

Sector: Biodiversity



SDG-NDC Synchronization: Assessment and Recommendations

How can the Climate Change Nationally Determined Contributions and the 2030 Agenda for Sustainable Development complement and support each other towards a sustainable future?

Ministry of Environment
United Nations Development Programme
Nationally Determined Contribution Support Programme



Assessment and Recommendations for Integration of Sustainable Development Goals within Lebanon's Climate Related Plans

Description and Objectives

The Paris Climate Agreement's Nationally Determined Contribution (NDC) and the Sustainable Development Goals (SDGs) share some mutual goals and a common target year (2030). Many synergies exist between the two agendas, and addressing those linkages from an integrated institutional viewpoint will enhance the implementation, coordination and tracking of the different actions. The aim of this analysis is to assist policymakers in:

- Assessing the sectoral policies that make up the NDC in terms of SDG linkages using the SDG Climate Action Nexus tool (SCAN tool) in order to establish and clarify the linkages;
- Identifying progress indicators of NDC policies to inform SDG progress and vice versa, in order to synchronize reporting;
- Operationalizing the coordination between institutions responsible for the implementation and reporting of both the NDC and SDGs.

Methodology

- The SCAN-tool provides high-level guidance on how climate actions can impact the achievement of the SDGs (http://ambitiontoaction.net/scan_tool/);
- Coupled with local expertise, this analysis:
 - Identifies potential linkages between specific recommendations included in each of Lebanon's climate related plans and policies and the SDGs;
 - Includes the identification of a primary SDG linkage along with other relevant SDG linkages;
 - Identifies potential linkages to all of the SDG targets, and provides further recommendations.
- All climate-relevant and sustainable development plans inherently contribute to SDG 13 (climate action);
- SDG 17 addresses global partnerships and means of implementation, relevant SDG 17 linkages to local plans are also identified in this assessment.

This is not an exhaustive analysis but it provides a sound basis to better understand where and how Lebanon's climate actions impact SDG achievement.

How to use this guide?

Step 1: Review

This guidance recommends certain linkages per SDG which should be reviewed in the context of policy-making.

Step 2: Prioritize

Not all the linkages made have the same relevance to the policy or activity, therefore, the linkages should be prioritized considering magnitude of impact, co-benefits and other criteria depending on the institution and its priorities.

Step 3: Consult

Depending on the prioritized SDGs, stakeholder consultations for policy-drafting should include the lead institutions responsible for implementing the selected SDGs.

Step 4: Synchronize

When implementing the policy, synchronization at the level of tracking between the different institutions, the NDC committee and the SDG committee should be considered.

Sector: Biodiversity
Sub-sector: Biodiversity
Source document: National Biodiversity Strategy and Action Plan (2016)
Ministry: Ministry of Environment
URL: <https://www.cbd.int/doc/world/lb/lb-nbsap-v2-en.pdf>

Plan/ Policy Overview

Climate change adaptation actions in Lebanon include strategies for conserving and protecting Lebanon's biodiversity and fragile ecosystems. The 2016 National Biodiversity Strategy and Action Plan (NBSAP) is broken into thirteen 'priority areas' that collectively provide a comprehensive overview of the current state of ecosystems in Lebanon, challenges Lebanon will likely face, and strategies to protect and conserve biodiversity. The NBSAP identifies a series of strategic actions, institutional, legislative, economic or other policy and institutional actions that advance the achievements of the strategy's targets. The NBSAP acknowledges that the priority areas are aimed at addressing the Sustainable Development Goals, primarily linking to SDG 15: life on land. While other SDG linkages are also evident, it does not include explicit language as to how or where a specific NBSAP targets connect to SDG targets within its narrative. That said, one of the strategy's primary objectives includes, "mainstreaming biodiversity into sectoral and cross-sectoral strategies, plans and programmes". In this vein, the strategy provides some clear linkages to other SDGs including income and poverty, jobs, health and well-being. The plan also places strong emphasis on regulation/legislation, research, capacity building and awareness raising where linkages can be found in targets in SDG 4 (education), SDG 8 (sustainable consumption and production), SDG 16 (peace and justice) and SDG 17 (partnerships for the goals).

Links to Climate Change and Sustainable Development

Conserving biodiversity in light of climate change impacts on ecosystems is an important adaptation measure. Lebanon's Nationally Determined Contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement lists biodiversity as a priority action with the following target for 2030:

Overarching objective: By 2030, adaptation plans for ecosystems vulnerable to climate change have been developed and implemented. This will be achieved by:

- Conducting needs assessment and defining pilot national monitoring sites and species. Coastal zones are considered a priority
- Designing and implementing pilot action plans

To reduce the adverse impacts of climate change on the environmental, economic and social systems, Lebanon promotes climate change adaptation strategies through mainstreaming and building institutional capacity. Climate change has already been mainstreamed into the NBSAP and is identified as one of the priority areas of the plan with an overarching objective of "developing and implementing adaptation plans for ecosystems vulnerable to climate change by 2030".

The following assessment identifies how the specific actions in the NBSAP relate to the SDG targets (Tables 1 and 2). It identifies how ecosystem conservation, for example, can positively or negatively impact SDG targets.

Table 1: Primary SDG Target

| Primary SDG | How does the NBSAP contribute to this SDG? (examples) |
|---|---|
|  <p>15 LIFE ON LAND</p> | <ul style="list-style-type: none"> - Increases conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services - Conservation actions support the protection of threatened species and important ecosystems - Conservation reduces the degradation of natural habitats, halts the loss of biodiversity - Conservation measures reduce the degradation of forests that supports the biodiversity of endemic and economically important species - Physical protection through nature reserves and ecosystem corridors will aid in the conservation and restoration natural habitats, will protect against flooding, storms and erosion, and will support combating desertification and help restore degraded land - Expansion of nature reserves helps to protect against the loss of biodiversity and threatened species - Ecosystem and biodiversity values are integrated into climate change related plans - Increased institutional capacity to monitor illegal activity, particularly related to endangered species and illegal logging; protection of critical habitat for vulnerable species through regulatory protection |

Table 2: Highly Relevant SDG Targets

| Relevant SDG | How does the NBSAP contribute to this SDG? (examples) |
|---|--|
|  <p>2 ZERO HUNGER</p> | <ul style="list-style-type: none"> - Conservation of the genetic diversity of important flora and fauna, and the promotion of access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed - Traditional knowledge, uses, and practices of local communities that help to maintain biodiversity and sustainable use of resources are documented, preserved, and shared/ published - Maintain genetic diversity through sharing traditional knowledge and sustainable local community practices |
|  <p>4 QUALITY EDUCATION</p> | <ul style="list-style-type: none"> - Improved research on biodiversity will add to the body of knowledge for all learners encouraging environmental protection and the conservation of ecosystems - Better research and the dissemination of information through awareness campaigns on the value of biodiversity and the sustainable use of natural resources can empower people to better respond to climate change and promote sustainable development |
|  <p>11 SUSTAINABLE CITIES AND COMMUNITIES</p> | <ul style="list-style-type: none"> - Protection of threatened species and genetic diversity of native flora and fauna preserves and safeguards the country's cultural and natural heritage - Protection of the nation's natural heritage through the establishment of protection areas |
|  <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> | <ul style="list-style-type: none"> - Increasing awareness on environmental protection can change behavior towards resource conservation, demand for products that cause deforestation; promotion of nature based and sustainable tourism - Sharing and promoting traditional knowledge, uses, and practices of local communities relevant to biodiversity contributes to the sustainable use of natural resources - Provide relevant information to learners everywhere through sharing and promoting traditional knowledge, uses, and practices of local communities - Increased knowledge base through research on biodiversity and dissemination through a centralized platform promotes learning |



- The protection and restoration of marine areas based on research and scientific knowledge can aid in the regeneration of threatened species and ecosystems
- Implementation of the Marine Protected Area Strategy and establishment of marine nature reserves will aid in the protection of marine and coastal ecosystems
- Protected marine nature reserves will increase biodiversity and provide additional livelihood



- Develop research, plans, policies and regulations that support the institutional capacity to implement conservation strategies initiative
- A legislative framework for private sector engagement provides a more effective and transparent institutional framework
- Laws on access to biological and genetic resources and sharing of the benefits arising from their utilization that creates effective, transparent and accountable policy on genetic diversity



- National conservation strategies and regulations support policy coherence
- Private sector engagement in ecosystem protection through sustainable consumption and production plans can greatly expand the scale of intervention

Summary of Recommendations

For biodiversity conservation activities to be comprehensive, to have clear co-benefits and to efficiently implemented, biodiversity strategies, including the NBSAP, should explicitly address linkages to specific SDG targets and the NDC goals. In doing so, there should be a narrative that focuses on the plan's broader societal goals and impact on addressing climate change. As highlighted above, biodiversity conservation positively impacts at least twenty-five highly relevant SDG targets and advances the NDC goals in increasing resilience, and it should therefore be demonstrated in the plan so that common entry points can be better understood within and among Lebanon's sustainable development related plans and policies.

