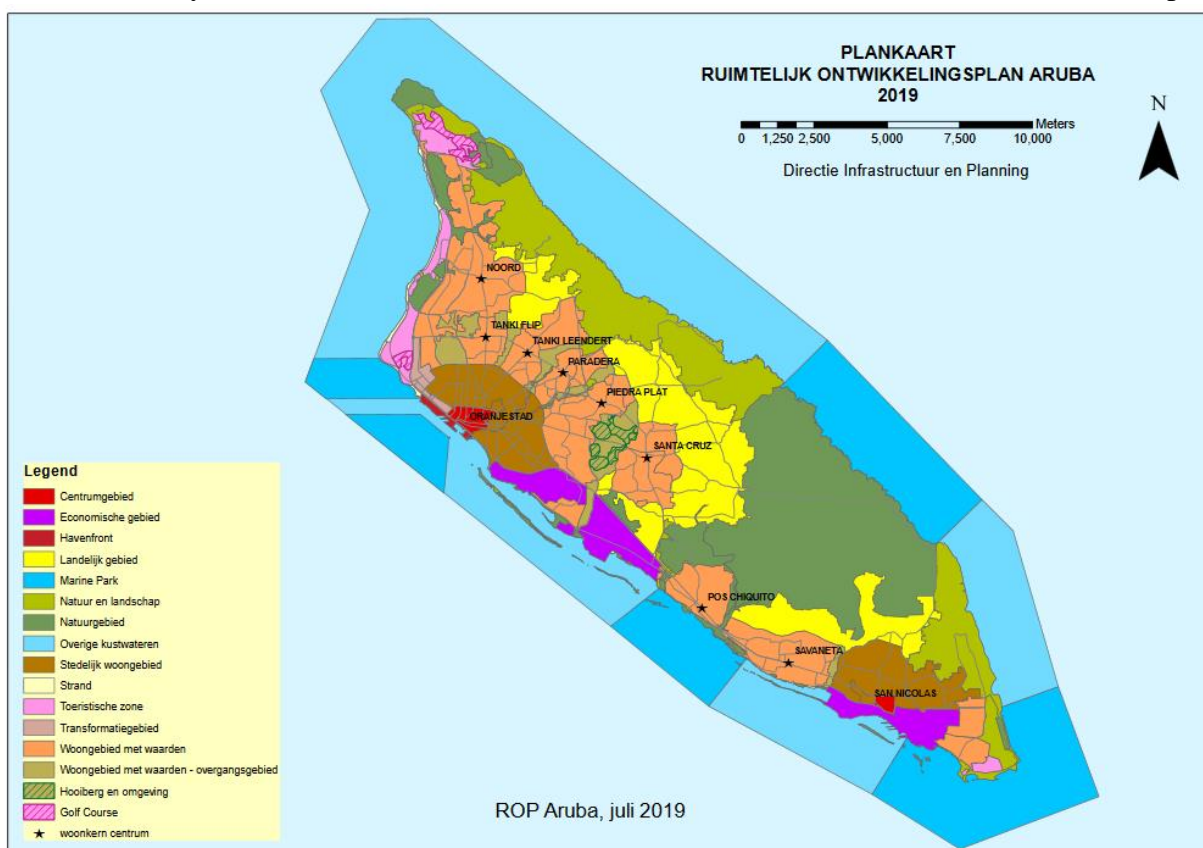


Figure 1 Physical Development Map. Available via [www.dip.aw](http://www.dip.aw), DIP, 2019

### Desired outcome 1

**A holistic approach addressing the environmental challenges through tailored environmental management legislation**

For environmental legislation, an EIA will be mandatory in large urbanization projects. The EIA has the aim to protect the

environment by ensuring that local infrastructure and environmental planning authority (government) has the full knowledge of the likely significant effects on the environment, taking this into account in the decision-making process. Additionally, waste management legislation will be created for all types of waste (clinical, hazardous, solid, and

wastewater), providing the tool and foundation to integrated waste management. Last of all, regulation on hazardous substances will be developed, with a clear definition of hazardous substances and waste. Developing regulations can be a significant step forward in the control of the final destination of hazardous substances and waste. It is a well overdue standard that the government has to set.

