



**NAURU NATIONAL ASSESSMENT REPORT**

**FOR THE**

**THIRD INTERNATIONAL CONFERENCE ON SMALL ISLAND DEVELOPING  
STATES (SIDS)**

**17 May 2013**

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## ACRONYMS

AOSIS	Alliance of Small Island States
BPoA	Barbados Plan of Action
CASA	Civil Aviation Safety Authority – Australia
CO2	Carbon dioxide
EEZ	Exclusive Economic Zone
ICT	Information and Communications Technology
LDC	Least Developed Country
MDGs	Millennium Development Goals
MLUP	Master Land Use Plan
MSI	Mauritius Strategy for the Further Implementation of the Programme of Action of SIDS
MSI+5	Review of the implementation of the Mauritius Strategy (2010)
NCD	Non Communicable Diseases
NFMRA	Nauru Fisheries & Marine Resources Authority
NRC	Nauru Rehabilitation Corporation
NSDS	National Sustainable Development Strategy
RIO+20	United Nations Conference on Sustainable Development (2012) or The Future We Want
RRRT	Pacific Regional Rights Resource Team
SAR	Search and Rescue
SDGs	Sustainable Development Goals
SIDS	Small Island Developing States
TVET	Technical Vocational Education and Training
UNDAF	United Nations Development Action Framework
UNESCAP	United Nations Economic and Social Commission Asia and the Pacific
WHO	World Health Organisation

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## 1. BACKGROUND

In 1992, the United Nations Conference on Environment and Development (aka the Earth Summit or Rio Conference) formally recognized, for the first time, the ‘special case’ faced by Small Island Developing States (SIDS) in achieving development outcomes. This recognition led to the first United Nations Global Conference on the Sustainable Development of Small Island Developing States in Barbados in 1994. The Barbados conference adopted the Barbados Declaration and the Global Programme of Action for the Sustainable Development of Small Island Developing States (BPoA).

The Barbados Declaration and the BPoA highlighted to the global community the unique challenges and vulnerability of SIDS. The BPoA identified 5 cross cutting and 14 thematic priority areas. The cross-cutting areas: capacity-building; institutional development at the national and regional and international levels; cooperation in the transfer of environmentally sound technologies; trade and economic diversification. The thematic priority areas included: climate change and sea-level rise, natural and environmental disasters, management of wastes, coastal and marine resources, freshwater resource, land resources, energy resources, tourism resources, biodiversity resources, national institutions and administrative capacity, regional institutions and technical cooperation, transport and communication, science and technology and human resource development.

The United Nations General Assembly decided to hold the second international SIDS Conference in Mauritius in 2005<sup>1</sup>. The Mauritius conference reviewed the BPoA with aim to renew political commitment, assess implementation and address constraints in implementation. The Mauritius Strategy for the Further Implementation of the SIDS Programme of Action (MSI) was adopted in 2005. The MSI identified 19 key priority areas for SIDS; these include: (1) Climate change and sea-level rise; (2) Natural and environmental disasters; (3) Management of wastes; (4) Coastal and marine resources; (5) Freshwater resources; (6) Land resources; (7) Energy resources; (8) Tourism resources; (9) Biodiversity resources; (10) Transport and communication; (11) Science and technology; (12) Graduation from least developed country status; (13) Trade: globalization and trade liberalization; (14) Sustainable capacity development and education for sustainable development; (15) Sustainable production and consumption; (16) National and regional enabling environments (17) Health; (18) Knowledge management and information for decision-making; and (19) Culture.

In 2010 during the high-level segment of 65th session, a 5-year of review of the MSI (aka MSI+5) member States identified a number of key issues related to the challenges in furthering the implementation of the BPoA: (1) Monitoring and evaluation; (2) Strategic partnerships; (3) UN system support to SIDS, (4) Results-oriented approach and improved measures to effectively address SIDS’ vulnerabilities.

The 2012 United Nations Conference on Sustainable Development (Rio+20) reaffirmed the ‘special case’ of SIDS. The Rio+20 provided strong political support for this ‘special case’, particularly the effects of climate change on SIDS, and supported a Third International SIDS Conference.

For the last decade the Millennium Declaration, as measured by the Millennium Development Goals (MDGs), has been the cornerstone of the global development agenda. In 2015, the Millennium Declaration will expire and the global community will agree on a new development framework (commonly referred to as the post 2015 agenda) and new developmental goals (the Rio+20 stated

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<sup>1</sup> The Mauritius should have been held in 2004 but was delayed due to the natural disaster that struck. SIDS sustainable development meetings were being held every 10 years since Rio 1992 aka the Earth Summit.

that the post 2015 agenda should include a set of goals called the Sustainable Development Goals or SDGs).

The Third International SIDS Conference, which will be held in Samoa in 2014, will review the gaps in the BPoA and MSI and identify new and emerging challenges with the aim to identify priorities to integrate the SIDS development agenda within the global development agenda framework beyond 2015. To ensure the success of the 2014 SIDS Conference, the United Nations General Assembly set an ambitious agenda and timeline for the upcoming SIDS conference in a modality resolution. The United Nations decided that the Conference should:

- a) assess the progress to date and the remaining gaps in the implementation of the BPOA and the MSI building on, inter alia, existing reports and relevant processes;
- b) seek a renewed political commitment by all countries to effectively address the special needs and vulnerabilities of SIDS by focusing on practical and pragmatic actions for the further implementation of the BPOA and MSI, inter alia, through mobilization of resources and assistance for small island developing States;
- c) identify new and emerging challenges and opportunities for the sustainable development of SIDS and ways and means to address them including through the strengthening of collaborative partnerships between small island developing States and the international community;
- d) identify priorities for the sustainable development of SIDS for consideration, as appropriate, in the elaboration of the post-2015 UN development agenda.

The United Nations General Assembly decided that in order to have an effective SIDS conference there would be three regional SIDS preparatory conferences (Pacific; Caribbean; and Africa, India Ocean, Mediterranean and South China Sea) and an interregional preparatory conference in 2013.

The Government of Nauru is fully committed to engaging in the 2014 SIDS Conference and in the development of the post 2015 development agenda. Nauru has demonstrated this commitment through their current Chairmanship of Alliance of Small Island Developing States (AOSIS) and their position on the United Nations Open Working Group on the SDGs.