- For example, many low-income people depend on the materials produced by ecosystems for income (fishing, farming, tourism etc.). Safeguarding ecosystems "can help to prevent men and women from falling into poverty and can help to lift them out of it by increasing their income and reducing their vulnerability to external economic shocks or environmental disasters" (CBD) and therefore, achieving successes in SDG 1 poverty means protecting biodiversity.

Future iterations of biodiversity strategies, including the NBSAP, should consider the potential impact on SDG targets and in addressing climate change when developing and prioritizing specific implementation strategies. For example, the plan should prioritize measures that are most economically feasible and have largest impact on both the NDC and SDGs. In other words, there are opportunities in portraying biodiversity through a more holistic approach: looking through the lens of the SDGs and NDC might result in a different prioritization of plan strategies.

- For example, looking at biodiversity conservation from a gender perspective might result in new strategies to include women and girls in biodiversity decision making and implementation strategies. Given that women are typically the primary actor in subsistence farming they have an immense body of knowledge related to biodiversity in agriculture and farming, and should be

considered a tremendous resource when it comes to developing ecosystem adaptation strategies.

- Further, NBSAP indicators should be narrowed down and synthesized with other plans and policies, to include a broader assessment of meeting SDG targets and NDC goals. Indicators selection should fully consider data availability, periodicity, reliability, etc.
- The SDG and NDC committees should work collaboratively, alongside the responsible ministries, in the development of joint indicators that can be utilized among all sustainable development related plans and policies to jointly assess both NDC and SDG progress.

Finally, while developing biodiversity strategies, and considering the linkages with non-environment SDGs, stakeholders from other ministries and institutions should be consulted for more comprehensive decision-making (Annex I).

Potential Negative Linkages

The majority of biodiversity measures result in largely positive benefits to the environment however, a few measures can have negative or unintended consequences. The overall impact and potential trade-offs need to be weighed to determine if projects have a net positive impact and/or if potential negative impacts can be avoided. Moreover, some negative linkages may not be detrimental specifically to the environment, but they can have negative consequences on other SDGs such as hunger, poverty, health or jobs. Therefore, it is imperative to understand how certain plan recommendations may negatively impact some SDGs. Table 3 illustrates some examples of the potential negative linkages that the deployment of biodiversity conservation could have on the SDGs that may want to be considered during decision-making processes and policy drafting.

Table 3: Potential Negative Linkages to SDGs

| | |
|--|--|
| 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day | Protection of species through conservation can impact population when forest wood or charcoal is used for fuel |
| 2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons | Expanding protected areas may have trade-offs on agricultural land use, which make affordable food prices harder to achieve |
| 14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans | Some artificial structures such as sea walls may reduce biodiversity and have ecological impacts to coastal areas |
| 16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all | If adaptation action is the protection of critical habitat for vulnerable species through regulatory protection, this creates concerns over property rights and regulatory barriers to regional economic development |

Sustainable Development Anchors: what is there and what is missing?

A key word search and review of the NBSAP identifies where the plan explicitly addresses components of sustainable development and climate change. While the SCAN tool identified where linkages exist

between plans and the SDG targets, further examination of each plan reveals where these linkages are explicitly stated in each plan. For example, invasive species measures have strong linkages to hunger (SDG 2) but these linkages are not included in full, as part of the NBSAP narrative. Likewise, poverty plays a central role in the NBSAP, however, the narrative does not place it in the context of a priority area. While the NBSAP acknowledges many factors related to the SDGs as contributors to the decline of biodiversity, it focuses less on aligning the cause directly with solutions. For example, wood is a cheap energy source for low-income people, so how can we provide an affordable energy alternative that does not jeopardize the biodiversity of the forest and does not create harmful air pollution?

The following is an assessment of sustainable development and climate change language included the NBSAP and recommendations for creating linkages and estimations of impacts in future iterations of the plan (Table 4). The below recommendations tackle the primary SDG, the other highly relevant SDG linkages, as well as the rest.

Table 4: Recommendation for Estimation of Impact of SDGs

| Key Words | Description in the Policy/Strategy/Action Plan | Recommendation for Estimation of Impact/Integration of Impact |
|---|--|--|
| <p>SDG One: No Poverty</p> <ul style="list-style-type: none"> · Low-income · Poor · Poverty · Disadvantaged · Underprivileged | <ul style="list-style-type: none"> - Another cause for habitat loss and fragmentation is deforestation which is estimated to occur at a rate of 0.4% per year (MoE, 2012) and is largely attributed to lack of awareness and law enforcement, poverty (cutting trees for fuelwood during winter season due to high fuel prices); - Poverty is a major factor that drives people to behave in an unsustainable manner in order to meet their needs for survival. People in mountainous rural areas illegally cut trees for heating purposes because they cannot afford buying fuel; - Moreover, some people burn forests to gather and sell wood. Poverty rates in Lebanon are high; the population living in poverty is 28.6%. Of these, 20.6 % survive on less than US\$4/day, while 8% are extremely poor and live below the lower poverty line estimated at US\$2.40 per capita per day, and accordingly cannot meet their food and nonfood basic needs (UNDP, 2008); - Mainstreaming might also refer to including biodiversity considerations in poverty reduction plans and national sustainable development plans; - Establish a mechanism to enforce the implementation of environmental measures in national and sectoral strategies and policies such as agriculture, fisheries, forestry, tourism, poverty reduction, sustainable development, land use, water, coastal management, climate change, and disaster risk reduction; - Priority area 4: sustainable management and use of natural ecosystems and resources this priority area requires immediate and major attention given that resources are limited and are still uncontrollably and illegally exploited especially in the poor areas of the country. | <ul style="list-style-type: none"> - People depend on natural resources supplied by ecosystems for their livelihood such as farming, fishing, tourism and therefore ecosystem health can greatly impact income especially for low-income and vulnerable groups; - Conservation and species protection can create jobs such as in conservation, forestry and tourism; - Job creation potential from the sustainable use of medicinal and aromatic plants, and other economically important species; - Building of seawalls and other artificial structures protects flooding that protect communities and livelihoods; - R&D that enhances understanding of valuable ecosystems can enhance human resiliency through strategic conservation of natural resources, potentially safeguarding income; - Awareness campaigns on the value of biodiversity and the sustainable use of natural resources can help build resilience of the poor. |
| <p>Highly Relevant SDG</p> <p>SDG Two: Zero Hunger</p> <ul style="list-style-type: none"> · Hunger · Food access · Food security | <p>Priority area: Genetic diversity</p> <ul style="list-style-type: none"> - For instance, a decrease in agricultural production where invasive alien species (IAS), when proliferating near agricultural lands, may affect the productive capacity of the land and increase agricultural labor time, affecting human wellbeing by threatening the availability of food; | <p>In addition to SDG 2 in Table 2:</p> <ul style="list-style-type: none"> - Biodiversity is a key factor for the achievement of food security and improved nutrition. All food systems depend on biodiversity and a broad range of ecosystem services that support agricultural productivity, soil fertility, and water quality and supply (CBD, 2015); |

