

NDC Adaptation Measures Locator on the APAN Web Portal

Summary of Adaptation Measures in the Nationally Determined Contributions of selected Asia-Pacific Countries

Introducing the Database

As part of our ongoing efforts to engage APAN stakeholders, particularly national government agencies and development partners, we have produced a cross-cutting analysis of the NDCs, NAPAs and NAP processes of 32 countries in the Asia-Pacific region and made them accessible in this easy-to-navigate *NDC Adaptation Measures Locator*.

This database of relevant adaptation information is useful for practitioners, researchers and government officials looking to quickly survey and understand the current adaptation priorities, needs and planned activities of each of these Asia-Pacific countries. We have also collected links to ongoing adaptation projects, capacity building programs, as well as funding sources and presented them in easily digestible Country Profile Sheets.

Simply place your cursor over the country you want to learn more about. Click on the country and you'll be able to access the Country Profile Sheet. For a synthesis on our analysis of the region's adaptation priorities, needs and gaps, download the *Summary of Adaptation Measures in the Nationally Determined Contributions of Selected Asia-Pacific Countries*.

This collaborative research exercise was conducted over 2016-2017. It was funded by the Ministry of the Environment, Japan and implemented by the Institute for Global Environmental Strategies (IGES) Regional Centre based in Bangkok, Thailand.

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Summary of Adaptation Measures in the NDCs of Selected Asia-Pacific Countries

The international commitments in response to climate change have been made globally, particularly at COP21 in Paris in December 2015 and at COP22 in Marrakech in November 2016. All parties are required to submit their Nationally Determined Contribution (NDC) to show their commitment in tackling the threat of climate change impacts. Climate change adaptation is one of the major components of the NDC. This summary describes the overall current status of adaptation measures in Asia and the Pacific, focusing on several concerns including: national adaptation plans, adaptation priorities, and requirements for adaptation actions, as well as current adaptation projects and funding sources. More generally, this summary is intended to help readers to understand NDC updates at regional levels, including key important messages and relevant issues.

This summary analyzes adaptation efforts in a total of 32 countries from South Asia (9 countries), Southeast Asia (10 countries), the Pacific (12 countries) and Northeast Asia (Mongolia), as shown in Table 1.

Table 1. Number of included countries in the summary

Region	Number of countries
South Asia	9
Southeast Asia	10
Northeast Asia	1
The Pacific	12
Total	32

The current status of the national adaptation documents is also described. The National Adaptation Plans (NAP) are summarized in Table 2 and Figure 1, and the National Adaptation Plan Actions (NAPA) are shown in Table 3 and Figure 2. It was found that most countries in Asia-Pacific do not have NAP documents; only 3 out of 32 countries analyzed have them. South Asia has made the most progress thus far on NAP development. As for NAPA documents, 14 out of the 32 countries analyzed have published them, and 3 countries are still developing them. The remaining 15 countries have not yet published NAPA documents. Therefore, close to half of the countries from South Asia, Southeast Asia and the Pacific have published NAPA documents or are developing them.

Table 2. Status of National Adaptation Plan in Asia-Pacific

Region	National Adaptation Plan			Total
	Yes	Under development	No	
South Asia	1	6	2	9
Southeast Asia	1	3	6	10
Northeast Asia	1	0	0	1
The Pacific	0	1	11	12
Total	3	10	19	32

Note: the information was obtained from the INDCs and/or other available online sources.