#### Actions

- A. Modify and develop environmental legislation
- B. Enforce the current environmental laws
- C. Provide facilities for the adequate allocation of illegal goods
- D. Assign authority (BOA certification) to appointed civil servants
- E. Retrofit law and create policies that designate environmental tax (total of timeshare taxes, utility charges, and government levy) to government departments

### Desired outcome 2

#### The spatial development plan (ROPV) is established and systematically enforced

Aruba has a revised spatial development plan, including a spatial plan with specifications. The Ecological Structure is defined and accompanied by the Build with Nature policy. The Build with Nature policy combines physical development with the conservation of ecological values in the areas that urbanization is delimited, considering the ecosystem services and protected species.

#### Actions

- A. Equip the relevant government departments to implement the ROPV

- B. Align in ROP and Build with Nature policy with stakeholders
- C. Coordinate the exemption regulations with the relevant government departments
- D. Assign authority (BOA certification) to appointed civil servants

### Desired outcome 3

#### The enforcement ability, including the judicial system and prosecution, is strengthened

The enforcing capacity is currently understaffed, and the possibility to assign appointed civil servants judicial authority can be exploited. Therefore, Aruba's environmental laws will be enforced through stronger relationships between government agencies that will streamline their activities. In this manner, entities will become accountable, effective, and transparent in environmental enforcement.

#### Actions

- A. Empower DNM and the Office of City Inspectors with judicial authority (*toezicht bevoegdheid*, the authority to ask questions and take samples)
- B. Provide the course Extraordinary Investigative Officer (BOA authority, authority to investigate suspicious acts and to file reports for investigation) to DMN and the Office of City Inspectors
- C. Apply stricter enforcement of existing environment legislation
- D. Collaboration between different enforcements agencies, MST, to enhance the national enforcement ability

### Desired outcome 4

#### Accountability system, strict and

## **extended import regulations on eco-friendly and hazardous goods and products are in place**

A measure that can be taken at the local level is to amend Aruba's law relating to the import of eco-friendly and hazardous goods and products, and labeling of goods and chemicals. Restrictions of import and distribution of materials that do not meet the required standards and that should not be authorized and used in Aruba. Aruba must work in close cooperation with the US EPA and the EU to regulate the import of environmentally unfriendly products and hazardous substances.

### **Actions**

- A. Conduct a financial study to implement the eco-friendly alternatives
- B. Draft lists of environmental labels (friendly and hazardous) and use this in the legislation
- C. Create and design policies on eco-friendly goods or products, and deter goods that are not environmental-friendly
- D. Review existing import regulations, create stricter and extended import regulations and enforce implementation

## **Desired outcome 5**

**The EIA legislation is accordingly formalized and consistently applied and enforced**

The EIA is codified with a national and international scientific EIA committee, which consists of different parties such as government and non-government participants with extensive knowledge and/or degrees. These regulations will

allow us to set standards procedures for the preparation and evaluation of an "EIA", for the proposed public and private development activities that may affect the quality of the environment of Aruba. By establishing uniform standards so that environmental assessment of proposed development activities may be streamlined and simplified will help government officials and the general public make decisions with the understanding of the environmental consequences of their decisions.

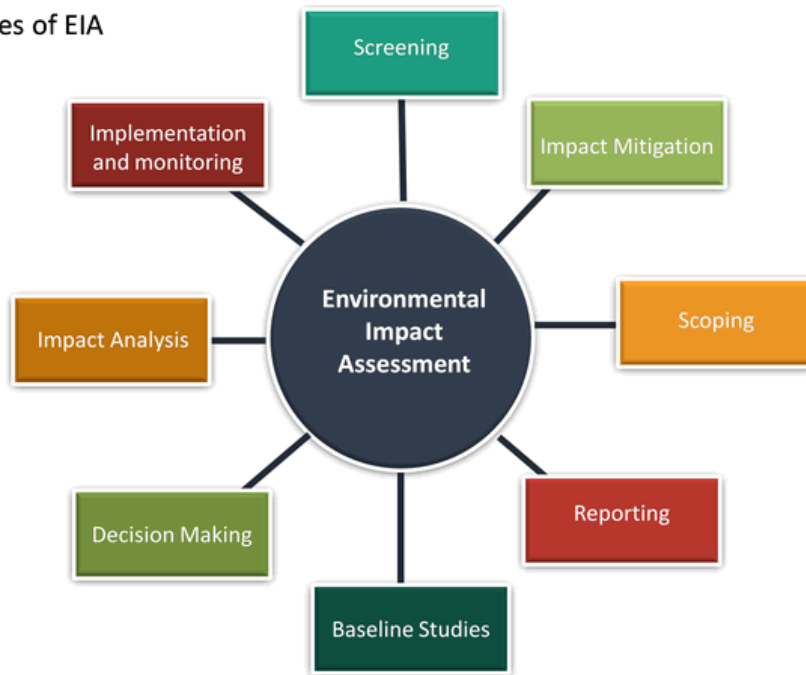
### **Actions**

- A. Draft the EIA legislation including argumentation
- B. Formalize the EIA legislation
- C. Implement the EIA policy
- D. Establish the EIA council