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| <ul style="list-style-type: none"> · Food affordability · Agricultural Productivity | <ul style="list-style-type: none"> - Food security (fish, crops and edible plants, livestock, etc.); - Lebanon’s biological and genetic resources, and to ensure the fair and equitable sharing of the benefits arising from their utilization. - Another important service provided by water courses is the provision of water for irrigation, domestic, and industrial uses. Agriculture is by far the largest consumer of water in Lebanon accounting for more than two-thirds of the total water demand, reaching upwards of 85 % in certain predominantly agricultural regions. | <ul style="list-style-type: none"> - Low-input and ecosystem based approaches to agriculture are particularly adapted to supporting the conservation and sustainable use of biodiversity (CBD, 2015); - Genetic diversity in agriculture is one key element of food security. It helps to ensure the evolution of species that can adapt to changing environmental conditions, as well as resistance to particular diseases, pests and parasites (CBD, 2015); - Conservation of the genetic diversity of important flora and fauna, and the promotion of access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed; - Implementation of the Marine Protected Area Strategy and marine nature reserves help to increase adaptive capacity by increasing biodiversity and increasing fish population; - A better understanding of national ecosystems in need of protection, better enforcement of regulation, and protection of natural areas of high ecological and biodiversity values can contribute to a better understanding of more climate resilient and sustainable agricultural practices; - Identification and rehabilitation of degraded land can return land to economic productivity; - An improved knowledge base on biodiversity can help to improve food security through more sustainable farming techniques and lead to an increase in small-holder profitability; - R&D programs to increase understanding of biodiversity can lend knowledge to crop resiliency to climate change, therefore protecting against food insecurity and inflation; - Research on biodiversity valorization: conservation, sustainable management, and economic valuation can protect the livelihood and |

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| | | <p>productive capacity of the poor;</p> <ul style="list-style-type: none"> - Knowledge sharing and spill-overs that support resilient seed proliferation; - Increased knowledge of biodiversity can help to protect ecosystems, threatened flora and fauna, and prevent invasive species thus safeguarding and assuring a proper functioning food commodity market. |
| <p>SDG Three: Good Health and Well-being</p> <ul style="list-style-type: none"> · Environment · Health · Pollution | <ul style="list-style-type: none"> - Those threats have various consequences on biodiversity including direct pressures on species and ecosystems (species extinction, reduction in genetic diversity, decrease in ecosystems resilience, etc.) and indirect pressures and consequences on human wellbeing (impacts on health, increase in natural disasters, loss of tourism revenue, etc.); - Health (disturbances to ecosystem functioning can influence in various ways the transmission of diseases to humans); - It also supplies many services, some of which are critical to human health, such as ecosystem resilience, genetic diversity and aesthetic appreciation. | <ul style="list-style-type: none"> - Healthy ecosystems help to mitigate the spread and impact of pollution by both sequestering and eliminating certain types of air, water and soil pollution (CBD, 2015); - Protection against flooding (through forest conservation) prevent spread and breeding of water-borne diseases; - Identification and rehabilitation of degraded land sites can increase protection against flooding which can prevent the spread and breeding of water-borne diseases. |
| <p><u>Highly Relevant SDG</u></p> <p>SDG Four: Quality Education</p> <ul style="list-style-type: none"> · Education · Awareness raising · Youth | <p>Priority area: Research and knowledge transfer</p> <ul style="list-style-type: none"> - Education and public awareness are considered to be a priority area, given that all the threats to biodiversity could result from people’s lack of awareness and knowledge; - Raising students’ awareness towards the importance of biodiversity is a key element in biodiversity conservation; and the term students here encompasses all age ranges from kindergarten to university students; - Conduct awareness campaigns on the need to endorse sustainable strategies (e.g. sustainable consumption targeting consumers etc.); - Once knowledge is transferred to the public and between concerned entities (public sector, ministries and NGOs), biodiversity related issues become easier to handle; | <p>In addition to SDG 4 in Table 2:</p> <p>R&D programs to better understand ecosystem valuation can help to quantify the value of ecosystem conservation and increase awareness on the need for protection.</p> |

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| | <ul style="list-style-type: none"> - These bodies, when established, will be tasked with engaging national media, educators, business, youth and the scientific community, and MoE will seek to coordinate a flow of information to and from these instances in order to achieve change in knowledge, attitude and behavior towards biodiversity conservation. | |
| <p>SDG Five: Gender Equality</p> <ul style="list-style-type: none"> · Women · Gender · Vulnerable groups · Rural communities | <p>Gender is not addressed in the NBSAP.</p> | <ul style="list-style-type: none"> - Biodiversity loss and degraded ecosystems can perpetuate gender inequalities by increasing the time spent by women and children in performing certain tasks, such as collecting valuable resources including fuel, food and water, and reducing time for education and income generating activities (CBD, 2015); - Ensuring equal rights to land, inheritance and natural resources is an important measure in enabling women to promote sustainable agricultural and land management practices, especially as women become increasingly responsible in agriculture due to male emigration in many cases (CBD, 2015). |
| <p>SDG Six: Clean Water Sanitation</p> <ul style="list-style-type: none"> · Clean water · Drinking water · Wastewater · Water quality | <p>With an increasing population, the pressure on water use is more and more accentuated which puts the freshwater ecosystem at risk and also depletes groundwater resources.</p> | <ul style="list-style-type: none"> - Conservation of water-related ecosystems protects threatened flora and fauna; - Protection of water-related ecosystems protects threatened flora and fauna; - R&D on ecosystem conservation can improve water quality and supply; - Sustainable ecosystem management will require an integrated water resources management at all levels: including the need for spatial and management plans, improved research, identification of priority areas and awareness raising; - Increasing conservation research knowledge, institutional capacity, and regulatory enforcement, including the identification of priority conservation areas will help protect and restore water-related ecosystems including mountains, forests, wetlands, etc.; - Protection of ecosystems will require awareness raising on improving water and sanitation management at all levels. |

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| <p>SDG Seven: Affordable & Clean Energy</p> <ul style="list-style-type: none"> · Energy efficiency · Electricity transmission · Electricity distribution · Reliable energy · Affordable energy · GHG reduction · Mitigation · Energy security | <ul style="list-style-type: none"> - Wood is the most important single source of renewable energy providing over 9% of the global total primary energy supply for cooking and/or heating, particularly in households in developing countries such as Lebanon (FAO, 2013). It represents the only domestically available and affordable source of energy; - According to an online study 82m³ of wood fuel were produced in Lebanon in 2002 and totally consumed in the country. As per the FAOSTAT, Lebanon’s total wood fuel volume produced varied between 37.4m³ in 1961 and 18.8m³ in 2013; - Water courses provide food through fishing activities, potable water and irrigation water and are an important source of renewable energy (e.g. hydroelectricity). | <p>Bio-energy produced from renewable biomass such as forestry byproducts and agricultural residues, and other forms of renewable energy generated based on ecosystems such as hydropower systems, can provide major opportunities for supplying cleaner and affordable energy (CBD, 2015).</p> |
| <p>SDG Eight: Decent Work and Economic Growth</p> <ul style="list-style-type: none"> · Jobs · Income · Employment | <ul style="list-style-type: none"> - Nature reserves have an important role in the protection and sustainable management of natural resources, especially biodiversity. They also constitute a crucial component in local and rural development, through the influx of visitors who contribute, via ecotourism, to the income of local communities living within the area of natural reserves; - Agro-tourism provides income, utilization of existing facilities, natural conservation, and recreation and education of the population in urban and rural areas. Agro-tourism is still a new and limited tourism area in Lebanon, it is mainly linked to winery tours (primarily in Bekaa and recently in Batroun), seasonal fruits picking activities (mainly apple and cherry), and olive oil making tours (from picking to pressing) organized by ecotourism agents; - Most hunters have no regards to the consequences of their actions mainly due to lack of awareness, disrespect and noncompliance of laws and regulations, competition among hunters, and economic profit (income from selling wild animals); - Agriculture constitutes the main source of income for an average of 30 to 40% of the population in Lebanon; | <ul style="list-style-type: none"> - Marine and terrestrial ecosystems underpin many national and global economic sectors providing employment such as agriculture, forestry, fisheries, energy, tourism, transport and trade. Biodiversity conservation and restoration, by enhancing ecosystems functions and services, can lead to higher productivity and more efficient resource use (CBD, 2015); - Major tourism attractions are closely linked to biodiversity and natural landscapes such as protected areas, mountains and beaches, wildlife and native cultures, as well as eco- and agri-tourism (CBD, 2015); - Natural means to mitigate the negative impacts of sea-level rise and storm surges minimize economic losses due to extreme weather events; and improve livelihood opportunities which increase sustainable economic growth without environmental degradation; - Protecting assets of poor households through reduction of economic losses during extreme events such as forest fires; and providing natural shade against heat extremes which cause lower labor productivity and other heat related stress. |

