

Sector: Agriculture



SDG-NDC Synchronization: Assessment and Recommendations

How can the Nationally Determined Contributions on Climate Change 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 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: Agriculture
Sub-sector: Agriculture
Source document: Ministry of Agriculture Strategy 2015 - 2019
Ministry: Ministry of Agriculture
URL: <http://extwprlegs1.fao.org/docs/pdf/leb149670.pdf>

Plan/ Policy Overview

The agricultural sector plays a vital role in contributing to sustainable development and the management of natural resources. The sector also plays a large role in the economic stability of low-income workers. The Agriculture Strategy 2015-2019 builds upon the predecessor Agriculture Strategy 2010-2014, with a mission to, “improve the performance of the agricultural sector contributing to the economic, social, environmental, and sustainable rural development of Lebanon” (Ministry of Agriculture, 2015). The agriculture strategy throughout its eight main courses of action, places a strong emphasis on multiple sustainable development dimensions and aligns well with many SDGs including inclusion of poverty, economic development, youth and climate change strategies. The plan also pays special attention to education, and gender (which is almost always coupled with youth). Included as a main course of action is addressing climate change which details specific strategies for addressing impacts including introducing adaptation measures; conducting studies to estimate greenhouse gas emissions from the agricultural sector, land use changes and forestry. The Ministry of Agriculture (MoA)’s mission statement demonstrates close alignments with the SDGs as such, “MoA adopts the principles of good governance for the development of the agricultural sector in view of ensuring food security including food safety, reducing poverty and rural-urban migration, creating job opportunities, and increasing efficiency and sustainable use of natural resources” (Ministry of Agriculture, 2015).

Links to Climate Change and Sustainable Development

In Lebanon, water scarcity is a challenging issue, where 70% of available water is used for agriculture. Issues with water scarcity will only be exacerbated by climate change and therefore, the agricultural sector will be put under tremendous strain, and is therefore a key sector in formulating adequate adaptation strategies in response to climate change. Lebanon’s Nationally Determined Contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement, makes mention of adaptation measures in the agriculture sector, specifically the below:

Overarching objective: Towards sustainably managed forest resources, safeguarded ecological integrity, and economic and social development for the benefit of present and future generations. This will be achieved by (only agriculture actions mentioned):

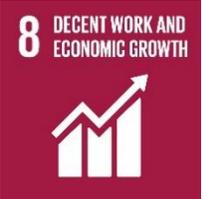
- Rehabilitating irrigation canals
- Promoting Good Agricultural Practices through the support of organic farming and obtaining quality certificates
- Developing an early warning system for agricultural pests and climatic conditions

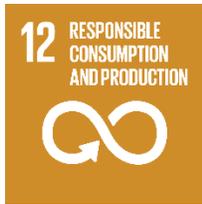
The following assessment identifies how the specific actions in the Agriculture Strategy relate to the SDG targets (Tables 1 & 2). It identifies how more efficient irrigation systems, for example, can positively impact SDG targets.

Table 1: Primary SDG Target

Relevant SDG	How does the Agriculture Strategy contribute to this SDG? (examples)
 <p>2 ZERO HUNGER</p>	<ul style="list-style-type: none"> - Climate-smart agriculture practices, which improve food security with farming techniques has led to an increase in small-holder profitability - Understanding crop variety demand and production capacity will expand the agricultural sector - Expansion of agricultural land can expand food supply thus decrease the number of people suffering from hunger and ensure food security - Ensure sustainable food production systems through sustainable forest management and use of resources - Promotion of good governance of pasturelands can increase productivity and support income of small-scale producers - Modernization of the irrigation system can increase agricultural productivity and incomes - R&D programs to enhance water efficiency, modernize irrigation, deficient water irrigation, and crop productivity can help ensure climate resiliency of food production, therefore protecting against food insecurity and inflation - Early warning programs to enhance crop/animal/human resiliency to climate change can protect the livelihood and productive capacity of the poor - Improved research on biodiversity of pastoral lands and exploited forests can help to determine agricultural practices that help to maintain ecosystems and strengthen the capacity for climate change adaptation