## **2. INTRODUCTION**

This report serves as a national input for Nauru for the 2014 SIDS Conference, the Pacific regional preparatory meeting and the Interregional preparatory meeting. The assessment includes a review of progress and gaps in the implementation of the BPoA and MSI, new and emerging challenges and national policy concerns. This report also includes a brief discussion on linking with global initiatives such as the post-2015 development agenda.

In order to provide useful input of the upcoming SIDS meetings and to assess developmental progress as per the BPoA and MSI, the assessment has used the National Sustainable Development Strategy (NSDS) for 2005 to 2025 as the benchmark for assessing sustainable development progress in Nauru. The NSDS was developed using the BPoA as a blueprint. The NSDS includes specific national goals and milestones for tracking developmental progress. The NSDS was developed via an inclusive process, which involved broad consultations of government agencies, community

leaders, non-governmental organizations and other stakeholders. The NSDS first review was in 2009.

This assessment included a national consultative meeting held on 16-18 April 2010 to discuss NSDS progress and new and emerging challenges. The consultative meeting involved stakeholders from government, communities, private entities, non-governmental organizations and others. The inputs from the consultative meeting have been supplemented with information from previous NSDS assessments, the MSI+5 assessment of Nauru, the UNDAF framework for Nauru, the 2012 Nauru MDG report, the Nauru census analysis and interviews with key stakeholders.

Progress and gaps in the implementation of the BPoA and MSI were primarily assessed based on the 19 priority themes and means of implementation in the MSI. However, as this assessment is based on national priorities there is not a complete overlap between the MSI themes and the current report. The report highlights a few key achievements and gaps for each sector; it is not an exhaustive list of achievements or gaps.

Although sectors, such as land, energy and water, are presented separately, sectors also do not exist in isolation. All sectors are part of a single ecosystem and the issues in each sector are intertwined with other sectors. Sustainable development must be viewed as a holistic goal, which involves coordinated development of across sectors. Therefore issues are presented as follows:

- (1) cross-cutting, overarching issues which either threaten or provide opportunities for development across sectors;
- (2) sectoral issues or themes for sustainable development; and
- (3) means of implementation, which are required for working towards sustainable development.

### **3. CROSS CUTTING, OVERARCHING ISSUES**

Four crosscutting issues were identified at the national consultative meeting. Consideration of these issues is necessary to have sustainable development across sectors.

#### **3.1 Environmental damage and Rehabilitation**

##### **3.1.1 Summary of issue**

About 80% of the land in Nauru has been subject to strip mining to extract phosphate soil. After the soil is extracted there are exposed tall coral pinnacles up to 30 metres in some areas. The mined phosphate lands are rendered useless - for habitation, agriculture or any development. The mining of phosphate covers all of the lands on the raised central plateau

##### **3.1.2 Achievements**

- There is a proposed Master Land Use Plan (MLUP) for the mined phosphate lands, which includes proposals of using local resources (soil and rock) to rehabilitate the mined phosphate lands.
- There is a Nauru Rehabilitation Corporation, which is mandated to rehabilitate the lands according to the proposed MLUP.
- Nauru was awarded compensation by Australia for the lands, which was mined under Australian administration prior to independence.

### 3.1.3 Gaps

- Consultations with communities and stakeholders and negotiations with landowners and agreement on the proposed MLUP are necessary to progress rehabilitation. Rehabilitation will require community and political support at all levels. Nauru does not have the finances, equipment or capacity to rehabilitate the land. A robust rehabilitation programme will need high-level national support and strong international partnerships.
- Nauru lacks capacity in rehabilitation techniques and land use planning. Additionally, Nauru lacks specialized expertise in using science and technology for rehabilitation. Current research and development for efficient and effective techniques to rehabilitate the land will be necessary, especially given the resource constraints of the natural environment.

#### 3.1.1 Persistent and emerging challenges for sustainable development

The lack of arable land for agriculture has created additional challenges in ensuring food security and has amplified Nauru's dependency on imports.

The degradation of land, forest and natural vegetation threatens biodiversity and erodes the indigenous culture. Natural materials for traditional medicine, traditional agricultural practices or creating cultural products are limited. The mining has also had an impact on the aesthetic value of the land, which impacts the potential of Nauru as a tourist destination and also on the well being of the people of Nauru.

The degraded natural or poor regenerated forest has translated into a lower resilience of the natural environment (for example, poor water quality due to poor filtration, higher possibilities of erosion, poor precipitation, higher droughts, higher CO<sub>2</sub> emissions, etc.).

In addition to the damage done to the land surface, the mining has created its own pollution, particularly cadmium residue and phosphate dust. The pollutants from the mine have infiltrated into the natural environment of Nauru. The phosphate dust pollutes the air and reduces the quality of water in certain residential areas which has had a negative impact on health.

The environmental disaster caused by the mining impacts all sectors of development. Rehabilitation of the mined phosphate lands is a prerequisite for improving food and water security and the well being of the people of Nauru.

## **3.2 Climate change and natural disasters**

### 3.2.1 Summary of issue

Climate change is resulting in sea temperature rises and variability, increased natural disasters and sea level rise. Population and infrastructure in Nauru is almost exclusively located in the coastal zone.

### 3.2.2 Achievements

- The public and political awareness of climate change is increasing. A reverse osmosis plant has decreased vulnerability to drought. Additionally, the plant is partially using solar power, which further increases resilience.
- Nauru established a disaster risk management unit in 2010. A disaster alert system is also in place.

- Although climate change is not a specific sectoral area in the NSDS, climate change adaptation strategies are being integrated into sectoral areas (e.g. coastal protection through technology such as breakwater, seawalls, improved drainage systems, water conservant septic system, fish aggregating device (FADs) etc.)

### 3.2.3 Gaps

- Awareness for climate change is increasing, and the community and political leaders will need to accelerate action in terms of building resilience and taking on appropriate adaptation measures to address the adverse impacts of climate change. High-level political support is key to placing climate change high on the national priority agenda.
- Strengthening ties with partners will be needed to bridge the gaps in implementation. Local capacity to access funding and to report progress is lacking. Additionally, inflexible and stringent funding mechanism restricts access to funding.
- Innovation adaptation measures, including those that utilize developments in science and technology are essential for Nauru. For example, the use of drought tolerate crops and aquaculture which takes advantage of the non-potable (brackish) water could improve the food security and reduce vulnerability to climate change; or incentivizing the production/storage of renewable energy and water could increase resilience.
- There is limited technical capacity in climate change issues or science and technology.
- Large, industrialized countries have caused and continue to exacerbate the threat of climate change by the high carbon emissions, high emissions of other substances and excessive pollution.
- On the disaster-risk management side, Nauru continues to lack an appropriate disaster alert system in place. For example, there is no local weather monitoring station to alert the nation of (any impending) natural disasters and no siren in place to alert the public for an effective nationwide evacuation.