## ENVIRONMENT IMPACT ASSESSMENT

Key Stages of EIA



## ENVIRONMENT IMPACT ASSESSMENT

EIA Overview

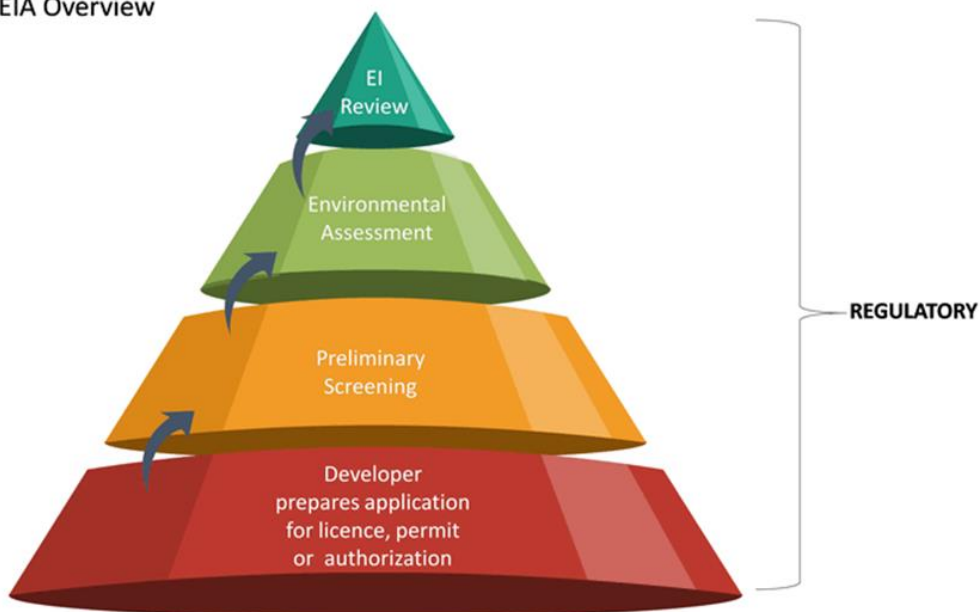


Figure 2: Environment Impact Assessment infographics on key stages of EIA and an overview of the regulatory steps. Available via [www.sketchbubble.com/en/presentation-eia.html](http://www.sketchbubble.com/en/presentation-eia.html) 2019

# ENVIRONMENT IMPACT ASSESSMENT

## Environment Impact Assessment Process

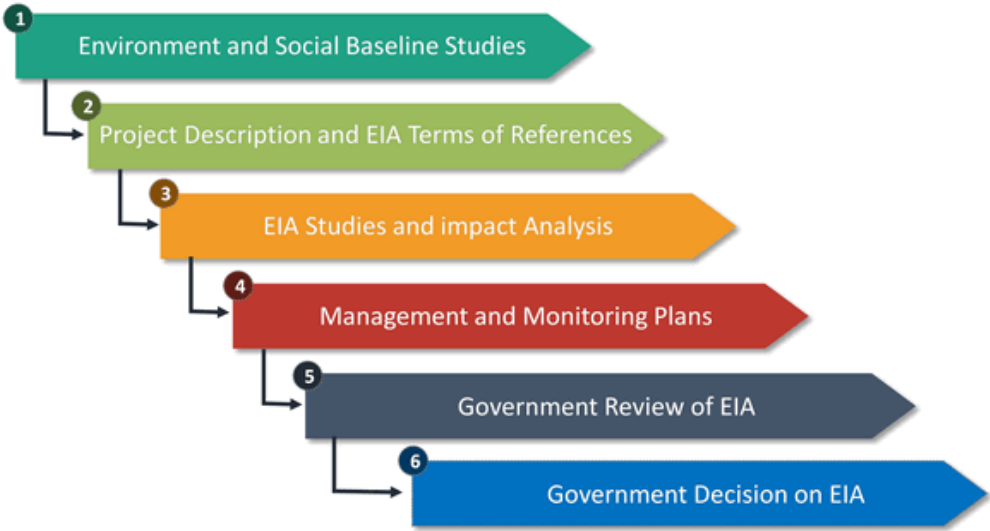


Figure 3: Environment Impact Assessment infographic's on the EIA decision-making process. Available via [www.sketchbubble.com/en/presentation-eia.html](http://www.sketchbubble.com/en/presentation-eia.html) 2019

