

United Nations Convention to Combat Desertification
Performance Review and Assessment of Implementation System
Seventh reporting process

Report from [Thailand]



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Country Profile

Land area Indicated the total land area, the area covered by water bodies and total country area:

Year	Total land area (km2)	Water bodies (km2)	Total country area (km2)	Comments
2007	500,421.55	12,693.46	513,115.02	Data are collected from Land Development Department, http://www1.ldd.go.th/WEB_OLP/result/luse_result49-50.htm
2009	499,015.26	14,099.76	513,115.02	Data are collected from Land Development Department, http://www1.ldd.go.th/WEB_OLP/result/luse_result51-52.htm
2013	498,742.62	14,372.40	513,115.02	Data are collected from Land Development Department, http://www1.ldd.go.th/WEB_OLP/result/luse_result53-56.htm
2016	498,424.58	14,690.44	513,115.02	Data are collected from Land Development Department, http://www1.ldd.go.th/WEB_OLP/result/luse_result58-59.htm

Demographics Estimates of the urban, rural and total population living in your country:

Year	Urban (thousands)	Rural (thousands)	Total (thousands)	Comments
2000	18,972.330	41,944.111	60,916.44	
2010	29,133.82	36,847.83	65,981.65	

Complementary information Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

National Statistical Office is responsible for collecting population census data every 10 years starting since 1960. The current dataset was collected in 2010.
Source: www.popcensus.nso.go.th

Strategic objectives

Strategic objective 1: To improve the condition of affected ecosystems, combat desertification land degradation, promote sustainable land management and contribute to land degradation neutrality

SO1-1 Trends in land cover

Land cover

Quantitative data National level estimates of the distribution of the main land cover classes (in kilometres squared (km²)). Default data are derived from the Land Degradation Neutrality Target Setting Programme developed by Land Development Department, and they can be amended as appropriate.

Year	Land cover (km ²)					
	Tree-covered areas	Grassland	Cropland	Wetland	Artificial surfaces	Other Land
2002	185,768	14,620	280,223	12,900	19,319	1,101
2013	176,693	16,411	268,809	21,639	28,458	1,921
Net area change	-9,075	1,791	-11,414	8,739	9,139	820

Land cover area change matrix (in squared kilometers).

Final class \ Initial class	Tree-covered areas	Grassland	Cropland	Wetland	Artificial surfaces	Other land
Tree-covered areas	123,168.77	1,165.48	503.07	11.32	11.91	0.00
Grassland	2,061.73	64,080.41	1,201.10	40.18	55.17	0.00
Cropland	845.62	74.21	305,010.63	94.64	2,517.08	0.00
Wetland	2.80	6.19	10.55	3,254.58	10.25	0.00
Artificial surfaces	0.00	0.00	0.00	0.00	1,461.46	0.00
Other land	0.00	0.00	0.00	0.00	0.72	0.84

Please answer the following question if you have edited or replaced the default data using other data sources:

Sources of information Provide the source of data.

The 2002 and 2013 land classification data were compiled from the Land Degradation Neutrality Target Setting Program (LDN-TSP), prepared by the Land Development Department. By definition, the forest area of Land Development Department is different from that of Forest Department. The Forest Department has included grasslands in the definition of forest areas while in this report the data is shown by separating the forest area from the grassland area. Therefore, the reports in this section have been selected to present statistics from the Land Development Department because of the classification of areas covered by the Convention.

Moreover, forest definition in this LDN used the description which is geographical areas dominated by natural tree plants with a cover of 15% or more. This class also includes: mosaic tree and shrub (>50%) /herbaceous cover seasonally or permanently flooded with fresh water, according to "Land Degradation Neutrality From concept to practice" (LDN Project Management Team, 2015)

The land use change metrics were collected from the Trends.Earth database (<http://trends.earth>), which was prepared to support countries that are not yet ready to prepare reports submitted to the Convention. Thailand is in the process of conducting official data to support the United Nations Convention against Combating Desertification (UNCCD).

Strategic objective 1: To improve the condition of affected ecosystems, combat desertification land degradation, promote sustainable land management and contribute to land degradation neutrality

Qualitative assessment

Interpretation of the indicator Based on the quantitative data, describe the most significant negative or positive land cover changes as well as their direct and/or indirect drivers:

Land conversion		Net area change (Km ²)	Driver(s)		Description of changes	Comments
From	To		Direct (Choose one or more items)	Indirect (Choose one or more items)		
Tree-covered areas	Cropland	503.07	Improper management of annual, perennial, scrub and tree crops Improper soil management Deforestation	Population pressure Poverty	The conversion from tree-covered areas to cropland was directly caused by improper management of annual, perennial, scrub, and tree crops. Improper soil management and deforestation are other two factors that directly affected this land conversion. The indirect conversion of tree-covered areas to cropland was mainly caused by population pressure, poverty and governance.	The conversion of forestland in the watershed areas (e.g., Nam Mun watershed, Nam Nan watershed, and Nam Ping watershed) to cropland and at the same time harvesting the valuable wood trees including Siamese Rosewood was a critical issue creating the conversion of forestland. The conversion of forestland in the mountain areas to cropland for maize production in the Northern region of Thailand was also an example of the problems caused by interactions between direct and indirect drivers.
Tree-covered areas	Artificial surfaces	11.91	Improper management of annual, perennial, scrub and tree crops Deforestation Urbanization	Population pressure Poverty	The conversion from tree-covered areas to artificial surfaces was directly caused by improper management of annual, perennial, scrub, and tree crops. Deforestation and urbanization with construction of roads in the watershed areas were other two main factors that directly affected this land conversion. The indirect conversion of tree-covered areas to other land was caused by population pressure and poverty.	The government began implementing a policy of land allocation to the community at the end of 2015 under the responsibility of the National Land Policy Committee aiming to: solve the problem of landlessness of the people; protect the encroachment of the forest reserve; and sustain the balance between conservation and sustainable use. Allocation of land to the community has involved 15 agencies from 6 major ministries and already provided land for over 100 people, including 447,000 rai in 58 provinces.

Hotspots/brightspots Indicate where in your country the most significant hotspots/brightspots related to land cover are located:

Hotspots/brightspots	Location	Area (Km ²)	Comments
Hotspot	Nam Mun watershed	71,071.57	<p>During 2000-2010, the area of Nam Mun watershed is identified as a major hotspot since it had the largest degrading area of 16.99% of total watershed area.</p> <p>Based on data collection and analysis of the 25-watershed on data warehouse system with the Nam Mun Watershed Drought and Flood Model (Hydro and Argo Informatics Institute, 2012), the Nam Mun watershed has problems including a water shortage and drought, forest invasion, improper land use, soil and saline soil problems and soil erosion.</p>
Hotspot	Nam Nan watershed	34,908.11	<p>Although the watershed area of Nam Nan is smaller than that of Nam Mun watershed, this area is identified as a major hotspot since the share of degrading area to total watershed area was high accounting for 38.52% of its watershed area from 2000-2010.</p> <p>Based on data collection and analysis of the 25-watershed on data warehouse system with the Nam Nan Watershed Drought and Flood Model (Hydro and Argo Informatics Institute, 2012), the Nam Nan watershed has problems including a water shortage and drought, invasion of forest watershed, soil erosion, inappropriate cropping, contamination of agricultural chemicals and floods.</p>
Hotspot	Nam Ping watershed	34,499.39	<p>Similar to Nam Nan watershed, Nam Ping watershed is identified as a major hotspot since it had high share of degrading area to total watershed area. From 2000-2010, the watershed area was degraded 39.58% of its watershed area.</p> <p>Based on data collection and analysis of the 25-watershed on data warehouse system with the Nam Ping Watershed Drought and Flood Model (Hydro and Argo Informatics Institute, 2012), the Nam Ping watershed has problems including water shortage and drought, floods, soil erosion, invasion of forest watershed and improper land use.</p>

Complementary information Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

Data of net area change of land use were collected from the Trends.Earth database (<http://trends.earth>), which was prepared to support countries that are not yet ready to prepare reports submitted to the Convention. Thailand is in the process of conducting official data to support the United Nations Convention against Combating Desertification (UNCCD).

