United Nations Convention to Combat Desertification
Performance review and assessment of implementation system
Seventh reporting process

Report from Pakistan

15 February 2023

Contents

1. SO: Strategic objectives

A. SO-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
- SO1-2 Trends in land productivity or functioning of the land
- SO1-3 Trends in carbon stocks above and below ground
- SO1-4 Proportion of degraded land over the total land area
- SO1 Voluntary Targets

B. SO-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
- SO2-2 Trends in access to safe drinking water in affected areas
- SO2-3 Trends in the proportion of population exposed to land degradation disaggregated by sex
- SO2 Voluntary Targets

C. SO-3: To mitigate, adapt to, and manage the effects of drought in order to enhance resilience of vulnerable populations and ecosystems.
- SO3-1 Trends in the proportion of land under drought over the total land area
- SO3-2 Trends in the proportion of the population exposed to drought
- SO3-3 Trends in the degree of drought vulnerability
- SO3 Voluntary Targets

D. SO-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
- SO4-2 Trends in abundance and distribution of selected species
- SO4-3 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
- SO4 Voluntary Targets

E. SO-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 Bilateral and multilateral public resources
- SO5-2 Domestic public resources
- SO5-3 International and domestic private resources
- SO5-4 Technology transfer
- SO5-5 Future support for activities related to the implementation of the Convention

2. IF: Implementation Framework

A. Financial and Non-Financial Sources

B. Policy and Planning

C. Action on the Ground

3. Other files for Reporting

4. Templated Maps

A. Land cover in the initial year of the baseline period

B. Land cover in the baseline year

C. Land cover in the latest reporting year

D. Land cover change in the baseline period

E. Land cover change in the reporting period

F. Land cover degradation in the baseline period

G. Land cover degradation in the reporting period

H. Land productivity dynamics in the baseline period

I. Land productivity dynamics in the reporting period

J. Land productivity degradation in the baseline period

K. Land productivity degradation in the reporting period

L. Soil organic carbon stock in the initial year of the baseline period

M. Soil organic carbon stock in the baseline year

N. Soil organic carbon stock in the latest reporting year

O. Change in soil organic carbon stock in the baseline period

P. Change in soil organic carbon stock in the reporting period
Q. Soil organic carbon degradation in the baseline period
R. Soil organic carbon degradation in the reporting period
S. Proportion of land that is degraded over total land area (SDG Indicator 15.3.1) in the baseline period
T. Proportion of land that is degraded over total land area (SDG Indicator 15.3.1) in the reporting period
U. Progress towards Land Degradation Neutrality (LDN) in the reporting period
V. Land Degradation Hotspots
W. Total Population exposed to land degradation (baseline)
X. Female Population exposed to land degradation (baseline)
Y. Male Population exposed to land degradation (baseline)
Z. Total Population exposed to land degradation (reporting)
AA. Female Population exposed to land degradation (reporting)
AB. Male Population exposed to land degradation (reporting)
AC. Drought hazard in first epoch of baseline period
AD. Drought hazard in second epoch of baseline period
AE. Drought hazard in third epoch of baseline period
AF. Drought hazard in fourth epoch of baseline period
AG. Drought hazard in the reporting period

SO1-1 Trends in land cover

Land area

SO1-1.T1: National estimates of 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
2001	865 656	7 280	872 936	The boundary and total area of Pakistan was extracted from trends.earth platform for all regions of Pakistan and does not represent the official boundary of Pakistan.
2005	865 625	7 311	872 936	The boundary and total area of Pakistan was extracted from trends.earth platform for all regions of Pakistan and does not represent the official boundary of Pakistan.
2010	865 879	7 057	872 936	The boundary and total area of Pakistan was extracted from trends.earth platform for all regions of Pakistan and does not represent the official boundary of Pakistan.
2015	865 770	7 166	872 936	The boundary and total area of Pakistan was extracted from trends.earth platform for all regions of Pakistan and does not represent the official boundary of Pakistan.
2016	865 736	7 200	872 936	The boundary and total area of Pakistan was extracted from trends.earth platform for all regions of Pakistan and does not represent the official boundary of Pakistan.
2019	865 728	7 208	872 936	The boundary and total area of Pakistan was extracted from trends.earth platform for all regions of Pakistan and does not represent the official boundary of Pakistan.

Land cover legend and transition matrix

SO1-1.T2: Key Degradation Processes

Degradation Process	Starting Land Cover	Ending Land Cover
Urban Expansion	Tree-covered areas	Artificial surfaces
Urban Expansion	Croplands	Artificial surfaces
Deforestation	Tree-covered areas	Croplands
Deforestation	Tree-covered areas	Artificial surfaces
Deforestation	Tree-covered areas	Other Lands
Vegetation Loss	Tree-covered areas	Tree-covered areas
Wetland Drainage	Water bodies	Wetlands

Are the seven UNCCD land cover classes sufficient to monitor the key degradation processes in your country?

- (●) Yes
- ( ) No

SO1-1.T4: UNCCD land cover legend transition matrix

Original/ Final	Tree-covered areas	Grasslands	Croplands	Wetlands	Artificial surfaces	Other Lands	Water bodies
Tree-covered areas	0	-	-	-	-	-	0
Grasslands	+	0	-	-	-	-	0
Croplands	+	+	0	-	-	-	0

Original/ Final	Tree-covered areas	Grasslands	Croplands	Wetlands	Artificial surfaces	Other Lands	Water bodies
Wetlands	-	-	-	0	-	-	0
Artificial surfaces	+	+	+	+	0	+	0
Other Lands	+	+	+	+	-	0	0
Water bodies	0	0	0	0	0	0	0

Land cover

SO1-1.T5: National estimates of land cover (km²) for the baseline and reporting period

	Tree-covered areas (km²)	Grasslands (km²)	Croplands (km²)	Wetlands (km²)	Artificial surfaces (km²)	Other Lands (km²)	Water bodies (km²)	No data (km²)
2000	0	0	0	0	0	0	0	
2001	25 597	270 165	290 398	8 022	1 018	270 456	7 281	
2002	25 548	271 902	290 364	8 045	1 289	268 530	7 259	
2003	25 529	273 158	290 400	8 048	1 700	266 832	7 271	
2004	25 555	279 879	290 481	8 052	2 053	259 590	7 327	
2005	25 528	282 229	290 757	8 076	2 220	256 814	7 312	
2006	25 579	283 163	290 826	8 104	2 422	255 578	7 265	
2007	25 613	290 696	291 045	8 160	2 599	247 602	7 221	
2008	25 654	291 633	291 133	8 285	2 731	246 408	7 092	
2009	25 667	292 493	291 184	8 300	2 849	245 367	7 077	
2010	25 678	292 762	291 131	8 308	2 968	245 033	7 058	
2011	25 685	293 184	291 001	8 297	3 065	244 579	7 127	
2012	25 713	293 117	290 903	8 324	3 213	244 611	7 056	
2013	25 710	293 151	290 662	8 324	3 492	244 542	7 057	
2014	25 700	292 856	290 352	8 321	3 773	244 768	7 167	
2015	25 699	292 846	290 212	8 321	3 930	244 763	7 167	
2016	25 879	293 483	289 873	8 319	3 930	244 253	7 200	
2017	25 948	293 583	289 448	8 318	4 278	244 156	7 206	
2018	26 029	293 999	289 087	8 312	4 551	243 747	7 212	
2019	26 576	294 927	288 537	8 319	4 768	242 600	7 208	
2020	0	0	0	0	0	0	0	

Land cover change

SO1-1.T6: National estimates of land cover change (km²) for the baseline period

	Tree-covered areas (km²)	Grasslands (km²)	Croplands (km²)	Wetlands (km²)	Artificial surfaces (km²)	Other Lands (km²)	Water bodies (km²)	Total (km²)
Tree-covered areas (km²)	25 322	123	112	0	27	8	5	25 597
Total	25 699	292 846	290 212	8 320	3 931	244 763	7 167	

	Tree-covered areas (km²)	Grasslands (km²)	Croplands (km²)	Wetlands (km²)	Artificial surfaces (km²)	Other Lands (km²)	Water bodies (km²)	Total (km²)
Grasslands (km²)	70	266 517	1 812	2	198	1 412	156	270 167
Croplands (km²)	194	528	286 797	7	2 633	105	133	290 397
Wetlands (km²)	0	0	0	7 980	4	0	37	8 021
Artificial surfaces (km²)	0	0	0	0	1 018	0	0	1 018
Other Lands (km²)	1	25 668	1 484	0	50	243 236	17	270 456
Water bodies (km²)	112	10	7	331	1	2	6 819	7 282
Total	25 699	292 846	290 212	8 320	3 931	244 763	7 167	

SO1-1.T7: National estimates of land cover change (km²) for the reporting period

	Tree-covered areas (km²)	Grasslands (km²)	Croplands (km²)	Wetlands (km²)	Artificial surfaces (km²)	Other Lands (km²)	Water bodies (km²)	Total land area (km²)
Tree-covered areas (km²)	25 863	2	12	0	2	0	0	25 879
Grasslands (km²)	276	292 645	109	0	117	329	6	293 482
Croplands (km²)	436	265	288 397	0	697	66	12	289 873
Wetlands (km²)	0	0	0	8 310	8	0	0	8 318
Artificial surfaces (km²)	0	0	0	0	3 930	0	0	3 930
Other Lands (km²)	0	2 015	19	0	14	242 205	0	244 253
Water bodies (km²)	0	0	0	9	0	0	7 191	7 200
Total	26 575	294 927	288 537	8 319	4 768	242 600	7 209	

Land cover degradation

SO1-1.T8: National estimates of land cover degradation (km²) in the baseline period

	Area (km²)	Percent of total land area (%)
Land area with degraded land cover	7 020	0 .8
Land area with non-degraded land cover	865 915	99 .2
Land area with no land cover data	0	0 .0

SO1-1.T9: National estimates of land cover degradation (km²) in the reporting period

	Area (km²)	Percent of total land area (%)
Land area with improved land cover	2 746	0 .3
Land area with stable land cover	868 568	99 .5
Land area with degraded land cover	1 622	0 .2
Land area with no land cover data	0	0 .0

General comments

During the period, some mega forest restoration programmes were initiated. These include, the Billion Tree Tsunami, under which one billion trees over an area of 6000 square kilmeters were planted in Khyber Pakhtunkhwa province since 2014 in degraded forest lands and barren lands. Similarly, other programmes like Sustainable Land Management Programme (SLMP), Sustainable Forest Management (SFM), Mangrove Restoration Programme along the coastal areas, Tarbela Watershed Management Projects in KPK, Mangla Watershed Management Projects in AJK and Mangroves for the Future Programme were implemented. In addition, water management and efficiency, and soil conservation programmes were undertaken in various provinces which has helped in land cover improvement. Vigorous awareness campaign, improved enforcement and political commitment further boosted and helped in reduction of deforestation and forest degradation. Note: The data of SO1-1 was retrieved from Trends.Earth that uses ESA CCI land cover maps as the default dataset.

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

Land productivity dynamics

SO1-2.T1: National estimates of land productivity dynamics (in km²) within each land cover class for the baseline period

Land cover class	Net land productivity dynamics (km²) for the baseline period					
	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)	No Data (km²)
Tree-covered areas	438	520	285	5 031	19 006	42
Grasslands	5 266	22 197	29 079	68 432	134 865	6 677
Croplands	9 655	9 249	5 870	67 965	193 572	487
Wetlands	812	343	1 319	2 179	2 101	1 227
Artificial surfaces	169	19	159	289	381	0
Other Lands	1 537	2 709	84 893	86 851	42 629	24 618
Water bodies	342	87	220	575	742	4 853

SO1-2.T2: National estimates of land productivity dynamics (in km²) within each land cover class for the reporting period.

Land cover class	Net land productivity dynamics (km²) for the reporting period					
	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)	No Data (km²)
Tree-covered areas	166	0	2 502	20 609	2 433	153
Grasslands	6 187	0	58 548	206 890	13 851	7 169
Croplands	2 866	0	21 719	227 456	35 678	677
Wetlands	229	0	1 599	4 221	533	1 728
Artificial surfaces	52	0	738	2 723	415	2
Other Lands	1 424	0	87 680	113 030	13 961	26 110
Water bodies	38	0	279	1 353	367	5 153

SO1-2.T3: National estimates of land productivity dynamics for areas where a land conversion to a new land cover class has taken place (in km²) for the baseline period.

Land Conversion		Net land productivity dynamics (km²) for the baseline period					
From	To	Net area change (km²)	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)
Tree-covered areas	Grasslands	135	1	10	38	30	51
Tree-covered areas	Croplands	128	0	5	29	28	64
Tree-covered areas	Artificial surfaces	29	1	0	18	7	3
Tree-covered areas	Other Lands	8	0	0	1	3	4
Grasslands	Tree-covered areas	52	0	0	0	8	44

Land Conversion		Net land productivity dynamics (km²) for the baseline period					
From	To	Net area change (km²)	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)
Grasslands	Croplands	2 107	2	7	24	690	1 315
Grasslands	Artificial surfaces	229	1	1	71	129	22
Grasslands	Other Lands	1 710	0	0	2	414	249
Grasslands	Water bodies	148	2	1	37	7	8
Croplands	Artificial surfaces	2 900	15	106	1 275	619	881
Croplands	Other Lands	215	0	0	21	91	72

SO1-2.T4: National estimates of land productivity dynamics for areas where a land conversion to a new land cover class has taken place (in km²) for the reporting period.

Land Conversion		Net land productivity dynamics (km²) for the reporting period					
From	To	Net area change (km²)	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)
Tree-covered areas	Grasslands	60	0	3	20	12	20
Tree-covered areas	Croplands	46	0	1	11	14	20
Tree-covered areas	Artificial surfaces	11	0	1	7	1	2
Grasslands	Croplands	867	17	13	49	261	491
Grasslands	Artificial surfaces	216	23	9	88	57	36
Grasslands	Other Lands	1 399	10	139	124	60	386
Grasslands	Tree-covered areas	200	2	4	15	48	132
Croplands	Artificial surfaces	2 231	38	182	1 379	165	462
Croplands	Other Lands	142	7	15	51	41	24

Land Productivity degradation

SO1-2.T5: National estimates of land productivity degradation in the baseline period

	Area (km²)	Percent of total land area (%)
Land area with degraded land productivity	56 473	6 .5
Land area with non-degraded land productivity	775 919	89 .6
Land area with no land productivity data	33 262	3 .8

SO1-2.T6: National estimates of land productivity degradation in the reporting period

	Area (km²)	Percent of total land area (%)
Land area with improved land productivity	67 270	7 .8
Land area with stable land productivity	751 626	86 .8

	Area (km²)	Percent of total land area (%)
Land area with degraded land productivity	10 972	1 .3
Land area with no land productivity data	35 867	4 .1

General comments

The improvement in land productivity both in forested and the outside forest lands has been due to various initiatives undertaken by the provincial and federal governments and other actors involved. Note: The data of SO1-2 was retrieved from Trends.Earth land productivity that uses bi-weekly products from MODIS and AVHRR to compute annual integrals of NDVI.

SO1-3 Trends in carbon stocks above and below ground

Soil organic carbon stocks

SO1-3.T1: National estimates of the soil organic carbon stock in topsoil (0-30 cm) within each land cover class (in tonnes per hectare).