Figure 1. Status of National Adaptation Plan in Asia-Pacific

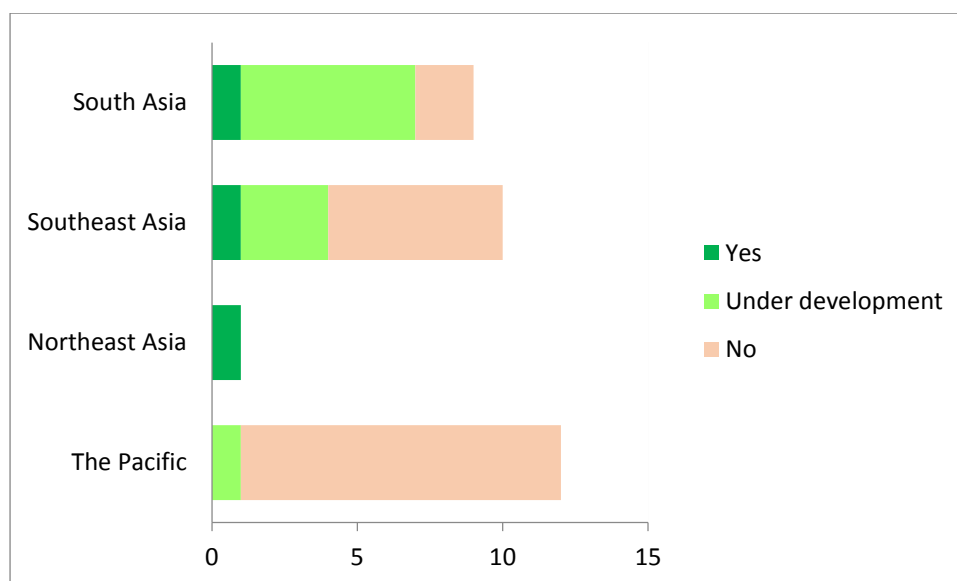
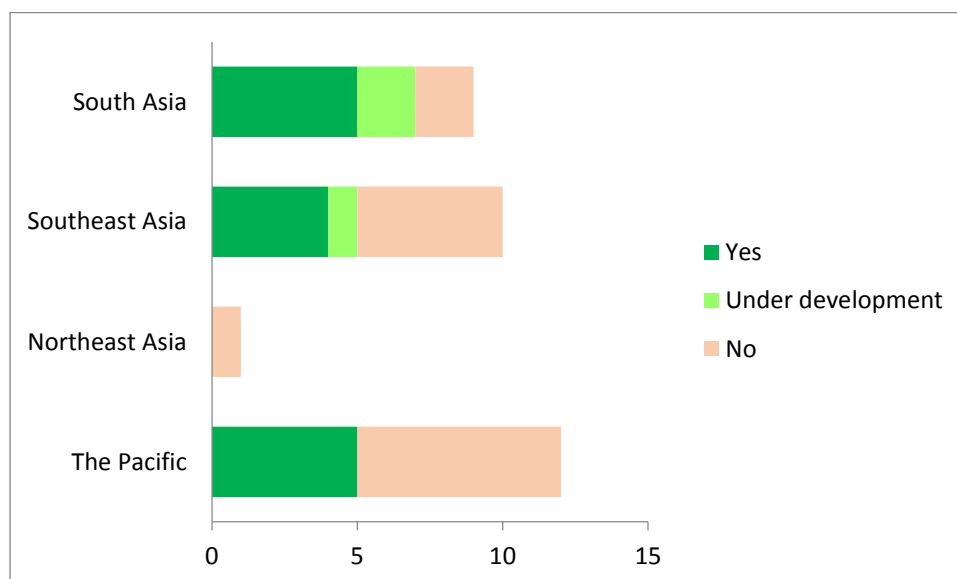


Table 3. Status of National Adaptation Plan Actions in Asia-Pacific

Region	National Adaptation Plan Action			Total
	Yes	Under development	No	
South Asia	5	2	2	9
Southeast Asia	4	1	5	10
Northeast Asia	0	0	1	1
The Pacific	5	0	7	12
Total	14	3	15	32

Note: the information was obtained from the INDCs and/or other available online sources.