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| | <ul style="list-style-type: none"> - Disseminate the results of the studies related to the economic value of biodiversity to decision makers. Provide recommendations on appropriate policy responses. | |
| <p>SDG 9: Industry, Innovation, Infrastructure</p> <ul style="list-style-type: none"> · Industry · Innovation · Infrastructure · Research and development | <ul style="list-style-type: none"> - Update the national Science Technology and Innovation Policy (STIP) to include biodiversity as a priority and define the areas where research is needed within the biodiversity sector; - The main sources of pollution in terrestrial ecosystems are: <ul style="list-style-type: none"> - The improper solid waste disposal (municipal, industrial, healthcare and agricultural) due to lack of proper infrastructure, poor law enforcement and economic reasons. - Agro-industries that use excessive quantities of pesticides, fertilizers and agrochemicals. | <p>Industry can play a large role in reducing environmental impact and protecting ecosystems (solid waste disposal, GHG emission, use of harmful chemicals, soil & water contamination).</p> |
| <p>SDG 10: Reduced Inequalities</p> <ul style="list-style-type: none"> · Equity · Inclusion | <ul style="list-style-type: none"> - Strategy vision: By 2030, Lebanon’s biodiversity is valued and sustainably managed for the preservation and conservation of its ecosystems and habitats and the species they harbor, in order to adequately respond to anthropogenic and natural pressures, and to ensure Lebanese citizens equal access to ecosystem goods and services; - In order to improve biodiversity conservation and human livelihoods, empower local people and enhance ecosystem productivity, ecosystem restoration must be carried out. Ecosystem restoration consists of renewing and restoring degraded, damaged, or destroyed ecosystems and habitats such as quarries and burned forests. | <ul style="list-style-type: none"> - Recognizing rights to sustainable management of natural resources, enhancing values of biodiversity and related knowledge, and building an environment for equitable benefit-sharing has the potential to improve socioeconomic and political inequality among social groups (CBD, 2015); - Reducing the impact of extreme weather damages means less disproportional impact on the poor and vulnerable, particularly women, children, elderly; - Developing rural livelihood resilience and enhancing connectivity to prevent excessive rural to urban migration. |
| <p>Highly Relevant SDG</p> <p>SDG 11: Sustainable Cities and Communities</p> <ul style="list-style-type: none"> · Cities · Communities · Urban · Urbanization · Fuel efficient vehicles · Modal share shift · Public transportation · Accessibility | <ul style="list-style-type: none"> - Guiding Principle: Biodiversity is a key component of our cultural heritage; - Guiding Principle: Development programs should be ecologically sound and their impact on the environment and biodiversity very closely examined; - The causes behind extensive and unsustainable quarrying are the lack of awareness amongst quarry owners, the lack of law enforcement, urbanization that requires rocks from quarries to build houses, and socio-economic factors (income from rock selling). | <p>In addition to SDG 11 in Table 2:</p> <ul style="list-style-type: none"> - Protection of threatened species preserves and safeguards the country’s cultural and natural heritage; - Conservation of genetic diversity of native flora and fauna protects and safeguards natural heritage; - Reducing urban heat island effect through more trees and vegetation; reduces likelihood of flooding due to water flowing from high to low lying areas; - Integration of climate change impacts to development planning. |

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| <ul style="list-style-type: none"> · Mobility | | |
| <p>Highly Relevant SDG</p> <p>SDG 12: Sustainable Consumption and Production</p> <ul style="list-style-type: none"> · Consumption · Production · Output · Productivity · Efficiency | <p>Priority area: Communication, education and public awareness</p> <ul style="list-style-type: none"> - Nevertheless, the inequality in consumption patterns indicates that a large number of inhabitants fail to meet basic food, shelter, health and sanitation needs. For the purpose of achieving livelihood improvements, a larger number of Lebanon’s population must have greater access to natural resources through a significant improvement of resource efficiency and expansion of biocapacity without resource intensive production; - Raise the awareness of decision makers on the importance of biodiversity and its conservation, sustainable management, and promoting related education (Deputies, Ministers, Directors Generals, Heads of Departments and Heads of Services). | <p>In addition to SDG 12 in Table 2:</p> <ul style="list-style-type: none"> - Promote the sustainable management and efficient use of natural resources through protection of ecosystems; - A better understanding of the gap between the ecological footprint and biocapacity can lend to a better understanding of more efficient uses of natural resources; - Private sector engagement in sustainable consumption and production can greatly support ecosystem protection; - Incentives and legislation can support the private sector in adopting more environmentally friendly practices to support biodiversity actions; - Through effective awareness campaigns the private sectors can adopt more sustainable consumption strategies. |
| <p>SDG 13: Climate Change</p> <ul style="list-style-type: none"> · Climate Change · GHG emissions · Resilience · Mitigation · Adaptation · Nationally Determined Contribution (NDC) | <p>Priority area: Climate change</p> <p>Lebanon’s high altitudes, which provide refuge for many specialized species and niche ecosystems, will undoubtedly witness distribution shifts and in some cases disappearance of species due to climate change.</p> | <ul style="list-style-type: none"> - Climate change is mainstreamed in NBSAP; - Demonstrate how biodiversity adaptation measures directly increase resilience. |

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| Key Words | Description in the Policy/Strategy/Action Plan | Recommendation for Estimation of Impact/Integration of Impact |
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| <p><u>Highly Relevant SDG</u></p> <p>SDG 14: Life Below Water</p> <ul style="list-style-type: none"> · Water · Sea · Lakes · Streams · Rivers · Mediterranean · Marine life · Run-off · Water pollution · Coastal | <ul style="list-style-type: none"> - Marine species are being harmed by overfishing activities and illegal practices including the use of dynamites, small mesh size trawling nets and the massive collection of mollusks; - Pollution from various sources particularly affects the terrestrial, marine and coastal, and freshwater ecosystems; - Moreover, wetlands in Lebanon are important for sustaining people livelihoods, mainly: agriculture, fisheries, and drinking water supply. | <p>In addition to SDG 14 in Table 2:</p> <ul style="list-style-type: none"> - Biodiversity research will increase scientific knowledge of marine biodiversity and improve ocean health; - R&D and demonstrations on sustainable fishing and water tourism can help protect biodiversity under water. |