### 3.1.1 Persistent and emerging challenges for sustainable development

Almost all of Nauru's population lives along the coastal flat making Nauru highly vulnerable to climate change, sea-level rise and natural disasters. Due to the small size of Nauru a natural disaster could be particularly devastating for the entire country. Sea-level rise will force people and economic infrastructure (homes, buildings, power lines, roads, hospitals, schools and other infrastructure are located primarily in the coastal zone) to relocate to the higher grounds of the mined phosphate lands – which are not useful at all in their current state.

Prolonged periods of drought pose a major concern for water and food security in Nauru. Nauru's dependence on imports makes Nauru vulnerable to increased global food and fuel price variability due to climate change. Extreme weather events and temperature rise could result in changes in the supply and use of electricity and water. Intensified rainfall and subsequent flooding threatens economic infrastructure and public health. For example, intensified rainfall can causes road flooding; sanitation system flooding; increased runoff and erosion; and water borne diseases.

Ocean acidification and bleaching in Nauru's coastal and marine waters will significantly impact the economic and social well being of Nauru. The Ocean is one of Nauru's greatest resources for economic livelihoods, food security and cultural practices.

The fragile natural environment and biodiversity of Nauru are highly vulnerable to climate change - a vulnerability that is compounded by the environmental disaster caused by the phosphate mining.

### **3.3 Preserving the natural environment and biodiversity**

#### 3.1.2 Summary of issue

Nauru is a small island with a fragile natural ecosystem and terrestrial and marine biodiversity.

#### 3.3.1 Achievements

- Nauru is a member of the Convention on Biological Diversity. There exists law on bird catching, but this does not reflect the wide range of threats to biodiversity. Cultural practices depend on biodiversity and thus there is an appreciation for biodiversity; however, awareness of environmental protection is limited.

#### 3.3.2 Gaps

- The political and community support for protecting biodiversity needs strengthened; particularly through appropriate legislation that covers all types of biodiversity. The enforcement of regulations on biodiversity also needs to be strengthened.
- The awareness and capacity of quarantine and border controls on biodiversity and introduced species is limited.
- Community awareness of the link between biodiversity and culture is limited. Promoting traditional ethnological knowledge could result in an increase in traditional agriculture and indigenous crops.
- Biodiversity is linked to the water resources, land resources, management of wastes, food security, culture and many other development issues. However, biodiversity is not consistently mainstreamed through national sustainable development strategies.

#### 3.1.1 Persistent and emerging challenges for sustainable development

The removal and damage of natural habitats, from mining, coastal erosion, and ocean acidification, threatens both terrestrial and marine biodiversity. Pollution and waste (including human wastes); overexploitation of natural resources and invasive species compound this threat.

Biodiversity is critical for the culture and food security of Nauru. Biodiversity in agriculture (as opposed to monoculture) can also reduce the risk of plant disease epidemics.

### **3.2 Food Security**

#### 3.2.1 Summary of issue

Land resources and water for agriculture are highly limited. Agriculture makes up 1.2% of the GDP. Nauru is primarily dependent on imports for food security.

#### 3.2.2 Achievements

- Nutrition and school gardening programmes have been introduced to build awareness in local communities. Food security is being considered in a number of sectoral issues such as land resources, coastal and marine resources and health. It has also been recognized as a key issue related to the rehabilitation of the land affected by the mining.
- The Taiwan Government has installed an agricultural and animal farm. Both these farms have been operating for more than five years. The agriculture farm grows tomatoes, cucumbers, corn, cabbages, lettuce and some bananas; and, the animal farm produces mainly

pigs and eggs. Both farms educate members of the community in methods of agriculture and animal husbandry.

### 3.2.3 Gaps

- The mined phosphate lands will require rehabilitation before agricultural production can occur in the affected areas.
- There are capacity gaps in agricultural production and many households are not familiar with home gardening techniques. Due to the current food insecurity in Nauru the population is challenged with protecting the natural terrestrial and marine resources in order to secure food security for the next generation.
- The lack of water and poor soil quality makes agriculture and aquaculture challenging. Science and technology could present opportunities for sustainable production; however, Nauru lacks capacity for research and development in this area.
- As Nauru is highly vulnerable to the global prices and availability of imports, international and trading partner agreements for minimizing external shocks to food security are needed.

#### 3.1.1 Persistent and emerging challenges for sustainable development

Food is a basic need. The increasing population, the lack of agricultural land, the degradation of land, coastal and marine resources, and water scarcity all put pressure on the food security of Nauru. Price increases and limited opportunities for economic livelihood make it even more difficult for households to meet their basic needs.

Climate change threatens food security in Nauru. The arable land (the land that has not been mined) available for agriculture is located in the coastal flat, making it vulnerable to coastal erosion and sea level rise; additionally the soil in these areas is sensitive to prolonged droughts. Climate change, ocean acidification and overfishing threaten the food security of 50% of Nauru's population that currently engages in subsistence fisheries. Wastes and pollution further threaten the ability to increase the production of agricultural product.

In Nauru, an important element of food security is not just food availability but also food quality. The lack of fresh and healthy food at an affordable price has impacted the nutrition of Nauruan people. The decline in diet has been coupled with an increase in the prevalence of NCDs. Identifying agricultural and aquaculture products that can flourish in Nauru's natural environment is necessary for increasing food security and nutrition.

## 4 SECTORAL ISSUES - THEMES

### 4.1 Freshwater

#### 4.1.1 Summary of issue

Water resources are very limited. Water is estimated at 32 litres of freshwater per person per day, which is well below the WHO recommendation of water for domestic use at 50 litres per day. Most ground water has been contaminated due to mining, toilets and dumping of other commercial and household wastes. Frequent droughts and a lack of proper rainwater storage facilities compound water scarcity issues.

#### 4.1.2 Achievements

- A water management policy has been developed.