Year	Soil organic carbon stock in topsoil (t/ha)						
	Tree-covered areas	Grasslands	Croplands	Wetlands	Artificial surfaces	Other Lands	Water bodies
2000	0	0	0	0	0	0	0
2001	106	53	39	63	32	16	15
2002	106	53	39	63	31	16	15
2003	106	53	39	63	32	15	15
2004	106	52	39	63	32	15	15
2005	106	52	39	63	31	15	15
2006	106	52	39	63	30	15	15
2007	106	52	39	63	30	15	14
2008	106	52	39	63	29	15	13
2009	106	52	39	63	28	15	13
2010	106	52	39	63	27	15	13
2011	106	52	39	63	26	15	14
2012	105	52	39	63	25	15	14
2013	105	52	39	63	24	15	14
2014	105	52	39	63	24	15	14
2015	105	52	39	63	23	15	14
2016	105	52	39	63	21	15	15
2017	105	52	39	63	21	15	15
2018	105	52	39	63	20	15	15
2019	105	52	39	63	19	15	15
2020	0	0	0	0	0	0	0

If you opted not to use default Tier 1 data, what did you use to calculate the estimates above?

- ○ Modified Tier 1 methods and data
- ○ Tier 2 (additional use of country-specific data)
- ○ Tier 3 (more complex methods involving ground measurements and modelling)

SO1-3.T2: National estimates of the change in soil organic carbon stock in soil due to land conversion to a new land cover class in the baseline period

Land Conversion		Soil organic carbon (SOC) stock change in the baseline period					
From	To	Net area change (km²)	Initial SOC stock (t/ha)	Final SOC stock (t/ha)	Initial SOC stock total (t)	Final SOC stock total (t)	SOC stock change (t)
Tree-covered areas	Croplands	128	86 .0	76 .9	1 100 613	984 553	-116 060

Land Conversion		Soil organic carbon (SOC) stock change in the baseline period					
From	To	Net area change (km²)	Initial SOC stock (t/ha)	Final SOC stock (t/ha)	Initial SOC stock total (t)	Final SOC stock total (t)	SOC stock change (t)
Tree-covered areas	Artificial surfaces	29	45 .3	22 .6	131 435	65 489	-65 946
Croplands	Artificial surfaces	2 900	36 .0	20 .9	10 451 071	6 058 019	-4 393 052
Grasslands	Artificial surfaces	229	27 .9	14 .4	638 173	330 162	-308 011
Tree-covered areas	Other Lands	8	12 .1	6 .0	9 694	4 766	-4 928
Grasslands	Other Lands	1 710	18 .1	11 .1	3 095 582	1 890 194	-1 205 388

SO1-3.T3: National estimates of the change in soil organic carbon stock in soil due to land conversion to a new land cover class in the reporting period

Land Conversion		Soil organic carbon (SOC) stock change in the reporting period					
From	To	Net area change (km²)	Initial SOC stock (t/ha)	Final SOC stock (t/ha)	Initial SOC stock total (t)	Final SOC stock total (t)	SOC stock change (t)
Other Lands	Grasslands	2 015	16 .5	17 .2	3 320 489	3 455 932	135 443
Croplands	Tree-covered areas	436	89 .9	90 .8	3 918 946	3 959 894	40 948
Grasslands	Other Lands	329	35 .4	32 .8	1 163 221	1 077 695	-85 526
Croplands	Artificial surfaces	697	32 .7	28 .8	2 281 593	2 008 326	-273 267
Tree-covered areas	Artificial surfaces	2	36 .8	32 .3	7 354	6 450	-904
Tree-covered areas	Croplands	8	125 .2	122 .1	100 165	97 656	-2 509
Croplands	Artificial surfaces	700	32 .7	28 .8	2 288 765	2 014 814	-273 951
Grasslands	Artificial surfaces	119	28 .9	26 .3	344 080	312 863	-31 217

Soil organic carbon stock degradation

SO1-3.T4: National estimates of soil organic carbon stock degradation in the baseline period

	Area (km²)	Percent of total land area (%)
Land area with degraded soil organic carbon (SOC)	6 006	0 .7
Land area with non-degraded SOC	829 452	95 .8
Land area with no SOC data	30 196	3 .5

SO1-3.T5: National estimates of SOC stock degradation in the reporting period

	Area (km²)	Percent of total land area (%)
Land area with improved SOC	9 260	1 .1
Land area with stable SOC	820 592	94 .8
Land area with degraded SOC	5 634	0 .7

	Area (km²)	Percent of total land area (%)
Land area with no SOC data	30 248	3 .5

General comments

The activities implemented by the provincial and federal governments, NGOs and communities including afforestation, reforestation, reduction in deforestation rates and improved forestry and agricultural managment practices are likely to be the key elements that have contributed to improvement in carbon stocks. Note: Due to absence of country estimates this section opted to use default Tier-1 data retrieved from Trends.Earth. A combined land cover/SOC method was used in Trends.Earth to estimate changes in SOC and identify potentially degraded areas. Trends.Earth uses SoilGrids 250m carbon stocks for the first 30 cm of the soil profile as the reference values for calculation.

SO1-4 Proportion of degraded land over the total land area

Proportion of degraded land over the total land area (Sustainable Development Goal Indicator 15.3.1)

SO1-4.T1: National estimates of the total area of degraded land (in km²), and the proportion of degraded land relative to the total land area

	Total area of degraded land (km²)	Proportion of degraded land over the total land area (%)
Baseline Period	63 055	7 .3
Reporting Period	28 118	3 .2
Change in degraded extent	-34937	

Method

Did you use the SO1-1, SO1-2 and SO1-3 indicators (i.e. land cover, land productivity dynamics and soil organic carbon stock) to compute the proportion of degraded land?

Which indicators did you use?

☒ Land Cover
☒ Land Productivity Dynamics
☒ SOC Stock

Did you apply the one-out, all-out principle to compute the proportion of degraded land?

◉ Yes
○ No

Level of Confidence

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

○ 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:

As the default data from trends earth platform has been used with satellite data of moderate resolution. Ground truthing and field verification was also not performed.

False positives/ False negatives

SO1-4.T3: Justify why any area identified as degraded or non-degraded in the SO1-1, SO1-2 or SO1-3 indicator data should or should not be included in the overall Sustainable Development Goal indicator 15.3.1 calculation.

Location Name	Type	Recode Options	Area (km²)	Process driving false +/- outcome	Basis for Judgement	Edit Polygon

Perform qualitative assessments of areas identified as degraded or improved

SO1-4.T4: Degradation hotspots

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon

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

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon

Riverine Forests in Sindh Province	Sindh Riverine Belt	240 .36	Site-based data		☒ Avoid
					☒ Reduce
					☒ Reverse
						• General instrument (e.g. policies, economic incentives)
						• Increase protected areas
						  ◦ Increase protected area extent
						• Restore/improve protected areas
						  ◦ Restore protected areas
						  ◦ Improve management of protected areas
						• Restore/improve multiple land uses
						• Restore/improve tree-covered areas
						  ◦ Reduce/halt deforestation and conversion of tree cover to other land cover types (e.g. conserving forest land)
						  ◦ Increase land productivity in tree covered areas
						  ◦ Restore tree-covered areas
						  ◦ Improve tree cover management e.g. fire management
						• Increase tree-covered area extent
						  ◦ Increase tree covered land (net gain) e.g. plantations
						• Reduce/halt conversion of multiple land uses	

Total no. of hotspots	2						
Total hotspot area	244 .84						

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon

Subtropical broad leaved (Scrub) Forest Zone in the Islamabad Capital Territory	Islamabad Capital Territory	4 .48	Site-based data	1. Infrastructure, industry and urbanization
				2. Deforestation and clearance of other native vegetation
				3. Mineral resource extraction
					☒ Avoid
					☒ Reduce
					☒ Reverse
						• Increase protected areas
						  ◦ Increase protected area extent
						• Manage artificial surfaces
						  ◦ Halt illegal mining and/or reduce mining areas
						  ◦ Halt/reduce /regulate expansion of urban/artificial surfaces
						• Restore/improve tree-covered areas
						  ◦ Reduce/halt deforestation and conversion of tree cover to other land cover types (e.g. conserving forest land)
						  ◦ Increase land productivity in tree covered areas
						  ◦ Restore tree-covered areas
							Polygon

Total no. of hotspots	2						
Total hotspot area	244 .84						

What is/are the indirect driver(s) of land degradation at the national level?

1. Demographic
2. Economic
3. Science, knowledge and technology
4. Institutions and governance
5. Cultural

SO1-4.T5: Improvement brightspots

Brightspots	Location	Area (km²)	Assessment Process	What action(s) led to the brightspot in terms of the Land Degradation Neutrality hierarchy?	Implementing action(s) (both forward-looking and current)	Edit Polygon
Total no. of brightpots		2				
Total brightspot area		7 000				

Brightspots	Location	Area (km²)	Assessment Process	What action(s) led to the brightspot in terms of the Land Degradation Neutrality hierarchy?	Implementing action(s) (both forward-looking and current)	Edit Polygon

Reforestion/natural regeneration, afforestation (Block Plantations). a. Garhi Chandan (71°42'45.68"E, 33°51'4.56"N), b. Kotla, Makhnial, KP (73° 3'54.20"E, 33°48'45.05"N) among others.	Khyber Pakhtunkhwa province	6 000	Qualitative information	☒ Avoid
				☒ Reduce
				☒ Reverse
					• Restore/improve tree-covered areas
					  ◦ Reduce/halt deforestation and conversion of tree cover to other land cover types (e.g. conserving forest land)
					  ◦ Increase land productivity in tree covered areas
					  ◦ Improve tree cover management e.g. fire management
					• Increase tree-covered area extent
					  ◦ Increase tree covered land (net gain) e.g. plantations
					• Restore/improve multiple functions
					• Increase soil fertility and carbon stock
					  ◦ Reduce soil erosion
					  ◦ Reduce sand encroachment
					  ◦ Improve watershed/landscape management
					  ◦ Rehabilitate bare land and/or restore degraded land	

Total no. of brightpots		2				
Total brightspot area		7 000				

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

Brightspots	Location	Area (km²)	Assessment Process	What action(s) led to the brightspot in terms of the Land Degradation Neutrality hierarchy?	Implementing action(s) (both forward-looking and current)	Edit Polygon

Mangroves restoration in coastal areas of Sindh province a. Keti Bandar (67°26'39.39"E, 24° 6'15.50"N)	Keti bandar, Shah Bandar and Port Qasim areas along Sindh coast	1 000	Qualitative information	☒ Avoid
				☒ Reduce
				☒ Reverse
					• Restore/improve wetlands
					  ◦ Restore/preserve wetlands and reduce degradation of wetlands
					  ◦ Halt/reduce wetland conversion to other land uses (includes conserving wetlands)
					• Restore/improve tree-covered areas
					  ◦ Reduce/halt deforestation and conversion of tree cover to other land cover types (e.g. conserving forest land)
					  ◦ Increase land productivity in tree covered areas
					  ◦ Restore tree-covered areas
					• Increase tree-covered area extent
					  ◦ Increase tree covered land (net gain) e.g. plantations
					• Restore/improve multiple functions
					• Increase soil fertility and carbon stock
					  ◦ Reduce soil erosion
					  ◦ Reduce sand encroachment
					  ◦ Maintain the current level of SOC
					  ◦ Rehabilitate bare land and/or restore degraded land
					  ◦ Increase carbon stock and reduce soil/land degradation	

Total no. of brightpots		2				
Total brightspot area		7 000				

What are the enabling and instrumental responses at the national level driving the occurrence of brightspots?

1. Legal and regulatory instruments
2. Climate change adaptation planning
3. Social and cultural instruments
4. Protected areas
5. Integrated landscape planning
6. Institutional and policy reform
7.

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

Economic and financial instruments

General comments

The federal as well as provincial and territorial governments have implemented several programmes aiming at improving the degraded lands and restoration of degraded and deforested lands. The overall objectives of these initiatives were to revive forest and wildlife resources, improve conservation and management of existing protected areas, encourage nature based tourism, promote community engagement in natural resources managment, institutional strengthening and job creation for the local communities. Note: The data of SO1-4 was retrieved from Trends.Earth that uses SO1-1, SO1-2 and SO1-3 indicators in the calculations. Reference to SO1-4.T3, All the degraded and non-degraded datasets were generated using Trends.Earth Platform therefore the assessments for having false positive or false negative values would require ground truthing and field verification.

SO1 Voluntary Targets

SO1-VT.T1: Voluntary Land Degradation Neutrality targets and other targets relevant to strategic objective 1

Target	Year	Location(s)	Total Target Area (km²)	Overarching type of Land Degradation Neutrality (LDN) intervention	Targeted action(s)	Status of target achievement	Is this an LDN target? If so, under which process was it defined/adopted?	Which other important goals are also being addressed by this target?	Edit Polygon
Total			Sum of all targeted areas 164 000						

Target	Year	Location(s)	Total Target Area (km²)	Overarching type of Land Degradation Neutrality (LDN) intervention	Targeted action(s)	Status of target achievement	Is this an LDN target? If so, under which process was it defined/adopted?	Which other important goals are also being addressed by this target?	Edit Polygon
At least 30% of degraded forests spreadover entire Pakistan	2030	National	120 000	☒ Avoid ☒ Reduce ☒ Reverse	• General instrument (e.g. policies, economic incentives) • Restore/improve wetlands ◦ Restore/preserve wetlands and reduce degradation of wetlands ◦ Halt/reduce wetland conversion to other land uses (includes conserving wetlands) • Increase protected areas ◦ Increase protected area extent • Restore/improve grasslands ◦ Restore rangeland (e.g. by controlling livestock and wildfires) ◦ Restore and improve pastures ◦ Halt/reduce conversion of grassland to other land cover types ◦ Improve land productivity in grasslands • Improve coastal management ◦ Reduce coastal erosion ◦ Reduce saline water intrusion in coastal zones • Restore/improve protected areas ◦ Restore protected areas ◦ Improve management of protected areas • Restore/improve tree-covered areas ◦ Reduce/halt deforestation and conversion of tree cover to other land cover types (e.g. conserving forest land) ◦ Increase land productivity in tree covered areas ◦ Restore tree-covered areas ◦ Improve tree cover management e.g. fire management • Increase tree-covered area extent ◦ Increase tree covered land (net gain) e.g.	Ongoing	◉ Yes ○ No Participation in the LDN Target Setting Programme	• Convention on Biological Diversity – National Biodiversity Strategies and Action Plans & National Targets • Bonn Challenge • Other: • United Nations Framework Convention on Climate Change – Nationally Determined Contributions	
Total			Sum of all targeted areas 164 000						

Target	Year	Location(s)	Total Target Area (km²)	Overarching type of Land Degradation Neutrality (LDN) intervention	Targeted action(s)	Status of target achievement	Is this an LDN target? If so, under which process was it defined/adopted?	Which other important goals are also being addressed by this target?	Edit Polygon
					plantations • Restore/improve multiple functions • Increase soil fertility and carbon stock ◦ Reduce soil erosion ◦ Improve watershed/landscape management ◦ Rehabilitate bare land and/or restore degraded land ◦ Increase carbon stock and reduce soil/land degradation				
Total			Sum of all targeted areas 164 000						