Table 2: Highly Relevant SDG Targets

Relevant SDG	How does the Agriculture Strategy contribute to this SDG? (examples)
 <p>1 NO POVERTY</p>	<ul style="list-style-type: none"> - Improving resiliency of the poor engaged in climate sensitive livelihoods through reduction in use of inputs through efficiency measures (e.g., water efficiency and recycling, better soil management) - Developing national plans for the conservation and expansion of agriculture and irrigated areas can support income generation for low-income workers - Extension programs can provide training programs to diversify livelihoods (e.g. from fisheries to tourism) may be designed to be gender-sensitive and targeted to poor communities living in coastal areas
 <p>3 GOOD HEALTH AND WELL-BEING</p>	<ul style="list-style-type: none"> - Treating wastewater for agriculture purposes will minimize the risk of exposure to water-borne diseases - Soil and water contamination is reduced through treating wastewater utilized for agriculture purposes - Increase in capacity to collect and analyze data for monitoring of pollution levels help reduce communicable diseases caused by water and air pollution (e.g., respiratory disease, vector borne and water borne disease outbreaks)
 <p>8 DECENT WORK AND ECONOMIC GROWTH</p>	<ul style="list-style-type: none"> - Increase in productivity through efficiency in use of inputs (lower average unit cost) - Strengthening forest management can contribute to more sustainable production and consumption of forest products - Extension programs can enhance skills and agricultural practice thus increasing productivity, economic growth and GDP - Research that supports obtaining higher levels of sustainable agricultural productivity



- Promote good agricultural practices through the support of organic farming and obtaining quality certificates
- Good forest management promotes the efficient use of natural resources
- Increase the awareness on the economic and environmental importance of forests
- Rationalize the harvest and investment of wood and non-wood forest products
- Develop knowledge on good management and sustainable use of forests



- Integration of climate change impacts to development planning
- Studies on biodiversity in ecosystems of pastoral lands and exploited forests can help support the protection of natural habitats
- Improving the conservation of biodiversity and genetic resources can support efforts to conserve and restore terrestrial and freshwater ecosystems
- Strengthen the research on biodiversity and plant genetic resources
- Increasing crop resilience and improved soil management improves biodiversity

Summary of Recommendations

Agriculture strategies should explicitly address linkages to specific SDG targets, and the NDC goals. In doing so, there should be narrative that focuses on the plan's broader societal goals and impact on addressing climate change. This assessment found that agricultural strategies are highly relevant to at least thirty-nine SDG targets and advances the NDC goals in reducing GHG emissions, 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, agriculture is a primary source of income and employment in rural areas reaching up to 25 percent of the labor force and representing 80 percent of its GDP. Socio-economic stability can be maintained for low-income workers through introducing more sustainable agricultural processes that reduce environmental impact, increases resiliency, and uses water and land resources more efficiently (SDGs 1, 2, 6 and 12).

Future iterations of the Agricultural Strategy 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 the agricultural sector 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, making more efficient use of natural resources (SDG 12) by modernizing the irrigation system might take precedent over expanding agricultural land to avoid conflicting land uses and potential losses to forests, and valuable ecosystems which could adversely impact SDG 15 (life on land).
- Additionally, approaching agriculture from a supply and demand approach, as a means to address hunger and alleviate food insecurity and malnutrition (SDG 2) might result in different prioritization of strategies such as prioritization of crop and seed selection, nutritious high yield crops, addressing affordability, and tackling food waste.
- Further, agricultural key indicators should be refined and synthesized with other plans and policies, to include a broader assessment of meeting SDG targets and NDC goals.

- 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 agriculture 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 agriculture 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 agricultural initiatives could have on the SDGs.

Table 3: Potential Negative Linkages to SDGs

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	If drought assistance/crop insurance is subsidized ,this can create moral hazard and distributional inequalities if not appropriately administered
6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	Increasing agricultural land can increase demand for water impacting water related ecosystems
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 15.5 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	Expansion of agricultural land can adversely impact terrestrial and inland freshwater ecosystems

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

A key word search and review of the Agriculture Strategy 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, many agricultural measures have strong linkages to responsible consumption and production (SDG 8) but these linkages are not included as part of the Agriculture Strategy narrative. Likewise, education and awareness raising plays a central role in the strategy, however, the narrative does not place it in the context of sustainable development. The following is an assessment of sustainable development and climate change language included the Agriculture Strategy 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>Highly Relevant SDG</p> <p>SDG One: No Poverty</p> <ul style="list-style-type: none"> · Low-income · Poor · Poverty · Disadvantaged · Underprivileged 	<ul style="list-style-type: none"> - “MoA adopts the principles of good governance for the development of the agricultural sector in view of ensuring food security including food safety, reducing poverty and rural-urban migration, creating job opportunities, and increasing efficiency and sustainable use of natural resources”; - Agriculture is a major cornerstone in rural development, as it represents a primary source of income and employment in rural areas. It plays an important role in the fight against poverty in these regions, where several experiences from other countries showed that, growth in agricultural GDP has been more effective at reducing poverty compared to that originating from other sectors, thus contributing to social stability; - Several social challenges remain significant to the agricultural sector in Lebanon. These include: Existence of vulnerable groups (especially youth and women) which are especially prone to poverty; - To address these social challenges, the agricultural sector can offer great potential in terms of employment generation and poverty reduction. It is therefore of utmost importance to address rural and sustainable development priorities while elaborating the agriculture sector policy; - Encouraging youth to engage in agriculture-related investments, increasing job opportunities and generating income in rural areas, and reducing rural-urban migration in the framework of an integrated rural development approach; - Furthermore, several local and international NGOs, the Chambers of Commerce, Industry and Agriculture, private companies, and universities and research institutions are implementing projects in support to agriculture and delivering a wide range of extension services to farmers and rural communities, from product specific extension to the integrated development extension targeting especially poor rural communities. 	<p>In addition to SDG 1 in Table 2:</p> <ul style="list-style-type: none"> - Sustainable planning and management of pasture lands can increase productive and income potential; - Improve resiliency of the poor engaged in climate sensitive livelihoods through the use of alternative water and energy sources; - Providing farmers with better extension services can help to break the cycle of low input, low output subsistence agriculture; - Build the resilience of the poor through improved extension services that provide technical information to farmers, introduces the conservation agriculture, good production practices, and responds to climate change effects on agriculture.