- A solar powered reverse osmosis plant has improved the supply, through delivery and bottling, of potable water and is an excellent example of science and technology for development.
- Water storage facilities for houses have been improved.
- Most communities are aware of the importance of using clean water and either treat or boil water for home use.
- Access to fresh water in Nauru has improved from 72% in 1992 to 90% in 2007.

#### 4.1.3 Gaps

- There is limited human capacity to monitor and manage water resources and a lack of specialised capacity in new technologies (such as the desalination plant).
- Communities often manage groundwater use, and these communities often lack the capacity to ensure the safety of the water.
- There is a need to increase the capacity of water storage.
- There is also a need to improve delivery of water from storage facilities to household water tank storages especially during sustained drought periods when demand escalates.
- The reverse osmosis plant improves access to water, but the water delivered from the desalination plant does not meet WHO standards. Although the plant is using solar power, the high energy demands of the plant makes it susceptible to external factors.
- Land ownership issues have created difficulty related to the use of ground water.
- There is no wastewater facility.
- NSDS 2009 milestones not met.

#### 4.1.4 Persistent and emerging challenges for sustainable development

Rising sea levels and increasing water salinity threaten the limited ground water available. Additionally, changing weather patterns have the potential to result in more extreme droughts, which further threatens water security.

Fully utilizing groundwater could improve water security; however, much of the ground water has been contaminated as a side effect of the phosphate mining. Rehabilitation of the mined phosphate lands is necessary to improve water quality of ground water. Additionally, other pollutants, including sewage, and leaching have negatively impacted water quality. The number of water-borne illnesses, including skin and eye diseases, especially in children is a concern. There is little to no control on household access to groundwater of which excess use contributes to increased salinity of the groundwater.

The price of delivering water for human consumption is also a concern, especially, since the provision of affordable water is dependent on global fuel prices.

As water, even for domestic consumption is limited, the amount of water available for agriculture and aquaculture is highly limited. The lack of water for agriculture threatens Nauru's food security and the well being of people. Increased water salinity compounds the land degradation threats to biodiversity and the natural ecosystem health.

## 4.2 Land resources

### 4.2.1 Summary of issue

Nauru has very limited land available for allocation. The total size of Nauru is 21 sq. km, and almost 80% of that land has been degraded due to mining. The land degradation from the mining has resulted in a lack of land for agriculture and limited agricultural production. In 2011, only 13% of households maintained a kitchen garden or were involved in growing crops. Almost all of the population and economic infrastructure is located in the coastal zone

#### 4.2.2 Achievements

- The Parliamentary subcommittee on Land Review completed an assessment of land management in Nauru.
- There have been a number of successful programmes for household and school gardens.

#### 4.2.3 Gaps

- There is a lack of capacity to sustainably manage land resources (for example, management that takes into account Environmental Impact Assessments).
- There has been no progress in the rehabilitation of mined phosphate lands.
- There is a need to improve political support, policies and communication for integrated land-use planning and management. The Nauru Lands Act was passed in 1976. The land review report has yet to be endorsed by Cabinet.
- Nauru lacks a viable subsistence agriculture sector.
- Land management is complicated by customary land tenure system. . Issues related to land rights also discourages foreign investment.
- Landowners lack capacity to negotiate with foreign companies to protect them from possible alienation from lands.
- The lack of a waste management system puts additional pressure on the available land resources.

#### 4.2.4 Persistent and emerging challenges for sustainable development

There is very limited arable land for agriculture and limited awareness or human capacity in agriculture. As such, Nauru is dependent on imports for food security and highly susceptible to global price shocks. The growing population puts increasing pressure on limited land resources.

Sea level rise and coastal erosion further threaten the limited land that is available for habitation, agriculture or other purposes. Extreme weather events, such as storms, floods and droughts, threaten soil quality, economic infrastructure, terrestrial biodiversity and agricultural production.

In Nauru, sustainable land management is dependent on the rehabilitation of the mined phosphate lands.

### **4.3 Energy**

#### 4.3.1 Summary of issue

Nauru is dependent on fossil fuel to meet its energy demands, especially the high fuel demands in the transport sector. Due to the small population and isolation from markets it lacks economies of scale for importing fuel.

#### 4.3.2 Achievements

- There is high-level political support for improving energy sustainability. Nauru has set a target of achieving 50 % renewable energy by 2015.
- Access to and reliability of the provision of electricity has improved in the last few years. Additionally, generators provide reliable back up power for essential institutions, such as hospitals.
- A national Energy Policy Framework was established. A national energy roadmap is currently being developed.
- Awareness building programmes and prepaid electricity meters has resulted in more conservative usage of electricity and fuel. One example is the Ministry of Health promotion of bicycles in order to both improve fitness and reduce fuel use.
- Improved use of technology has provided some innovative new technologies, such as energy efficient lights, solar streetlights, solar water pumps and the solar powered reverse osmosis facility.

#### 4.3.3 Gaps

- Infrastructure development for electricity provision is still needed.
- There is a lack of local capacity in new technologies, such as renewable energy technologies.
- The introduction of solar panels to meet energy needs is subject to land constraints.
- The imported fuel supply is inconsistent.
- A clear plan to achieve the target of 50 per cent renewable energy has not yet been developed.

#### 4.3.4 Persistent and emerging challenges for sustainable development

Nauru is highly vulnerable to global fuel price increases and to global supply shortages. High fuel prices place an increasing burden on households, which in turn affects food security. The increasing population will increase future fuel demands, adding additional pressure to the energy sector. Extreme weather events and sea-level rise can threaten energy related infrastructure. Additionally, prolonged droughts create higher energy demand.

The waste and pollution associated with fuel use can negatively impact the fragile environment. Better use of science and technology, such as biogas, solar, wind, and other innovative technologies, are needed to lessen the dependence on foreign fuel and reduce pollution.

### **4.4 Coastal and marine resources**

#### 4.4.1 Summary of issue

The coastal and marine resources of Nauru are included in the 320,000 sq. km EEZ, which is located between the Solomon Islands and Kiribati. Tuna stocks are currently the most profitable marine resource. Fisheries make up 2.1 % of GDP. In 2011, just over half of all households in Nauru were engaged in fishing activities.