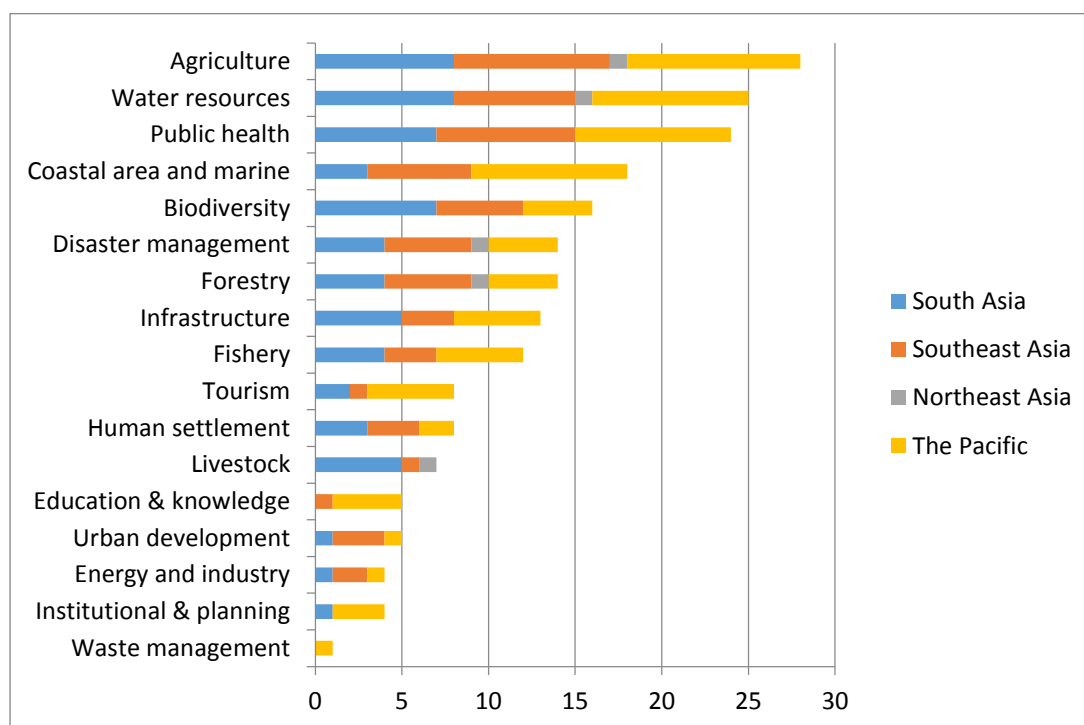
Figure 2. Status of National Adaptation Plan Action in Asia-Pacific

In terms of countries' adaptation priorities, it was found that the top concerns were in the agriculture, water resource, and public health sectors (see Table 4). According to the NDCs, the adaptation priorities were basically set to support socio-economic development and livelihoods in the long run. Agriculture-related issues, water resources and public health were therefore given the highest priority in terms of planning and policy implementation. Since most of the countries listed are considered to be primarily agricultural, and farming occupies many of the countries' people livelihood and large areas of their land, agricultural issues were given high priority as mentioned in the NDCs.

Table 4. Adaptation priority areas in Asia-Pacific

Priority area	Region				Total
	South Asia	Southeast Asia	Northeast Asia	The Pacific	
Agriculture	8	9	1	10	28
Water resources	8	7	1	9	25
Public health	7	8	0	9	24
Coastal area and marine	3	6	0	9	18
Biodiversity	7	5	0	4	16
Forestry	4	5	1	4	14
Disaster management	4	5	1	4	14
Infrastructure	5	3	0	5	13
Fishery	4	3	0	5	12
Human settlement	3	3	0	2	8
Tourism	2	1	0	5	8
Livestock	5	1	1	0	7
Urban development	1	3	0	1	5
Education & knowledge	0	1	0	4	5
Institutional & planning	1	0	0	3	4
Energy and industry	1	2	0	1	4
Waste management	0	0	0	1	1

Note: the information was obtained from the INDCs and/or other available online sources.

Figure 3. Adaptation priority areas in Asia-Pacific

Regarding the adaptation requirements for implementation shown in Table 5, it is seen that financial support, capacity building, technology transfer, and technical capacity are among the top four most mentioned requirements or needs for all regions.