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

Target	Year	Location(s)	Total Target Area (km²)	Overarching type of Land Degradation Neutrality (LDN) intervention	Targeted action(s)	Status of target achievement	Is this an LDN target? If so, under which process was it defined/adopted?	Which other important goals are also being addressed by this target?	Edit Polygon

At least 5% of degraded cropland spreadover entire Pakistan	2030	National	11 000	☒ Avoid
				☒ Reduce
				☒ Reverse
					• General instrument (e.g. policies, economic incentives)
					• Restore/improve croplands
					  ◦ Practise sustainable land management
					  ◦ Improve water use for irrigation
					  ◦ Halt/reduce conversion of cropland to other land cover types
					  ◦ Increase land productivity in agricultural areas
					  ◦ Rehabilitate bare or degraded land for crop production
					• Restore/improve multiple land uses
					• Increase tree-covered area extent
					  ◦ Increase tree covered land (net gain) e.g. plantations
					• Restore/improve multiple functions
					• Restore productivity and soil organic carbon stock in croplands and grasslands
					• Increase soil fertility and carbon stock
					  ◦ Reduce soil erosion
					  ◦ Reduce sand encroachment
					  ◦ Maintain the current level of SOC
					  ◦ Improve watershed/landscape management
					  ◦ Rehabilitate bare land and/or restore degraded land
					  ◦ Increase carbon stock and reduce soil/land degradation
					• Reduce/halt conversion of multiple land uses
						Ongoing	◉ Yes
							○ No
							Participation in the LDN Target Setting Programme
								• Convention on Biological Diversity – National Biodiversity Strategies and Action Plans & National Targets
								• Other: UNCCD, SDG
								• United Nations Framework Convention on Climate Change – Nationally Determined Contributions	

Total			Sum of all targeted areas 164 000						

Target	Year	Location(s)	Total Target Area (km²)	Overarching type of Land Degradation Neutrality (LDN) intervention	Targeted action(s)	Status of target achievement	Is this an LDN target? If so, under which process was it defined/adopted?	Which other important goals are also being addressed by this target?	Edit Polygon

At least 6% of degraded rangelands spreadover entire Pakistan	2030	National	25 000	☒ Avoid
				☒ Reduce
				☒ Reverse
					• General instrument (e.g. policies, economic incentives)
					• Restore/improve grasslands
					  ◦ Restore rangeland (e.g. by controlling livestock and wildfires)
					  ◦ Restore and improve pastures
					  ◦ Halt/reduce conversion of grassland to other land cover types
					  ◦ Improve land productivity in grasslands
					• Restore/improve protected areas
					  ◦ Restore protected areas
					  ◦ Improve management of protected areas
					• Restore/improve multiple land uses
					• Restore/improve tree-covered areas
					  ◦ Restore/improve grasslands
					• Restore/improve multiple functions
					• Restore productivity and soil organic carbon stock in croplands and grasslands
					• Increase soil fertility and carbon stock
					  ◦ Reduce soil erosion
					  ◦ Reduce sand encroachment
					  ◦ Maintain the current level of SOC
					  ◦ Increase carbon stock and reduce soil/land degradation
					• Reduce/halt conversion of multiple land uses
						Ongoing	◉ Yes
							○ No
							Other process
							Improve Forest Cover
								• Convention on Biological Diversity – National Biodiversity Strategies and Action Plans & National Targets
								• Bonn Challenge
								• United Nations Framework Convention on Climate Change – Nationally Determined Contributions	

Total			Sum of all targeted areas 164 000						

Target	Year	Location(s)	Total Target Area (km²)	Overarching type of Land Degradation Neutrality (LDN) intervention	Targeted action(s)	Status of target achievement	Is this an LDN target? If so, under which process was it defined/adopted?	Which other important goals are also being addressed by this target?	Edit Polygon
At least 10% of degraded Wetlands spreadover entire Pakistan	2030	National	8 000	☒ Avoid ☒ Reduce ☒ Reverse	• General instrument (e.g. policies, economic incentives) • Restore/improve wetlands ◦ Restore/preserve wetlands and reduce degradation of wetlands ◦ Halt/reduce wetland conversion to other land uses (includes conserving wetlands) • Increase protected areas ◦ Increase protected area extent • Improve coastal management ◦ Reduce coastal erosion ◦ Reduce saline water intrusion in coastal zones • Restore/improve multiple land uses • Restore/improve tree-covered areas ◦ Reduce/halt deforestation and conversion of tree cover to other land cover types (e.g. conserving forest land) ◦ Increase land productivity in tree covered areas ◦ Restore tree-covered areas • Increase tree-covered area extent ◦ Increase tree covered land (net gain) e.g. plantations • Restore/improve multiple functions • Reduce/halt conversion of multiple land uses	Ongoing	◉ Yes ○ No Participation in the LDN Target Setting Programme	• Convention on Biological Diversity – National Biodiversity Strategies and Action Plans & National Targets • Other: Ramsar Convention • United Nations Framework Convention on Climate Change – Nationally Determined Contributions	
Total			Sum of all targeted areas 164 000						

SO1.IA.T1: Areas of implemented action related to the targets (projects and initiatives on the ground).

Relevant Target	Implemented Action	Location (placename)	Action start date	Extent of action	Total Area Implemented So Far (km²)	Edit Polygon
At least 30% of degraded forests spreadover entire Pakistan	Same As Targeted Actions	National	2016-07-01	9 000	9 000 .00	
At least 5% of degraded cropland spreadover entire Pakistan	Same As Targeted Actions	National	2016-07-01	5 000	5 000 .00	
At least 6% of degraded rangelands spreadover entire Pakistan	Same As Targeted Actions	National	2016-07-01	2 500	2 500 .00	

Relevant Target	Implemented Action	Location (placename)	Action start date	Extent of action	Total Area Implemented So Far (km²)	Edit Polygon
At least 10% of degraded Wetlands spreadover entire Pakistan	Same As Targeted Actions	National	2016-07-01	2 000	2 000 .00	
					Sum of all areas relevant to actions under the same target	
					At least 30% of degraded forests spreadover entire Pakistan: 9 000 .00	
					At least 5% of degraded cropland spreadover entire Pakistan: 5 000 .00	
					At least 6% of degraded rangelands spreadover entire Pakistan: 2 500 .00	
					At least 10% of degraded Wetlands spreadover entire Pakistan: 2 000 .00	

General comments

Government of Pakistan has been vigorously and continuously pursuing various projects and programmes aiming at protecting, restoring and promoting sustainable use of terrestrial ecosystems, promoting sustainable management of forests, combating desertification, reversing land degradation, improving soil and water conservation practices and halting biodiversity loss in an attempt to neutralize land degradation by 2030. Note: Targets are for the entire country, hence, provision of geolocations may not be feasible at this moment

SO2-1 Trends in population living below the relative poverty line and/or income inequality in affected areas

Relevant metric

Choose the metric that is relevant to your country:

- (●) Proportion of population below the international poverty line
- ( ) Income inequality (Gini Index)

Proportion of population below the international poverty line

SO2-1.T1: National estimates of the proportion of population below the international poverty line

Year	Proportion of population below international poverty line (%)
2 000	
2 001	31.0
2 002	
2 003	
2 004	
2 005	
2 006	50.4
2 007	
2 008	44.1
2 009	
2 010	
2 011	36.8
2 012	36.3
2 013	
2 014	29.5
2 015	
2 016	24.3
2 017	
2 018	
2 019	21.9
2 020	

Qualitative assessment

SO2-1.T3: Interpretation of the indicator

Indicator metric	Change in the indicator	Comments
Proportion of population below the international poverty line	Decrease	Pakistan's 21.9 percent population is living below the national poverty line according to the HIES data of 2018-19 compared to 24.3 percent in 2015-16.

General comments

The existing literature documents several factors that adversely impact poverty situation such as natural disasters, health shocks, crop failures etc. The factors affecting poverty positively include; cash transfers, better crop return owing to better pricing or volume;

remittances etc. During the period the trend of population living below poverty line has been decreasing. A number factors have contributed to this decline in poverty incidence. These include, direct cash transfer of money to rural areas through income support programmes, employment opportunities and in the shape of higher prices of crop output. A similar episode of higher prices of wheat happened in 2008-10 which brought unprecedented increase in consumption expenditure and reduction in poverty. Source: The data in SO2-1.T1 is the default dataset.

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

Proportion of population using safely managed drinking water services

SO2-2.T1: National estimates of the proportion of population using safely managed drinking water services

Year	Urban (%)	Rural (%)	Total (%)
2000	50	31	37
2001	50	31	38
2002	50	32	38
2003	50	32	38
2004	50	32	38
2005	49	32	38
2006	48	32	38
2007	48	32	37
2008	47	32	37
2009	46	32	37
2010	46	32	37
2011	45	32	37
2012	44	33	37
2013	44	33	37
2014	43	33	36
2015	42	33	36
2016	42	33	36
2017	41	33	36
2018	40	33	36
2019	40	33	36
2020	40	33	36

Qualitative assessment

SO2-2.T2: Interpretation of the indicator

Change in the indicator	Comments
No change	

General comments

The trend of population having access to safe drinking water remained stable during the reporting period. Population growth, climate change induced water scarcity, decline in capacity of water reservoirs due to sedimentation are the likely factor that have put the country's limited water resources under stress. Storage enhancement coupled with water harvesting, conservation, and efficient use is direly needed to improve population access to safe drinking water, and promote sustainable agricultural and industrial growth. Government's strategy of "Integrated Water Resources Management" recognizes the need to introduce appropriate policy measures, institutional reforms, and knowledge-based interventions to make water infrastructure and management system more efficient and sustainable. The data in table SO2-2.T1 is the default data.

SO2-3 Trends in the proportion of population exposed to land degradation disaggregated by sex

Proportion of the population exposed to land degradation disaggregated by sex

SO2-3.T1: National estimates of the proportion of population exposed to land degradation disaggregated by sex.

Time period	Population exposed (count)	Percentage of total population exposed (%)	Female population exposed (count)	Percentage of total female population exposed (%)	Male population exposed (count)	Percentage of total male population exposed (%)
Baseline period	44520254	22 .0	21272416	21 .8	23247838	22 .2
Reporting period	38545890	17 .3	18366510	17 .0	20179380	17 .5

Qualitative assessment

SO2-3.T2: Interpretation of the indicator

Change in the indicator	Comments
Decrease	

General comments

The data reveals a decline in proportion of exposed to land degradation during the reporting period. The different development programmes, projects, interventions under domestic and donor funding targeted at poor and marginalized groups with the aims to target areas to reduce inequalities, enhance equal opportunities, gender mainstreaming and empowerment and enhanced safety net coverage are likely to be the factors that have contributed to this declining trend. The data was retrieved from Trends.Earth that uses World Pop data as the base information.

SO2 Voluntary Targets

SO2-VT.T1

Target	Year	Level of application	Status of target achievement	Comments
28 %	2019	National	Achieved	Pakistan's 21.9 percent population is living below the national poverty line according to the HIES data of 2018-19 compared to 24.3 percent in 2015-16.

General comments

Pakistan is striving to make progress towards SDGs amid challenges of ensuring quality education, skill development and job creation. Several policies and plans have been developed and implemented aiming at improvement in several indicators related to reduction in poverty, access to health, combating land degradation and desertification, reducing deforestation, water conservation and management and disaster risk management.

SO3-1 Trends in the proportion of land under drought over the total land area

Drought hazard indicator

SO3-1.T1: National estimates of the land area in each drought intensity class as defined by the Standardized Precipitation Index (SPI) or other nationally relevant drought indices

	Drought intensity classes				
	Mild drought (km²)	Moderate drought (km²)	Severe drought (km²)	Extreme drought (km²)	Non-drought (km²)
2000	263 255	255 451	218 453	121 727	14 051
2001	353 083	179 359	101 722	82 090	156 682
2002	201 887	189 982	205 608	246 277	29 183
2003	302 054	22 022	1 867	0	546 994
2004	516 830	169 188	84 601	0	102 318
2005	184 615	40 956	665	0	646 700
2006	316 733	12 369	0	0	543 835
2007	118 187	27 420	38 600	4 401	684 328
2008	199 429	70	0	0	673 438
2009	367 575	52 430	39 478	32 121	381 333
2010	172 121	43 439	35 278	6 576	615 523
2011	202 085	20 509	0	0	650 343
2012	371 633	62 365	3 643	0	435 296
2013	131 702	414	0	0	740 821
2014	412 075	117 681	13 066	0	330 114
2015	261 741	29 339	12 313	10 117	559 426
2016	449 847	67 447	6 639	6 514	342 489
2017	467 302	120 771	26 660	6 954	251 250
2018	249 453	284 307	173 687	94 852	70 638
2019	60 869	636	0	0	811 432
2020					
2021					

SO3-1.T2: Summary table for land area under drought without class break down

	Total area under drought (km²)	Proportion of land under drought (%)
2000	858 886	99 .2
2001	716 254	82 .7
2002	843 754	97 .5
2003	325 943	37 .7
2004	770 619	89 .0
2005	226 237	26 .1

	Total area under drought (km²)	Proportion of land under drought (%)
2006	329 102	38 .0
2007	188 609	21 .8
2008	199 499	23 .0
2009	491 604	56 .8
2010	257 414	29 .7
2011	222 594	25 .7
2012	437 641	50 .5
2013	132 116	15 .3
2014	542 823	62 .7
2015	313 511	36 .2
2016	530 448	61 .3
2017	621 687	71 .8
2018	802 299	92 .7
2019	61 505	7 .1
2020		-
2021		-

Qualitative assessment:

The country overall received below normal (-31.0%) rainfall during (2016-2019). The main thrust was in Balochistan (-73.2%) and Sindh (-70.2%) while, it remained almost normal in other parts of the country. The west to the south-west districts of Balochistan are winter (Dec-Mar) rainfall dominant and do not receive rainfall during April to November. Due to deficient pre-winter and winter rainfall, a drought like conditions were emerged in the southern parts of Balochistan and Sindh. The climatological normal shows that the Sindh province remained dry and moderate drought prevailed. (Met office Pakistan)

General comments

Due to deficient winter rainfall, moderate drought like conditions emerged over most of the central and southern districts of Pakistan. The mild to moderate drought prevailed in most parts of Balochistan, South eastern Sindh and southern parts of Khyber Pakhtunkhwa provinces. The data was retrieved from Trends.Earth that uses the Standardized Precipitation Index (SPI), drought intensity classes (defined by the World Meteorological Organization 2012) as the base information.

SO3-2 Trends in the proportion of the population exposed to drought

Drought exposure indicator

Exposure is defined in terms of the number of people who are exposed to drought as calculated from the SO3-1 indicator data.

SO3-2.T1: National estimates of the percentage of the total population within each drought intensity class as well as the total population count and the proportion of the national population exposed to drought regardless of intensity.