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Key Words	Description in the Policy/Strategy/Action Plan	Recommendation for Estimation of Impact/Integration of Impact
<p>Primary SDG</p> <p>SDG Two: Zero Hunger</p> <ul style="list-style-type: none"> · Hunger · Food access · Food security · Food affordability · Agricultural Productivity 	<ul style="list-style-type: none"> - “MoA adopts the principles of good governance for the development of the agricultural sector in view of ensuring food security including food safety, reducing poverty and rural-urban migration, creating job opportunities, and increasing efficiency and sustainable use of natural resources”; - climate change has adverse effects on water availability, pastures and their carrying capacity, and hence productivity and cost of production; - Course of action II: increase productivity and competitiveness of the Lebanese agricultural products; - Nine areas of intervention were identified in order to increase the productivity and competitiveness of the Lebanese agricultural products. 	<p>In addition to SDG 2 in the Table 1:</p> <ul style="list-style-type: none"> - Expanding agricultural land can lead to an increase in productivity and incomes especially when linked to other incentive programs; - Plans to manage and improve rangelands can increase productive capacity and incomes; - Integrated and sustainable management of pasturelands can support more sustainable production and increase productivity; - Increased water efficiency can increase agricultural productivity thus increasing access to food; - Combat desertification through more efficient use of water resources; - Biodiversity research and knowledge sharing supports resilient seed proliferation; - Awareness campaign conducted for farming communities on the importance of conservation and good use of plant genetic resources; - Innovative insurance schemes protect farmers against catastrophic losses, and help them plan for the future.

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<p>Highly Relevant SDG</p> <p>SDG Three: Good Health and Well-being</p> <ul style="list-style-type: none"> · Environment · Health · Pollution 	<ul style="list-style-type: none"> - Poor wastewater management, treatment and high operation and management costs of treatment plants led to the direct use of untreated wastewater in irrigation, which is posing public health risks and polluting the environment; - The poor conditions of slaughterhouses in terms of public health and productivity, and the reduced capacity to come-up with new processed products; - Provision of safe and quality food from domestic production by ensuring sufficient food supply of locally produced food and the development of food safety systems through the Development of the legislative and operational framework of controllers and inspectors, and health juridical control; - Decrease the rate of food poisoning cases in hospitals. 	<p>In addition to SDG 3 in Table 2:</p> <ul style="list-style-type: none"> - Early warning system for agricultural pests, climatic conditions and agricultural extension to include an additional number of risk analysis and means of communication can mitigate health risks; - R&D that supports the development of early warning systems and health risk reduction.
<p>SDG Four: Quality Education</p> <ul style="list-style-type: none"> · Education · Awareness raising · Youth 	<ul style="list-style-type: none"> - Re-activating agricultural extension services and education: The regional extension centers have increased to a total of 28 distributed all over Lebanon. These centers were staffed and equipped, and the extension agents were trained. The agricultural schools were restructured and their curricula reviewed and unified; - There is a number of food and agriculture universities and institutes that provide high and specialized technical education and professionals; - The public agricultural extension service possesses an important infrastructure and good geographical coverage all over the Lebanese agricultural areas. It relies on 28 agricultural centers, 7 agricultural technical schools, and 3 agricultural service centers covering all districts, with the mission to deliver agricultural extension, education and training; - Course of Action: Development of a pluralistic extension system with a shared vision and an integrated approach in agricultural education, research and extension, which responds to the technical and information needs of farmers; - Course of Action: Activation of the official technical agricultural 	<ul style="list-style-type: none"> - Ensure youth, women and adults have the necessary education and skills for sustainable and productive farming; - Awareness programs integrated in the curriculum can empower children to better respond to threats of climate change; - Creating opportunities for girls and women through increased education; - Biodiversity research of unprotected ecosystems can lend to the overall body of knowledge on sustainable development and climate adaptation; - Strengthened institutional capacity can help create agricultural educational opportunities for women and youth, and provide support to small-scale farmers and producers.