Table 5. Requirements for adaptation action in Asia-Pacific

Aspect	Region				Total
	South Asia	Southeast Asia	Northeast Asia	The Pacific	
Financial support	9	8	1	12	30
Capacity building	6	8	0	8	22
Technology transfer	5	7	1	2	15
Technical capacity	4	3	1	6	14
Institutional arrangement	4	5	1	3	13
Policy and planning	2	5	1	3	11
Knowledge management	3	2	0	2	7
Awareness enhancement	2	0	0	1	3

Note: the information was obtained from the INDCs and/or other available online sources.

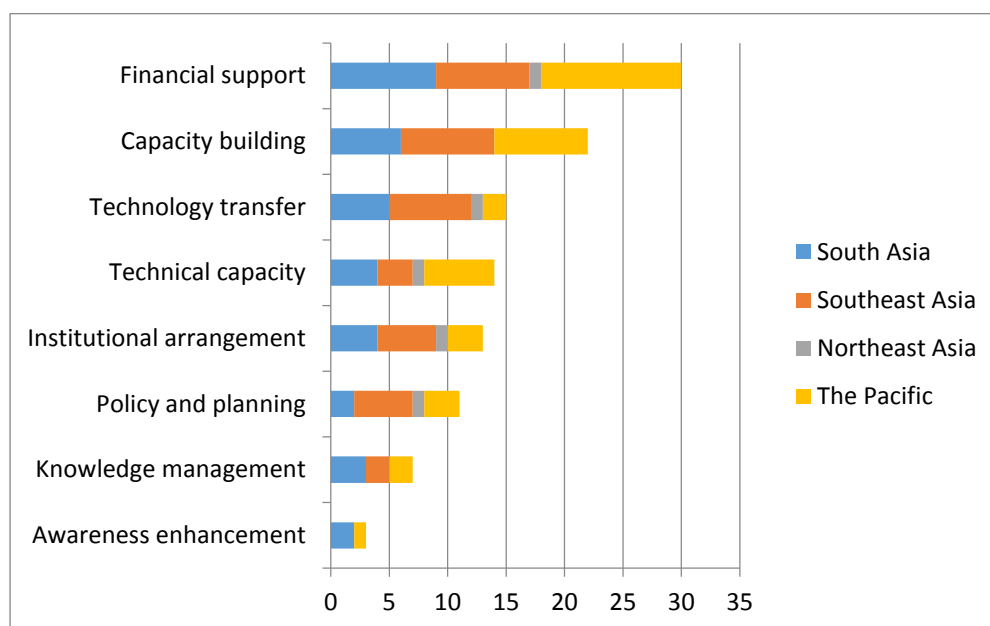
Figure 4. Requirements for adaptation action in Asia-Pacific

Table 6 summarizes specific current adaptation projects. Climate change adaptation planning was found to account for the largest number of projects in the regions, which shows that in their sustainable planning and strategies most countries put their highest efforts on climate change adaptation, followed by livelihood improvement, biodiversity preservation, and sustainable management.

Table 6. Current adaptation projects

Aspect	Region				Total
	South Asia	Southeast Asia	Northeast Asia	The Pacific	
CCA planning	6	7	1	12	26
Livelihood improvement	5	3	0	8	16
Biodiversity preservation	6	4	1	5	16
Sustainable management	6	7	0	2	15
Disaster management	5	5	0	4	14
Building capacity	6	2	1	4	13
Total no. of projects	34	28	3	35	100

Note: the information was obtained from the INDCs and/or other available online sources.