Table 4: Recommendation for Estimation of Impact of SDGs

| Key Words | Description in the Policy/Strategy/Action Plan | Recommendation for Estimation of Impact/Integration of Impact |
|---|---|---|
| <p><u>Primary SDG</u></p> <p>SDG 15: Life on Land</p> <ul style="list-style-type: none"> · Ecosystems · Biodiversity · Forests · Reforestation/ afforestation · Seed bank · Genetic | <p>Priority areas:</p> <ul style="list-style-type: none"> - threatened species - protected areas - sustainable management and use of natural ecosystems and resources - ecosystem restoration - access and benefit sharing - invasive alien species - mainstreaming biodiversity into national and sub-national policies and plans <ul style="list-style-type: none"> - Threatened species is seen as priority area for the country; - Guiding Principle: Biodiversity conservation is a moral responsibility that should be nourished to flourish with individuals, institutions, and public authorities; - By 2030, effective measures are in place to control the introduction and diffusion of Invasive Alien Species (IAS) into the environment; - Mainstreaming biodiversity means integrating biodiversity into decision making through including actions related to its conservation and sustainable use into sectoral strategies, plans and programmes. | <p>In addition to SDG 15 in Table 1:</p> <ul style="list-style-type: none"> - Increase institutional capacity to monitor illegal activity, particularly related to endangered species and illegal logging; protection of critical habitat for vulnerable species through regulatory protection; - Ecosystem valuation and biocapacity research can support effective initiatives aimed at the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems; - Ecosystem valuation and biocapacity research can support the knowledge base needed for sustainable forest protection and management; - Incentives can encourage private sector adoption of sustainable production and consumption practices; - Rehabilitation of degraded land can support the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems; - Established measures to control the introduction and diffusion of invasive alien species can protect land and water ecosystems; - Implement a robust resources mobilization strategy from all sources to finance biodiversity initiatives. |
| <p><u>Highly Relevant SDG</u></p> <p>SDG 16: Peace, Justice & Strong institutions</p> <ul style="list-style-type: none"> · Capacity · Legislation · Regulation · Legal framework · Policy · Participatory · Inclusive (decision-making) | <p>Priority area: Institutional and legal framework</p> <ul style="list-style-type: none"> - Finalization of the MoE draft law on Access to Lebanese biological and genetic resources and sharing of the benefits; - Development of legal monitoring and compliance procedures with defined roles and responsibilities. | <p>In addition to SDG 16 in Table 2:</p> <ul style="list-style-type: none"> - Species-specific conservation legislation and conservation action plans support more effective institutional capacity to protect threatened species; - Increase institutional capacity to monitor illegal activity, particularly related to endangered species and illegal logging; protection of critical habitat for vulnerable species through regulatory protection; - Legal framework and government policies are reviewed, updated and reinforced where necessary to ensure effective biodiversity |

Table 4: Recommendation for Estimation of Impact of SDGs

| Key Words | Description in the Policy/Strategy/Action Plan | Recommendation for Estimation of Impact/Integration of Impact |
|--|--|--|
| | | conservation and sustainable use of resources. |
| <p>Highly Relevant SDG</p> <p>SDG 17: Partnerships for the Goals</p> <ul style="list-style-type: none"> · Resource · Financing mechanism · Public-Private Partnerships | <p>Priority area: Resource mobilization</p> <ul style="list-style-type: none"> - Create incentives and establish a legislative framework for the private sector’s engagement in biodiversity actions; - Secure funding, internally or from international donors, to enable the rehabilitation of priority sites. | <p>In addition to SDG 17 in Table 2:</p> <ul style="list-style-type: none"> - Efforts to integrate biodiversity and ecosystems into national, subnational and sectoral development policies through NBSAPs and the contribution of NBSAPs into implementation of the SDGs, help enhance policy coherence (CBD, 2015); - Genetic diversity laws and regulation results in improved policy coherence; - Engage private sector to mobilize resources to finance biodiversity initiatives. |

Annex I: Lead Institution per SDG in Lebanon

To be determined: Lead institutions per theme are currently being determined. Results of the institutional leadership will be posted here in due time.

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| Theme: People | | Leading Institution: TBD | | | |
| 1 NO POVERTY  | 2 ZERO HUNGER  | 3 GOOD HEALTH AND WELL-BEING  | 4 QUALITY EDUCATION  | 5 GENDER EQUALITY  | 10 REDUCED INEQUALITIES  |
| Theme: Planet | | Leading Institution: TBD | | | |
| 6 CLEAN WATER AND SANITATION  | 7 AFFORDABLE AND CLEAN ENERGY  | 12 RESPONSIBLE CONSUMPTION AND PRODUCTION  | 13 CLIMATE ACTION  | 14 LIFE BELOW WATER  | 15 LIFE ON LAND  |
| Theme: Prosperity | | Leading Institution: TBD | | | |
| 8 DECENT WORK AND ECONOMIC GROWTH  | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE  | 11 SUSTAINABLE CITIES AND COMMUNITIES  | | | |
| Theme: Peace | | Leading Institution: TBD | | | |
| 16 PEACE, JUSTICE AND STRONG INSTITUTIONS  | | | | | |
| Theme: Data and Statistics | | Leading Institution: TBD | | | |
| Cross-cutting theme: | | | | | |
| 17 PARTNERSHIPS FOR THE GOALS  | | | | | |

Annex II: Indicators

A cohesive and integrated indicator framework that synchronizes SDG and NDC progress is essential for coordinated implementation and joint progress assessment.

Lebanon has yet to nationalize the SDG indicators which provides an opportunity to include climate focused indicators into the nationalized approach so that both agendas can be assessed through a mutual set of indicators.

The absence of nationalized SDG indicators withstanding, a robust database of national level data can be found through the SDG API database. The database provides data from global sources at the national level that correspond to the Global SDG Indicator Framework, making comparisons of SDG progress across countries easily accessible and consistent.

In addition to utilization of the SDG global indicator framework, additional indicators are needed to effectively and cohesively monitor both agendas. As part of this research, identification of the targets, goals, data points and/or indicators within the NDC, Third National Communication and within specific plans and policies that comprise Lebanon's NDC were identified to further provide a basis for developing an integrated indicator framework. The final product should be a combined list of indicators that incorporates the SDG global framework complemented by additional indicators that are climate focused, and germane to the goals of the specific plan/policy. These are identified in Table XX 'other potential indicators' for the SDG targets that are relevant to climate change.

The NBSAP identifies multiple indicators for each of the eighteen national targets. This set of indicators are a good starting point at considering the integration of biodiversity indicators with the SDG indicator framework. It is important to note that many of the indicators included in the NBSAP may be too granular or qualitative for inclusion in a final SDG/NDC indicator framework, therefore, only high-level indicators are suggested as potential indicators to be added to the SDG framework (Annex II).

| Annex II: NBSAP Indicator alignment with SDG Global Framework Indicators | | | |
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| National Target | NBSAP Impact Indicator | SDG Framework Indicator | Strength of relation |
| <p>Target 1: By 2030, the status of 75% of known flora and fauna species is identified and conservation actions are implemented on 50% of threatened species</p> <p>.....</p> <p>RELEVANT SDG- 15.5 15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species</p> | 1. Number of species (fauna and flora) listed in the IUCN Red List and national red list | 15.5.1: Red List Index | <p>Strong – both indicators incorporate the red list index</p> <p>Select NBSAP Target 1 indicators could be incorporated into a SDG/ NDC nationalized framework</p> |
| | 2. Number of data points/records in the national inventory of species | | |
| | 3. Number of species in the seed and gene banks databases | | |
| | 4. Number of related legislation and laws | | |
| | 5. Percent of known flora identified and conservation status assessed | | |
| | 6. Percent of known fauna identified and conservation status assessed | | |
| | 7. Percent of threatened species with conservation actions implemented | | |
| <p>Target 2: By 2030, the genetic diversity of 50% of important native fauna and flora is conserved in-situ and ex-situ</p> <p>.....</p> <p>RELEVANT SDG- 2.5 2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed</p> | 1. Number of species in the seed and gene bank databases | 2.5.1 Number of plant and animal genetic resources for food and agriculture secured in either medium- or long-term conservation facilities | <p>Strong- both aim to quantify genetic resources</p> <p>Select NBSAP Target 2 indicators could be incorporated into a SDG/ NDC nationalized framework</p> |
| | 2. Quantity of local species sold in local markets | | |
| | 3. Number of revised policies and laws related to conservation of endemic and economically important species | | |
| | 4. Percent of economically important fauna with conservation of their genetic diversity ensured (through in-situ and ex-situ measures) | | |
| | 5. Percent of economically important flora with conservation of their genetic diversity ensured (through in-situ and ex-situ measures) | | |
| | 6. Percent of endemic fauna with conservation of their genetic diversity ensured (through in-situ and ex-situ measures) | | |
| | 7. Percent of endemic flora with conservation of their genetic diversity ensured (through in-situ and ex-situ measures) | | |
| <p>Target 3: By 2030, the Implementation mechanism</p> | 1. Number of implemented decisions and procedures related to the Decree on “National | NO SDG INDICATOR | Weak- there are no SDG indicators that link to |