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	<p>education according to market demand through the Formulation of a policy for the development of the official technical agricultural education; Strengthening the management of agricultural schools by updating the related legislative texts, enhancing the schools infrastructure and equipment, improving the schools management system to be in line with the international standards, training of teaching staff and school directors on the new management system, and training of teaching staff, technicians and trainers;</p> <ul style="list-style-type: none">- Elaborate new educational programmes on fishing and aquaculture;- Strengthening agricultural extension and education;- Establish a national network for the management and sharing of extension knowledge under the auspices of the Ministry of Agriculture, and managed by the Service of Education and Extension;- Update the legislation including agricultural schools internal bylaws and financial system and the Education Act;- Elaboration of a plan to develop agricultural infrastructure for schools;- Activating cooperation between agricultural technical education and training and LARI and the Faculty of Agriculture at the Lebanese University and a number of agricultural institutions.	

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Key Words	Description in the Policy/Strategy/Action Plan	Recommendation for Estimation of Impact/Integration of Impact
<p>SDG Five: Gender Equality</p> <ul style="list-style-type: none"> · Women · Gender · Vulnerable groups · Rural communities 	<ul style="list-style-type: none"> - Providing support to small-scale farmers and producers, and encouraging youth and women to engage in agriculture-related investments, bringing new blood in the agricultural sector through: the support of the small and fruit trees farmers soft loans and guarantee fund in collaboration with KAFALAT; and the preparation and dissemination of feasibility studies for a number of agricultural projects; - Several social challenges remain significant to the agricultural sector in Lebanon. These include: Existence of vulnerable groups (especially youth and women) which are especially prone to poverty; - Increase in the number of small farmers, youth and women benefiting from soft loans; - Preparation of feasibility studies for a number of agricultural projects and make them available to young people and women; - Sensitize small producers, women and youth about the agricultural soft loans and guarantee funds and the required conditions of applications; - Encouraging youth and women to engage in agriculture-related investments. 	<ul style="list-style-type: none"> - Inclusion of women in extension programs can increase adaptive capacity; creating opportunities for girls and women through increased education; - Creating opportunities for girls and women through increased education; - Ensuring inclusion of women in climate change adaptation programs; - Provision of social safety nets, access to emergency response and disaster relief goods and services help cope with economic losses from extreme events, dampen impact on the vulnerable (women included).
<p>SDG Six: Clean Water Sanitation</p> <ul style="list-style-type: none"> · Clean water · Drinking water · Wastewater · Water quality 	<p>Poor wastewater management, treatment and high operation and management costs of treatment plants led to the direct use of untreated wastewater in irrigation, which is posing public health risks and polluting the environment.</p>	<ul style="list-style-type: none"> - Improvement in water efficiency (e.g. through use of treated water for irrigation purposes); - Wastewater treatment allows for safe and efficient reuse of water resources.

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Key Words	Description in the Policy/Strategy/Action Plan	Recommendation for Estimation of Impact/Integration of Impact
<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"> - Modernizing the irrigation system in Lebanon and encouraging the use of alternative sources of water and energy in agriculture; - Rising energy prices forcing people living in altitude to find alternative solutions such as wood for heating during the winter, and forest fires; - Activating the use of treated wastewater in agriculture; and promoting the use of renewable energy in agriculture and irrigation; - Elaborate and implement a plan for the use of alternative energy in agriculture; - Establish 28 demonstration plots for renewable energy use in irrigation (1 in each agricultural center); - Conduct field days to disseminate information about the use and maintenance of renewable energy projects in irrigation. 	<p>No further recommendations</p>
<p><u>Highly Relevant SDG</u></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"> - Agriculture is a catalyst for the creation of employment in several related sectors in the rural regions such as rural services, transport, communication, education, tourism, etc.; - Stabilize and prevent the decrease in farmers' income; - Increase household income deriving from agricultural and fishing activities in rural areas; - Additional problems include the high variability of income from agricultural activities leading to market instability, limited farmers' negotiation power, and the large income disparities between producers and traders; - Agriculture is a catalyst for the creation of employment in several related sectors in the rural regions such as rural services, transport, communication, education, tourism, etc.; - Increase household income deriving from agricultural and fishing activities in rural areas. 	<p>In addition to SDG 8 in Table 2:</p> <ul style="list-style-type: none"> - Capacity building to mainstream climate change into development plans, and ensure sustainable, inclusive, and rapid economic growth; - Improvement in water efficiency for irrigation through the use of renewable and alternative energy source; - Extension programs can enhance skills and agricultural practice thus increasing productivity, economic growth and GDP; - Improved negotiation skills can enhance capacity for international trade thereby increasing economic output; - Enhancing international trade opportunities can increase GDP; - Expanding agricultural land can contribute to an increase in GDP.