Selection of affected watersheds (Hotspots) is a result of the implementation of the Land Degradation Neutrality Targeting Program, which the United Nations Convention against Desertification has assessed the affected area resulted from the degradation of land at the watershed level in Thailand. The Land Degradation Neutrality Baseline and Target Validation Workshop was held from 22 to 23 June 2017 at the Royal Orchid Sheraton Hotel. The meeting discussed problems and determined three critical affected watersheds which are Nam Mun watershed, Nam Nan watershed and Nam Ping watershed. The area of these three watersheds was compiled from watershed data records and database from administrative division of Thailand (Department of Water Resources, 2011).

The percent change of degraded area to each watershed area shown in the comments column was collected from the Trends.Earth database (<http://trends.earth>), which was prepared to support countries that are not ready to prepare reports submitted to the Convention. Thailand is in the process of conducting official data to support the United Nations Convention Against Desertification (UNCCD).

Strategic objectives

Strategic objective 1: To improve the condition of affected ecosystems, combat desertification land degradation, promote sustainable land management and contribute to land degradation neutrality

SO1-2 Trends in land productivity or functioning of the land

Land productivity dynamics

Quantitative data National level estimates of land productivity dynamics within each land cover type: area covered by each class of land productivity dynamics (in km²).

Default data are derived from the Land Degradation Neutrality Target Setting Programme developed by Land Development Department, and they can be amended as appropriate.

Net land productivity dynamics during 2000-2010 (km²)

Land cover class	Declining	Moderate decline	Stressed	Stable	Increasing	No data
Tree-covered areas	3,696	4,494	13,155	67,745	15,358	403
Grassland	2,149	4,304	12,992	37,746	15,894	308
Cropland	3,913	10,497	50,657	124,160	133,274	966
Wetland	249	125	706	4,651	1,230	4,297
Artificial surfaces	280	578	971	2,396	1,586	71
Other land	3		2	3	1	0

Estimates of land productivity dynamics for areas where a land conversion to a new land cover type has taken place (in km²)

Land conversion	Net area change	Net land productivity dynamics (km ²)					
		(km ²)	Declining	Moderate decline	Stressed	Stable	Increasing
From	To						
Tree-covered areas	Cropland	579.42	5.22	27.63	163.26	184.68	198.63
Tree-covered areas	Grassland	469.71	5.13	15.57	122.49	239.58	86.49
Artificial surfaces	Cropland	0.09	0.09	0	0	0	0

Please answer the following questions if you have edited or replaced the default data using other data sources:

Other metrics If your country uses a different metric to assess land productivity (e.g. Normalized Difference Vegetation Index (NDVI), Enhanced vegetation Index (EVI)), specify which metric your country uses and provide the data here.

Sources of information Provide the source of data.

Information were collected from the Thailand Land Degradation Neutrality Target Setting Program, which is based on the Trends.Earth database (<http://trends.earth>) prepared to support countries that are not ready to prepare their report submitted to the Convention. Thailand is in the process of conducting official data to support the United Nations Convention Against Desertification (UNCCD).

Strategic objectives

Strategic objective 1: To improve the condition of affected ecosystems, combat desertification land degradation, promote sustainable land management and contribute to land degradation neutrality

Qualitative assessment

Interpretation of the indicator

Based on the quantitative data, describe the most significant negative or positive changes in land productivity as well as their direct and/or indirect drivers:

Land cover class / Land conversion	Area (km ²)	Land productivity dynamics	Direct (choose one or more items)	Indirect (choose one or more items)	Comments
Tree-covered areas to cropland	163.26	Stressed	Improper soil management Deforestation	Any other Poverty and increase in population	The conversion of forestland in the watershed areas (e.g., Nam Mun, Nam Nan, and Nam Ping) to cropland was a critical issue creating the stress of land productivity. The conversion of forestland to cropland with improper soil management for maize production in the Northern region of Thailand was also an example. The socio-economic pressures from the poverty and increase in population are worsening the stress of land productivity dynamics.

Hotspots/Brightspots

Indicate where in your country the most significant hotspots/brightspots related to land productivity are located.

Hotspots/brightspots	Location	Area(km ²)	Comments
Hotspot	Nam Mun watershed	71,071.57	During 2000-2010, the area of Nam Mun watershed is identified as a major hotspot since it had the largest degrading area of 16.99% of total watershed area. Based on data collection and analysis of the 25-watershed on data warehouse system with the Nam Mun Watershed Drought and Flood Model (Hydro and Argo Informatics Institute, 2012), the Nam Mun watershed has problems including a water shortage and drought, forest invasion, improper land use, soil and saline soil problems and soil erosion.

Hotspot	Nam Nan watershed	34,908.11	<p>Although the watershed area of Nam Nan is smaller than that of Nam Mun watershed, this area is identified as a major hotspot since the share of degrading area to total watershed area was high accounting for 38.52% of its watershed area from 2000-2010.</p> <p>Based on data collection and analysis of the 25-watershed on data warehouse system with the Nam Nan Watershed Drought and Flood Model (Hydro and Argo Informatics Institute, 2012), the Nam Nan watershed has problems including a water shortage and drought, invasion of forest watershed, soil erosion, inappropriate cropping, contamination of agricultural chemicals and floods.</p>
Hotspot	Nam Ping	34,499.39	<p>Similar to Nam Nan watershed, Nam Ping watershed is identified as a major hotspot since it had high share of degrading area to total watershed area. From 2000-2010, the watershed area was degraded 39.58% of its watershed area.</p> <p>Based on data collection and analysis of the 25-watershed on data warehouse system with the Nam Ping Watershed Drought and Flood Model (Hydro and Argo Informatics Institute, 2012), the Nam Ping watershed has problems including water shortage and drought, floods, soil erosion, invasion of forest watershed and improper land use.</p>

Complementary information Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

Selection of affected watersheds (Hotspots) is a result of the implementation of the Land Degradation Neutrality Targeting Program, which the United Nations Convention against Desertification has assessed the affected area resulted from the degradation of land at the watershed level in Thailand. The Land Degradation Neutrality Baseline and Target Validation Workshop was held from 22 to 23 June 2017 at the Royal Orchid Sheraton Hotel. The meeting discussed problems and determined three critical affected watersheds which are Nam Mun watershed, Nam Nan watershed and Nam Ping watershed. The area of these three watersheds was compiled from watershed data records and database from administrative division of Thailand (Department of Water Resources, 2011).

Strategic objectives

Strategic objective 1: To improve the condition of affected ecosystems, combat desertification land degradation, promote sustainable land management and contribute to land degradation neutrality

SO1-3 Trends in carbon stocks above and below ground

Soil organic carbon stocks

Quantitative data National level estimates of the soil organic carbon (SOC) stock in topsoil (0-30 cm) within each land cover type (in tonnes per hectare).

Default data are derived from the Land Degradation Neutrality Target Setting Programme developed by Land Development Department, and they can be amended as appropriate.