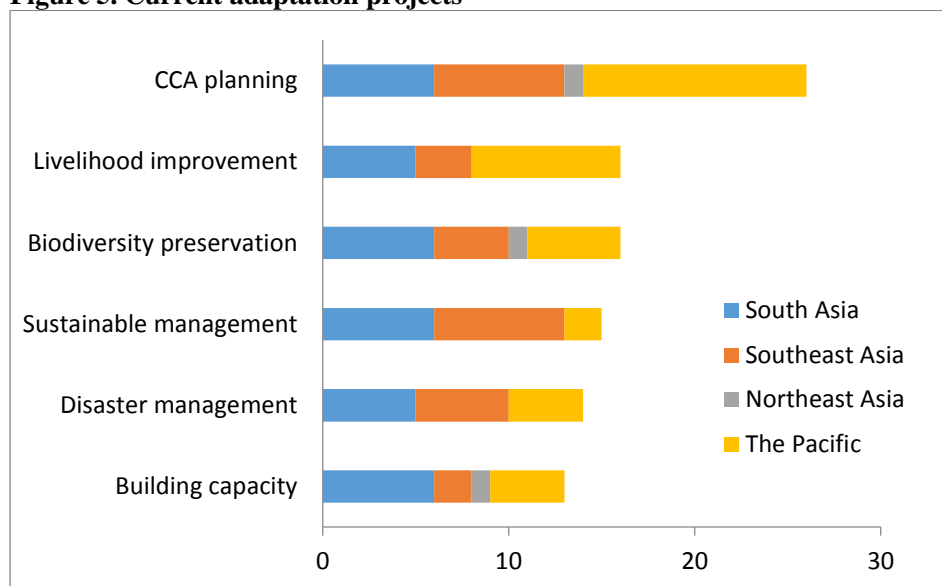
Figure 5. Current adaptation projects

Table 7 lists funding sources for adaptation projects by region. The adaptation projects are defined based on the adaptation efforts outlined under the NAP and NAPA of each country. A desktop research on funding sources for these adaptation projects indicate that USAID and the Germany Government under BMZ/BMUM/GIZ are the top two donors financing these projects.

Table 7. Funding sources for current adaptation projects in Asia-Pacific

Source	Region				Total
	South Asia	Southeast Asia	Northeast Asia	The Pacific	
United States Agency for International Development (USAID)	3	4	0	12	19
BMZ/BMUB/GIZ*	3	4	1	10	18
Other	1	5	1	6	13
Global Environment Facility (GEF)	6	3	1	2	12
United Nations Development Programme (UNDP)	5	3	1	2	11
European Union (EU) Fund	4	2	0	3	9
Asian Development Bank (ADB)	2	3	0	3	8
World Bank	2	2	0	4	8
Global Climate Change Alliance (GCCA)	0	0	0	7	7
Adaptation Fund	3	2	1	0	6
Norwegian Agency for Development Cooperation (NORAD)	4	0	0	0	4
UK Department for International Development (DFID)	3	0	0	0	3
Food and Agriculture Organization (FAO)	2	1	0	0	3
Green Climate Fund (GCF)	2	0	0	1	3
AusAID	1	1	0	1	3
Special Climate Change Fund (SCCF)	1	0	0	0	1
Karuna Foundation	1	0	0	0	1
Japan International Cooperation Agency (JICA)	0	1	0	0	1

Australian Centre for International Agricultural Research (ACIAR)	0	1	0	0	1
Swiss Agency for Development Cooperation	1	0	0	0	1
French Development Agency	0	0	0	1	1

**German Federal Ministry for Economic Cooperation and Development (BMZ); German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB); Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)*

The NDCs from Asia and the Pacific region are generally being developed according to international agreements that move towards a sustainable direction. Mitigation and adaptation are both incorporated into each country's climate-related policy and plans. International cooperation, through financial and technical support, may have also supported the creation of pilot adaptation policies and projects across the regions.