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<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"> - Enhancing domestic marketing channels through strengthening the wholesale markets, developing farmers and agricultural cooperatives markets, promoting contract farming, and carrying out advertising campaigns to promote the consumption of Lebanese agricultural products; - Increase in agricultural exports by 10 percent in 2019 (567,000 tons in 2013); - Conversion of 25,000 hectares into irrigated agricultural land in 2019; - Increase in the number of small farmers, youth and women benefiting from soft loans; - Advertising campaigns to promote the consumption of Lebanese agricultural products; - Assess the consumption and demand for fishing and aquaculture products and means to increase their added value; - Lebanon is considered a major food importer, with local production satisfying only 20 percent of domestic consumption; - Upgrading agricultural infrastructure and increasing efficiency of natural resources use; - New irrigation technologies that increase water use and distribution efficiency at farm level are available in the market; - Improving the value chains and increasing the added value for products of plant origin through: Strengthening the management of agricultural inputs; Improving the performance of agricultural inputs producers; Implementation of development programmes for a number of agricultural value chains in order to increase their comparative advantage, modernize the Lebanese agriculture and increase its added value, use of new technologies, and increase its efficiency and specialization; and Promoting Good Agricultural Practices (GAPs) through the support of organic farming and quality certification. 	<ul style="list-style-type: none"> - Capacity building to mainstream climate change into development plans, and ensure sustainable, inclusive, and rapid economic growth; and to support technology for climate adaptation; - Improved irrigation infrastructure to make the agricultural sector more productive, efficient and sustainable.

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<p>SDG 10: Reduced Inequalities</p> <ul style="list-style-type: none"> · Equity · Inclusion 	<ul style="list-style-type: none"> - “MoA adopts the principles of good governance for the development of the agricultural sector in view of ensuring food security including food safety, reducing poverty and rural-urban migration, creating job opportunities, and increasing efficiency and sustainable use of natural resources”; - At the level of enhancing the socio-economic living conditions: <ul style="list-style-type: none"> · Stabilize and prevent the decrease in farmers’ income; · Increase household income deriving from agricultural and fishing activities in rural areas; · Stabilize the rural population; · Increase the share of the labor force in agriculture; · Decrease the rate of food poisoning cases in hospitals. 	<ul style="list-style-type: none"> - Capacity building to mainstream climate change into development plans, and ensure sustainable, inclusive, and rapid economic growth; - Provision of social safety nets, access to emergency response and disaster relief goods and services help cope with economic losses from extreme events, dampen impact on the vulnerable, therefore preventing further inequality; - Strengthened institutional capacity can help create agricultural educational opportunities for women and youth, and provide support to small-scale farmers and producers; - Reducing the impact of extreme weather damages means less disproportional impact on the poor and vulnerable, particularly women, children, elderly; - Creating opportunities for girls and women through increased education; - More efficient use of irrigation systems can have beneficial economic impacts especially on the poor and vulnerable, particularly women, children, elderly; - A forest resource assessment can help to determine economic potential of forest products; - Sound policies and plans to expand agricultural areas and expand international trade can bolster economic opportunity particularly for low-income earners.
<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 	<ul style="list-style-type: none"> - In addition, the development of the sector contributes to decreasing urban sprawl and limiting overutilization of natural resources in response to climate change impacts; - Encouraging youth to engage in agriculture-related investments, increasing job opportunities and generating income in rural areas, and reducing rural-urban migration in the framework of an integrated rural development approach; 	<ul style="list-style-type: none"> - Putting in place disaster risk management to increase city resilience; - Increased water efficiency can increase agricultural productivity thus increasing or sustaining farmer income stemming rural to urban migration.