#### 4.4.2 Achievements

- The Parties of Nauru Agreement has been a successful multi-country Ocean management agreement. Currently, national fisheries laws comply with the PNA measures on purse seiners, which include the high seas closure as a licensing condition, 100% observer coverage and seasonal FAD closure as conservation measures. Nauru has experienced growth in canoe fisheries and improved fishing techniques

### 4.4.3 Gaps

- There is a need to strengthen legislation/regulations for fisheries.
- Human resource capacity for marine science; fisheries techniques; monitoring and analysing the effects of climate change; for managing coastal and marine resources; and for providing seafaring training are limited. There is a lack of capacity for improving the economic and subsistence benefits of coastal waters. Implementing regulations to improve subsistence and artisanal benefits from the coastal waters is hindered by Nauruans' dependence on the ocean and marine resources for food security.
- Improved awareness and monitoring of marine health is needed to understand the effects of pollution, ocean acidification and sea-level rise, and to protect ecosystems (habitats, aquatic fauna & flora) and biodiversity. Additionally, more data on seabed mining is needed to make decisions on the potential of seabed mining.
- Capitalization of economic benefits from commercial fishing beyond the Territorial Sea is only a fraction of the value of the industry.
- Sustainable use of the available coastal and marine resources could decrease reliance on imports (for example, if milkfish were produced locally at a competitive prices this could decrease the reliance on imports).

### 4.4.4 Persistent and emerging challenges for sustainable development

Sustainable fisheries management is required for improving food security and providing livelihoods for the Nauruan people. Food security and cultural practices, especially in low-income households, is dependent on coastal fisheries. Ocean acidification and increased sea surface temperature threatens coastal habitats, thus threatening biodiversity and food security. Overfishing further threatens the sustainability of both coastal and marine fisheries and biodiversity. Additionally, invasive species place additional pressure on coastal ecosystems.

Climate change will impact fish migration patterns, which could in turn have an impact on the economic value of Nauru's tuna fisheries.

## 4.5 Health

### 4.5.1 Summary of issue

Nauru's small population and distance from larger populations presents specific challenges in providing high quality, cost effective health care. The current life expectancy in Nauru is 58 for men and 63 for women. As compared to the life expectancy in New Zealand, at 79 for men and 83 for women, the life expectancy in Nauru is low.

### 4.5.2 Achievements

- Nauru has made tremendous progress in providing vaccines to children (currently there is 100 per cent coverage) and in the number of births attended by a skilled health professional.
- Human capacity in the health sector has improved due to improved internal training, health care scholarships and strong political commitment.
- All but one of the short term health milestones of the NSDS have been met.

### 4.5.3 Gaps

- Although human resource capacity has improved there is still a need for further improvement of the local human resource capacity (to lessen the dependence on expatriate workers). The lack of human capacity may be partially related to the low salary scale for health care workers.
- There is a current lack of health literacy.
- Information management and data collection of medical records remains weak.
- Both health and disability policies should be evaluated to ensure the use of consistent definitions and that they keep pace with new and emerging risks, such as those caused by NCDs.
- There is a need for policy planning to cope with the rising costs of prescriptions and the high cost of medical evacuation or medical professionals travelling to Nauru.
- Improving the use of science and technology, including tele-medicine, evidenced-based medicine and local medicine, could result in gains in the health sector.

### 4.5.4 Persistent and emerging challenges for sustainable development

The increasing cost of health service provision (including prescriptions and overseas referrals) places pressure on the health sector.

The current lifestyle habits, such as excessive alcohol consumption, smoking, poor diet and lack of physical activity, pose health risks for the national population and have resulted in an increased occurrence of non-communicable diseases (NCDs). The increasing occurrence of NCDs is a threat for the sustainable development of the nation (not only for individuals). High NCDs add an increasing cost to the healthcare sector and also decrease the size of the labour force, particularly in cases when NCD leads to disability. The increase in the prevalence and lack of early treatment of NCDs has already resulted in an increase in disability.

The poor diet of Nauruans is linked to the lack of agricultural production in Nauru, the high costs of importing fresh, healthy food and a lack of awareness of the importance of nutrition. Nauru often receives low quality, unhealthy food imports. Improving food security through both agricultural production and import food quality is a key emerging health issue.

Both climate change and the change in population demographics have additional implications for the health sector. Overcrowding in homes and communities has and will continue to threaten health. The increase flooding and droughts increases the threat of waterborne illness. Sea level rise and natural disasters stress the need for risk management plans for patients.

The increasing transient population (due to large numbers of rotating overseas workers coming into Nauru) poses a potential epidemic threat to the population. The effects of an epidemic on a small population could be devastating.

## 4.6 Culture

### 4.6.1 Summary of issue

Nauru has a unique language and culture. The culture forms the foundation of the well-being and social identity of individuals in the society. Nauruan is spoken by 95% of the population 5 years and older; however, only about 20% of males and 30% of females are able to read and write in Nauruan fluently.

## 4.6.2 Achievements

- A Community Cultural Resource Committee was established in 2009.
- Nauru ratified the Intangible Cultural Heritage Convention in March 2013.
- Nauru has improved the involvement of community members in teaching cultural activities to children through the education system.

## 4.6.3 Gaps

- There is a need to strengthen the education and transmission of cultural activities and language to young people.
- Awareness of the value of culture and political support for culture are needed to improve cultural sensitivity and preservation.
- Traditional agriculture and fisheries could be a tool for resilient, sustainable development.
- Nauru lacks intellectual property rights laws and capacity to develop these laws. Safeguarding cultural industries and traditional medicines depends on the IPR.
- Role models and champions for culture are needed to promote Nauruan culture.
- There is a need to better link culture and tourism in national planning

## 4.6.4 Persistent and emerging challenges for sustainable development

Promoting cultural expression and language is vital for society identity and social cohesion. Additionally, cultural systems can incentivise people to remain working in Nauru, thus preserving skilled labour and minimizing brain drain.

Cultural industries, traditional medicine and traditional agriculture and fisheries can provide sustainable economic, social and environmental benefits; however, they rely on natural ingredients and biodiversity. Climate change and environmental degradation negatively affect these natural ingredients and biodiversity and threatens cultural industries.

Preserving cultural practices and the use of Nauruan language in the modern society is a challenge. The influx of expatriate workers and temporary workers has contributed to an erosion of culture among young people.

## **4.7 Education**

### 4.7.1 Summary of issue

Primary school enrolment is almost universal; however, less than a quarter of adults (aged 15 and over) have completed their secondary leaver's certificate and only 5% have a tertiary qualification. The unemployment rate in 2011 was 23%; the youth unemployment rate was even higher at 70% for 15-19 year olds and 36% for 20-24 year olds.