	Non-exposed		Mild drought		Moderate drought		Severe drought		Extreme drought		Exposed population	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2000		-		-		-		-		-	0	-
2001		-		-		-		-	0	-	0	-
2002	0	-		-		-		-		-	0	-
2003		-	0	-	0	-	0	-	0	-	0	-
2004		-		-		-	0	-	0	-	0	-
2005		-		-		-		-	0	-	0	-
2006		-		-	0	-	0	-	0	-	0	-
2007		-		-		-		-		-	0	-
2008		-		-	0	-	0	-	0	-	0	-
2009		-		-		-		-		-	0	-
2010		-		-	0	-	0	-	0	-	0	-
2011		-		-	0	-	0	-	0	-	0	-
2012		-		-		-		-	0	-	0	-
2013		-		-	0	-	0	-	0	-	0	-
2014	143596629	72.7	45292211	22.9	6052196	3.1	2503073	1.3	0	0.0	53 847 480	27.3
2015	149547979	73.9	33088425	16.3	5056631	2.5	14610121	7.2	104269	0.1	52 859 446	26.1
2016	170251230	82.1	36356435	17.5	399609	0.2	284964	0.1	126271	0.1	37 167 279	17.9
2017	123029923	57.9	55833679	26.3	15991062	7.5	14044988	6.6	3639769	1.7	89 509 498	42.1
2018	26183802	12.0	117530849	54.0	42266872	19.4	25558745	11.7	6244127	2.9	191 600 593	88.0
2019	158728076	71.1	52137778	23.4	12125623	5.4	202880	0.1	60111	0.0	64 526 392	28.9
2020		-		-		-		-		-	-	-
2021		-		-		-		-		-	-	-

SO3-2.T2: National estimates of the percentage of the female population within each drought intensity class.

	Non-exposed		Mild drought		Moderate drought		Severe drought		Extreme drought		Exposed female population	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2000		-		-		-		-		-	0	-
2001		-		-		-		-	0	-	0	-
2002	0	-		-		-		-		-	0	-
2003		-	0	-	0	-	0	-	0	-	0	-
2004		-		-		-	0	-	0	-	0	-
2005		-		-		-		-	0	-	0	-

	Non-exposed		Mild drought		Moderate drought		Severe drought		Extreme drought		Exposed female population	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2006		-		-	0	-	0	-	0	-	0	-
2007		-		-		-		-		-	0	-
2008		-		-	0	-	0	-	0	-	0	-
2009		-		-		-		-		-	0	-
2010		-		-	0	-	0	-	0	-	0	-
2011		-		-	0	-	0	-	0	-	0	-
2012		-		-		-		-	0	-	0	-
2013		-		-	0	-	0	-	0	-	0	-
2014	69470219	72.8	21784941	22.8	2927033	3.1	1212777	1.3	0	0.0	25 924 751	27.2
2015	72269164	73.9	16133845	16.5	2453012	2.5	6889479	7.0	50329	0.1	25 526 665	26.1
2016	82422673	82.2	17398295	17.4	194565	0.2	142160	0.1	62219	0.1	17 797 239	17.8
2017	59193408	57.6	27159958	26.4	7761135	7.6	6813250	6.6	1764660	1.7	43 499 003	42.4
2018	12739062	12.1	56631270	53.8	20403552	19.4	12453475	11.8	3001424	2.9	92 489 721	87.9
2019	76519655	70.9	25398355	23.5	5838260	5.4	92315	0.1	26953	0.0	31 355 883	29.1
2020		-		-		-		-		-	-	-
2021		-		-		-		-		-	-	-

SO3-2.T3: National estimates of the percentage of the male population within each drought intensity class.

	Non-exposed		Mild drought		Moderate drought		Severe drought		Extreme drought		Exposed male population	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2000		-		-		-		-		-	0	-
2001		-		-		-		-	0	-	0	-
2002	0	-		-		-		-		-	0	-
2003		-	0	-	0	-	0	-	0	-	0	-
2004		-		-		-	0	-	0	-	0	-
2005		-		-		-		-	0	-	0	-
2006		-		-	0	-	0	-	0	-	0	-
2007		-		-		-		-		-	0	-
2008		-		-	0	-	0	-	0	-	0	-
2009		-		-		-		-		-	0	-
2010		-		-	0	-	0	-	0	-	0	-
2011		-		-	0	-	0	-	0	-	0	-
2012		-		-		-		-	0	-	0	-
2013		-		-	0	-	0	-	0	-	0	-
2014	74126410	72.6	23507270	23.0	3125163	3.1	1290296	1.3	0	0.0	27 922 729	27.4
2015	77278815	73.9	16954580	16.2	2603619	2.5	7720642	7.4	53940	0.1	27 332 781	26.1
2016	87828557	81.9	18958140	17.7	205044	0.2	142804	0.1	64052	0.1	19 370 040	18.1

	Non-exposed		Mild drought		Moderate drought		Severe drought		Extreme drought		Exposed male population	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2017	63836515	58.1	28673721	26.1	8229927	7.5	7231738	6.6	1875109	1.7	46 010 495	41.9
2018	13444740	11.9	60899579	54.1	21863320	19.4	13105270	11.6	3242703	2.9	99 110 872	88.1
2019	82208421	71.3	26739423	23.2	6287363	5.4	110565	0.1	33158	0.0	33 170 509	28.7
2020		-		-		-		-		-	-	-
2021		-		-		-		-		-	-	-

Qualitative assessment

Interpretation of the indicator

The water resources of Pakistan are severely affected by Climate Change, having serious implications due to abrupt changes in rainfall patterns. Southern parts of the country are facing lengthy droughts; and in the north, frequent and strong floods are impacting the population and their resouces. Glaciers are melting swiftly;

General comments

Global Climate Risk Index 2021 ranks Pakistan as the 8th most vulnerable country susceptible to negative effects of climate change. The effects of climate change are being felt with a greater intensity with every passing year. During 2000-19, Pakistan has lost USD 3.7 billion annually on an average due to climate change impacts. Pakistan is also among the top five countries having the least clean air, despite having a meagre contribution in global Green House Gas (GHG) emissions. Pakistan, once a water rich country with water availability of more than 5,000 cubic meters per person per year in 1947, has become a water stressed country with 1,000 cubic meters per capita per year, which is expected to further reduce to 860 cubic meters per person by 2025 to become the first water scarce country in South Asia. Note: The default dataset for Pakistan in this section was found incorrect, therefore, data has been entered manually, although, generated from same trends.earth platform. The data was retrieved from Trends.Earth that uses the Standardized Precipitation Index (SPI), drought intensity classes (defined by the World Meteorological Organization 2012) as the base information. However, the data of population exposed to drought was only retrievable from 2014-2019 at 12 months interval, entered manually. The default data available was found incorrect therefore not used.

SO3-3 Trends in the degree of drought vulnerability

Drought Vulnerability Index

SO3-3.T1: National estimates of the Drought Vulnerability Index

Year	Total country-level DVI value (tier 1)	Male DVI value (tiers 2 and 3 only)	Female DVI value (tiers 2 and 3 only)
2000			
2001			
2002			
2003			
2004			
2005			
2006			
2007			
2008			
2009			
2010			
2011			
2012			
2013			
2014			
2015			
2016			
2017			
2018	6 .8		
2019			
2020			
2021			

Method

Which tier level did you use to compute the DVI?

☒ Tier 1 Vulnerability Assessment ⓘ
☐ Tier 2 Vulnerability Assessment ⓘ
☐ Tier 3 Vulnerability Assessment ⓘ

Qualitative assessment

SO3-3.T2: Interpretation of the indicator

	Change in the indicator	Comments

General comments

Currently no data is available at country level for assessing Drought Vulnerability Index. The default DVI data was used that only provide median value for the period 2000-2018 based on global dataset of JRC.

SO3 Voluntary Targets

SO3-VT.T1

Target	Year	Level of application	Status of target achievement	Comments
Impoved Climate Change resilience for sustainable Water Management	2030	National	Ongoing	Awareness and outreach programme is underway through communities, NGOs and Government institutions / Departments. Similarly capacity building, water conservation, and improving irrigation systems.

General comments

The guidance is sought from the guiding principles of National Water Policy such as: a) water augmentation, b) water conservation, c) groundwater management and d) protection of infrastructure. During the coming years, programs to minimize the conveyance losses, system modernization will be continued along with other storage and conservation measures. All efforts would be imparted to maintain overall water availability (at farm gate including groundwater.

SO4-1 Trends in carbon stocks above and below ground

Soil organic carbon stocks

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

SO4-2.T1: National estimates of the Red List Index of species survival

Year	Red List Index	Lower Bound	Upper Bound	Comment
2000	0 .93848	0 .92774	0 .94849	
2001	0 .93554	0 .92446	0 .94432	
2002	0 .92935	0 .92016	0 .93988	
2003	0 .92498	0 .91568	0 .93571	
2004	0 .92122	0 .91153	0 .93151	
2005	0 .91724	0 .90709	0 .92717	
2006	0 .91212	0 .90216	0 .92313	
2007	0 .907	0 .89693	0 .91879	
2008	0 .90436	0 .89078	0 .91487	
2009	0 .90044	0 .8851	0 .91061	
2010	0 .89799	0 .87609	0 .90674	
2011	0 .89371	0 .87245	0 .90553	
2012	0 .88893	0 .86164	0 .90509	
2013	0 .88488	0 .85754	0 .90477	
2014	0 .88112	0 .84938	0 .90443	
2015	0 .87684	0 .84132	0 .90438	
2016	0 .87261	0 .83583	0 .90365	
2017	0 .86865	0 .82381	0 .90392	
2018	0 .86472	0 .81871	0 .90391	
2019	0 .86065	0 .81313	0 .90375	
2020	0 .8557	0 .79902	0 .90329	

Qualitative assessment

SO4-2.T2: Interpretation of the indicator

Change in the indicator	Drivers: Direct (Choose one or more items)	Drivers: Indirect (Choose one or more items)	Which levers are being used to reverse negative trends and enable transformative change?	Responses that led to positive RLI trends	Comments
Negative	1. Land-use change 2. Overexploitation 3. Climate change 4. Pollution 5. Invasive alien species	1. Human Population Dynamics and Trends 2. Local to Global Governance 3. Trade 4. Production and Consumption Patterns	1. Incentives and Capacity-Building 2. Environmental Law and Implementation 3. Cross-Sectoral Cooperation 4. Decision-making in the Context of Resilience and Uncertainty		

General comments

Pakistan is rich in floral and faunal biodiversity. The high yielding varieties of crops, fruit trees, poultry and livestock were seen as the only

way forward to meet the growing demand for food. The importance of the need to conserve the genetic diversity is now being increasingly realized and measure being taken for its conservation. In the past exotic species of flora and fauna were being indiscriminately introduced in the natural habitats. The UN CBD and international Plan Protection convention has played an important role in raising awareness about the threats of invasive alien species and introduction of alien species is now being strictly regulated. The international trade is regulated under the CITES and export of species on CITES list is not allowed. The harvesting and trade in medicinal and aromatic plants for use within the country is not regulated, and there is no evidence that any species of the wild flora is threatened due to national or international trade. The data in table SO4-2.T1 is the default data.

SO4-3 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type

SO4-3.T1: National estimates of the average proportion of Terrestrial KBAs covered by protected areas (%)

Year	Protected Areas Coverage(%)	Lower Bound	Upper Bound	Comments
2000	34.79	34 .79	34 .79	
2001	34.79	34 .79	34 .79	
2002	34.79	34 .79	34 .79	
2003	34.79	34 .79	34 .79	
2004	34.79	34 .79	34 .79	
2005	34.79	34 .79	34 .79	
2006	34.79	34 .79	34 .79	
2007	34.79	34 .79	34 .79	
2008	34.79	34 .79	34 .79	
2009	34.79	34 .79	34 .79	
2010	34.79	34 .79	34 .79	
2011	34.79	34 .79	34 .79	
2012	34.79	34 .79	34 .79	
2013	34.79	34 .79	34 .79	
2014	34.79	34 .79	34 .79	
2015	34.79	34 .79	34 .79	
2016	34.79	34 .79	34 .79	
2017	34.79	34 .79	34 .79	
2018	34.79	34 .79	34 .79	
2019	34.79	34 .79	34 .79	
2020	34.79	34 .79	34 .79	

Qualitative assessment

SO4-3.T2: Interpretation of the indicator

Qualitative Assessment	Comment
Increasing	During the reporting period, 36111.52 sq kilometers new protected areas were added to the network of terrestrial, freshwater, and marine protected areas, thus enhancing national coverage of PA area by 4.5 percent against the baseline.

General comments

Since 2018, 68 new terrestrial, freshwater, and marine protected areas covering an area of 36111.52 square kilometers were notified for conservation of wild flroa and fauna. The data in SO4-3.T1 is the default data.

SO4 Voluntary Targets

SO4-VT.T1

Target	Year	Level of application	Status of target achievement	Comments
Expand coverage of protected areas by 30 per cent in line with CBD decisions	2030	National	Ongoing	Pursue Global Biodiversity Framework (GBF) “30x30” conservation target

Complementary information

Pakistan is continuing to enhance its network of new terrestrial, freshwater, and marine protected areas. Since, 2018, an additional area of 36111.52 square kilometers were added to the protected areas for conservation species of wild flora and fauna.

SO5-1 Bilateral and multilateral public resources

Tier 1: Please provide information on the international public resources provided and received for the implementation of the Convention, including information on trends.

Trends in international bilateral and multilateral public resources provided

- ○ Up ↑
- ◉ Stable ←→
- ○ Down ↓
- ○ Unknown ≈

Trends in international bilateral and multilateral public resources received

- ◉ Up ↑
- ○ Stable ←→
- ○ Down ↓
- ○ Unknown ≈

National Climate Change Policy, National Biodiversity Strategy and Action Plan, National Forest Policy, National Action Plan for Desertification, National Water Policy, SDGs, Nationally Determined Contribution, Green Climate Fund Country Framework Programs like Sustainable Land Management Programme , Sustainable Forest Management, Glaciers Lake Outburst Flood and REDD+.

The Ministry of Climate Change is the focal ministry for national coordination and reporting against the most multilateral environmental agreements related climate change, forestry, biodiversity, desertification. In addition, various international and local non-government organisations and bilateral and multilateral development partners support towards implementation of various donor supported projects and programmes in the country.

Tier 2: Table 1 Financial resources provided and received

		Total Amount USD	
Provided / Received	Year	Committed	Disbursed / Received
Provided	2016	Committed 0	Disbursed 0
Provided	2017	Committed 0	Disbursed 0
Provided	2018	Committed 0	Disbursed 0
Provided	2019	Committed 0	Disbursed 0
Received	2016	Committed 8 000 000	Received 3 400 000
Received	2017	Committed 9 500 000	Received 5 500 000
Received	2018	Committed 10 729 952 .91	Received 9 700 000 .32
Received	2019	Committed 13 400 153 .81	Received 10 125 776 .36
Total resources provided:		0	0
Total resources received:		41 630 106 .72	28 725 776 .68

Documentation box

	Explanation
Year	2016-2019
Recipient / Provider	Government of Pakistan received support from Green Climate Fund, EU, World Bank,, Asian Development Bank, GIZ, GEF, UNDP, FAO, USAID, FCDO-UK, etc.