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| <p>of the Cartagena Protocol on Biosafety is operational</p> <p>.....</p> <p>RELEVANT SDG- N/A</p> | <p>Measures on Biosafety” issued</p> <p>2. Number of applications related to the import and use of LMOs submitted</p> <p>3. Number of approval related to the import and use of LMOs issued</p> <p>4. Number of trained staff in place to administer the national biosafety system</p> <p>5. Number of adequately equipped and certified laboratories</p> <p>6. Number of “risk assessment” conducted</p> <p>7. Ratio of risk assessment summary reports as against number of decisions on LMOs</p> <p>8. Number of submissions to the Biosafety Clearing House (BCH)</p> | | <p>biosafety</p> |
| <p>Target 4: By 2030, at least 20% of natural terrestrial and marine ecosystems are protected and all types of ecosystems are represented in the PA network</p> <p>.....</p> <p>RELEVANT SDG- 14.2 & 14.5 & 15.1 & 15.4</p> <p>14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans</p> <p>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</p> | <p>1. Percent area coverage of protected natural ecosystems</p> <p>2. Percent of all types of Lebanon’s ecosystems represented in the protected area (PA) network</p> <p>3. Number of management plans for different protected areas (Pas)</p> | <p>14.2.1 Proportion of national exclusive economic zones managed using ecosystem-based approaches</p> <p>14.5.1: Coverage of protected areas in relation to marine areas (Exclusive Economic Zones) (percent)</p> <p>14.5.1: Average proportion of Marine Key Biodiversity Areas (KBAs) covered by protected areas (percent)</p> <p>14.5.1: Protected marine area (Exclusive Economic Zones) (square kilometers)</p> <p>15.1.1: Forest area as a proportion of total land area (percent)</p> <p>15.1.1: Forest area (thousands of hectares)</p> | <p>Medium- both indicator sets aim to examine the extent of protected areas as a proportion of ecosystem type however, the SDG framework breaks it down by each ecosystem type more specifically. Further, the NBSAP includes an indicator on management plans which could be incorporated into a combined indicator set.</p> |

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| <p>RELEVANT SDG 15.1 & 15.4 15.1.2 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements</p> <p>15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development</p> | | <p>15.1.2: Average proportion of Terrestrial Key Biodiversity Areas (KBAs) covered by protected areas (percent)</p> <p>15.1.2: Average proportion of Terrestrial Key Biodiversity Areas (KBAs) covered by protected areas (percent)</p> <p>15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type</p> <p>15.4.1: Average proportion of Mountain Key Biodiversity Areas (KBAs) covered by protected areas (percent)</p> <p>15.4.2: Mountain Green Cover Index</p> <p>15.4.2: Mountain area (square kilometers)</p> | |
| <p>Target 5: By 2030, the total percent coverage of nature reserves is increased to reach at least 5% of Lebanon's area </p> <p>RELEVANT SDG 15.1.1 & 15.4 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements</p> | <p>1. Percent coverage of Lebanon's area by Nature Reserves</p> <p>2. Number of new laws establishing new nature reserves issued</p> | <p>See above</p> | <p>Medium- Nature reserves are not differentiated from protected areas in the SDG framework- therefore these are not included in the SDG framework but could be incorporated with SDG indicator 15.1</p> <p>Clarification between nature reserves and protected areas is needed</p> |

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| <p>15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development</p> | | | |
| <p>Target 6: By 2030, 50% of all natural ecosystems are sustainably managed and properly considered in spatial planning implementation</p> <p>.....</p> <p>RELEVANT SDG 15.2 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally</p> | <p>1. Number of EIAs and SEAs that account for impacts on biodiversity and ecosystem services</p> <p>2. Number of Management Plans issued for the natural areas of high biodiversity values (other than the sites classified as “Protected Areas”)</p> <p>3. Change in land use/land cover towards sustainable management over time</p> <p>4. Number of times biodiversity is mentioned in national plans across all sectors</p> <p>5. Number of and surface area of quarries and share of total quarries with biodiversity management/offset plans</p> <p>6. Amount of funds allocated for sustainable management</p> <p>7. Number of Master Plans addressing biodiversity and ecosystems</p> <p>8. Percent area of all natural ecosystems under sustainable management</p> <p>9. Percent of terrestrial spatial plans that include natural ecosystems</p> <p>10. Percent of marine spatial plans that include natural ecosystems</p> | <p>15.2.1: Proportion of forest area with a long-term management plan (percent)</p> <p>15.2.1: Proportion of forest area within legally established protected areas (percent)</p> <p>15.2.1: Forest area net change rate (percent)</p> <p>15.2.1: Above-ground biomass in forest per hectare (tonnes per hectare)</p> <p>15.2.1: Forest area certified under an independently verified certification scheme (thousands of hectares)</p> | <p>Medium- there is little overlap between the NBSAP and SDG indicators however, they both aim to get a better understanding of sustainable management. While the SDGs are just aimed at forested areas only, the NBSAP focuses on all ecosystems. An integrated framework could prioritize and combine indicators from both lists.</p> |
| <p>Target 7: By 2030, the gap between Lebanon’s ecological footprint and biocapacity is alleviated to reach an equal state</p> <p>.....</p> <p>RELEVANT SDG 15.2 15.5 Take urgent and significant action</p> | <p>1. Change in Lebanon’s footprint network</p> <p>2. Number and extent of Pas</p> <p>3. The gap between Lebanon's ecological footprint and biocapacity</p> | <p>See above</p> | <p>Weak- there are no SDGs indicators related to Eco footprints or biocapacity but these indicators could be added to SDG 15.2.</p> |

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| <p>to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species</p> <p>*** there is no direct alignment with an SDG but the NSAP indicators could be added to 15.2</p> | | | |
| <p>Target 8: By 2030, the private sector has taken steps to implement plans for sustainable production and consumption to mitigate or prevent negative impacts on ecosystems from the use of natural resources</p> <p>.....</p> <p>RELEVANT SDG 15.1 12.1 Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries</p> <p>*NBSAP indicators</p> | <p>1. Number of businesses that have plans for sustainable production and consumption to mitigate or prevent negative impacts on ecosystem from the use of natural resources</p> <p>2. Number of private establishments implementing sustainable production / consumption strategies</p> <p>3. Percentage of the plans that are being implemented</p> <p>4. Number of private sector establishments developing and/or implementing EIAs</p> <p>5. Number of ISO 14000 accredited establishments</p> | <p>12.1.1 Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies</p> <p>12.1.1: Countries with policy instrument for sustainable consumption and production (1 = YES; 0 = NO)</p> <p>12.1.1: Countries with coordination mechanism for sustainable consumption and production (1 = YES; 0 = NO)</p> <p>12.1.1: Countries with macro policy for sustainable consumption and production (1 = YES; 0 = NO)</p> | <p>Strong – both indicators sets utilize Sustainable Consumption and Production plans.</p> <p>Select NBSAP Target 8 indicators could be serve as a way to nationalize these indicators into a combined SDG/ NDC indicator framework by including looking at business level data</p> |
| <p>Target 9: By 2030, rehabilitation plans are implemented in at least 20% of degraded sites so that they can safeguard the sustained delivery of ecosystem services</p> <p>.....</p> <p>RELEVANT SDG 15.3 15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land</p> | <p>1. Amount of funds allocated for rehabilitation plans</p> <p>2. Percent of degraded sites with implemented rehabilitation plans</p> <p>3. Total number of sites requiring rehabilitation</p> | <p>15.3.1: Proportion of land that is degraded over total land area (percent)</p> | <p>Medium - both indicator sets look at degraded land however, the SDG indicator might be the best metric to determine degraded land overtime as proportion.</p> <p>Select NBSAP Target 9 indicators could be integrated could be</p> |