### 3.3 Working towards circular economy



**Cartons &  
paper bags**

Please cut down or  
flatten every sized box.  
Remove plastic from  
all boxes.

Aruba will implement principles of circular economy

## Overview

The waste generation and management in Aruba have become an ever-growing problem. The solution for this issue is a shift in thinking, in how we think about waste. Therefore, Aruba will integrate the principles of a circular economy by optimizing resource efficiency through the circulation of water, products, components, and materials in technical and biological cycles. Various principles of the circular economy will be implemented, such as making our citizens aware of their impact on waste; optimizing the waste collection and processing services; and retrofitting wastewater facilities, enhancing its capacity to deal with the growing population and visitors.

### Desired outcome 1

#### **Sustainable solid waste management introduced and implemented**

If Aruba's waste generation continues to increase and if it is not managed properly, it can create social and environmental problems, including air, soil, and water pollutions, the spread of diseases which cause health issues, and ultimately worsen our climate crisis. As already mentioned, Aruba generates a high amount of waste because we consume many resources and we import a high volume of goods. One promising and long-term solution is to install a sustainable Waste-to-Energy (WtE) plant. The increase of waste and the increasing demand for energy, makes the WtE option even more attractive.

The WtE supply chain provides a method of simultaneously addressing the problems of energy demand, waste management, and GHG emissions to achieve a CES. The remaining waste with low calorific value such as metals, bulky, and demolition waste will be handled according to the principles of the circular economy.

#### **Actions**

- A. Develop and implement an effective awareness campaign on Community Based Recycling
- B. Create and design waste management

policy that includes clinical waste treatment

- C. Establish a Waste to Energy plant
- D. Build a sanitary landfill and a Hazardous Waste Facility

### Desired outcome 2

#### **Community-Based recycling (going circular) introduced and implemented**

Aruba will apply a transdisciplinary approach where policy, environment, and social GOs and NGOs will develop a national strategy for community-based recycling. Recycling is a new concept for the Aruban citizen; therefore, the community will be educated in this new concept through directed awareness campaigns.

#### **Actions**

- A. Awareness campaign on Community-Based Recycling
- B. Develop and implement an awareness campaign to stimulate households to compost at home
- C. Develop and implement an awareness campaign to stimulate the society to use the upcycling facility in Pos Chiquito and Plastic Beach Party in Oranjestad
- D. Include Community Based Recycling in the waste management legislation



E. Create and design a Community-Based Recycling policy

F. Set standards for reuse of irrigation water and establish an Irrigation Water Distribution center


### Desired outcome 3

#### **Sustainable water-cycle management implemented**

Our island benefits from a rich and high-quality environment. The stress on our water environment cannot be over-estimated, especially with a growing population and the risks of drought and flooding due to an increasing change in the climate. For the long-term, it then becomes critical to develop a more integrated approach to managing the water environment of our island. This can be done by introducing water-cycle management, optimizing the operational system utilizing enhanced technologies, sustainable, adequate water and sewage treatment, and water conservation through enhanced infrastructure, to ameliorate the water cycle and satisfy wellbeing and nature conservation.

#### **Actions**

- A. Develop and implement an awareness campaign to stimulate the collection of rainwater for household use
- B. Design a closed-loop water system policy
- C. Modernize and automate the Sewage Water Purification Plants
- D. Enhance infrastructure to prevent untreated wastewater from flowing into the sea and diverting rainwater to dams and wetlands
- E. Enforce a robust permitting system, which bans the disposal of wastewater into the environment, for sewage collection companies (Landsverordening Afvalstoffen)

An underwater photograph showing a large, textured coral reef in the foreground. In the background, several divers are visible swimming in clear blue water. The scene is brightly lit, suggesting a shallow depth.