	Explanation
Title of project, programme, activity or other	Various projects with activities including, reforestation, plantation, rangelands improvement, soil and water conservation, forest management, REDD+ Sustainable Land Management Programme (SLMP), Sustainable Forest Management, Mountain and Markets projects were undertaken.
Total Amount USD	28725776.68
Sector	Agriculture, forestry sector
Capacity Building	The implemented projects and activities included awareness and capacity building as an inbuilt component of the donor assistance including mainstreaming of gender aspects in implementation. These included trainings and exchange visits within the country and abroad.
Technology Transfer	Drone surveillance cameras, GPS and GIS and early warning equipment were procured and handed over to provincial/territorial departments for land use change monitoring together with capacity building.
Gender Equality	Gender aspects were considered during implementation of various activities through engagement of women in nursery raising, kitchen gardening, poultry raising, awareness raising and capacity building activities.
Channel	Except SLMP, most of the grants received were general, indirectly tackling issues of DLLD.
Type of flow	Grants in aid
Financial Instrument	Grants
Type of support	The activities implemented were relevant to rehabilitation of forests, water storage and conservation, sustainable land management, range management, community livelihood improvement to address the issues of DLLD.
Amount mobilised through public interventions	The amounts were derived from the documented expenditures incurred on various projects and programmes.
Additional Information	The exchange rate for most the projects from 2016 to 2019 was Rs. 105 for one US Dollar. From 2018 to 2019 the rate for some programme was Rs 130 per USD.

General comments

SO5-2 Domestic public resources

Tier 1: Please provide information on the domestic public expenditures, including subsidies, and revenues, including taxes, directly and indirectly related to the implementation of the Convention, including information on trends.

Trends in domestic public expenditures and national level financing for activities relevant to the implementation of the Convention

- (●) Up ↑
- ( ) Stable ←→
- ( ) Down ↓
- ( ) Unknown ∾

Trends in domestic public revenues from activities related to the implementation of the Convention

- (●) Up ↑
- ( ) Stable ←→
- ( ) Down ↓
- ( ) Unknown ∾

Federal as well as provincial governments have allocated handsome amounts for various development projects related to forestry, wildlife, range managment, biodiversity protection, soil and water conservation.

The instituational arrangments include federal and provincial ministries and departments that are responsible for design, implementaion and reporting against the Convention using domestic financing of the projects/activities which are directly or indirectly related to the Convention.

Tier 2: Table 2 Domestic public resources

	Year	Amounts	Additional Information
Government expenditures	2019	200 000 000	These are Federal as well as Povincial budget allocations fom 2016 to 2019.
Directly related to combat DLDD			
Indirectly related to combat DLDD			
Subsidies			
Subsidies related to combat DLDD			
Total expenditures / total per year			

	Year	Amounts	Additional Information
Government revenues			
Environmental taxes for the conservation of land resources and taxes related to combat DLDD			
Total revenues / total per year			

Documentation box

	Explanation
Government expenditures	The government investment included financial allocations for development and non-development activities related to conservation of forestry resources, land management, water and soil conservation. The significant financial allocations were made for mega forestry restoration and plantation initiatives undertaken by the provincial governments of Khyber Pakhtunkhwa under One billion tree afforestation project, Sindh province for mangrove restoration and Green Pakistan Programme/Ten Billion Tsunami Programme financed by the federal government.
Subsidies	
Government revenues	
Domestic resources directly or indirectly related to combat DLDD	

Has your country set a target for increasing and mobilizing domestic resources for the implementation of the Convention?

- ○ Yes
- ◉ No

The Government of Pakistan revised National Action plan for desertification control. Provincial Integrated Sustainable Land policies were devised.

General comments

SO5-3 International and domestic private resources

Tier 1: Please provide information on the international and domestic private resources mobilized by the private sector of your country for the implementation of the Convention, including information on trends.

Trends in international private resources

- ○ Up ↑
- ○ Stable ←→
- ○ Down ↓
- ◉ Unknown ∾

Trends in domestic private resources

- ○ Up ↑
- ○ Stable ←→
- ○ Down ↓
- ◉ Unknown ∾

Tier 2: Table 3 International and domestic private resources

Year	Title of project, programme, activity or other	Total Amount USD	Financial Instrument	Type of institution	Recipient	Additional Information
	Total	0				

Please provide methodological information relevant to data presented in table 3

Has your country taken measures to encourage the private sector as well as non-governmental organizations, foundations and academia to provide international and domestic resources for the implementation of the Convention?

General comments

SO5-4 Technology transfer

Tier 1: Please provide information relevant to the resources provided, received for the transfer of technology for the implementation of the Convention, including information on trends.

Trends in international bilateral and multilateral public resources provided

- (●) Up ↑
- ( ) Stable ←→
- ( ) Down ↓
- ( ) Unknown ∾

Trends in international bilateral and multilateral public resources received

- ( ) Up ↑
- (●) Stable ←→
- ( ) Down ↓
- ( ) Unknown ∾

A multitude of technologies have been introduced and promoted at the federal and provincial levels including early warning weather systems, weather radars, forest monitoring equipment including monitoring drones, solar and wind energy technologies, efficient water use techniques, laser land levelling, etc. Capacities of the departments have also been developed increasing application of GIS and remote sensing for natural resource planning and monitoring.

The instituational arrangments include federal and provincial ministries and departments that are responsible for design, implementaion and reporting against the Convention.

Tier 2: Table 4 Resources provided and received for technology transfer measures or activities

Provided Received	Year	Title of project, programme, activity or other	Amount	Recipient Provider	Description and objectives	Sector	Type of technology	Activities undertaken by	Status of measure or activity	Timeframe of measure or activity	Use, impact and estimated results	Additional Information
(●) Provided ( ) Received		REDD+ Readiness Project		Other (please specify) World Bank-FCPF	Forest Monitoring Drones	☐ Agriculture ☒ Forestry ☐ Water and Sanitation ☐ Cross-cutting ☐ Other(specify)	Monitoring & mapping technology	Public sector	Completed	2022	Forest monitoring	
( ) Provided (●) Received	2017	SLMP	1 .0	Other (please specify) GEF	GPS GIS Labs, Satellite Images	☒ Agriculture ☒ Forestry ☐ Water and Sanitation ☒ Cross-cutting ☐ Other(specify)	Land Use Planning, Monitoring and Maping	Public sector	Completed	2019	Land Use Planning, Monitoring and Maping	
( ) Provided (●) Received	2017	SFM	2 .0	Other (please specify) GEF	GPS, Surveilance Camera	☐ Agriculture ☒ Forestry ☐ Water and Sanitation ☐ Cross-cutting ☐ Other(specify)	Monitoring and Mapping	Public sector	Completed	2020	Monitoring and Maping	
Total provided:			0		Total received:			3				
Total per year year provided:			0		Total per year year received:			0				
Total per year 2017 provided:			0		Total per year 2017 received:			3				

Please provide methodological information relevant to data presented in table 4

Include information on underlying assumptions, definitions and methodologies used to identify and report on technology transfer support provided and/or received and/or required. Please include links to relevant documentation.

The Programmes and Projects helped in acquiring advance technologies of GIS, GPS and drones for monitoring, maping and Land Use Planning of the land resources.

Please provide information on the types of new or current technologies required by your country to address desertification, land degradation and drought (DLDD), and the challenges encountered in acquiring or developing such technologies.

Pakistan is in urgent need of continuing efforts towards combating land degradation in the future through the Land Degradation Focal Area Investments and associated Programmingin form of Land Degradation Neutrality (LDN). The initiatives will help 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 focus will be to halt and reverse land degradation, restore degraded ecosystems and sustainably manage our resources through a commitment to land degradation neutrality (LDN). Since land degradation has both poverty and climate change adaptation dimensions, integrated solutions are required to support interventions that address both dimensions. Building synergies and linking up with ongoing landscape restoration initiatives such as 10 Billion Tree Tsunami Project, will improve the cost effectiveness of interventions and deliver multiple outcomes toward environmental, social and economic sustainability. Due to rapid growth of population, massive deforestation and anthropogenic activities, noticeable change in climate conditions have appeared. Increased aridity is a growing environmental problem of agricultural countries like Pakistan. It is, therefore, essential to assess and monitor aridity to combat the problems of land degradation, drought, and desertification. Identification of arid and semi-arid regions on climatic basis is the first essential step in any project of land reclamation for agricultural and other purposes.

General comments

Various approaches have been attempted to combat the menace of desertification, for example, introduction of fast-growing tree species and grasses for stabilization of shifting

sand dunes and creation of microclimates through shelterbelt plantation. For sustainable land management (SLM), soil and water conservation, afforestation and rehabilitation of degraded land, repetitive high resolution satellite images, delineation and mapping of affected areas, are suitable tools for combating desertification. Efforts already underway to combat desertification need to be strengthened and integrated through a nationally supported, coordinated and monitored management system.

SO5-5 Future support for activities related to the implementation of the Convention

SO5-5.1: Planned provision and mobilization of domestic public and private resources

Please provide information relevant to the planned provision and mobilization of domestic resources for the implementation of the Convention, including information relevant to indicator SO5-2, as well as information on projected levels of public financial resources, target sectors and planned domestic policies.

Despite facing financial crunch, the federal and provincial governments continue to invest domestic public resource to implement interventions which directly or indirectly support implementation of the Convention. Examples include initiation of Green Pakistan Programme/Billion Tree Tsunami Programme in 2016 with domestic financial allocation of Pakistan Rupees 125 billion for the first phase.

SO5-5.2: Planned provision and mobilization of international public and private resources

Please provide information relevant to the planned provision and mobilization of international resources for the implementation of the Convention, including information on projected levels of public financial resources and support to capacity building and transfer of technology, target regions or countries, and planned programmes, policies and priorities.

A proposal 'Recharge Pakistan' has been submitted for funding to Green Climate Fund. The initiative has been designed in consultation with Federal Flood Commission and relevant provincial agencies. It aims at integrated flood risk management and resilience building through Ecosystem Based Adaptations. The total budget is estimated to be USD 115. Under GEF-8 Cycle, Star allocation of US$ 17.77 million has been allocated for Pakistan for the areas of climate change, biodiversity, and land degradation.

SO5-5.3: Resources needed

Please provide information relevant to the financial resources needed for the implementation of the Convention, including on the projects and regions which needs most support and on which your country has focused to the greatest extent.

As per Pakistan's updated NDC, ooverall, Pakistan's adaptation needs range between US$ 7-14 billion per annum. In the aftermath of recent flood, Living Indus Initiative has been conceived. It is an umbrella initiative of consolidate menu of 25 identified interventions which focus on nature-based solution and ecosystem-based adaptation approaches to protect, conserve, and restore the ecological health of the Indus Basin. The indicative financial needs for its implementation have been estimated to be US$ 17 billion. The identified interventions are directly or indirectly related to addressing issues relevant to Convention.

General comments

Pakistan being a water scarce country faces serious issues of climate change and desertification. Nearly three-fourth area of the country is either arid or semi-arid. A major activity for reversing desertification and addressing climate change issues is promoting permanent and temporary vegetative cover on the land. However, this should be done in the context of economic growth, environmental sustainability, and enhanced livelihoods. Considering that most economic activities in Pakistan are land-based, community participation in all activities designed to combat desertification is critical to the achievement of the desired impact. For this purpose, sustained financial, technical, and technological resources are needed to halt and reverse the adverse effects of land degradation and climate change.

Financial and Non-Financial Sources

Increasing the mobilization of resources:

Would you like to share an experience on how your country has increased the mobilization of resources within the reporting period?

- (●) Yes
- ( ) No

What type of resources were mobilized (check all that apply)?

- ☒ Financial Resources
- ☐ Non-Financial

Which sources were mobilized?

- ☒ International
- ☒ Domestic
- ☒ Public
- ☐ Private
- ☒ Local communities
- ☐ Non-traditional funding sources
- ☐ Climate Finance
- ☐ Other (please specify)

Use this space to describe the experience:

During the reporting period, the climate change and forestry sectors received a lot of attention from the government in financial resource allocations. The examples include initiation of Billion Tree Afforestation Project by the KP province, mangrove restoration by Sindh province and Green Pakistan Programme/Ten Billion Tee Tsunami Programme financed on co-sharing basis by the provincial and federal governments.

What were the challenges faced, if any?

What do you consider to be the lessons learned?

Billion Tree Afforestation Programme has been a success story which played a catalyst role in formulation of national level Green Pakistan Programme/Ten Billion Tsunami Programme. Futhermore, Pakistan is the only country in the region where mangrove cover is increasing.

How did you ensure that women benefited from/got access to this funding?

Gender aspects were considered during implementation of various activities through engagement of women in nursery raising, kitchen gardening, poultry raising, awareness raising and capacity building activities.

Use this space to provide any further complementary information you deem relevant:

Has your country supported other countries in the mobilization of financial and non-financial resources for the implementation of the Convention?

- ( ) Yes

◉ No

Using Land Degradation Neutrality as a framework to increase investment:

From your perspective, would you consider that you have taken advantage of the LDN concept to enhance the coherence, effectiveness and multiple benefits of investments?

◉ Yes

○ No

Use this space to describe the experience:

LDN is a cross-cutting concept that results in multiple benefits from protection and restoration of terrestrial ecosystem. The concept is referenced in several national policy documents and plans, such as Pakistan's updated NDC 2021.

What were the challenges faced, if any?

What do you consider to be the lessons learned?

Though, there may have been little direct investment specific to LDN targets, yet, several sectoral interventions pertaining to restoration of forests, agroforestry, watershed protection, soil and water conservation have indirectly contributed to national LDN targets.

Improving existing and/or innovative financial processes and institutions

From your perspective, do you consider that your country has improved the use of existing and/or innovative financial processes and institutions?

◉ Yes

○ No

Was this through any of the following (check all that apply)?

☒ Existing financial processes

☐ Innovative financial processes

☒ The GEF

☒ Other funds (please specify)

Green Climate Fund

Use this space to describe the experience:

What were the challenges faced, if any?

Capacity to develop bankable and transformative projects has been a challenge to access financing through available mechanisms.

What do you consider to be the lessons learned?

Did your country support other countries in the improvement of existing or innovative financial processes and institutions?

○ Yes

◉ No

Policy and Planning

Action Programmes:

Has your country developed or helped develop, implement, revise or regularly monitor your national action programme?

- (•) Yes
- ( ) No

Use the space below to share more details about your country's experience:

Federal Government evised the National Action Plan for Desertification in 2016-2017 and align it with Gloal UNCCD strategy. LDN has been mainstreamed in updated NDCs of Pakistan.

Would you consider the action programmes and/or plans to be successful and what do you consider the main reasons for success or lack thereof?

Availability of financial resources for implementation of identified actions has been the main concern. Due to financial crunch and socioeconomic priorities, the access to domestic financial allocations has been limited.

What were the challenges faced, if any?

Limited institutional capacities in project designing to access financing from multilateral and bilateral sources.

What do you consider to be the lessons learned?

Policies and enabling environment:

During the reporting period, has your country established or helped establish policies and enabling environments to promote and/or implement solutions to combat desertification/land degradation and mitigate the effects of drought?