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| degradation-neutral world | | | combined |
| <p>Target 10: By 2030, the national law on access and benefit sharing related to is endorsed, operational and enforced</p> <p>.....</p> <p>RELEVANT SDG 15.6 15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed</p> | 1. National law on access and benefit sharing of biological and genetic resources is adopted | 2.5.1 Number of plant and animal genetic resources for food and agriculture secured in either medium- or long-term conservation facilities | Medium- Sharing of benefits are included in the SDG indicators and NBSAP however, the SDG provides additional indicators that overlap with NBSAP Target 2 dealing with genetic resource inventories. |
| | 2. Number of applications for ABS submitted | 2.5.2 Proportion of local breeds classified as being at risk, not at risk or at unknown level of risk of extinction | |
| | 3. Number of prior informed consent (PIC) issued by Lebanon related to ABS | | |
| | 4. Number of signed ABS agreements for exchange of biological resources | | |
| | 5. Number of infringements | 15.6.1 Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits | These two sets of indicators can be prioritized and combined accordingly |
| <p>Target 11: By 2030, effective measures are in place to control the introduction and diffusion of IAS into the environment</p> <p>.....</p> <p>RELEVANT SDG 15.8 15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species</p> | 1. Number of revised policies and laws and legal texts issued that cover IAS | 15.8.1 Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species | Medium- Invasive species are included in both SDG and NBSAP indicators sets, however, the NBSAP has a more extensive set of indicators that could be the basis for a nationalized and integrated set of indicators |
| | 2. Number of measures in place to control the introduction and diffusion of IAS into the environment | | |
| | 3. Trends in number of invasive species | | |
| | 4. Number of trainings and capacity building seminars related to IAS | | |
| | 5. Number of awareness, press, events, media releases, Google trends in Lebanon, related to the topic | | |
| <p>Target 12: By 2030, 100% of school and university students and at least 60% of the public are aware of the importance of biodiversity, its values, and the need for its conservation and sustainable use</p> <p>.....</p> | 1. Number of students enrolled in higher education courses related to biodiversity and environment | 4.7.1 & 12.8.1 Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) | Weak - both indicator deal with education however, the NBSAP established indicators specifically related to ecosystems. However, some of the NBSAP indicators could be combined with SDG 4.7.1 & 12.8.1 for an integrated |
| | 2. Number of visitors to Nature Reserves (in particular schools/ universities) | | |
| | 3. Number of environmental clubs in schools and universities, and number of club members | | |
| | 4. Percent of school and university students and | | |

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| <p>RELEVANT SDG 4.7 & 12.8 **NBSAP Target is narrower in its scope than the Sustainable Development Targets as it focuses specifically on biodiversity but it can be linked to:</p> <p>SDG 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development</p> <p>SDG 12.8 By 2030, ensure that people everywhere have the relevant reflected in the Sustainable Development Target. information and awareness for sustainable development and lifestyles in harmony with nature</p> | <p>the public who are aware of the importance of biodiversity, its values, and the need for its conservation and sustainable use</p> <p>5. Number of visitors to biodiversity related websites and CHM website</p> <p>6. Number of publications and media posts related to biodiversity (example: MEA to include awareness about Lebanon’s biodiversity and nature reserves in its in-flight advertisements)</p> <p>7. Number of shows/documentaries about biodiversity and the environment</p> | <p>student assessment</p> | <p>SDG/NDC framework</p> |
| <p>Target 13: By 2030, government entities mainstream biodiversity priorities (conservation, benefits sharing, pressure alleviation, sustainable management, sustainable use of natural resources) into their policy making processes and their implementation</p> <p>.....</p> <p>RELEVANT SDG 15.9</p> <p>15.9 By 2020, integrate ecosystem and</p> | <p>1. Number of SEAs completed and approved by MoE</p> <p>2. Number of sectoral policies, plans and strategies addressing biodiversity</p> <p>3. Number of staff dedicated to environmental management in sectoral ministries</p> <p>4. Number of government entities which have included biodiversity priorities into their policy making processes</p> | <p>15.9.1 Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011–2020 (Target 2 - By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into</p> | <p>High- both indicator sets seek to understand the extent to which biodiversity is addressed in national and local planning. These indicators can be prioritized and combined to form and integrated set of indicators</p> |

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| <p>biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts</p> | | <p>national accounting, as appropriate, and reporting systems)</p> | |
| <p>Target 14: By 2030, vulnerable ecosystems to climate change are identified and adaptation plans are developed and implemented</p> <p>.....</p> <p>RELEVANT SDG 13.2 13.2 Integrate climate change measures into national policies, strategies and planning</p> | <p>1. Percent of ecosystem types assessed for vulnerability to climate change</p> <p>2. Percent of ecosystems vulnerable to climate change with adaptation plans being implemented</p> <p>3. Percent of national plans and strategies that consider climate change adaptation</p> <p>4. Number of sectoral plans addressing climate change</p> | <p>13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)</p> | <p>Medium - both sets of indicators aim to determine the extent to which adaptations have been developed and the extent to which climate change is addressed. However, the SDG framework looks at it from just a national perspective. Therefore these indicators could easily be prioritized and combined to provide an integrated and nationalized set of indicators for SDG & NDC, M&E</p> |
| <p>Target 15: By 2030, research on biodiversity is improved in Lebanon, and research outputs and biodiversity related reports are shared through a centralized platform (from both public and private institutions), which is updated and made accessible to the public (CHM)</p> <p>.....</p> <p>RELEVANT SDG No direct alignment with an SDG target</p> | <p>1. Number of publications related to biodiversity by type of publication: scientific publications, textbooks, general interest, children’s books, etc.</p> <p>2. Number of visitors to the CHM created platform</p> <p>3. Number of contributors to the CHM, posting biodiversity related research and publications</p> <p>4. Number of biodiversity related research, studies and publications posted in the CHM</p> <p>5. Number of relevant posts/tweets/etc. on social media</p> | <p>No SDG indicator alignment</p> | <p>Weak - there is no indicator alignment with the SDGs specifically for biodiversity research and these indicators may be too granular for an integrated bigger picture SDG & NDC indicator framework</p> |

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| | 6. Number of publications mentioned in local media | | | |
| | 7. Amount of budget allocated for related research | | | |
| | 8. Number of projects allocated for related research | | | |
| | 9. Amount of budget allocated for scholarships and grants related to research studies (Number of announcements/ Number of grants etc.) | | | |
| | 10. Number of downloads of the publications and various documents from the CHM | | | |
| <p>Target 16: By 2030, traditional knowledge, uses, and practices of local communities relevant to biodiversity and sustainable use of resources are documented, preserved, and shared/published</p> <p>.....</p> <p>RELEVANT SDG 2.5</p> <p>2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed</p> | 1. Number of actions taken to preserve traditional knowledge, uses, and practices of local communities | 2.5.1 Number of plant and animal genetic resources for food and agriculture secured in either medium- or long-term conservation facilities | <p>Medium - See Target 2 which provides a clearer alignment of indicators centered on plant and genetic species. The SDG framework does not include indicators for determining the extent to which traditional knowledge sharing happens, which is included in this NBSAP target 16. Therefore, a combined SDG/NDC indicator framework could include some of the indicators from target 16 pertaining to traditional knowledge</p> | |
| | 2. Number of documents (articles/ books) published on traditional knowledge, uses, and practices of local communities relevant to biodiversity and sustainable use of resources | 2.5.2 Proportion of local breeds classified as being at risk, not at risk or at unknown level of risk of extinction | | |
| | 3. Number of public conferences and number of documented public events on traditional knowledge, uses, and practices of local communities relevant to biodiversity and sustainable use of resources | | | |
| | 4. Number of documentaries relevant to traditional knowledge, uses, and practices of local communities relevant to biodiversity and sustainable use of resources | | | |
| | 5. Amount of budget allocated for research on traditional knowledge, uses, and practices of local communities relevant to biodiversity and sustainable use of resources | | | |