In South Asia, especially for those countries with large areas of rural lands supporting livelihoods, a number of adaptation efforts were highlighted, including improvements in integrated water resource management, food security, agriculture and livestock, forest and biodiversity conservation, public health and disaster management. This was especially highlighted in the NDCs from Afghanistan, Bangladesh, Bhutan, India, Nepal, and Pakistan. Policy framework basically centers on sustainable farming practices, water resource management and capacity building of relevant human resource. In addition, the NDCs of island and sea-connected countries, such as Maldives and Sri Lanka, mentioned coastal protection and coastal biodiversity conservation in their plans. The requirements underline financial support, followed by capacity building and technology transfer.

The adaptation aspects of the NDCs of Southeast Asian countries addressed issues that focus on agriculture and human resilience. Sustainable agriculture, water resource management and forest conservation are major concerns among developing countries in the region, specifically Thailand, Myanmar, Indonesia, Lao PDR, Cambodia and Viet Nam. These are farming-based societies where peoples' livelihoods and economies largely depend on the agriculture sector. The Philippines and Brunei include ecosystem preservation among their key concerns. Countries such as Malaysia and Singapore tend to focus for adaptation on coastal protection, coastal biodiversity, and flood solution. Other issues of importance for adaptation in this region include public health, energy and resilience planning. In terms of requirements for adaptation, it was found that financial support and capacity building are greatly needed by countries in this region. Budget allocation for climate change will hopefully be aimed at research and development projects. Capacity building is needed for central government and decision makers, through to local levels and technical staff, to understand climate change impacts, adaptation measures, science-based risk and vulnerability assessment.

Mongolia is the only country covered in the Northeast Asia region. Its NDC emphasizes adaptive capacity to overcome negative impacts of climate change and to strengthen ecosystem resilience and socio-economic sectors. Sustainable pasture management for animal husbandry, arable farming, natural disaster management, water and forest resources management are the focus areas for promotion of sustainable ecosystems and human adaptation to climate change. Advanced technology, funding, holistic framework, monitoring and evaluation systems are addressed as key requirements to support the country's adaptation efforts.

Key areas addressed in the NDCs from Pacific island countries are relatively different from other regions. This is due to their topographies being dominated by small islands and coastal zones. Adaptation aspects in all countries generally place particular attention on coastal protection, storm surge, and water for agriculture and consumption. Secondary concerns are on natural resource management and livelihoods, specifically food security, land use planning, biodiversity conservation and disaster management. Taking economic-driven issues into account, certain countries, such as Solomon Islands, Samoa, Palau, Tonga, and Vanuatu, also mention tourism, infrastructure development and urban resilience as areas for fundamental improvements. Current adaptation efforts in this region are basically part of long-term strategic planning and policy frameworks. As for requirements, financial support is generally regarded as the highest priority. The main purpose of

funding is for research and development of policies and infrastructures to withstand climate change impacts and manage disaster risks. Knowledge and technology transfer is also highlighted in order to increase the capacity of people working on climate change and adaptation planning and projects.

Based on the NDCs, the overall environment of Asia and the Pacific region is set on a path towards sustainable planning and practices on adaptation to climate change. At present, most of the countries are at the planning stage involving data gathering and information analysis. However, there is a certain amount of projects addressing climate change issues, most of them supported by international cooperation and funding. This pilot development is put in place to enhance adaptation efforts by countries in the near future, according to their plans in the NDCs.

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Annex 1: NDC Adaptation Measures Locator – Sample Landing Map Page