- (•) Yes
- ( ) No

These policies and enabling environments were aimed at (check all that apply):

☒ Promoting solutions to combat desertification, land degradation and drought (DLDD)
☒ Implementing solutions to combat DLDD
☐ Protecting women's land rights
☒ Enhancing women's access to natural, productive and/or financial resources
☐ Other (please specify)

How best to describe these experiences (check all that apply):

☒ Prevention of the effects of DLDD
☒ Relief efforts after DLDD has caused environmental and or socioeconomic stress on ecosystems and or populations
☒ Recovery efforts after DLDD has caused environmental and or socioeconomic stress on ecosystems and or populations
☒ Engagement of women in decision - making
☐ Implementation and promotion of women's land rights and access to land resources
☒ Building women's capacity for effective UNCCD implementation
☐ Other (please specify)

Use the space below to share more details about your country/sub-region/region/institution's experience.

Sustainable Land Management Pogramme was implemented in all four provinces of Pakistan.

Do you consider these policies to be successful in promoting or implementing solutions to address DLDD, including prevention, relief and recovery, and what do you consider the main factors of success or lack thereof?

National Climate Change Policy, National Forest Policy, National Water Policy, NDCs integrate solutions that directly or indirectly contribute to promoting sustainable land, water and natural resources management.

What were the challenges faced, if any?

Financial resources mobilisation for implementation of policy actions.

What would you consider to be the lessons learned?

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

- ○ Yes
- ◉ No

Synergies:

From your perspective, has your country leveraged synergies and integrated DLDD into national plans related to other MEAs, particularly the other Rio Conventions and other international commitments?

- ◉ Yes
- ○ No

Your country's actions were aimed at (please check all that apply):

- ☒ Leveraging DLDD with other national plans related to the other Rio Conventions
- ☒ Integrating DLDD into national plans
- ☒ Leveraging synergies with other strategies to combat DLDD
- ☒ Integrating DLDD into other international commitments
- ☐ Other (please specify)

Use the space below to describe your country's experience.

National Climate Change Policy, National Forest Policy, National Water Policy, NDCs integrate solutions that directly or indirectly contribute to promoting sustainable land, water and natural resources management.

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

What were the challenges faced, if any?

What would you consider to be the lessons learned?

Mainstreaming desertification, land degradation and drought:

From your perspective, did your country take specific actions to mainstream, DLDD in economic, environmental and social policies, with a view to increasing the impact and effectiveness of the implementation of the Convention?

- (•) Yes
- ( ) No

If so, DLDD was mainstreamed into (check all that apply):

- ☒ Economic policies
- ☒ Environmental policies
- ☒ Social policies
- ☒ Land policies
- ☒ Gender policies
- ☒ Agricultural policies
- ☐ Other (please specify)

Use the space below to describe your country's experience.

There is increasing focus on adoption of early warning systems in view of climate change vulnerablities being faced by the country.

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

What were the challenges faced, if any?

What would you consider to be the lessons learned?

Drought-related policies:

Has your country established or is your country establishing national policies, measures and governance for drought preparedness and management?

- (•) Yes
- ( ) No

Use the space below to describe your country's experience.

National, provincial and district level disaster management authorities have been established and mandated to tackle all sorts of anthropogenic and natural disasters.

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

What were the challenges faced, if any?

Strengthening of institutional capacities in land monitoring and early warning systems is needed.

What would you consider to be the lessons learned?

Has your country supported other countries in establishing policies, measures and governance for drought preparedness and management, in accordance with the mandate of the Convention?

- ○ Yes
- ◉ No

Action on the Ground

Sustainable land management practices:

Has your country implemented or is your country implementing sustainable land management (SLM) practices to address DLDD?

- (●) Yes
- ( ) No

What types of SLM practices are being implemented?

- ☒ Agroforestry
- ☒ Area closure (stop use, support restoration)
- ☒ Beekeeping, fishfarming, etc
- ☒ Cross-slope measure
- ☒ Ecosystem-based disaster risk reduction
- ☒ Energy efficiency
- ☒ Forest plantation management
- ☐ Home gardens
- ☒ Improved ground/vegetation cover
- ☒ Improved plant varieties animal breeds
- ☒ Integrated crop-livestock management
- ☒ Integrated pest and disease management (incl. organic agriculture)
- ☒ Integrated soil fertility management
- ☒ Irrigation management (incl. water supply, drainage)
- ☐ Minimal soil disturbance
- ☒ Natural and semi-natural forest management
- ☒ Pastoralism and grazing land management
- ☒ Post-harvest measures
- ☒ Rotational system (crop rotation, fallows, shifting, cultivation)
- ☒ Surface water management (spring, river, lakes, sea)
- ☒ Water diversion and drainage
- ☒ Water harvesting
- ☒ Wetland protection/management
- ☒ Windbreak/Shelterbelt
- ☒ Waste management / Waste water management
- ☐ Other (please specify)

Use the space below to share more details about your country's experience:

There has been growing realisation of climate change issues and vulnerablities in the country.

Would you consider the implemented practices successful and what do you consider the main factors of success?

What were the challenges faced, if any?

Geographical and sectoral vulnerability assessments and resilience building to climate change and sustainable natural resources management is needed.

What do you consider to be the lessons learned?

How did you engage women and youth in these activities?

Gender aspects were considered during implementation of various activities through engagement of women in nursery raising, kitchen gardening, poultry raising, awareness raising and capacity building activities.

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

- ○ Yes
- ◉ No

Restoration and Rehabilitation:

Has your country implemented or is your country implementing restoration and rehabilitation practices in order to assist with the recovery of ecosystem functions and services?

- ◉ Yes
- ○ No

What types of rehabilitation and restoration practices are being implemented?

- ☒ Restore/improve tree-covered areas
- ☒ Increase tree-covered area extent
- ☒ Restore/improve croplands
- ☒ Restore/improve grasslands
- ☒ Restore/improve wetlands
- ☒ Increase soil fertility and carbon stock
- ☒ Manage artificial surfaces
- ☒ Restore/improve protected areas
- ☒ Increase protected areas
- ☒ Improve coastal management
- ☒ General instrument (e.g. policies, economic incentives)
- ☒ Restore/improve multiple land uses
- ☒ Reduce/halt conversion of multiple land uses
- ☒ Restore/improve multiple functions
- ☒ Restore productivity and soil organic carbon stock in croplands and grasslands
- ☐ Other/general/unspecified

Use the space below to share more details about your country's experience:

Significant financial allocations were made for mega forestry restoration and plantation initiatives undertaken by the provincial governments of Khyber Pakhtunkhwa under One billion tree afforestation project, Sindh province for mangrove restoration and Green Pakistan Programme/Ten Billion Tsunami Programme financed by the federal government.

Would you consider the implemented practices successful and what do you consider the main factors of success?

Political commitment has been the main reason for enhanced domestic allocations for these initiatives.

What were the challenges faced, if any?

What do you consider to be the lessons learned?

How did you engage women and youth in SLM activities?

Gender aspects were considered during implementation of various activities through engagement of women in nursery raising, kitchen gardening, poultry raising, awareness raising and capacity building activities.

Has your country supported other countries with restoration and rehabilitation practices in order to assist with the recovery of ecosystem functions and services?

- ○ Yes
- ◉ No

Drought risk management and early warning systems:

Is your country developing a drought risk management plan, monitoring or early warning systems and safety net programmes to address DLDD?

- ◉ Yes
- ○ No

If so, DLDD was mainstreamed into (check all that apply):

☒ A drought risk management plan
☒ Monitoring and early warning systems
☒ Safety net programmes

Use the space below to describe your country's experience.

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

If you have or are developing a drought risk management plan as part of the Drought Initiative, please share here your experience on activities undertaken?

What were the challenges faced, if any?

What would you consider to be the lessons learned?

Has your country supported other countries in developing drought risk management, monitoring and early warning systems and safety net programmes to address DLDD?

- ○ Yes
- ◉ No

Alternative livelihoods:

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

- (•) Yes
- ( ) No

Could you list some practices implemented at country level to promote alternative livelihoods?

- ☒ Crop diversification
- ☒ Agroforestry practices
- ☒ Rotational grazing
- ☒ Rain-fed and irrigated agricultural systems
- ☒ Small vegetable gardens
- ☒ Production of artisanal goods
- ☒ Renewable energy generation
- ☒ Eco-tourism
- ☒ Production of medicinal and aromatic plants
- ☒ Aquaculture using recycled wastewater
- ☐ Other (please specify)

Use the space below to describe your country's experience.

A multitude of technologies have been introduced and promoted at the federal and provincial levels including early warning weather systems, weather radars, forest monitoring equipment including monitoring drones, solar and wind energy technologies, efficient water use techniques, laser land levelling, etc. Capacities of the departments have also been developed in application of GIS and remote sensing for natural resource planning and monitoring.

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

What were the challenges faced, if any?

What would you consider to be the lessons learned?

Do you consider your country to be taking special measures to engage women and youth in promoting alternative livelihoods?

- (•) Yes
- ( ) No

Please elaborate

Establishing knowledge sharing systems:

Has your country established systems for sharing information and knowledge and facilitating networking on best practices and approaches to drought management?

- (•) Yes
- ( ) No

Please use this space to share/list the established systems available in your country for sharing information and knowledge and facilitating networking on best practices and approaches to drought management.

Information sharing through websites and social media and reports

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

Weathe forecasting has improved.

What were the challenges faced, if any?

What would you consider to be the lessons learned?

Do you consider that your country has implemented specific actions that promote women's access to knowledge and technology?

- (●) Yes
- ( ) No

Please elaborate

Gender aspects were considered during implementation of various activities through engagement of women in nursery raising, kitchen gardening, poultry raising, awareness raising and capacity building activities.

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

What were the challenges faced, if any?

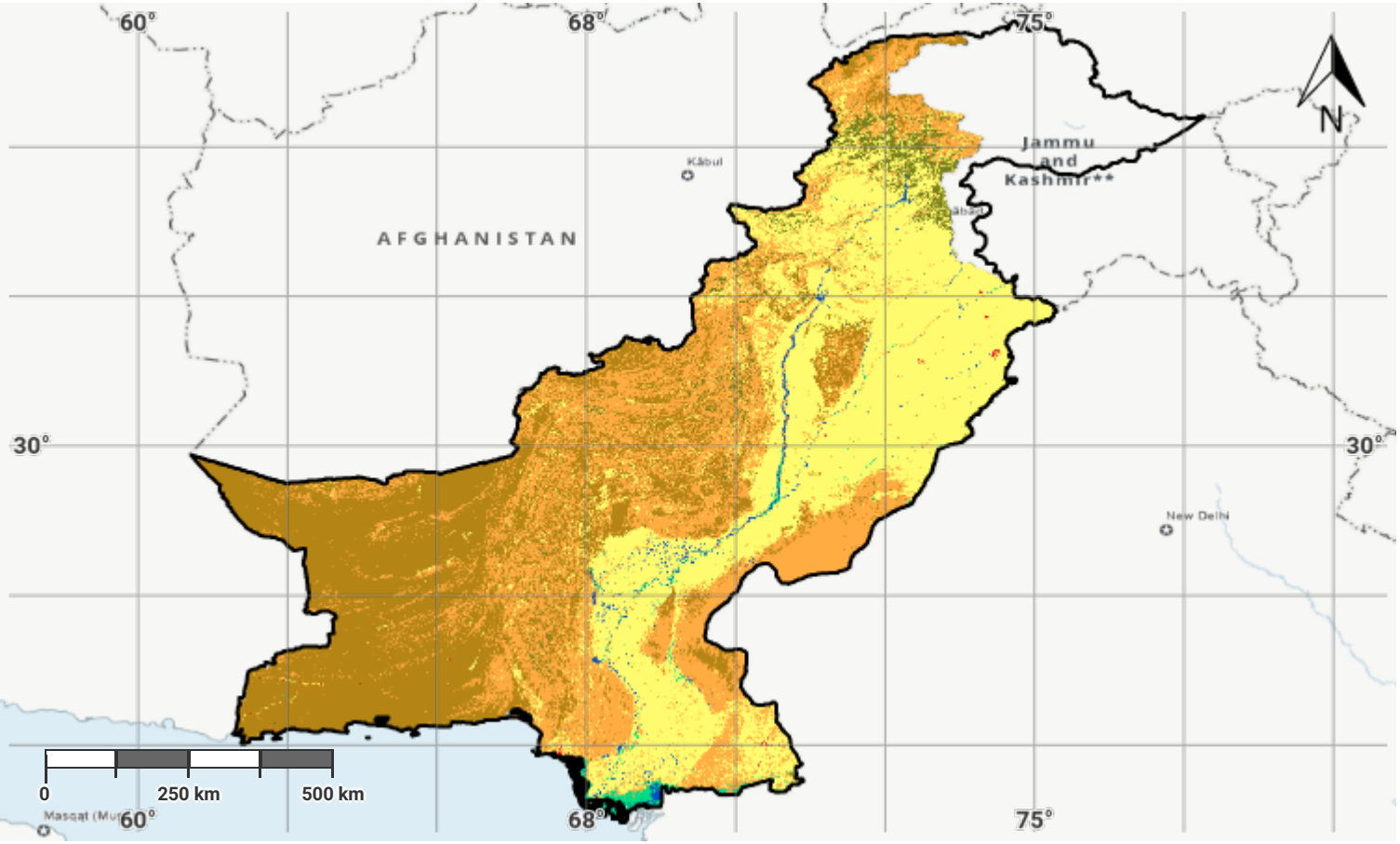
What would you consider to be the lessons learned?