Year	Soil organic carbon stock in topsoil (t/ha)					
	Tree-covered areas	Grassland	Cropland	Wetland	Artificial surfaces	Other Land
2003	103.5	83.4	67.4	159.6	79.3	78.7
*2010	89.9	38.1	39.3	41.1	-	-

Estimates of change of organic carbon stock in soil due to land conversion to a new land cover type

Land conversion		Net area change (km ²)	Soil organic carbon (SOC) stock change (2000-2010)				
From	To		Initial SOC stock (t/ha)	Final SOC stock (t/ha)	Initial SOC stock total	Final SOC stock total	SOC stock change (t)
Tree-covered areas	Cropland	588.15	84	62.8	4,938,993	3,692,601	-1,246,392
Tree-covered areas	Grassland	471.42	85.7	85.7	4,040,154	4,040,154	0

Please answer the following questions if you have edited or replaced the default data using other data sources:

Sources of information

Provide any complementary information you deem relevant and upload any complementary document into the space provided on the PRAIS portal

Estimates of change of organic carbon stock in soil due to land conversion to a new land cover type were compiled from the Trends.Earth database (<http://trends.earth>), which was prepared to support countries that are not yet ready to prepare reports submitted to the United Nations Convention to Combat Desertification (UNCCD). Thailand is in the process of conducting official data to support the United Nations Convention Against Desertification. The above information has been estimated using the methodology outlined in the IPCC Good Practice Guidance for LULUCF (2006). In addition, the Department of National Parks, Wildlife and Plant Conservation is currently in the process of collecting data to assess the carbon stock of forest areas in the conservation area.

* Land Development Department and FAO developed SOC Map under Global Soil Partnership (GSP) the soil carbon map of Thailand has been produced in the year 2010. It is the SOC in topsoil 30 cm. and analyzed by "Walkey and Black" method and analyzed the with Land Use Map in 2013.

Strategic objectives

Strategic objective 1: To improve the condition of affected ecosystems, combat desertification land degradation, promote sustainable land management and contribute to land degradation neutrality

Qualitative assessment

Interpretation of the indicator Based on the quantitative data, describe the most significant negative or positive changes in organic carbon stock in soil as well as their direct and/or indirect drivers

Land cover class / Land conversion	Area (km ²)	Soil organic carbon stock change (t/ha)	Direct (choose one or more items)	Indirect (choose one or more items)	Comments
Tree to cropland	588.15	-21.2	Improper management of annual, perennial, scrub and tree crops Improper soil management Deforestation	Any other Poverty and population increase	The conversion of forestland in the watershed areas (e.g., Nam Mun, Nam Nan, and Nam Ping) to cropland was a critical issue creating loss of soil organic carbon stock. Deforestation together with improper management of crops and soil management are the main direct drivers. At the same time, socio-economic pressures such as poverty and increase in population are main indirect drivers exacerbating the loss.

Hotspots/brightspots Indicate where in your country the most significant hotspots/brightspots related to soil organic carbon stock are located

Hotspots/brightspots	Location	Area (sq.km.)	Comments
Hotspot	Nam Mun watershed	71,071.57	During 2000-2010, the area of Nam Mun watershed is identified as a major hotspot since it had the largest degrading area of 16.99% of total watershed area. Based on data collection and analysis of the 25-watershed on data warehouse system with the Nam Mun Watershed Drought and Flood Model (Hydro and Argo Informatics Institute, 2012), the Nam Mun watershed has problems including a water shortage and drought, forest invasion, improper land use, soil and saline soil problems and soil erosion.
Hotspot	Nam Nan	34,908.11	Although the watershed area of Nam Nan

	watershed		is smaller than that of Nam Mun watershed, this area is identified as a major hotspot since the share of degrading area to total watershed area was high accounting for 38.52% of its watershed area from 2000-2010. Based on data collection and analysis of the 25-watershed on data warehouse system with the Nam Nan Watershed Drought and Flood Model (Hydro and Argo Informatics Institute, 2012), the Nam Nan watershed has problems including a water shortage and drought, invasion of forest watershed, soil erosion, inappropriate cropping, contamination of agricultural chemicals and floods.
Hotspot	Nam Ping watershed	34,499.39	Similar to Nam Nan watershed, Nam Ping watershed is identified as a major hotspot since it had high share of degrading area to total watershed area. From 2000-2010, the watershed area was degraded 39.58% of its watershed area. Based on data collection and analysis of the 25-watershed on data warehouse system with the Nam Ping Watershed Drought and Flood Model (Hydro and Argo Informatics Institute, 2012), the Nam Ping watershed has problems including water shortage and drought, floods, soil erosion, invasion of forest watershed and improper land use.

Complementary information Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

Selection of affected watersheds (Hotspots) is a result of the implementation of the Land Degradation Neutrality Targeting Program, which the United Nations Convention against Desertification has assessed the affected area resulted from the degradation of land at the watershed level in Thailand. The Land Degradation Neutrality Baseline and Target Validation Workshop was held from 22 to 23 June 2017 at the Royal Orchid Sheraton Hotel. The meeting discussed problems and determined three critical affected watersheds which are Nam Mun watershed, Nam Nan watershed and Nam Ping watershed. The area of these three watersheds was compiled from watershed data records and database from administrative division of Thailand (Department of Water Resources, 2011).

The percent change of degraded area to each watershed area shown in the comments column was collected from the Trends.Earth database (<http://trends.earth>), which was prepared to support countries that are not ready to prepare reports submitted to the Convention. Thailand is in the process of conducting official data to support the United Nations Convention Against Desertification (UNCCD).

Strategic objectives

Strategic objective 1: To improve the condition of affected ecosystems, combat desertification/land degradation, promote sustainable land management and contribute to land degradation neutrality

SO1

Proportion of land that is degraded over total land area (Sustainable Development Goal indicator 15.3.1)

Proportion of land that is degraded

Indicate the total area of land that is degraded (in km²), and the proportion of degraded land relative to the total land area (defined as the total surface area of a country less the area covered by inland waters, like major rivers and lakes), and the year.

Total area of degraded land (Km ²)	Proportion of degraded land	Year
	0.21	2000-2010

Method

Did you use the 3 sub-indicators (i.e. land cover, land productivity dynamics and soil organic carbon stock) to compute the proportion of land that is degraded?

Yes

only 2

only 1

no

Did you apply the One Out, All Out principle to compute the proportion of land that is degraded?

Yes

no

If no, indicate the method used to assess the proportion of land that is degraded

The computation of degraded areas was assessed by taking into account the land productivity indicator, which is the most important part of Thailand. Due to the limitations of data integrity, we now use information from the Trends.Earth database (<http://trends.earth>), which is designed to support countries that do not have data availability to prepare reports to the Convention. Thailand is in the process of organizing official data to support the United Nations Convention Against Desertification (UNCCD).

Level of confidence

Indicate your country's level of confidence in the assessment of the proportion of land that is degraded:

High (Based on comprehensive evidence)

Medium (Based on partial evidence)

Low (Based on limited evidence)

Describe why the assessment has been given the level of confidence selected above:

For the use of land productivity dynamic as an indicator, time series data are very important. Even though Thailand uses Global Data from Trends.Earth (<http://trends.earth>), which is designed to support countries that do not have the information available to prepare reports submitted to the United Nations Convention Against Desertification (UNCCD), verification of the accuracy of such data is very necessary. The process is currently underway.

[Complementary information](#)

Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

Strategic objectives

Strategic objective 1: To improve the condition of affected ecosystems, combat desertification land degradation, promote sustainable land management and contribute to land degradation neutrality

SO1 Voluntary targets

Land degradation neutrality targets

Has your country set any land degradation neutrality target(s)?

Yes

No

List any LDN target your country has set, and indicate the expected year of achievement and level of application (e.g. national level, subnational level, specific targets).

Target	Year	Level of application
Increase the proportion of national forest cover through reforestation and rehabilitation degraded forest including headwater and mangrove forests by participation of local community.	2030	National level Subnational level Specific target
Restore and rehabilitate degraded land to be productive land, emphasized on sustainable agriculture	2030	National level Subnational level Specific target
Reduce soil carbon loss and increase soil carbon sequestration by soil and water conservation and promote awareness raising and community participation in land management.	2030	National level Subnational level Specific target

Other targets

List any other target relevant to strategic objective 1 that your country has set, and indicate the expected year of achievement and level of application (e.g. national, subnational):

Target	Year	Level of application
-	-	-

Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

The government of Thailand is committed to achieve the Sustainable Development Goals (SDGs) especially Target 15.3 which clearly states "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". The government has set targets and measures to combat desertification and land degradation and to reach a situation of Land Degradation Neutrality by 2030 as shown below.