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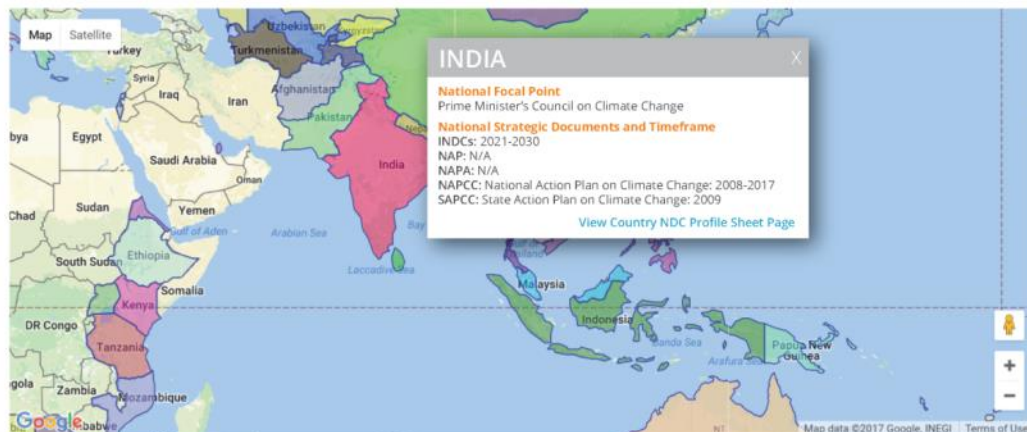
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Annex 2: NDC Adaptation Measures Locator – Sample Country Sheet Page



Mobilising Knowledge and Building Capacities for Climate Resilience



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National Strategic Documents & Timeframe:

INDCs: 2020-2030 ¹
NAP: under finalization process
NAPA: 2009 ²
ACCSAP: National Climate Change Strategy and Action Plan (under finalization process)

Note: According to UNFCCC, the national adaptation plan (NAP) process was established under the Cancun Adaptation Framework (CAF), which enables countries to formulate and implement national adaptation plans (NAPs) as a means of identifying medium- and long-term adaptation needs and strategies for implementation. On the other hand, NAPAs provide a process for the Least Developed Countries (LDC) to identify priority activities that respond to their urgent and immediate adaptation needs.³

1. INDC of Islamic Republic of Afghanistan. UNFCCC. 2015. Available from: <http://www.unfccc.int/submissions/INDC/Published%20Documents/Afghanista...>

2. NAPA of Afghanistan. UNFCCC. 2009. Available from: <http://unfccc.int/resource/docs/napa/afg01.pdf>

3. National Adaptation Plans. UNFCCC. 2016. Available from: http://unfccc.int/adaptation/workstreams/national_adaptation_plans/items...

Priorities and Needs:

The NAPA of Afghanistan mentions the following sectors as the most vulnerable to climate change: water resources, forestry and rangelands, and agriculture. There are two priority adaptation measures as follows:

- *Water management and use efficiency:* through the introduction of drip and sprinkler irrigation, and to improve physical structures and increased public awareness.
- *Land and water management at the watershed level:* community-based forest management and afforestation projects in ways that conserve land, water resources and wood production; afforestation of catchment areas and stabilization of unstable slopes; soil conservation techniques.

Current and Planned Adaptation Efforts :

INDC of Afghanistan has mentioned that in terms of national development policies, plans, and legal frameworks, considerable efforts have been placed on addressing environmental challenges, disaster risk reduction, food security, water security, protection of forest and rangelands, and biodiversity conservation, all of which have clear relevance to climate change adaptation. Some noteworthy examples of such policies and plans that have successfully and explicitly integrated climate change include:

- National Water and Natural Resource Management Priority Programme
- Strategic National Action Plan for Disaster Risk Reduction (SNAP)
- National Environmental Action Plan (NEAP)
- National Comprehensive Agriculture Production and Market Development Programme
- National Biodiversity Strategy and Action Plan (NBSAP)

In terms of programmes and projects, supports provided by the international community and multilateral agencies have laid the groundwork for building Afghanistan's adaptive capacity and resilience to climate change. Major contributors include the Tokyo Framework bilateral partners, Global Environmental Facility (GEF), which have provided support through enabling activities, mid-size projects, and full-size climate change adaptation projects funded by the Least Developed Countries Fund (LDCF), as well as bilateral donors, non-governmental organizations, and the United Nations.

Requirements for Additional Planning, Financial and Technical Capacities:

INDC of Afghanistan has stated specific challenges in addressing climate change through adaptation, including but not limited to funding gaps, lack of expertise, lack of reliable historical climate data, weak public awareness on environmental issues and security. Afghanistan has identified the following key actions to overcome existing gaps and barriers towards sufficiently addressing its climate change adaptation needs though adequate support of technology, capacity building and finance.