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<ul style="list-style-type: none"> · Accessibility · Mobility 	<ul style="list-style-type: none"> - Steady loss of workforce and aging population in rural areas (figures of Index Mundi show that urban dwellers are about 87.2 percent of the total population in 2011, with a net migration rate from rural to urban areas of 83.82 migrants / 1,000 population according to 2014 estimation); - This loss of forest cover, which is the cause of landslides with disastrous environmental, economic and social effects, is due to several factors: urban sprawl, rising energy prices forcing people living in altitude to find alternative solutions such as wood for heating during the winter, and forest fires; - Several laws have been adopted providing for the establishment of seven natural reserves. This is a major step forward towards the protection of forest areas facing urbanization and other human activities, and a tool to enhance the natural and historical heritage and develop the local community; - The share of water used by agriculture will be challenged due to the increasing urban and industrial demand; - Agricultural lands suffer from small and fragmented holdings, high cost of land, urban sprawl and land use competition, contributing to the reduction of the agricultural area; - Animal health and production: The sector suffers as well from small and fragmented farms and production units; the urban sprawl; irrational use of antibiotics and chemicals; the continuous decrease in rangelands and pastures (area and productivity); and contract farming which in most cases come in favor of traders. 	
<p><u>Highly Relevant SDG</u></p> <p>SDG 12: Sustainable Consumption and Production</p> <ul style="list-style-type: none"> · Consumption · Production · Output 	<ul style="list-style-type: none"> - This sector could be developed through the increase in the production of specific products of animal origin, increase in forage production, and innovation in agro-industry processing devising new products with high demand at the local and export markets, helping therefore the export into Gulf markets where the Lebanese diaspora is established; - Upgrading agricultural infrastructure and increasing efficiency of natural resources use; 	<p>In addition to SDG 12 in Table 2:</p> <ul style="list-style-type: none"> - Disseminate information about the use and maintenance of renewable energy projects in irrigation; - A forest resources assessment will inform the efficient use of natural resources;

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
<ul style="list-style-type: none"> · Productivity · Efficiency 	<ul style="list-style-type: none"> - Enhancing domestic marketing channels through strengthening the wholesale markets, developing farmers and agricultural cooperatives markets, promoting contract farming, and carrying out advertising campaigns to promote the consumption of Lebanese agricultural products; - Increase in domestic production of milk and dairy products from 35% of domestic consumption in 2013 to 40% in 2019; - Assess the consumption and demand for fishing and aquaculture products and means to increase their added value; - “MoA adopts the principles of good governance for the development of the agricultural sector in view of ensuring food security including food safety, reducing poverty and rural-urban migration, creating job opportunities, and increasing efficiency and sustainable use of natural resources”; - New irrigation technologies that increase water use and distribution efficiency at farm level are available in the market; - Improving the value chains and increasing the added value for products of plant origin through: Strengthening the management of agricultural inputs; Improving the performance of agricultural inputs producers; Implementation of development programmes for a number of agricultural value chains in order to increase their comparative advantage, modernize the Lebanese agriculture and increase its added value, use of new technologies, and increase its efficiency and specialization; and Promoting Good Agricultural Practices (GAPs) through the support of organic farming and quality certification. 	<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; - Improve water efficiency through expanding catchment areas and rehabilitation of irrigation canal; - Reduction in use of inputs through efficiency measures (e.g., water efficiency and recycling, better soil management); - Promoting the use of alternative sources of water and energy in agriculture; - Extension programs can support learning that promotes the sustainable use of natural resources.