Target 1: Increase the proportion of national forest cover through reforestation and rehabilitation degraded forest including headwater and mangrove forests by participation of local community.

Measures

- Review and conduct agricultural land use planning in consistent with national directions and development targets indicated in national strategy
- Promote reforestation and fast-growing trees especially at the household and community level under the appropriate concept and mechanisms such as tree banks in order to increase biodiversity and soil carbon stocks
- Promote the development of community rules that relate to the forest conservation, reforestation in the area of forest complex that connects to the corridor of land owned by the state by participatory of all sectors.

Target 2: Restore and rehabilitate degraded land to be productive land, emphasized on sustainable agriculture.

Measures

- Apply principle of sufficiency economy in agriculture, sustainable land development, good agriculture practices, organic farming, integrated farming and agricultural system enhance resilient to climate change in corporation with local wisdom.
- Support and promote learning and land management for land degradation neutrality
- Formulate strategy and action plan to halt land degradation
- Increase efficiency of water management for agricultural areas

Target 3: Reduce soil carbon loss and increase soil carbon sequestration by soil and water conservation and promote awareness raising and community participation in land management.

Measures

- Promote soil and water conservation measures by both mechanical and vegetative measures, appropriate soil improvement in agricultural areas in highland and lowland
- Promote campaigns to reduce stubble burning plant, control the forests burning and agricultural residues management
- Develop land productivity and soil organic carbon database in national level by 2022

Strategic objectives

Strategic objective 2: To improve the living conditions of affected populations

SO2-1

Trends in population living below the relative poverty line and/or income inequality in affected areas

Relevant metric

Choose the metric relevant to your country:



Proportion of population below the international poverty line



Income inequality

Proportion of population below the international poverty line

Quantitative data

Estimates of the proportion of population below the international poverty line (percentage)
The 'international poverty line' is currently set at USD 1.90 a day based on 2011 purchasing power parity.

Year	Proportion of population below the international poverty line	
2004	0.8	
2005	-	
2006	0.7	
2007	0.3	
2008	0.1	
2009	0.2	
2010	0.1	
2011	0	
2012	0.1	
2013	0	
2014	-	
2015	-	
2016	-	
2017	-	

Sources of information

Provide the source of data.

Source: The World Bank. 2018. Poverty headcount ratio at \$1.90 a day (2011 PPP) (% of population).

<https://data.worldbank.org/indicator/SI.POV.DDAY?end=2017&locations=TH&start=1985>

Interpretation of the indicator Based on the quantitative data, describe the most significant negative or positive changes in the indicator as well as their direct and/or indirect drivers.

Change in the indicator	Driver(s)		Comments
	Direct (Choose one or more items)	Indirect (Choose one or more items)	
Decreasing proportion of population below the international poverty line	Industrial activities	Education, access to knowledge and support services	Thailand continues to focus on solving poverty problem by changing the economic system depending on agriculture toward the economic system depending on industry and service. The government also seeks to increase educational opportunities from childhood to college education, enabling labor to enter the labor market with higher compensation than the minimum wage.
Increasing income inequality	Any Other Economic policy toward Capitalism	Education, access to knowledge and support services	Although there is less poverty, there is still greater inequality due to the implementation of economic policy toward Capitalism and educational inequality. Currently, government's been trying to increase educational opportunities for poor children to access education services by providing specific welfare such as supporting the education for poor students especially who lives in remote areas by providing transportation and other costs to reduce the educational burden of poor households. The government also creates opportunities for poor children to study at higher levels which can help people get out of poverty.

Hotspots/brightspots If disaggregated data (e.g. per administrative division, urban vs. rural, affected areas etc.) are available in your country, indicate where the most significant hotspots/ brightspots related to this indicator are located.

Hotspots/brightspots	Location	Comments
Mae Hong Son, Nan and Tak provinces	Northern region	Although Thailand seems to have no poverty problem using the measure of international poverty line, poverty problem still exists using the national poverty line (2,667 Baht/person/month). In 2016, Mae Hong Son province had the highest share of poor population (39.21%) who had the income below national poverty line and ranked number one for 9 times in 10 years. Nan and Tak provinces having the area attach to Nam Nan watershed and Nam Ping watershed, respectively, also had high share of poor population. Both provinces ranked top ten for the last three years with the share of the poor population of 22.73% and 27.54%, respectively in 2016. The poverty problem came from the fact that the majority of land area in Mae Hong Son, Nan and Tak are mountainous area and high plains making the difficulty of traveling and development. Also people in these two provinces had low educational level and majority of their labor force are informal workers.

Hotspots/brightspots	Location	Comments
Narathiwat and Pattani provinces	Southern region	Similar to Mae Hong Son province, the poverty problem was detected in Narathiwat and Pattani provinces using the national poverty line (2,667 Baht/person/month in 2016). Narathiwat and Pattani provinces came in the 2 nd and 3 rd rank for the provinces that had the highest share of poor population equal to 37.30% and 35.98%, respectively. Unrest from separatism is the major obstacle.
Kalasin and Buri Rum provinces	Northeastern region	Compared to other regions, Northeastern region of Thailand is the poorest region in the country due to low educational level of the population and majority of labor force are informal. In 2016, Kalasin having the area attached to Nam Chi watershed and Buri Rum having the area attached to Nam Mun watershed had the highest share of poor population in the region accounting for 31.99% and 30.24%, respectively.

Source: National Economic and Social Development Board. 2017. Report on Analysis of Poverty and Inequality in Thailand for 2016. <http://social.nesdb.go.th/social/Portals/0/PDF%20%E0%B8%A3%E0%B8%B2%E0%B8%A2%E0%B8%87%E0%B8%B2%E0%B8%99%E0%B8%84%E0%B8%A7%E0%B8%B2%E0%B8%A1%E0%B8%A2%E0%B8%B2%E0%B8%81%E0%B8%88%E0%B8%99%E0%B8%AF%202559.pdf>

Complementary information Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

Overview of Poverty and Inequality in Thailand
 In almost 3 decades, poverty has continually declined and the inequality has slowly improved. The proportion of the poor decreased from 65.17% of the total population in 1988 to 38.63% in 1998, and then to 20.43% in 2008 and 8.6% in 2016 of the total population (5.8 million people), respectively.

Thailand's revenue disparity has declined slightly. The income disparity in Thailand is in the moderate level reflected by the Gini Coefficient which is ranging from 0.4-0.5 and was slightly reduced from 0.487 in 1998 to 0.445 in 2015. The indicator of wage earning in 2016 also indicated that the 10% of the lowest income earners (decile 1) had an increasing share of wage income to 3.79% which showed the improvement of inequality. Moreover, when considering the disparity in spending between the richest group and the poorest group, the report found that the richest group spent money more than the poorest group about 9.4 times in 2016.

For the education disparity, the study revealed that the access to compulsory education is high, but there are still children out of the education system. There is also a disproportionate tendency to attend high school and college. This is especially true for children who are in better-off households than those who are inferior. The net enrollment rates for elementary and middle school students in 2016 were 87.3% and 67.4%, respectively, reflecting that there were still children dropping out of the education system. In addition, net enrollment rates of the 10% of the population with the most decent living (Decile 10) had access to high schools and colleges by 78.9% and 62.8%, respectively, while 10% of the population who had living inferior (Decile 1) had access to high school and college degrees only 38.3% and 3.6%, respectively. Urban children have access to higher education more than children who live in rural areas. In addition, the allocation of resources for education is also problematic in terms of efficiency, such as the lack of teachers and the availability of educational resources, resulting in problems of quality of education, of learners, and of teachers.