### **3.4 Establish an aligned marine and land protected area system**

**Aruba will establish an aligned marine and land protected area system**

## Overview

The Marine Park has been established, and the additional terrestrial protected areas are assigned to FPNA. A motion accepted in 2013 by Parliament designated 16+ terrestrial areas and four marine areas for protection due to their high biodiversity and significance for local and international species. Legislation for these areas is in preparation, and management plans are being created. Ecological studies will be performed, and results will be reported to provide a baseline and to facilitate informed decision-making using a participatory approach. Furthermore, to expand on sustainable marine resources, stimulation of the Blue Economy needs to occur.

### Desired outcome 1

**Additional marine & land-protected areas based on biodiversity are established, using local knowledge from artisanal fishers in the designation and management of marine protected areas (MPAs)**

The marine and land protected areas are the natural habitats to stimulate the conservation of biodiversity of flora and fauna in the region. Their conservation and management will lead to the preservation of species and genetic diversity. Biodiversity is essential for maintaining ecosystem services. When one species is negatively affected by anthropogenic drivers or climate drivers, another species that can carry the same function will be present to maintain the system. The richer the biodiversity, the more resilient the system is to change. Therefore, it is important to follow current policies in place and involve stakeholders in protecting areas.

#### Actions

- A. Execute baseline study on reefs, seagrass, and mangroves
- B. Implement Nature and Environment policy 2018-2021
- C. Conduct research on food-web dynamics, migration patterns, population dynamics and interactions

for the enhancement of habitat connectivity

- D. Involve artisanal fishers in the decision-making process concerning marine protected areas and seasonal closures

### Desired outcome 2

**Financial sustainability of marine & land protected areas ensured**


Funding for conservation has been on the rise since the implementation of a protected area called Arikok. Other funding programs need to be created, and the economy needs to be diversified to a sustainable form of resource exploitation. Through innovative and sustainable means, it will be possible to divert the necessary funding to marine and terrestrial habitat conservation.

#### Actions

- A. Establish a service-oriented agreement between MPA and/or Protected Area Management and Government of Aruba
- B. Recruit more corporate and varieties membership to increase revenue
- C. Raise funds for dedicated conservation and restoration programs
- D. Implement a VER system
- E. Develop policy that is related to Blue



Economy

A group of people, including a woman in a teal tank top, a young boy in a grey shirt and yellow shorts, and another woman in a white tank top, are hiking on a rocky, dirt trail. The landscape is hilly and arid, with sparse vegetation and a clear blue sky. The text is overlaid on a green box with a dashed white border.

**3.5 Strengthen institutional capacity for ecological and environmental data, and secure focus on research (including policy support)**

**Aruba will foster a strong partnership with academia to conduct research on ecology and environmental challenges**

## Overview

Aruba's governmental institutions need support from the academic and non-profit organizations that have the means to perform research and collect robust data that can support decision-making. The environment data from each institution and sector is needed to establish a benchmark and baseline for different development indicators and targets, targets that will guide resources and policies in the sustainable development of our island, and monitor our progress towards the global goals. Institutions need to enhance their capacity, and be well equipped with adequate facilities and expertise, with well-defined partnership agreements for research and assistance to safeguard science-based interventions. Nevertheless, a relevant government department will be appointed to serve as the Central Planet Data Base Manager.

### Desired outcome 1

**Establish a well-equipped environmental laboratory with the capacity to analyze and process soil, sediment, water quality, biological samples**

Currently, there is a collaboration between directorates and laboratories on the island to analyze water quality on a few parameters. The parameters need expansion to assess water quality at a national and international level. Furthermore, soil quality and biological sampling will be incorporated into environmental quality measurements. For this, public or private well-equipped laboratory will be established, that can support the government in achieving an environmental quality standard.

#### Actions

- A. Conduct a feasibility/financial study to incorporate various functions in an environmental laboratory
- B. Organize consultation sessions with various groups that manage laboratories on Aruba
- C. Prepare management plan for environmental laboratory
- D. Develop MoUs between DNM and laboratory managers

### Desired outcome 2

**The proportion of important sites for terrestrial and marine biodiversity are measured, zoned and geographically registered**

Aruba has implemented a marine park and has passed a motion to protect 16+ terrestrial areas under the Nature Protection Act (LB AB 1995 no. 2). The international scientific community has recognized some of these areas as Key Biodiversity Areas. To support the protection and conservation of these areas, robust baseline data incorporated in GIS maps can form the foundation to create monitoring and evaluation programs.