### 4.7.2 Achievements

- The Ministry of Education reports that net primary enrolment has improved from 70% in 2002, to 95% in 2011.
- Measures to improve the quality of education have also been taken (such as the QCE certificate).
- The education has received high political support through the Education Act 2011.

- Increase number of tertiary level graduates from the University of the South Pacific (USP)
- Increase number of male enrolment in Continuing and Community Education Programs at the USP Extension Centre, Nauru
- Improved student facilities and resources at the USP Extension Centre, Nauru
- Increased number of students being offered tertiary level education
- The school feeding program, school environment and school garden programme has improved the health, safety and welfare of students.

#### 4.7.3 Gaps

- Schools and TVET lack human capacity to provide a high quality education, especially in some subjects. The salary scales do not provide sufficient incentives for teachers.
- There is a need to strengthen cultural education, including Nauruan language.
- Career counselling to promote secondary and tertiary education and help students manage the transition from school to work are needed. Career counselling could also help students identify ways to meet scholarship criteria and pursue tertiary education
- There is a lack of environmental and health awareness programmes in schools.
- There is a need for an increased focus on new and emerging issues, such as cyber bullying.
- There is a need for long term planning to use education to fill the gaps in human capacity for sustainable development.
- The current salary scales do not provide the incentives for students to enrol in tertiary level education.
- There is limited space to expand the USP Extension Centre, Nauru
- There is a limited number of persons with skills to tutor students at the tertiary level offered at the USP Extension Centre, Nauru
- Nauru does not have an Occupation Health and Safety Legislation

#### 4.7.4 Persistent and emerging challenges for sustainable development

Education is a major limited factor in developing the human capacity necessary for sustainable development. Very few students are pursuing an education in the technical fields where Nauru is experiencing a capacity gap, particularly, science, technology, ICT and healthcare. The lack of education for sustainable development increased the dependence of Nauru on expatriate workers and consultants.

High, persistent unemployment rates demonstrate the need for linking education to employment and improving options for exporting services, such as through temporary labour migration schemes.

### **4.8 Wastes**

#### 4.8.1 Summary of issue

Nauru has very limited availability of suitable land for landfills and the distance from markets increases the costs of waste management.

#### 4.8.2 Achievements

- The Littering Act and the draft Solid Waste Policy provide a policy framework for waste management in Nauru.

- There have been a number of strategies for improving RRR. A few initiatives include: Clean and Green; composting; the scrap metal scheme; privatization of recycling; pick up of wheelie bins; and compost toilets.
- There is an existing and growing community awareness of the importance of waste management. The Aiwo Road Map provides a successful example of a community led initiative.

#### 4.8.3 Gaps

- There is shortage of waste management facilities and infrastructure.
- There is a need to strengthen waste policies, including for waste dumping. Additionally, existing regulations are not enforced and the lack of an environmental levy promotes inexpensive products which lack biodegradable packaging.
- Public awareness on waste management needs improved; school curriculums could provide a forum for waste management education.
- The Waste Management Unit and the dumpsite operations lack sufficient human capacity for properly collecting and disposing of wastes.
- A sewage and water waste treatment facility is required to protect public health.

#### 4.8.4 Persistent and emerging challenges for sustainable development

Properly managing wastes within the small land mass will continue to be a problem for Nauru. Additionally, Nauru is highly import dependent and the remains from the imported goods turn into wastes that must be managed. The difficulties of waste management highlight the need to consider wastes as a part of the imports; for example, trade strategies could incentivise biodegradable products and packaging.

The ability to properly dispose of liquid, chemical and hazardous wastes is limited by the high costs of waste treatment for isolated populations. However, if wastes are not properly managed they can result in a number of different health conditions (such as the risk of cancer from asbestos).

Waste disposal threatens the natural environment and biodiversity – it puts pressure on the natural coping capacity. It also decreases air and water quality. Increased flooding could potentially create waste run-off and spread the effect of wastes to a larger area.

### **4.9 Trade: imports, exports and temporary labour mobility**

#### 4.9.1 Summary of issue

Nauru imports virtually all consumable goods. The singular export of Nauru is phosphate. Exports of services from Nauru makes up 32.1 % of the GDP. Nauru's isolation from markets, diseconomies of scale and high dependence on imports results in increased vulnerability and presents challenges in achieving sustainable development.

#### 4.9.2 Achievements

- Nauru has a labour mobility scheme through the Seasonal Workers Program with Australia.
- The National Trade Policy was recently drafted.

### 4.9.3 Gaps

- The PICTA Trade in Services Agreement has not yet been signed. TVET programs could be used to enhance the skill set of Nauruans in order to maximize their ability to work under the PICTA agreement.
- There is a need for strengthening trade legislation (e.g. Foreign and National Investment Act).
- There is a lack of expertise in trade negotiations; long-term trade specialists within the government would be beneficial.
- There is a lack of coordination, communications and collaboration between relevant stakeholders concerned with imports (e.g. quarantine, customs and health departments).
- Informed decision making for trade stakeholders is limited by the lack of uniform use of the Harmonised System Code especially on commodities of interest.
- There is a lack of capacity for assessing biosecurity risks.

### 4.9.4 Persistent and emerging challenges for sustainable development

Nauru is highly import dependent and therefore vulnerable to rising food and fuel prices. The small population adds additional challenges in attracting imports and in keeping those imports cost effective. The importing of biological goods, that are necessary for improved nutrition, may also introduce invasive species or diseases. The import market is a major source of wastes and pollution: both in the importing of wastes and the marine pollution caused by shipping vessels.

The export market for Nauru is primarily limited to phosphate, fish and export of services. Although the export of services is an important source of income for families, maintaining skilled human capacity in Nauru is a high national priority. Balancing labour mobility and migration is a persistent challenge. Additionally, labour mobility, both to and from Nauru, increases the risk of contagious diseases and epidemics.

## **4.10 Tourism**

### 4.10.1 Summary of issue

Nauru currently receives approximately 150 tourists per year. Travel distances to Nauru pose a hurdle for tourism; however, the number of business travellers to Nauru is quite high. Business travellers are the primary source of tourism receipts in Nauru.