SO2-2 Trends in access to safe drinking water in affected areas

Proportion of population using an improved drinking water source

Quantitative data Estimates of the proportion of population using safely managed drinking water services.

Year	Urban (Percent)	Rural (Percent)	Total (Percent)
2006	97.6	92.5	94
2012	98.3	96	97
2015	99.2	97	98

Sources of information

Provide the source of data.

Remark: Safe drinking water included tap water, treated water, rain water, bottled drinking water

Source: National Statistical Office (2017) (http://sdgs.nic.go.th/SDG6_1_1.html)

Qualitative assessment

Interpretation of the indicator

Based on the quantitative data, describe the most significant negative or positive changes in the indicator as well as their direct and/or indirect drivers.

Change in the indicator	Driver(s)		Comments
	Direct (Choose one or more items)	Indirect (Choose one or more items)	
Increasing proportion of rural population using safely managed drinking water services	Any other Government policy toward rural development	Poverty	The Government has worked to improve the quality of all piped water, including in all rural areas, so that the country's piped supply is safe to drink directly from a tap. Government is also focusing more heavily on a cleaner or more hygienic environment in general. The Clean Environment Programme, which started in 1996, promotes healthy living, healthy schools and healthy cities, covering food hygiene, healthy workplaces and cleanliness in household and village environments.

Hotspots/brightspots If disaggregated data (e.g. per administrative division, urban vs. rural, affected areas etc.) are available in your country, indicate where the most significant hotspots/ brightspots related to this indicator are located.

Hotspots/ brightspots	Location	Comments
Hotspots	Groundwater Potential in Chao Phraya River watershed	<p>Thailand has a total water supply of about 854,299 million cubic meters, classified as 569,072 million cubic meters of surface water, and 285,227 million cubic meters of groundwater. The total water supply can be used only 308,402 million cubic meters while the total demand for water is 151,750 million cubic meters. As a result, overall Thailand seems to have no problem of water shortage since it has the excess supply of water of 702,549 million cubic meters.</p> <p>However, by considering at the watershed level, there is excess demand of water in some watersheds like in the Chao Phraya watershed which has 8,160 million cubic meters of water supply consisting of 3,935.22 cubic meters of groundwater and 4,225 million cubic meters of surface water while water demand is 16,638 million cubic meters. This causes a water management problem especially in agricultural areas outside the irrigation area. The government and private agencies involved have been trying to solve the problem by finding additional water supply through projects such as the development of underground water resources for agriculture in drought-stricken areas, water distribution system, and increasing of water storage on soil and underground, to ensure fairness and equity in water resources management.</p>
Hotspots	Lower Chao Phraya River and Tha Chin River	<p>While Thailand is stepping up to supply communities in rugged terrains with clean drinking water, the country is facing growing demand from different economic sectors amid increasing water scarcity due to deforestation and global warming. Meanwhile, the deterioration of water quality has become a serious concern. The main culprits are excessive use of toxic farm chemicals, industrial waste and untreated urban sewage that flow directly to the waterways. Lower Chao Phraya River and Tha Chin River had the lowest quality of water in 2016 according to the Thailand State of Pollution Report 2016 launched by the Pollution Control Department. The two river basins are reported as the heavy polluted rivers where wastewater drained is higher than runoff. This implies that activities along the river banks emit pollution more than the absorptive capacity of the rivers.</p>

Complementary information Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

Source:

- 1) The Policy Committee for Water Resources Management. 2015. The Strategic Plan on Thailand's Water Resources Management: Executive Summary.
- 2) Pollution Control Department. 2017. Thailand State of Pollution Report 2016. Ministry of Natural Resources and Environment. ISBN 978-616-316-403-2
- 3) Department of Health. 2017. Situation of Water Quality for Consumption in Thailand year 2009-2017. Ministry of Public Health.
- 4) Department of Groundwater Resources. 2017. Groundwater Management Strategy 20-Year 2017-2036. Ministry of Natural Resources and Environment.

SO2

Voluntary targets

Targets

List any target relevant to strategic objective 2 that your country has set, and indicate the expected year of achievement and level of application (e.g. national, subnational):

Target	Year	Level of application
Providing water supply, surface water, groundwater and rural water supply in 7,490 villages.	2017	National level Subnational level
Increasing efficiency of rural water supply system in 9,093 villages and providing safe drinking water in 6,132 schools/communities throughout the country.	2021	National level Subnational level
Developing water supply systems in 688 cities and 255 cities in urban communities/economic areas.	2026	National level Subnational level
1.516 million hectares are protected from soil surface loss to reduce erosion in upstream areas.	2026	National level Subnational level
Rehabilitating the upstream forest areas in the amount of 0.7632 million hectares, which can reduce the speed of inundated flow in such areas.	2024	National level Subnational level
Protecting and rehabilitating the ecosystems associated with water resources, including mountain forests, wetlands, rivers, rocky outcrops and lakes.	2020	National level Subnational level
Everyone accesses to safe and affordable drinking water.	2030	National level Subnational level

Complementary information

Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

Source:

- 1) The Policy Committee for Water Resources Management. 2015. The Strategic Plan on Thailand's Water Resources Management (2015-2026): Executive Summary.
- 2) Sustainable Development Goals (SDGs).

Strategic objectives

Strategic objective 3: To mitigate, adapt to, and manage the effects of drought in order to enhance resilience of vulnerable populations and ecosystems

SO3 Indicators

Nationally relevant indicators Which indicators is your country using to measure progress towards strategic objective 3, related targets and/or specific expected impacts?

Indicator	Qualitative assessment	Comments
Water supply system covers all villages.	256 villages remaining	Strategy 1 of the Strategic Plan on Thailand's Water Resources Management (2015-2026)
Rural water supply system has been improved / enhanced efficiency.	On schedule as planned	Strategy 1 of the Strategic Plan on Thailand's Water Resources Management (2015-2026)
More schools and communities with improved drinking water systems.	On schedule as planned	Strategy 1 of the Strategic Plan on Thailand's Water Resources Management (2015-2026)
Urban areas and economic areas have increased water supply systems and expand the urban water supply system.	On schedule as planned	Strategy 1 of the Strategic Plan on Thailand's Water Resources Management (2015-2026)
Water consumption of the industrial sector in the Eastern region was decreased by reducing the use, use efficiently, and recycle. Control and water allocation mechanisms for the Eastern, Central and Western regions of Thailand are established.	On schedule as planned	Strategy 2 of the Strategic Plan on Thailand's Water Resources Management (2015-2026)
Efficient water management in line with appropriate cropping system in existing irrigation areas emphasizing on Greater Chao Phraya, Nam Chi and Nam Mun watersheds.	On schedule as planned	Strategy 2 of the Strategic Plan on Thailand's Water Resources Management (2015-2026)
Efficiency of existing water storages is enhanced to their full capacity. Water use in existing irrigation areas will be reduced and water distribution efficiency of small water sources in low potential development river basins will be enhanced.	On schedule as planned	Strategy 2 of the Strategic Plan on Thailand's Water Resources Management (2015-2026)
Water sources will be provided for rain-fed agricultural areas. This will be done by rehabilitating natural water sources to increase water volume, digging farm ponds, developing groundwater wells for agriculture and community water sources.	On schedule as planned	Strategy 2 of the Strategic Plan on Thailand's Water Resources Management (2015-2026)
Water storages will be developed especially in low capacity watersheds having water shortage areas. Water source development in different forms aims to respond to development needs, climate change and water security by increasing water supply which can increase irrigation areas.	On schedule as planned	Strategy 2 of the Strategic Plan on Thailand's Water Resources Management (2015-2026)