- *Development and adoption of the Afghanistan CCSAP:* this requires internal financial support.
- *Development of a system to monitor and assess vulnerability and adaptation to climate change:* this requires climate science technology support, climate science collaboration with universities and a financial support of 0.02 billion USD.

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- *Development and adoption of the Afghanistan CCSAP:* this requires internal financial support.
- *Development of a system to monitor and assess vulnerability and adaptation to climate change:* this requires climate science technology support, climate science collaboration with universities and a financial support of 0.02 billion USD.
- *Identification and mainstreaming of climate change adaptation technologies into the sectorial policies, strategies and development plans, and promotion of regional and international cooperation and coordination for adaptation technology transfer:* this requires climate policy technologies and methods, training Afghan climate policy experts, and financial a support of 0.01 billion USD.
- *Strengthening and expanding meteorological and hydrological monitoring networks and services, including a national database to archive and store meteorological and hydrological data:* this requires hydrological, meteorological and data equipment and integrated systems, as well as capacity enhancement of operators and analysts for hydrological, meteorological and data integrated systems, and financial support of 0.1 billion USD.
- *Development of water resources through rehabilitation and reconstruction of small, medium, and large scale infrastructures:* this requires improvements in designs and methodologies for catchment management, as well as the strengthening of capacity of ecological engineering and spatial planning for water resources, and financial support of 0.75 billion USD.
- *Planning for proper watershed management and promotion through community-based natural resources management:* this requires full catchment planning technology and models, improving the capacity of practitioners for watershed management, and financial support of 2.5 billion USD.
- *Increasing irrigated agricultural land through restoration and development of Afghanistan's irrigation system:* it requires eco-agriculture and climate friendly irrigation technology transfer, adopting vocational and engineering capacity to design, build and maintain climate friendly irrigation networks and local schemes, and financial support of 4.5 billion USD.

Current Adaptation Projects and Funding Sources:

PROJECT NAME	FUNDER(S)	IMPLEMENTER(S)	DURATION	GEOGRAPHIC FOCUS
Preserving Biodiversity [Ⓔ]	Global Environment Facility	UNDP, Wildlife Conservation Society, National Environmental Protection Agency, Ministry of Agriculture Irrigation and Livestock	2014 to 2018	Bamyan and Badakhshan
Climate Change Adaptation [Ⓔ]	Global Environment Facility, LDCF	Ministry of Agriculture Irrigation and Livestock	2014 to 2019	Herat, Balkh, Uruzgan and Panjshir provinces
Global Environment Facility - Small Grants Programme (SGP) [Ⓔ]	Global Environment Facility	UNDP, UNOPS, Civil Society Organizations, National Environmental Protection Agency, Ministry of Agriculture Irrigation and Livestock, Ministry of Rural Rehabilitation and Development, Academia	2012 to 2018	Badakhshan, Bamyan, Kabul and Nangarhar
Building Adaptive Capacity and Resilience to Climate Change in Afghanistan [Ⓔ]	Global Environment Facility	UNDP, National Environmental Protection Agency	2013 to 2017	Badakhshan, Balkh, Bamyan, Daikundi, and Kabul
Strengthening the Resilience of Afghanistan's Vulnerable Communities against Disasters (SRACAD) [Ⓔ]	UK's Department for International Development (DFID)	National Environmental Protection Agency, National Disaster Management Authority, Ministry of Rural Rehabilitation and Development, Ministry of Education	2015	Badakhshan, Bamyan, Balkh, Ghor, Jawzjan, Samangan, Sar-e Pul, and Takhar provinces
Climate change resources mobilization for GEF [Ⓔ]	FAO/TCP	Ministry of Agriculture Irrigation and Livestock	2014 to 2016	Afghanistan

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