### 4.10.2 Achievements

- A Tourism Office was established and a game fishing package developed.
- The tourism office developed a website and a relationship with SPTO.
- Nauru has recently experienced an increase in tourism receipts due to the large number of business travellers that are visiting Nauru

### 4.10.3 Gaps

- There is a lack of infrastructure, goods and services available for tourists (including banks, insurance, hospitals, activities, hotels, travel agencies, internet cafes, etc.)
- Visa requirements make travel to Nauru difficult.
- Culture and tourism strategies are not linked.
- There is a lack of human capacity to develop the tourism sector.

- A strategy to increase the tourist receipts of business travellers has not been developed.
- Customary land rights discourage investment in tourism infrastructure.

#### 4.10.4 Persistent and emerging challenges for sustainable development

Tourism puts additional stress on the culture and the natural environment (waste generation, water use, energy use, etc.). This highlights the need for sustainable tourism or ecotourism.

### **4.11 ICT and Communication**

#### 4.11.1 Summary of issue

In 2011, approximately one-quarter of households were connected to the Internet; three-quarters owned a TV; 40% owned a radio; and almost 90% owned a phone.

#### 4.11.2 Achievements

- The number of people with phone and Internet connectivity has increased tremendously in the last few years.
- Nauru has an established ICT provider, radio, phone service, television and Internet service.

#### 4.11.3 Gaps

- Laws to protect and enforce peoples' privacy, security from cyber attacks and hacking need to be developed.
- Improving ICT infrastructure (such as through a fibre optic cable) and affordability could further increase ICT literacy and information sharing.
- Linking phone service providers to disaster risk reduction strategies has potential to improve disaster alerts.
- There is a gap in expertise in ICT. ICT developments can present many opportunities, but expertise is often needed to pursue these opportunities (for example fishing monitoring, climate change projections, tele-medicine, etc.)
- The use of national language in media could be strengthened.
- Access to free-to-air media sources is limited to a few channels.
- There is a need to monitoring the use of ICT for informed decision-making.

#### 4.11.4 Persistent and emerging challenges for sustainable development

Isolation and small populations limit the access to new technologies and infrastructure. For example, the cost of a new TV channel or fibre-optic cable for Nauru may be too high when calculated on a per capita basis. ICT has huge potential for both personal well-being and for sustainable development, but national capacity in ICT is too low to capitalize on many of the benefits of ICT. This increases the reliance on consultants and foreign workers.

### **4.12 Transport**

#### 4.12.1 Summary of issue

Nauru is a single island nation. All transport from overseas is by air or sea. In 2011, 29% of households owned at least one car and 46% of households had at least one motorbike.

#### 4.12.2 Achievements

- Public sector transport has improved. Schools, public sector employees and other people benefit from the public bus system.
- The aviation sector is now using Civil Aviation Safety Authority (CASA) standard certification, i.e. infrastructure, safety & service.
- The marine transport has improved in reliability and operations. The marine transport sector improvements include: barges for loading/unloading cargo; pilot boat for port entry and at sea emergency; and NFMRA boats for in-shore SAR.

#### 4.12.3 Gaps

- The legislation/regulations/policy for land and maritime transport require amendments. Additionally, an aviation emergency response plan has not been introduced.
- Transportation infrastructure is not properly repaired and maintained (i.e. airstrip, mooring, roads and public transport).
- Nauru lacks insurance for land transport.
- The port infrastructure is not conducive to fisheries.
- There is a lack of human capacity to develop the transport sector.
- The number of vehicles and motorbikes imported is not regulated.
- Emergency evacuation road maps have not been developed.
- Maritime and land transport licensing, registration and laws are not in place.

#### 4.12.4 Persistent and emerging challenges for sustainable development

Transport within Nauru is important for both industries and households in Nauru: attending school, work, boat fishing, etc. However, international air and sea transport of goods and people is the major source of pollution in the transport sector. Reducing wastes and emissions is an ongoing challenge. High and variable fuel prices make it difficult for planning transportation costs; this cost is then passed on the consumer in the case of imported goods.

The cost of transport infrastructure development is very high as many raw materials are imported and Nauru is unable to benefit from economies of scale. Climate change, natural disasters, and sea-level rise threaten existing transport infrastructure.

## **5 MEANS OF IMPLEMENTATION**

### **5.1 Governance – national and regional institutions**

Effective national governance structures are an essential prerequisite for sustainable development. National planning and policy support form the foundation for sustainable development. Regional and international institutions should support national institutions. Good governance and alignment with national priorities is essential at all levels.

### **5.2 Capacity building**

Sustainable development is dependent on the national capacity in developing and implementing national sustainable development strategies. In Nauru, national capacity is limited. At the national level, strategies for developing this capacity through education, training and mentoring are necessary for successful progress.

Sharing of experiences and lessons learned also provides an opportunity to make large gains at little cost. Partnerships with other SIDS are particularly useful in this regard.

Meaningful partnerships with international and regional organizations and technical organizations also provide an opportunity for capacity building. However, these partnerships must be integrated with national priorities and maximize the knowledge transfer.

### **5.3 Science and technology**

Science and technology for accelerating sustainable development is vital for Nauru. Many gains, such as those in solar energy, water desalination, ICT technology and fish monitoring have already had a positive impact on development.

The national capacity in science and technology is limited, as is funding for research and development. International technology transfers and support for building national science and technology capacity will build the foundation for sustainable development.

### **5.4 Finance**

Sustainable development depends on a clear linkage between government budgets and the issues of national priority. In Nauru the limited finances available in the national budget and the high government debt translates into the inability to fully fund national initiatives for sustainable development. New partnerships, such as with non-traditional donors, and increasing access to international and regional sources of funding are necessary to bridge the gap in national funding.

### **5.5 Meaningful partnerships**

Due to high vulnerability and limited national finances, Nauru benefits from meaningful partnerships. Meaningful partnerships are partnerships that are aligned with national priorities and build national capacity. On the other hand, partnerships that are based on the priorities of donors or other organizations often create an extra burden for under resourced government offices.

Meaningful partnerships may include financial support or capacity development. For example, improving knowledge sharing among SIDS would provide a capacity development network for all SIDS to exchange information without any financial transfer between them. Partnerships with non-traditional donors should be better utilized for building sustainable development.

### **5.6 Monitoring and evaluation, knowledge management for informed decision making**

Monitoring and evaluating progress is necessary for informed decision making. Monitoring is also vital for hold governments and partners accountable for achieving results. The collection of statistics should be unbiased and reflect actual results. Monitoring builds awareness of the issues and provides a framework for countries and partners to work together.