#### Actions

- A. Establish a vegetation map and a yearly vegetation activity or use the Normalized Difference Vegetation Index (NDVI) data from remote sensors
- B. Establish a marine biodiversity map
- C. Establish a pollution map

### Desired outcome 3


**State of the environment baseline (water quality, air quality, soil quality, light pollution, and noise emission) is in place**



Robust baseline studies of the specific environmental compartments will be conducted. This baseline data will form the foundation for legislation and policy, monitoring schemes, and international and national reporting. With this data, Aruba will be better equipped for decision-making regarding the environment.

#### **Actions**

- A. Enhance the water quality-monitoring program
- B. Perform Soil and Sediment Quality Baseline study
- C. Perform air quality baseline study and implement a monitoring program to support policies
- D. Perform noise baseline study and monitoring program
- E. Perform baseline study on beach ecosystems
- F. Establish a sea-level monitoring program (aanleggen van een Arubaans pijl)

A person is seen from behind, standing on a pink surfboard in the ocean. They are wearing blue and red shorts and holding a red and black paddle. The water is a vibrant blue-green color.

### **3.6 Stimulate sustainable use of oceans and coastal natural assets**

**Aruba will use oceans and coastal natural assets under the Blue Economy Principle of sustainable development**

## Overview

The sustainable use of our ocean and coastal natural resources has been an essential component of global economic growth and prosperity of our citizens. As a SIDS, we are highly dependent on the sea and by implementing a Blue Economy that is aligned with the ROPV, we use our seawater and ecosystem services as an added value for sustainable development and for development planning.