Indicator	Qualitative assessment	Comments
Upstream forests are rehabilitated which will help reduce inundated flow in upstream areas.	On schedule as planned	Strategy 5 of the Strategic Plan on Thailand's Water Resources Management (2015-2026)
Land is protected from soil surface loss which will help reduce soil erosion in upstream areas.	On schedule as planned	Strategy 5 of the Strategic Plan on Thailand's Water Resources Management (2015-2026)
Transfer the developed information, knowledge and technology for climate change adaptation in the high-risk provinces.	On schedule as planned	Strategy 1 of the Ministry of Agriculture and Cooperatives (MOAC) Climate Change Strategic Plan for the Agricultural Sector (2017-2021)
Provide knowledge and promote the development of crop insurance or climate-risk insurance packages suitable for agricultural production	On schedule as planned	Strategy 2 of the Ministry of Agriculture and Cooperatives (MOAC) Climate Change Strategic Plan for the Agricultural Sector (2017-2021) and the National Climate Change Master Plan (2015 -2050) for medium term (2020)
Every high-risk province has measures, mechanisms, and proper infrastructure to support the adaptation of farmers, farmer institutions, and related businesses	On schedule as planned	Strategy 2 of the Ministry of Agriculture and Cooperatives (MOAC) Climate Change Strategic Plan for the Agricultural Sector (2017-2021)
Develop forestland in the rural area	On schedule as planned	The National Climate Change Master Plan (2015 -2050)

Complementary information Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

Source:

- 1) The Policy Committee for Water Resources Management. 2015. The Strategic Plan on Thailand's Water Resources Management (2015-2026): Executive Summary.
- 2) Office of Natural Resources and Environmental Policy and Planning (ONEP). 2015. Climate Change Master Plan (2015-2050). Ministry of Natural Resources and Environment.
- 3) Policy and Development Planning Committee. 2017. The Strategic Plan on Climate Change in Agriculture (2017-2021). Ministry of Agriculture and Cooperatives.

SO3 Voluntary targets

Targets

Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

Target	Year	Level of application
Providing surface water and groundwater plus developing rural and urban tap water in 7,490 villages.	2017	National level Subnational level
Increasing efficiency of rural tap water supply system in 9,093 villages throughout the country.	2021	National level Subnational level
Providing safe drinking water in 6,132 schools/communities throughout the country.	2021	National level Subnational level
Increasing tap water supply systems in 255 communities/economic areas plus expanding urban tap water system in 688 cities.	2026	National level Subnational level
Industries in the Eastern region can reduce, reuse and recycle water, resulting in water saving by 10 percent and The water control and allocation mechanism are established for the Eastern, Central and Western areas of Thailand.	2026	National level Subnational level
Improving efficient water management in line with appropriate cropping system in 5 million hectares located in the existing irrigation areas emphasizing on Greater Chao Phraya, Nam Chi and Nam Mun River Basins	2026	National level Subnational level
Enhancing efficiency of existing water storages to their full capacity; Reducing the water use in existing irrigation areas by 10 percent and; Improving water distribution efficiency of small water sources in river basins having low development potential.	2026	National level Subnational level
Providing water sources for rain-fed agricultural areas for subsistence cultivation at least one time/year. This will be done by rehabilitating natural water sources to increase water volume up to 2,700 million m ³ , digging 270,000 farm ponds, developing groundwater wells for agriculture covering 0.16 million hectares and 1,715 community water sources.	2026	National level Subnational level
Developing water storages especially in low capacity river basins having water shortage to meet the water demand for fundamental needs, ecosystem conservation, development of irrigated areas, industrial and economic uses, and other water development projects to adapt for development needs, climate change and water security by increasing water supply at least 9,500 million m ³ which can increase irrigation areas up to 1.4 million hectares.	2026	National level Subnational level
Rehabilitating upstream forests totaling 0.7632 million hectares which will help reduce inundated flow in upstream areas.	2026	National level Subnational level
Protecting land totaling 1.5 million hectares from soil surface loss which will help reduce soil erosion in upstream areas.	2026	National level Subnational level
Transferring the developed information, knowledge and technology for climate change adaptation in the high-risk provinces.	2026	National level Subnational level

Target	Year	
Providing knowledge and promote the development of crop insurance or climate-risk insurance packages suitable for agricultural production.	2020	National level Subnational level
Every high-risk province has measures, mechanisms, and proper infrastructure to support the adaptation of farmers, farmer institutions, and related businesses.	2021	National level Subnational level
Forest area increased at least 40 percent of the country area.	2036	National level Subnational level

Complementary information

Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

Source:

- 1) The Policy Committee for Water Resources Management. 2015. The Strategic Plan on Thailand's Water Resources Management (2015-2026): Executive Summary.
- 2) Office of Natural Resources and Environmental Policy and Planning (ONEP). 2015. Climate Change Master Plan (2015-2050). Ministry of Natural Resources and Environment.
- 3) Policy and Development Planning Committee. 2017. The Strategic Plan on Climate Change in Agriculture (2017-2021). Ministry of Agriculture and Cooperatives.
- 4) Department of Forestry. 2016. Forest Department Strategy 20-Year 2017-2036. Ministry of Natural Resources and Environment.

Strategic objectives

Strategic objective 4: To generate global environmental benefits through effective implementation of the United Nations Convention to Combat Desertification

SO4-1 Trends in carbon stocks above and below ground

Trends in carbon stock above and below ground is a multi-purpose indicator used to measure progress towards both strategic objectives 1 and 4. Quantitative data and a qualitative assessment of trends in this indicator are reported under strategic objective 1, progress indicator SO1-3.

SO4-2 Trends in abundance and distribution of selected species

Quantitative data

Red List Index of species survival

Year	Red List Index
2005	n.a.
2016	n.a.

Sources of information

Provide the source of data.

There is no official Red List Index of the country.

However, ONEP (2017) published Thailand Red Data report on vertebrates, which provided changes in status of threatened vertebrates in Thailand using the criteria of IUCN (2001) version 3.1. The report found that, in 2016, 4,731 species of vertebrates were found in Thailand, which was an increase of 123 from the number recorded in 2005 (4,608 species). Of those 4,731 species, 345 are mammals, 1,012 are birds, 392 are reptiles, 157 are amphibians and 2,825 are fish.

2,276 species of vertebrates in Thailand were evaluated for their status. 569 vertebrates were categorized as threatened species, 20 species more than the status in 2005 (549 species). Of those, 123 were mammals (an increase of seven species since 2005), 171 were birds (a decrease of nine species since 2005), 49 were reptiles (an increase of 17 species since 2005), 18 were amphibians (an increase of 13 species since 2005) and 208 were fish (a decrease of seven species since 2005).

Reference

ONEP. 2017. Thailand Red Data: Vertebrates. Ministry of National Resources and Environment. ISBN: 978-616-316-417-9. http://chm-thai.onep.go.th/chm/publication_2.html

Qualitative assessment

Interpretation of the indicator Based on the quantitative data, describe the most significant negative or positive changes in the indicator as well as their direct and/or indirect drivers:

Change in the indicator	Driver(s)		Comments
	Direct (Choose one or more items)	Indirect (Choose one or more items)	
Downward trend in the Red List Index	Deforestation Over-exploitation of vegetation for domestic use Industrial activities Urbanization Discharge	Population pressure Poverty Governance, institutional settings, and policies	<p>The number of threatened species has been increased due to direct and indirect drivers. The direct drivers include deforestation, over-exploitation of vegetation for domestic use, industrial activities, urbanization, and discharge of waste water while the indirect drivers consist of population pressure, poverty, and governance, institutional settings, and policies.</p> <p>These drivers are caused by: 1) The lack of awareness and understanding of the importance and benefits of biodiversity; 2) The taxonomic operation of the country remains a problem due to the shortage of personnel and financial support; and 3) The difficulty of access to and sharing of genetic resources, biological resources, and the knowledge of tradition.</p>

Hotspots/brightspots If disaggregated data (e.g. by ecosystems, habitats, and other political and geographic divisions) are available in your country, indicate where the most significant hotspots/brightspots related to this indicator are located.