Monitoring is an important aspect of tracking NSDS and international development agreement progress. However, monitoring also places a burden on national statistical systems. Partnerships and international commitment will be required to improve monitoring.

### 3 CONCLUSION

Nauru consists of a single small island, 21 sq. km, with a population of approximately 10,000. The island is located between the Solomon Islands and Kiribati with the nearest neighbouring island approximately 400 kilometres away.

Nauru exemplifies the ‘special case’ described in the Earth Summit. Specifically, its small size, extreme isolation, narrow resource base, isolation from markets, diseconomies of scale, and capacity limitations pose major challenges for sustainable development in Nauru. The constrained resource base, dependency on imports for food and energy security and high level of aid received have resulted in extreme vulnerability to external forces, such as global food and energy price changes and financial and economic crises.

Virtually all Nauruan residential buildings and most economic infrastructure are located along the narrow coastal flat. Marine and coastal fisheries continue to be a source of food security for most people, particularly low-income households. Due to the proximity to the coast and the dependence on coastal and marine resources for livelihood and food security, Nauru is highly vulnerable to climate change, sea level rise, ocean acidification and natural disasters.

Nauru has limited resources. Its main exports are fish and phosphate soil, which is a finite resource. The mining of phosphate has degraded the land to a useless state, which is about 80% of the islands surface area. The Earth Summit ‘special case’ of Nauru is amplified by the limited availability of fresh water and the environmental damage caused by mining.

Based on the unique vulnerabilities and challenges of Nauru, the top five priority issues for national sustainable development were agreed at the national consultative meeting. The five issues were:

- 1) **Water:** Freshwater resources in Nauru are very limited and it has been estimated at 32 litres fresh water per person, well below the recommended WHO standard of 50 litres per person per day for domestic use. Much of the surface and ground water is not suitable for human consumption and some of it is not suitable for agricultural use. Frequent droughts and a lack of proper rainwater storage facilities compound water scarcity issues. Climate change, particularly prolonged droughts and increasing water salinity, further threaten water security. Fully utilizing groundwater could improve water security; however, much of the ground water has been contaminated as a side effect of the phosphate mining and other pollutants, including sewage. Water quality issues have caused water-borne illnesses, including skin and eye diseases. The price of delivering water for human consumption is also a concern, especially, since the provision of affordable water is dependent on global fuel prices. As water, even for domestic consumption is limited, the amount of water available for agriculture and aquaculture is highly limited. The lack of water for agriculture threatens Nauru’s food security and the well-being of people. Prolonged droughts and increased water salinity may also threaten biodiversity and the natural ecosystem health.
- 2) **Wastes:** Limited availability of suitable land for landfills and the distance from markets increases makes waste management in Nauru a challenge. The fragile natural ecosystem, biodiversity and public health are threatened by the accumulation of wastes on the island, particularly liquid and hazardous wastes. Much of the waste generation in Nauru is ‘imported wastes’ – the by product of an imported product. Properly managing wastes and minimizing wastes, especially those from imports, within the small land mass will continue to be a problem for Nauru.

- 3) **Education:** Education is the key to both improving sustainable livelihoods and addressing national capacity gaps. In Nauru, most children attend primary school but only roughly a quarter complete secondary school and even fewer attend trade or tertiary school. It was identified that the high and persistent unemployment rates in Nauru is linked to poor education outcomes with the lack career counselling for students to achieve their educational goals and aspirations. Additionally, the poor educational outcomes limited the ability of individual Nauruans to participate in labour migration schemes. Therefore education is a major limiting factor in developing the human capacity necessary for sustainable development, particularly in building science or technical capacity gap. The lack of education for sustainable development increased the dependence of Nauru on expatriate workers and consultants.
  
- 4) **Energy:** Nauru is highly dependent on the import of fossil fuels to meet energy demands, especially the high demands in the transport sector. Due to the small population and isolation from markets it lacks economies of scale for importing fuel. The small landmass of Nauru restricts the space available for solar panels. Nauru has set a target of achieving 50 % renewable energy by 2015; however, progress toward this target has been limited. It is likely that Nauru will continue to be dependent on imported fuel in the near future and is highly vulnerable to global fuel price increases and to global supply shortages. High fuel prices place an increasing burden on households, which in turn affects their ability to meet other basic needs. The increasing population will increase future fuel demands, adding additional pressure to the energy sector.
  
- 5) **Environmental damage and Rehabilitation:** Phosphate mining has damaged about 80% of terrestrial ecosystem habitat on Nauru. The mined phosphate land is currently not suitable for either habitation or agriculture. The lack of arable land for agriculture has created additional challenges in ensuring food security and has amplified the dependency on imports. The lack of forest and natural vegetation threatens biodiversity and erodes the national culture by reducing the ability to practice traditional medicine, traditional agricultural practices and create cultural products. The mining has also had an impact of the aesthetic value of the land, which impacts both the well-being of the Nauruan people and the potential of Nauru as a tourist destination. The lack of either natural or regenerated forests has translated into a lower resilience of the natural environment (for example, poor water quality due to poor filtration, higher possibilities of erosion, poor precipitation, higher droughts, higher CO<sub>2</sub> emissions, etc.). In addition to the physical damage from the mining, the mines have also generated air, water and solid wastes. This pollution has an impact on the health of not only the natural environment, but also the people. The environmental disaster caused by the mining affects virtually sectors of development and rehabilitation is a prerequisite for improving the well-being of the people, including for food security and water security.

As mentioned previously, all sustainable development requires coordinated development approaches across sectors and all the development of each sector plays an important role in building an inclusive and resilient society.

To make improvements in the above sectors, or to make any progress towards sustainable development, is dependent on the capacity of government to develop and implement strategies, the willingness of partners to support implementation, the level of community support and many other external factors (including, decisions made by trading partners; pollution and emissions from the rest of the world; overfishing in waters outside Nauru's EEZ;). The full adverse impact of climate change

on Nauru's sustainable development is difficult to predict; however, it is certain that if large countries continue to have high emissions the effects of climate change will multiply.

Nauru has been able to secure a number of successful partnerships with bilateral donors; however, developing meaningful partnerships will continue to remain a key priority of the government. Nauru is not an LDC, which may add challenges in securing funding and finding potential partners.

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## Annex 1

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