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 13: Climate Change</p> <ul style="list-style-type: none"> · Climate Change · GHG emissions · Resilience · Mitigation · Adaptation · Nationally Determined Contribution (NDC) 	<ul style="list-style-type: none"> - Course of Action VIII: Responding to climate change impacts Proposed actions: mainstreaming of the Ministry of Agriculture activities related to climate change; introducing adaptation measures; conducting studies to estimate greenhouse gas emissions from the agricultural sector, land use changes and forestry. This strategy will contribute through its various courses of actions/areas of intervention to reducing impacts of climate change and GHG emissions in the agricultural sector; - Climate changes have a direct and a significant impact on the agricultural sector and natural resources such as forests, pastures, water and biodiversity. Therefore, the Ministry of Agriculture opted for the introduction of “Responding to climate change impacts” as one of the central courses of action for the next five years. - External threats include the climate change and its impact on agriculture, and globalization and trade liberalization, all demanding new adaptive measures, structural changes and capacity development in the management of the agricultural sector. - Through its three interrelated dimensions (economic, social and environmental), the agricultural sector plays a vital role in the management of natural resources and contributes to sustainable development; - “To improve the performance of the agricultural sector contributing to the economic, social, environmental and sustainable rural development of Lebanon”. 	<ul style="list-style-type: none"> - Reference how the Agriculture Strategy directly contributes to climate change mitigation and adaptation; - Reference role of water policy in the NDC; - Align policy targets with the NDC.
<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"> - Furthermore, improper practices in the ports and the maintenance of vessels are adversely affecting the surrounding aquatic environment; - In addition, the chaotic deployment of ports and landing sites all along the coast is hindering the management and control, and destructing the habitats through illegal rubbles and constructions, and water pollution is rendering many areas unsuitable for aquaculture; - The strengths of the sector resides in the existence of a legislative framework and the presence of active fishermen cooperatives and syndicates. In addition, there is a number of projects researching and 	<ul style="list-style-type: none"> - Improved coastal and fisheries resources through non-destructive fishing techniques ensures sustainable food production system; - 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>developing specific aspects of fishing, the availability of research and development centers in the high education institutes (Marine and Fishing Sciences Institute buildings need rehabilitation), and national expertise capable of keeping up with the development of the sector;</p> <ul style="list-style-type: none"> - Despite the presence of 44 ports and landing sites all along the 200 Km of Lebanese coasts, there are only 6,000 registered fishermen in MoA records who are socially unsecured. The fishery sector has never been among national priorities and programmes, which is translated in a weak governmental support to fishing and aquaculture; - Increase household income deriving from agricultural and fishing activities in rural areas. 	
<p>Highly Relevant SDG</p> <p>SDG 15: Life on land</p> <ul style="list-style-type: none"> · Ecosystems · Biodiversity · Forests · Reforestation/ afforestation · Seed bank · Genetic 	<ul style="list-style-type: none"> - Agriculture can have a significant impact - positive or negative - on natural resources (water, forests, biodiversity, etc.) and on the environment in general depending on agricultural practices used, the techniques applied to agriculture, and the extent to which sustainable development principles are integrated; - On the other hand, the environmental impact resulting from agricultural activities should be addresses, including the increased agricultural wastes, depletion of natural resources (irrigation water, genetic resources, biological diversity...), the irrational use of agro-chemicals (fertilizers, pesticides) and energy, and the climate change impact resulting from the poor management of natural resources; - Hence, the civil society and the non-governmental organizations are active in environmental related work, and many villages are aware about the importance of the conservation of green areas. 	<p>In addition to SDG 15 in the Table 2:</p> <ul style="list-style-type: none"> - Organic food production means a large reduction of fertilizer and pesticides into the soil and water; - Increasing awareness on environmental protection can change behavior towards resource conservation, demand for products that cause deforestation, and unsustainable practices such as slash and burn; - Expanding catchment areas and rehabilitation of irrigation canals can helps combat desertification; - Reduce the degradation of natural habitats and halt the loss of biodiversity by using water resources more sustainably & efficiently (wastewater reuse in agriculture); - Studies on the biodiversity in ecosystems of pastoral lands and exploited forests to be conducted.
<p>SDG 16: Peace, Justice & Strong institutions</p> <ul style="list-style-type: none"> · Capacity · Legislation · Regulation · Legal framework · Policy 	<ul style="list-style-type: none"> - Contribution to the formulation of a food safety policy based on strategic principles for coordinated and harmonized efforts among concerned institutions, aiming to create an integrated and comprehensive food safety system (from farm to fork) that responds to both producers and consumer's needs, in order to provide safe and nutritious food of high quality, to develop a cost-effective control system, to enhance access to markets of the Lebanese agricultural and 	<ul style="list-style-type: none"> - More effective and accountable institutions through strengthened institutional capacity; - More effective institutions through public private partnerships.

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
<ul style="list-style-type: none"> · Participatory · Inclusive (decision-making) 	<p>food producers, that adopt the risk analysis approach, and to develop common or shared regulations, standards and certification programmes;</p> <ul style="list-style-type: none"> - Axis I – Updating the regulatory/policy framework: A number of legislative texts (laws, decrees, decisions and regulations) have been issued to regulate the handling of the different production inputs such as fertilizers, seeds, agricultural pesticides, veterinary drugs, etc. Food products control, including locally manufactured or imported, has been activated according to international food safety standards in collaboration with various local partners; - Updating the organizational structure and reinforcing the role of MoA and its affiliated institutions (General Directorate of Cooperatives and LARI) and updating the existing legislation and regulations governing the agricultural sector and MoA; - Reviewing, updating and adopting new legislation and internal regulation of the General Directorate of Cooperatives. 	
<p>SDG 17: Partnerships for the Goals</p> <ul style="list-style-type: none"> · Resource · Financing mechanism · Public-Private Partnerships 	<ul style="list-style-type: none"> - Fostering partnerships with various stakeholders from the private and public sectors; - Activating partnerships with the private sector and related administrations including the National Sectoral Committees; - The activation of the Public-Private Partnerships has led to the introduction of new technologies, especially that the Lebanese investor is educated and characterized by the private initiative, increasing therefore the investment opportunities in agriculture even from non-farming communities; - Activation of the official technical agricultural education according to market demand through the formulation of a policy for the development of the official technical agricultural education. 	<ul style="list-style-type: none"> - Updating the organizational structure for better policy coherence; - Fostering partnerships with various stakeholders from the private and public sectors; - Disaster management plans establishes a transparent and cohesive means to respond to extreme events.