Hotspots/brightspots	Location	Comments
Hotspot	Nam Mun watershed	During 2000-2010, the area of Nam Mun watershed is identified as a major hotspot since it had the largest degrading area of 16.99% of total watershed area. Based on data collection and analysis of the 25-watershed on data warehouse system with the Nam Mun Watershed Drought and Flood Model (Hydro and Argo Informatics Institute, 2012), the Nam Mun watershed has problems including a water shortage and drought, forest invasion, improper land use, soil and saline soil problems and soil erosion. The socio-economic pressures such as population pressure and poverty exacerbate the loss of biodiversity.
Hotspot	Nam Nan watershed	Although the watershed area of Nam Nan is smaller than that of Nam Mun watershed, this area is identified as a major hotspot since the share of degrading area to total watershed area was high accounting for 38.52% of its watershed area from 2000-2010. Based on data collection and analysis of the 25-watershed on data warehouse system with the Nam Nan Watershed Drought and Flood Model (Hydro and Argo Informatics Institute, 2012), the Nam Nan watershed has problems including a water shortage and drought, invasion of forest watershed, soil erosion, inappropriate cropping, contamination of agricultural chemicals and floods. The conversion of forestland in the mountain areas to cropland for maize production in Nan province was also an example of the problems caused by interactions between direct and indirect drivers.
Hotspot	Nam Ping watershed	Similar to Nam Nan watershed, Nam Ping watershed is identified as a major hotspot since it had high share of degrading area to total watershed area. From 2000-2010, the watershed area was degraded 39.58% of its watershed area. Based on data collection and analysis of the 25-watershed on data warehouse system with the Nam Ping Watershed Drought and Flood Model (Hydro and Argo Informatics Institute, 2012), the Nam Ping watershed has problems including water shortage and drought, floods, soil erosion, invasion of forest watershed and improper land use. The socio-economic pressures such as population pressure and poverty exacerbate the loss of biodiversity.

Complementary information

Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

Selection of affected watersheds (Hotspots) is a result of the implementation of the Land Degradation Neutrality Targeting Program, which the United Nations Convention against Desertification has assessed the affected area resulted from the degradation of land at the watershed level in Thailand. The Land Degradation Neutrality Baseline and Target Validation Workshop was held from 22 to 23 June 2017 at the Royal Orchid Sheraton Hotel. The meeting discussed problems and determined three critical affected watersheds which are Nam Mun watershed, Nam Nan watershed and Nam Ping watershed. The area of these three watersheds was compiled from watershed data records and database from administrative division of Thailand (Department of Water Resources, 2011).

The percent change of degraded area to each watershed area shown in the comments column was collected from the Trends.Earth database (<http://trends.earth>), which was prepared to support countries that are not ready to prepare reports submitted to the Convention. Thailand is in the process of conducting official data to support the United Nations Convention Against Desertification (UNCCD).

Strategic objectives

Strategic objective 4: To generate global environmental benefits through effective implementation of the United Nations Convention to Combat Desertification

SO4 Voluntary targets

Targets List any target relevant to strategic objective 4 that your country has set and indicate the expected year of achievement and level of application (e.g. national, subnational). Which additional indicators is your country using to measure progress towards strategic objective 1, 2 and 3 and related targets?

Target	Year	Level of application
All parties, especially the people and local communities, have basic knowledge on biodiversity, understand and appreciate the importance of conservation and sustainable utilization of biodiversity	2020	National level Subnational level
Biodiversity has been integrated into the curriculum of educational institutions at all levels	2021	National level Subnational level
Biodiversity issues are included in the policy and related plans at all levels	2020	National level Subnational level
All parties at all levels participate in the management of biodiversity	2021	National level Subnational level
Have financial mechanisms to drive protection, conservation, rehabilitation, and utilize sustainable biodiversity	2020	National level Subnational level
Legislation that hinders participation in administration of biodiversity management has been resolved	2020	National level Subnational level
Loss of natural habitats, including forest areas and coastal ecosystems declined by 50 percent	2020	National level Subnational level
Have the protected area network link and ecological agents, management measures in critical areas and important areas of biodiversity and ecosystem services	2021	National level Subnational level
Threatened species and endemic species have a better status of conservation and management and have measures to conserve and protect the habitat of such species	2020	National level Subnational level
Have mechanisms and measures to manage policies or laws in protecting and conserving the national genetic diversity	2021	National level Subnational level
80% of the surface water and 88% of the sea water are in the good quality condition	2020	National level Subnational level
Apply tools / mechanisms / approaches to utilize sustainable biodiversity in all related sectors	2020	National level Subnational level
Have wetlands management tools at the provincial level	2020	National level Subnational level
Have at least 50% of international wetland management plans / measures	2021	National level Subnational level
Have measures to manage, classify, and register highly invasive alien species and routes of the major epidemic	2020	National level Subnational level
Relevant agencies take precautionary steps in monitoring biological safety, improve and develop rules, regulations and mechanisms for genetically modified transgenic plants in line with the obligations of the Cartagena Protocol on Biological Safety	2021	National level Subnational level
Establish a central organization to manage access, share benefits, and	2020	National level

monitor the utilization of genetic resources		Subnational level
The research community and local communities have developed mechanisms and regulations related to the access and benefit sharing of genetic resources	2021	National level Subnational level
Have measures and mechanisms of transferring economic returns derived from bioproducts to biological sources to support the conservation and sustainable utilization of biodiversity	2021	National level Subnational level
Have mechanisms for integrating and linking diverse databases of biological and scientific knowledge and developing the database for high priority biodiversity	2021	National level Subnational level
Municipalities at all levels have systematically collected information related to city's biodiversity	2021	National level Subnational level

Complementary information Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

Source:

1. Office of Natural Resources and Environmental Policy and Planning (ONEP). 2015. Master Plan for Biodiversity Management 2015-2021, Ministry of Natural Resources and Environment.
2. Office of Natural Resources and Environmental Policy and Planning (ONEP). 2017. Master Plan for Biodiversity Management 2017-2021, Ministry of Natural Resources and Environment.

SO1,2 and 4 Additional indicators

Nationally relevant indicators

Which additional indicators is your country using to measure progress towards strategic objectives 1, 2 and 4 and related targets?

Indicator	Relevant strategic objective or target	Qualitative assessment	Comments

Complementary information

Provide any complementary information you deem relevant and upload any complementary data/document into the space provided on the PRAIS portal.

Strategic objectives

Strategic objective 5: To mobilize substantial and additional financial and non-financial resources to support the implementation of the Convention by building effective partnerships at global and national level

SO5-1

Trends in International Bilateral and Multilateral Official Development Assistance

Quantitative data

Total amount of bilateral official development assistance (ODA) committed for activities relevant to the implementation of the Convention over the previous five years.

Data derived from information reported to the Organization for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC), based on the Rio marker classification for desertification; they can be amended as appropriate.

Year	Total ODA committed for activities relevant to the implementation of the Convention
2012	1.1175 Million USD (constant 2015 prices)
2013	0.2253 Million USD (constant 2015 prices)
2014	0.002301 Million USD (constant 2015 prices)
2015	0.5266 Million USD (constant 2015 prices)
2016	1.2192 Million USD (constant 2015 prices)

Sources of information

If you have used other global/regional data sources or national data, please provide the source of data.

Development Assistance Committee (DAC), Organization for Economic Co-operation and Development (OECD).
https://public.tableau.com/views/RioMarkers/ByRecipient?%3Aembed=y%3Adisplay_count=no%3AshowVizHome=no%20#3

Qualitative assessment

Complementary information

Provide any complementary information you deem relevant, including trends emerging from the data as indicated above and how they relate to financing the implementation of the Convention, and the types of projects and/or regions or countries on which your country has focused to the greatest extent.