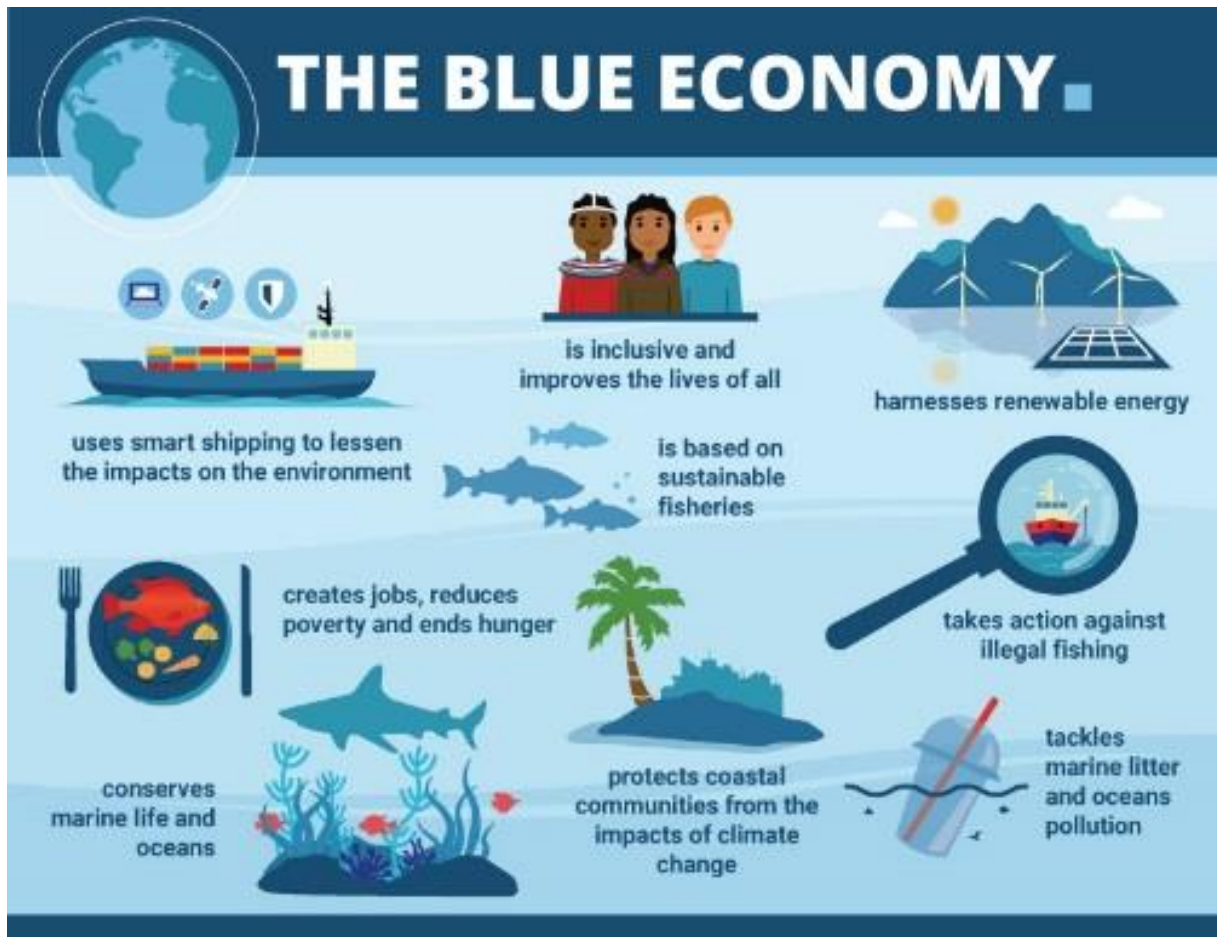


Figure 4: Infographic the Blue Economy used at the Sustainable Blue economy Conference in Nairobi, Kenya, 2018. [www.blueeconomyconference.go.ke/what-is-the-blue-economy/](http://www.blueeconomyconference.go.ke/what-is-the-blue-economy/). UNEP, 2018

### Desired outcome 1

#### The Blue economy vision is stimulated

To stimulate and push for the blue economy, the public and private sector need to work together on the various aspects of the blue economy. Participation in regional regimes can foster more cooperation and collaboration regionally and internationally, providing much-

needed support for the implementation and promotion of the blue economy.

#### Actions

- A. Organize meeting(s) with relevant stakeholders to create support, call for action, for sustainable development of the coastal zone, specifically paying attention to economic development
- B. Introduce policy for land and marine-



- based sources of pollution (land and marine litter)
- C. Implement Climate Change strategies to restore, protect and maintain the diversity, productivity, resilience, core functions, and intrinsic value of marine ecosystems
  - D. Introduce and implement regional and international regimes governing oceans and seas sustainably
  - E. Join partnership with Dutch EEZ Management Agreement (implement marine resources in exclusive economic zones) using ecosystem-based approaches
  - F. Incentivize sustainable harvesting of coastal resources outside the protected area
- E. Draft a sustainable aquaculture policy
  - F. Develop a monitoring framework to measure the economic impact for GDP with potential new jobs, new industries, and new technology of the Blue Economy (e.g. fisheries, carbon sequestration, marine biotechnology such as chemicals, pharmaceuticals)

## Desired outcome 2

**The long-term sustainability and acceptability of a Blue Economy Policy is developed, incentivized and established**

Blue Economy is an important topic for the international community, which Aruba can significantly benefit from by diversifying economic activities. Therefore, legislation for different sectors of Blue Economy will be developed and established in a legal framework.

### Actions

- A. Develop and implement an awareness campaign on sustainable use of oceans and coastal natural resources
- B. Establish a marine spatial plan
- C. Develop and apply standards, guidelines and best practices that support a Blue Economy
- D. Create a fair level economic and legislative playing field that provides Blue Economy initiatives with adequate incentives and rules

## Acronyms

<b>B</b>		<b>MST</b>	Milieu Samenwerking Team
BOA	Buitengewoon Opsporingsambtenaar	<b>N</b>	
<b>C</b>		NDVI	Normalized Difference Vegetation Index
CES	Circular Economy System	NGO	Non-Government Organizations
<b>E</b>		NSP	National Strategic Plan
EEZ	Exclusive Economic Zone	<b>R</b>	
EIA	Environmental Impact Assessment	ROP	Spatial Development Plan
EPA	Environment Protection Agency	ROPV	Spatial Development Ordinance
EU	European Union	<b>S</b>	
<b>F</b>		SDG	UN Sustainable Development Goal
FCCC	Framework Convention on Climate Change 1992	SIDS	Small Island Development States
FPNA	Fundacion Parke Nacional Aruba	<b>U</b>	
<b>G</b>		UN	United Nations
GHG	Greenhouse gas	US	United States
GIS	Geographic Information System	<b>V</b>	
GO	Government Organizations	VER	Voluntary Emission Reduction
<b>M</b>		<b>W</b>	
MoU	Memorandum of Understanding	WtE	Waste to Energy
MPA	Management of marine protected areas		







**L e a v e a m a r k**

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# **ARUBA DEPENDS ON YOU**

Natural Resource Management

**NSP 2020-2022**