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| <p>Target 17: By 2030, the relevant institutional and legal framework and government policies are reviewed, updated and reinforced where necessary to ensure effective biodiversity conservation and sustainable use</p> <p>Relevant SDG 13.3</p> <p>13.3.2 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning</p> | 1. Number of environmental infractions related to the sectoral plans leading to court-cases | 13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions | Medium- The NBSAP Target is narrower in its scope than the Sustainable Development Targets as it focuses specifically on biodiversity but it can be linked SDG 13.2. Both sets of indicators seek to determine institutional capacity but they diverge in scope and content. These indicators could be prioritized and refined to cohesively address the extent to which institutional and regulatory frameworks are in place |
| | 2. Number of relevant laws reviewed, updated and reinforced where necessary to ensure effective biodiversity conservation and sustainable use | | |
| | 3. Number of government policies reviewed, updated and reinforced where necessary to ensure effective biodiversity conservation and sustainable use | | |
| <p>Target 18: Target 18: By 2030, Lebanon has developed and is implementing a robust resource mobilization strategy with a sustainable mechanism to finance biodiversity initiatives</p> <p>Relevant SDG 15.a & 15.b</p> <p>15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems</p> <p>15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation</p> | 1. MoE budget dedicated to NBSAP | 15.a.1 & 15.b.1: Total official development assistance for biodiversity, by donor countries (millions of constant 2017 United States dollars) | Medium - both sets of indicators seek to determine resource mobilization but the NBSAP looks at both internal resources as well as international resources. Therefore, these indicators could be prioritized and combined to provide an integrated SDG |
| | 2. Budget of other ministries for the implementation of the NBSAP | 15.a.1 & 15.b.1: Total official development assistance for biodiversity, by recipient countries (millions of constant 2017 United States dollars) | |
| | 3. Municipal budgets related to biodiversity conservation and sustainable use | | |
| | 4. Budget allocated to the NEF and to the NBSAP | | |
| | 5. Financial contributions from international sources for the implementation of the NBSAP | | |
| | 6. Financing of biodiversity initiatives by the private sector | | |
| | 7. Percent increase in financial resources for biodiversity initiatives from 2015 baseline | | |

Annex III: SDG List

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| PEOPLE |  <p>1 NO POVERTY</p> <p>Goal 1. End poverty in all its forms everywhere</p> | 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day |
| | | 1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions |
| | | 1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable |
| | | 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance |
| | | 1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters |
| | | 1.a Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions |
| | | 1.b Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions |
| PEOPLE |  <p>2 ZERO HUNGER</p> <p>Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture</p> | 2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round |
| | | 2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons |
| | | 2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment |
| | | 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality |
| | | 2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed |
| | | 2.a Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries |
| | | 2.b Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round |
| 2.c Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility | | |

3 GOOD HEALTH AND WELL-BEING



Goal 3.
Ensure healthy lives and promote well-being for all at all ages

- 3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births
- 3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births
- 3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases
- 3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being
- 3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol
- 3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents
- 3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes
- 3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all
- 3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
- 3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate
- 3.b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all
- 3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States
- 3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks

4 QUALITY EDUCATION



Goal 4.
Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

- 4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes
- 4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education
- 4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
- 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
- 4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations
- 4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy
- 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development
- 4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all
- 4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries
- 4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States

PEOPLE

5 GENDER EQUALITY



Goal 5.
Achieve gender equality and empower all women and girls

- 5.1 End all forms of discrimination against all women and girls everywhere
- 5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation
- 5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation
- 5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate
- 5.5 Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
- 5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences
- 5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws
- 5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women
- 5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels

PEOPLE

10 REDUCED INEQUALITIES



Goal 10.
Reduce inequality within and among countries

- 10.1 By 2030, progressively 10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average of the population at a rate higher than the national average
- 10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status
- 10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard
- 10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality
- 10.5 Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations
- 10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions
- 10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies
- 10.a Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements
- 10.b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes
- 10.c By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent

PLANET

6 CLEAN WATER AND SANITATION



Goal 6.
Ensure availability and sustainable management of water and sanitation for all

- 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all
- 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
- 6.3 By 2030, 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
- 6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
- 6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
- 6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
- 6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
- 6.b Support and strengthen the participation of local communities in improving water and sanitation management

PLANET

7 AFFORDABLE AND CLEAN ENERGY



Goal 7.
Ensure access to affordable, reliable, sustainable and modern energy for all

- 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services
- 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
- 7.3 By 2030, double the global rate of improvement in energy efficiency
- 7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology
- 7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Goal 12.
Ensure sustainable consumption and production patterns

- 12.1 Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries
- 12.2 By 2030, achieve the sustainable management and efficient use of natural resources
- 12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses
- 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
- 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
- 12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle
- 12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities
- 12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature
- 12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production
- 12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products
- 12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities

13 CLIMATE ACTION



Goal 13.
Take urgent action to combat climate change and its impacts

- 13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
- 13.2 Integrate climate change measures into national policies, strategies and planning
- 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
- 13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible
- 13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities



Goal 14.
Conserve and sustainably use the oceans, seas and marine resources for sustainable development

- 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
- 14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans
- 14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels
- 14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics
- 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
- 14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation
- 14.7 By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism
- 14.a Increase scientific knowledge, develop research capacity and transfer marine 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 to the development of developing countries, in particular small island developing States and least developed countries
- 14.b Provide access for small-scale artisanal fishers to marine resources and markets
- 14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, 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



Goal 15.
Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

- 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements
- 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally
- 15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world
- 15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development
- 15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species
- 15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed
- 15.7 Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products
- 15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species
- 15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts
- 15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems
- 15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation
- 15.c Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities

8 DECENT WORK AND ECONOMIC GROWTH



Goal 8.
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

- 8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries
- 8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors
- 8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services
- 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead
- 8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
- 8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training
- 8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms
- 8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment
- 8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products
- 8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all
- 8.a Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries
- 8.b By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



Goal 9.
Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

- 9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all
- 9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries
- 9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets
- 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
- 9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending
- 9.a Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States
- 9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities
- 9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020

11 SUSTAINABLE CITIES AND COMMUNITIES



Goal 11.
Make cities and human settlements inclusive, safe, resilient and sustainable

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| 11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums |
| 11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons |
| 11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries |
| 11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage |
| 11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations |
| 11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management |
| 11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities |
| 11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning |
| 11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels |
| 11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials |

16 PEACE, JUSTICE AND STRONG INSTITUTIONS



Goal 16.
Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

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| 16.1 Significantly reduce all forms of violence and related death rates everywhere |
| 16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children |
| 16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all |
| 16.4 By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime |
| 16.5 Substantially reduce corruption and bribery in all their forms |
| 16.6 Develop effective, accountable and transparent institutions at all levels |
| 16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels |
| 16.8 Broaden and strengthen the participation of developing countries in the institutions of global governance |
| 16.9 By 2030, provide legal identity for all, including birth registration |
| 16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements |
| 16.a Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence & combat terrorism & crime |
| 16.b Promote and enforce non-discriminatory laws and policies for sustainable development |

17 PARTNERSHIPS FOR THE GOALS



Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

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| 17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection |
| 17.2 Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of ODA/GNI to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries |
| 17.3 Mobilize additional financial resources for developing countries from multiple sources |
| 17.4 Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress |
| 17.5 Adopt and implement investment promotion regimes for least developed countries |
| 17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism |
| 17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed |
| 17.8 Fully operationalize the technology bank and science, technology and innovation capacity building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology |
| 17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation |
| 17.10 Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda |
| 17.11 Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020 |
| 17.12 Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access |
| 17.13 Enhance global macroeconomic stability, including through policy coordination and policy coherence |
| 17.14 Enhance policy coherence for sustainable development |
| 17.15 Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development |
| 17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries |
| 17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships |
| 17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts |
| 17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries |

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