During 2012-2016, Australia, Germany, Japan, and United Kingdom were the top four providers. The majority of the grants were spent to three sectors including water supply and sanitation; global environment protection; and agriculture, forestry and fishery.





Strategic objectives

Strategic objective 5: To mobilize substantial and additional financial and non-financial resources to support the implementation of the Convention by building effective partnerships at global and national level

S05-2 Trends in domestic public resources

Qualitative assessment

Trends in amount of domestic desertification financing Choose the option representing the trend in the total amount of financing relevant for implementation of the Convention committed at the national level during the five-year period from 2012 to 2016

Trends in national-level financing for activities relevant to the implementation of the Convention		
Up		<input type="checkbox"/>
Stable		<input type="checkbox"/>
Down		<input type="checkbox"/>
Unknown		<input checked="" type="checkbox"/>

Sources of information

Provide the source of trend information

Focal Point Office of United Nations Framework Convention on Climate Change (UNFCCC) to Thailand, Land Development Department, Ministry of Agriculture and Cooperatives.

Complementary information

Provide any complementary information you deem relevant, including trends emerging from the data as indicated above and how they relate to financing the implementation of the Convention, and the types of projects and/or regions on which national-level financing has focused to the greatest extent.

We need to study on the issue of financial management directly with land degradation or combat desertification. Comparing with United Nations Framework Convention on Climate Change (UNFCCC) and Convention on Biological Diversity (CBD), both conventions already studied financial implications on climate change and biodiversity.

Strategic objectives





Strategic objective 5: To mobilize substantial and additional financial and non-financial resources to support the implementation of the Convention by building effective partnerships at global and national level

SO5-3 Trends in number of co-financing partners

Qualitative assessment

Trends in number of co-financing partners

Choose the option representing the trend in the number of co-financing partners for activities relevant to the implementation of the Convention between 2012 and 2016

Number of co-financing partners for activities relevant to the implementation of the Convention			
Up		<input type="checkbox"/>	
Stable		<input checked="" type="checkbox"/>	
Down		<input type="checkbox"/>	
Unknown		<input type="checkbox"/>	

Sources of information

Provide the source of trend information

Focal Point Office of United Nations Framework Convention on Climate Change (UNFCCC) to Thailand, Land Development Department, Ministry of Agriculture and Cooperatives.

Complementary information

Provide any complementary information you deem relevant, including trends emerging from the data as indicated above and how they relate to financing the implementation of the Convention, and the types of projects and/or regions or countries on which co-financing partners have focused to the greatest extent.

Co-financing partners involve to the GEF project only. Considering the project relevant to land degradation and drought (DLDD) within GEF that had been approved during 2012-2016, Land Development Department was the only one agency that provided co-financing to the GEF project. The trends in GEF6 and GEF 7, there might be more agencies involved in co-financing, but the trends of co-financing in this report were focused on the GEF project which has been approved by GEF and in the process of implementation.

Strategic objectives

Strategic objective 5: To mobilize substantial and additional financial and non-financial resources to support the implementation of the Convention by building effective partnerships at global and national level





SO5-4

Resources Mobilized from Innovative Sources of Finance, Including from the Private Sector

Qualitative assessment

Trends in resources mobilized from innovative sources of finance

Choose the option representing the trend in the resources mobilized from innovative sources of finance, including from the private sector, for activities relevant to the implementation of the Convention for the four-year period between 2012 and 2016

Amount of resources mobilized from innovative sources of finance, including from the private sector for activities relevant to the implementation of the Convention			
Up		<input type="checkbox"/>	
Stable		<input type="checkbox"/>	
Down		<input type="checkbox"/>	
Unknown		<input checked="" type="checkbox"/>	

Sources of information

Provide the source of trend information

Focal Point Office of United Nations Framework Convention on Climate Change (UNFCCC) to Thailand, Land Development Department, Ministry of Agriculture and Cooperatives.

Complementary information

Provide any complementary information you deem relevant, including trends emerging from the data as indicated above and how they relate to financing the implementation of the Convention, and the types of projects and/or regions or countries on which innovative sources of finance have focused to the greatest extent.

The UNCCD National Committee of Thailand was established in 2015 and there is a representative from the Chamber of Commerce in the committee which could create the opportunity to improve engagement of the private sector for the convention and the development of innovative source of finance. The source of budget for implementation of the convention in Thailand comes primarily from government sources, but the issue of innovative source of finance should be one priority area that needs to be improved and developed further.

Establishing policies and enabling environments for promoting and implementing solutions to combat desertification/land degradation and mitigate the effects of drought including prevention, relief and recovery

Establishing policies

Would you like to share an experience on how your country institution has established or helped establishing policies and enabling environments to promote and/or implement solutions to combat desertification/land degradation and mitigate the effects of drought?

Yes

No

If yes, have those policies and enabling environments aimed at

Promoting solutions to combat DLDDD

Implementing solutions to combat DLDD?

Is your experience about

Preventing the effects of DLDD

Relief efforts after DLDD has caused environmental and/or socio economics stress on ecosystem

Recovery efforts after DLDD has caused environmental and/or socio economics stress on ecosystem and/or populations

Engaging women in decision-making and implementation and promoting their land-rights

Other?

Narrative

Provide any complementary information you deem relevant.

Establishing policies

Has your country supported other countries in establishing policies and enabling environments for promoting and implementing solutions to combat desertification/land degradation and mitigate the effects of drought including prevention, relief and recovery?

Yes

No

Implementing sustainable land management practices

SLM practices

Would you like to share an experience on how your country is implementing sustainable land management (SLM) practices to address DLDD?

Yes

No

If yes, what types of SLM practices are being implemented?

Integrated soil fertility management

Soil and water conservation

Soil improvement

Narrative

Provide any complementary information you deem relevant.

SLM practices that could be shared are soil doctor volunteers and participatory saline soil management.

Support

Has your country supported other countries in the implementation of SLM practices?

Yes

No

Narrative

Provide any complementary information you deem relevant.

Thailand has given importance to supporting other countries including neighboring countries. In 2016, Thailand provided the total support of 7,104,201,724.37 baht. This is classified as technical assistance of 1,603,254,940.67 baht, grant assistance through International Organizations 4,673,635,848.58 baht and loan in the amount of 827,310,935.15 baht. Lao PDR received the most assistance which was equal to 1,168,891,565.30 baht.

Source: Thailand International Cooperation Agency. 2017. Thailand Official Development Assistance (ODA) Year 2016. Ministry of Foreign Affairs.

<http://www.tica.thaigov.net/main/en/other/7349>

In addition, many countries such as Lesotho, Tonga, Timor Leste and Lao PDR have been supported by Thailand to cooperate in the establishment of demonstration centers and villages of sufficiency economy philosophy (SEP) in the past decade. Thailand has been transferring the knowledge of restoring quality of the soil, which has deteriorated from the past by unsustainable practices. Understanding the virtue of His Majesty King Rama IX makes people realize that SEP is beneficial to other development activities in non-agricultural sector and also can increase income for households.

Source: Ministry of Foreign Affairs. 2016. Newsroom: Group Meeting 77 believes sufficiency economy paves way to achieve sustainable development.

<http://www.mfa.go.th/main/th/media-center/14/70575-ที่ประชุมกลุ่ม-๗๗-เชื่อบริษัทเศรษฐกิจพอเพียงช่วยปลูก. html>

Promoting alternative livelihoods

Alternative livelihoods

Does your country promote alternative livelihoods practices in the context of DLDD?

Yes

No

1. If yes, could you list some practices implemented at your country level to promote alternative livelihoods?

Participatory saline soil management

2. Would you like to share experiences in engaging women and youth in promoting alternative livelihoods?

Narrative

Provide any complementary information you deem relevant.