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.

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.

The SDG global framework provides a valuable starting point to integrate the two agendas' indicator framework. However, a barrier to solely utilizing the SDG global framework for both agendas, is that it is limited in its ability to measure NDC implementation. Many of the SDG indicators are too unspecific or insufficient for tracking NDC progress. For example, greenhouse gas emissions are not included as an SDG indicator in the global framework (Bouyé, B., Harmeling, S. & Schulz, N-S., 2018). Therefore, in addition to utilization of the SDG global indicator framework, additional indicators are needed to effectively and cohesively monitor both agendas.

The Agriculture Strategy includes sets of verifiable indicators for each area of intervention, however, there is not a strong alignment with the existing SDG framework. This is mostly due to the fact that the SDG indicators are more associated with the demand (hunger) as opposed to agricultural production. Further, many of the indicators contained in the Agriculture Strategy are more goal focused, or too granular for a bigger picture NDC/ SDG integrated approach. That said, there may be some indicators that could be modified and/ or refined to better align with the SDG indicator framework. Therefore, the strategy indicators could be utilized as good starting point in developing an integrated set of NDC/SDG indicators.

As part of this research, a preliminary identification of the targets, goals, data points and/or indicators within the NDC, Third National Communication, and NDC factsheets and within specific plans and policies that comprise Lebanon's climate policies were identified to further provide a basis for developing an integrated indicator framework. As previously stated, the final product should be a combined list of indicators that incorporates the SDG global framework complemented by additional indicators that are nationalized, climate focused, and germane to the goals of each specific plan/policy. Example indicators are identified in Annex II 'other potential indicators' for the SDG targets that are relevant to climate change.

Annex II: SDG Indicator Framework and Other Potential Indicators	
SDG	Indicator
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	2.1.1: Prevalence of undernourishment (percent)
	2.1.1: Number of undernourished people (millions)
	2.1.2: Total population in severe food insecurity (thousands of people)
	2.1.2: Prevalence of severe food insecurity in the adult population (percent)
	Other potential indicators: <ul style="list-style-type: none"> - Amount of food exports returns due to safety and quality of food (Ag strategy) - Non-conformity ratio of samples of domestic inspection (Ag strategy) - Level of contaminants in the follow-up monitoring survey analysis (Ag strategy) - Total food poisoning cases in hospitals annual (ag strategy) - Food production loss due to extreme weather (\$) - Total number of people food insecure due to extreme weather - Change in price of food due to extreme weather
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	2.3.1: Productivity of small-scale food producers (agricultural output per labor day, PPP) (constant 2011 international \$)
	2.3.2: Average income of small-scale food producers, PPP (constant 2011 international \$)
	Other potential indicators: <ul style="list-style-type: none"> -Agricultural production in constant \$ (Ag strategy) -Annual deficit in the trade balance between exports and imports (Ag strategy) -Household income derived from fishing and agricultural activities (Ag strategy) -Proportion of labor force in agriculture (Ag strategy) -Change in agricultural income due to extreme weather -Economic loss in agriculture due to extreme weather
2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity	2.4.1 Proportion of agricultural area under productive and sustainable agriculture

<p>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</p>	<p>Other potential Indicators:</p> <ul style="list-style-type: none"> -MOA expenditure on implementation of sustainable management plans of natural resources (Ag strategy) -Number of legislative provisions related to the sustainable management of natural resource (Ag strategy) -Number of hectares producing low emissions crops compared to total agricultural hectares -Hectares of agricultural land implementing water efficiency -Agricultural water demand annual (YOY) -Percentage of agricultural land following pesticide and fertilizer guidelines -FAO/OMS (1993) has published maximum permissible residue levels (MRLs) for pesticides -Number of certified organic farms -Total hectares of certified organic farms -Hectares impacted by extreme weather -Number of irrigation canals of small springs and water sources rehabilitated -Ratio of conversion to modern irrigation over the total irrigated
<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>	<p>2.5.1 Number of plant and animal genetic resources for food and agriculture secured in either medium- or long-term conservation facilities</p> <hr/> <p>2.5.2 Proportion of local breeds classified as being at risk, not at risk or at unknown level of risk of extinction</p>

Annex III: SDG List

PEOPLE	 <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>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		

PEOPLE

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

PEOPLE

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 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	<p>6 CLEAN WATER AND SANITATION</p>  <p>Goal 6. Ensure availability and sustainable management of water and sanitation for all</p>	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	<p>7 AFFORDABLE AND CLEAN ENERGY</p>  <p>Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all</p>	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



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



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

- 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

- 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

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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