Other files for Reporting

Pakistan - SO5-1 recipient	Download	38.8 KB

Pakistan – SO1-1.M1

Land cover in the initial year of the baseline period



Legend

- No data
- Tree-covered
- Grassland
- Cropland
- Wetland
- Artificial
- Other land
- Water body
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

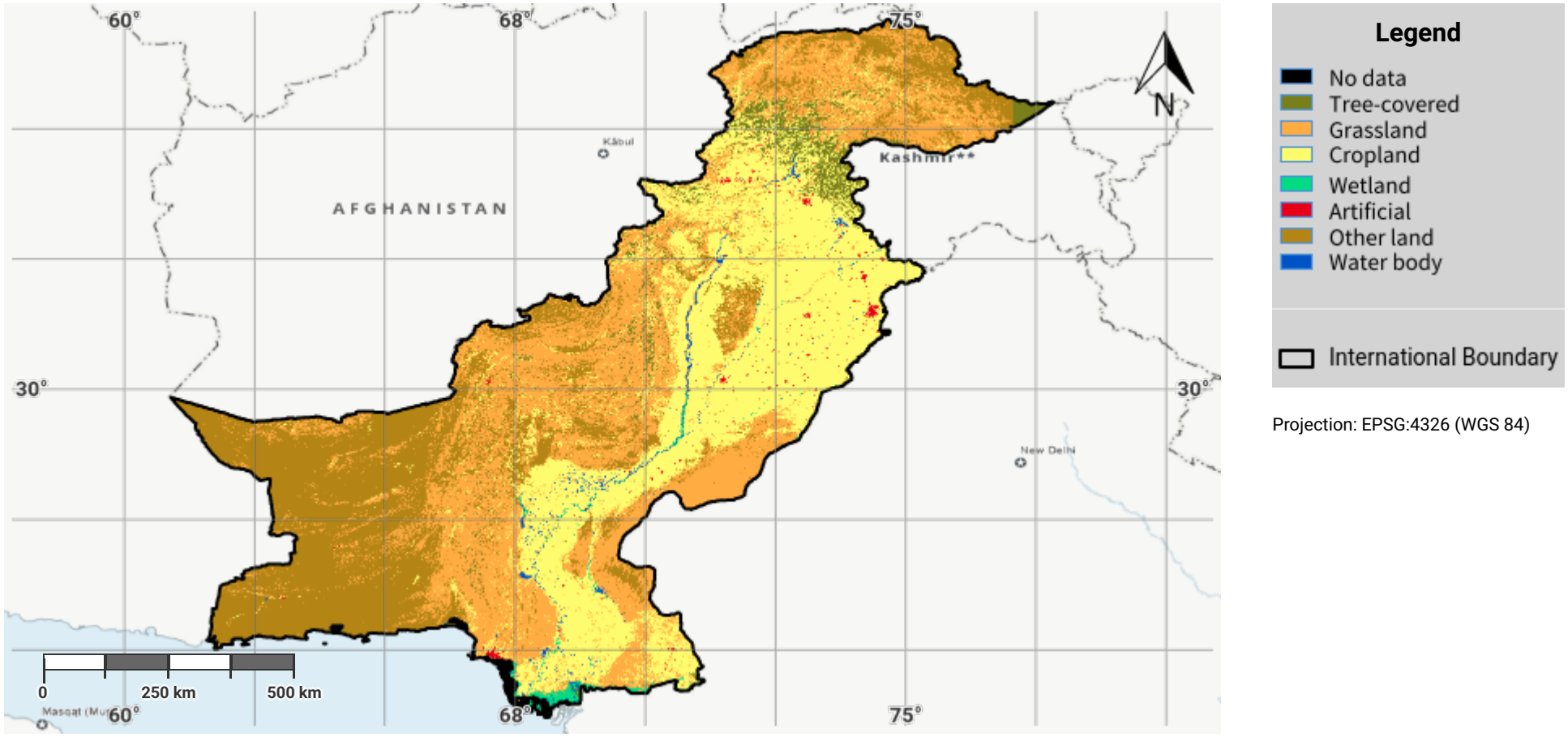
This boundary was extracted from trends.earth platform and does not represent the official boundary of Pakistan. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Source Data Credits

- European Space Agency Climate Change Initiative Land Cover (ESA CCI-LC) product, 1992-2019. URL: https://www.esa-landcover-cci.org/

Pakistan – SO1-1.M2

Land cover in the baseline year



Projection: EPSG:4326 (WGS 84)

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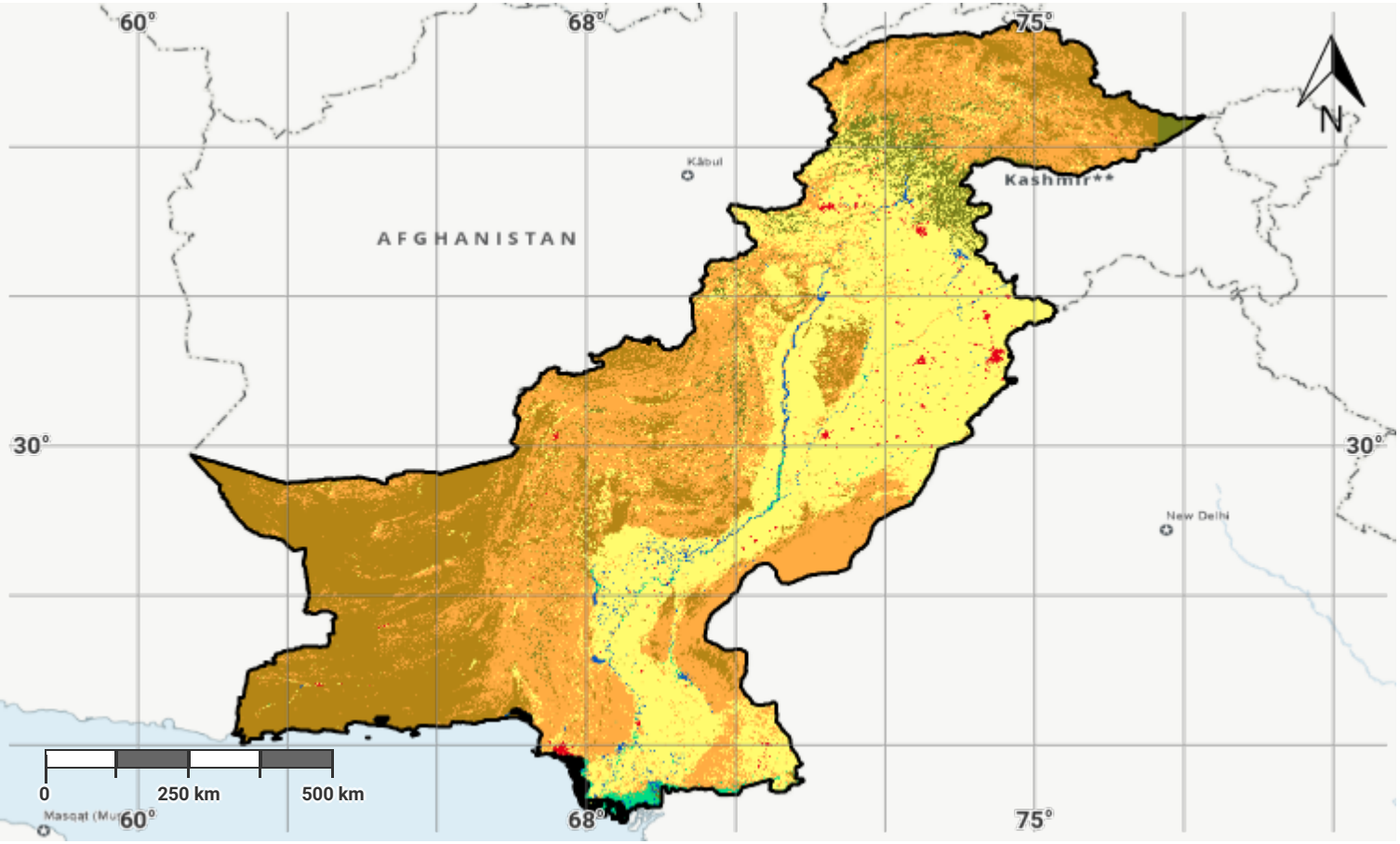
Pakistan – SO1-1.M3

Land cover in the latest reporting year



Legend

- No data
- Tree-covered
- Grassland
- Cropland
- Wetland
- Artificial
- Other land
- Water body
- International Boundary

Projection: EPSG:4326 (WGS 84)

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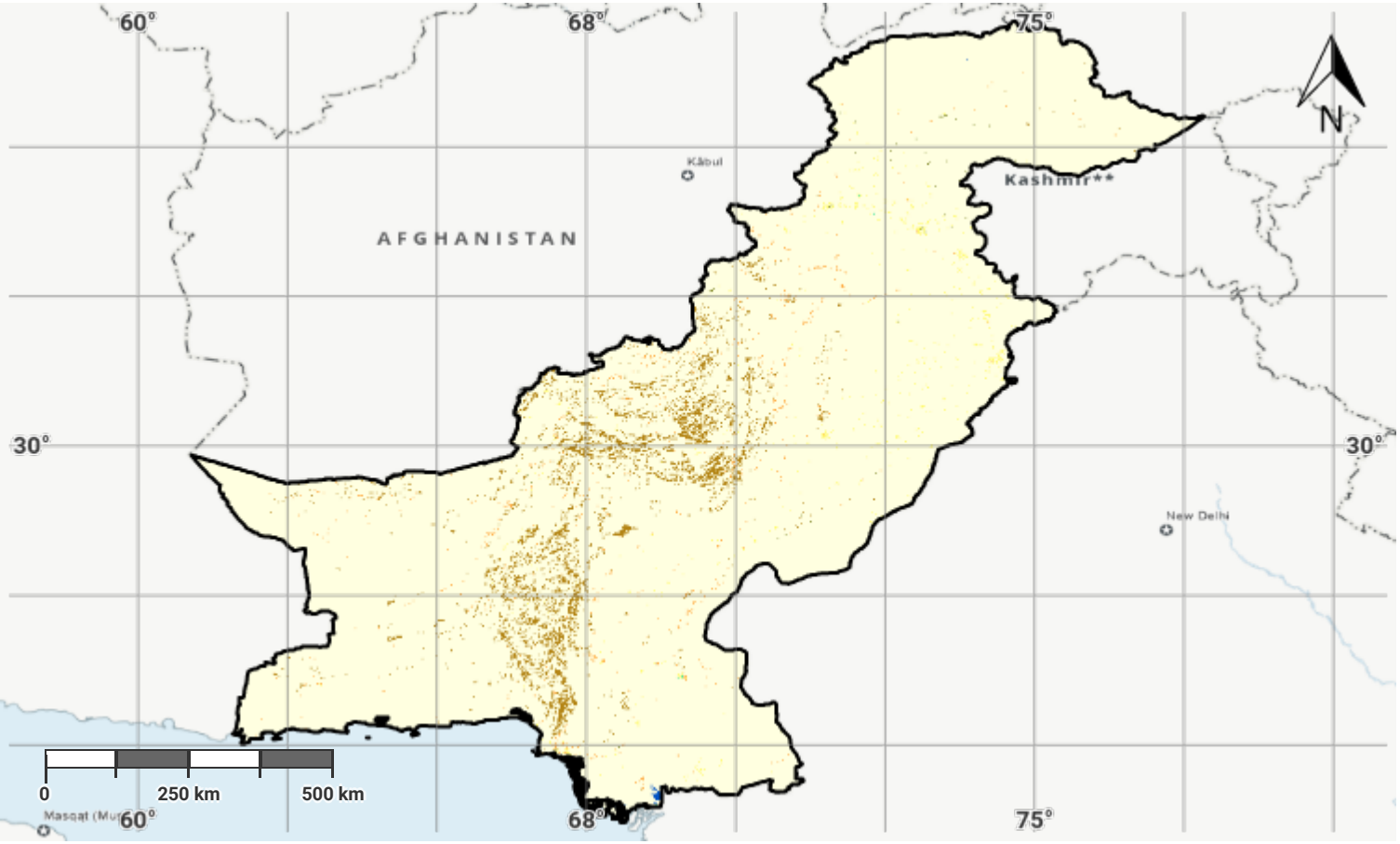
Pakistan – SO1-1.M4

Land cover change in the baseline period



Legend

- No data
- No change
- Tree-covered loss
- Grassland loss
- Cropland loss
- Wetland loss
- Artificial loss
- Other land loss
- Water body loss
- International Boundary

Projection: EPSG:4326 (WGS 84)

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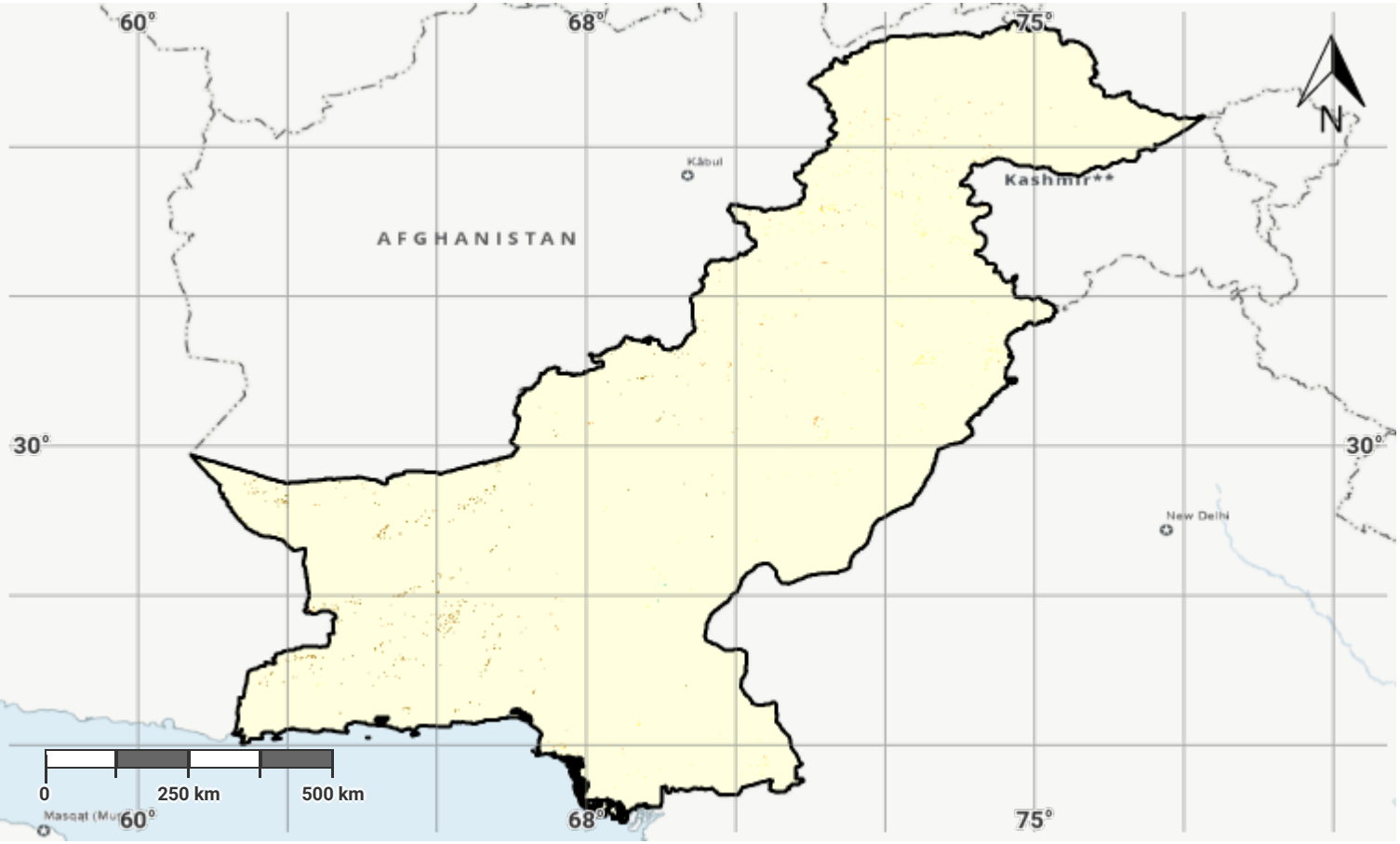
Pakistan – SO1-1.M5

Land cover change in the reporting period



Legend

- No data
- No change
- Tree-covered loss
- Grassland loss
- Cropland loss
- Wetland loss
- Artificial loss
- Other land loss
- Water body loss
- International Boundary

Projection: EPSG:4326 (WGS 84)

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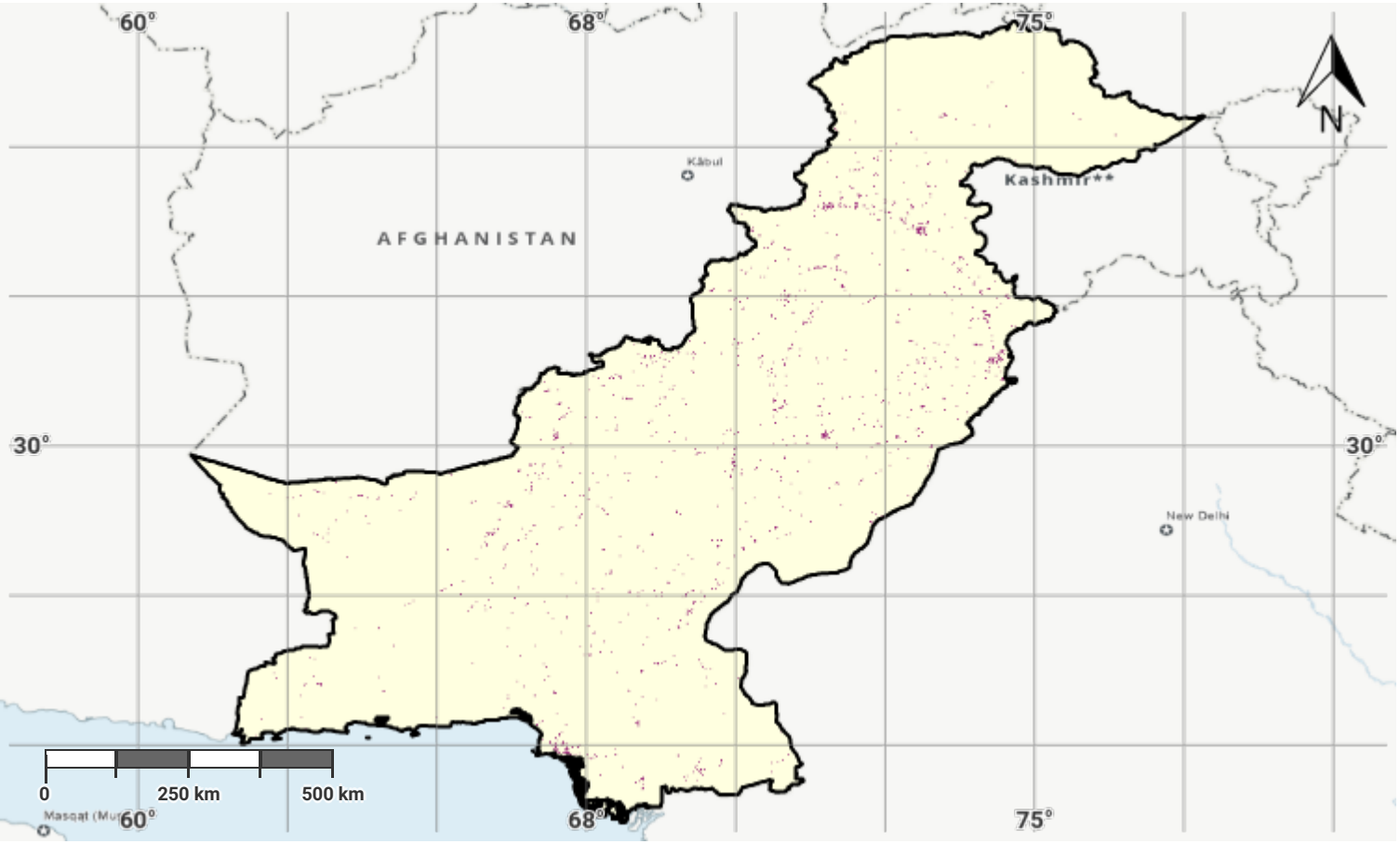
Pakistan – SO1-1.M6

Land cover degradation in the baseline period



Legend

- No data
- Degradation
- Not degraded
- International Boundary

Projection: EPSG:4326 (WGS 84)

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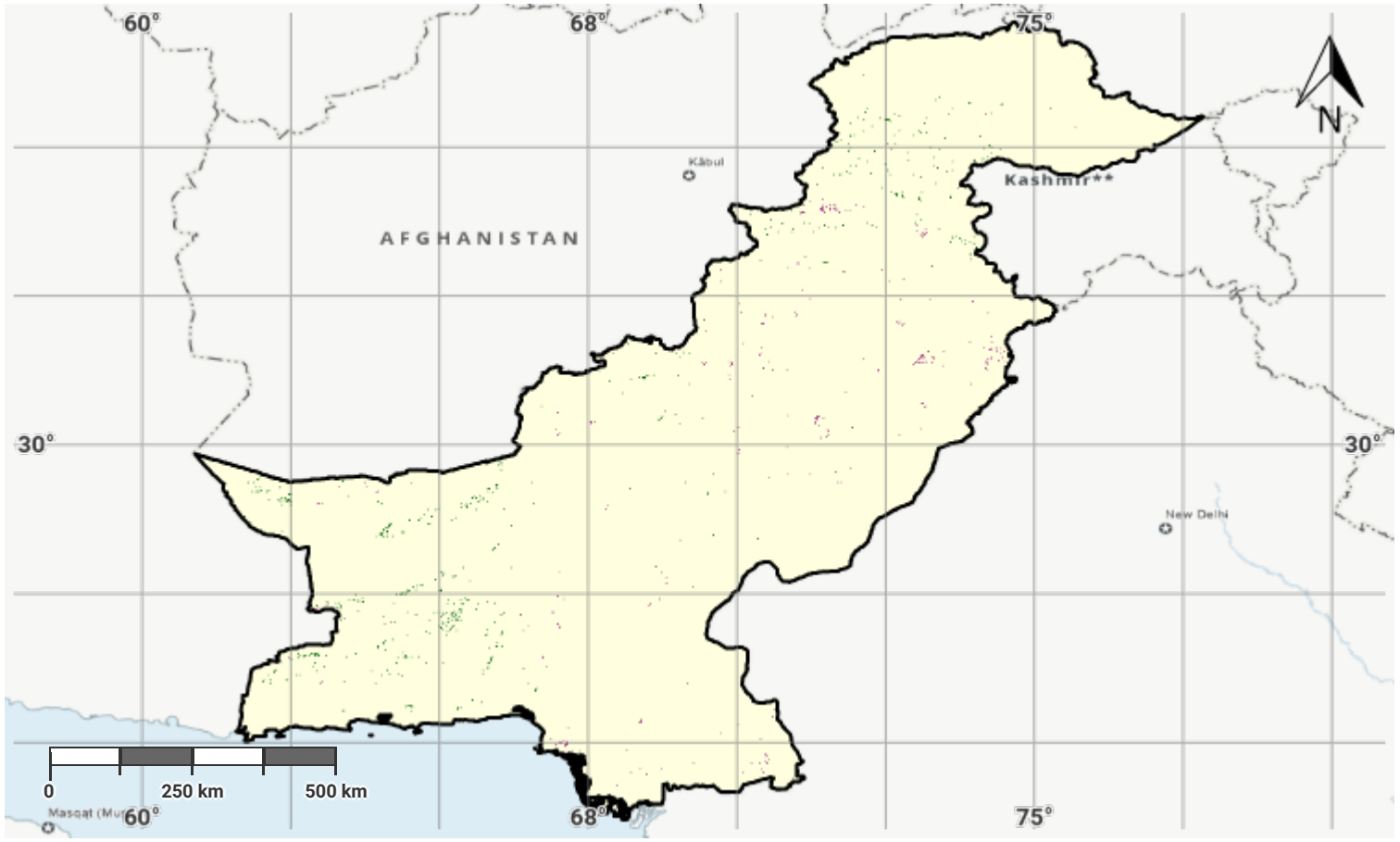
Pakistan – SO1-1.M7

Land cover degradation in the reporting period



Legend

- No data
- Degradation
- Stable
- Improvement
- International Boundary

Projection: EPSG:4326 (WGS 84)

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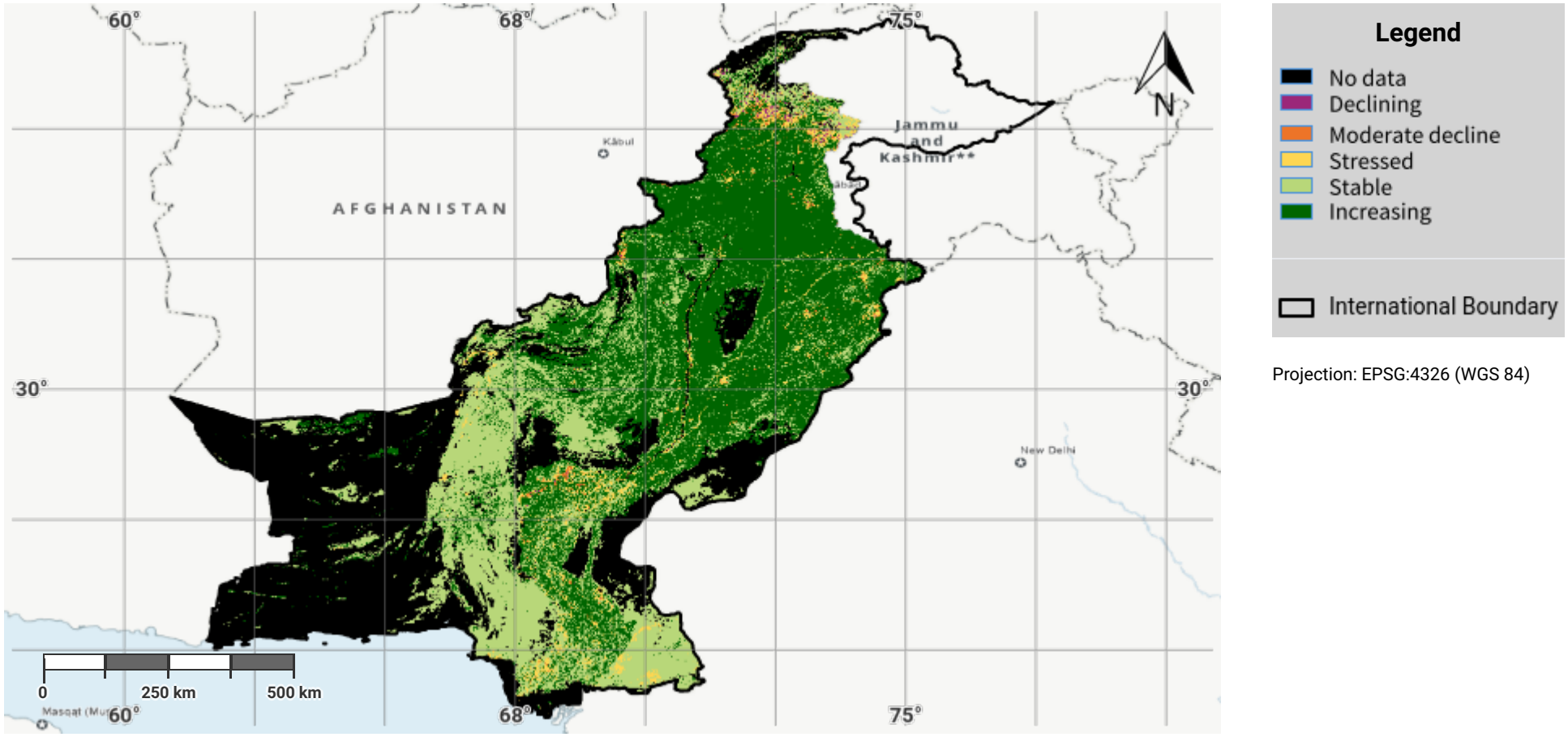
Pakistan – SO1-2.M1

Land productivity dynamics in the baseline period



Legend

- No data
- Declining
- Moderate decline
- Stressed
- Stable
- Increasing
- International Boundary

Projection: EPSG:4326 (WGS 84)

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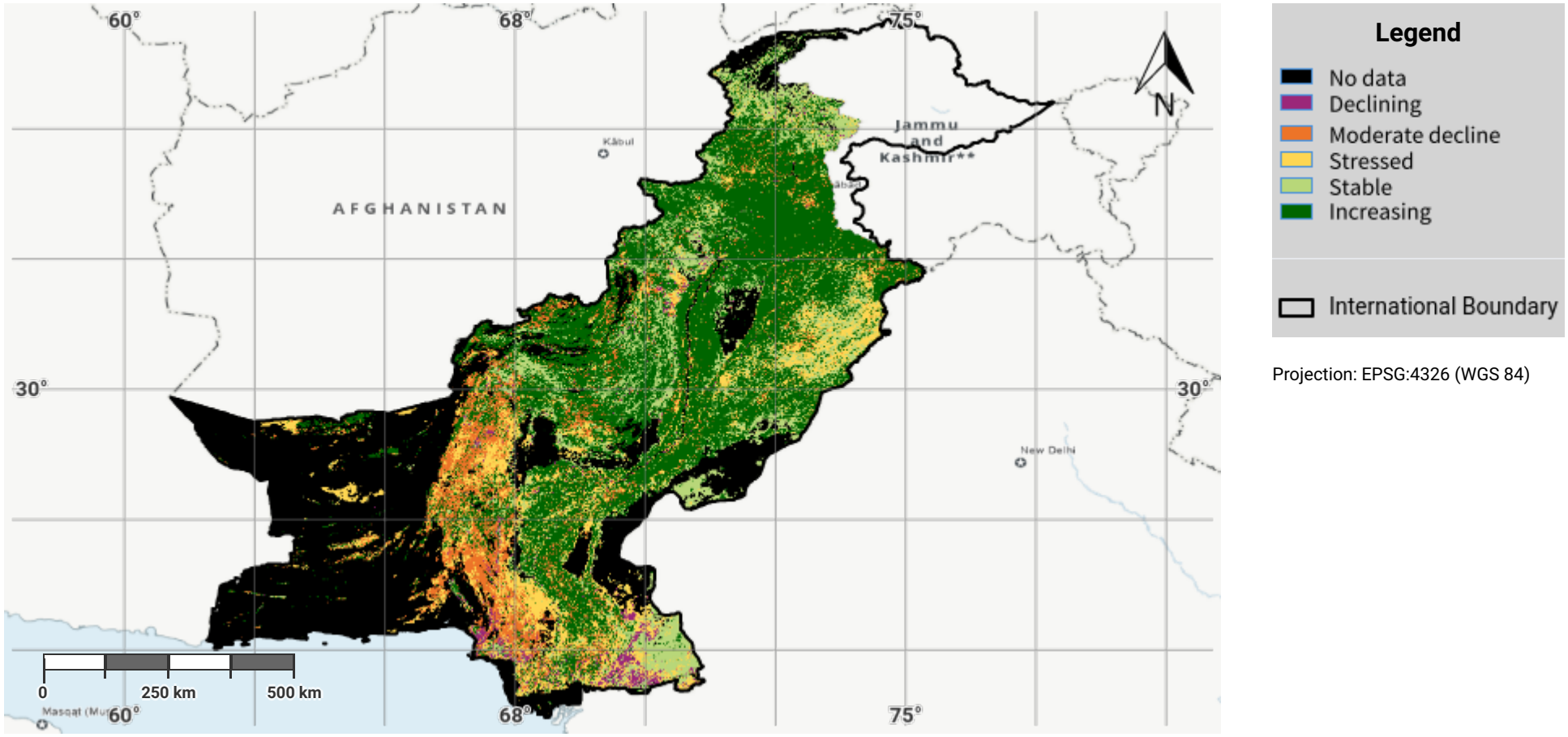
- EC-JRC, 2021, based on Xavier Rotllan-Puig, Eva Ivits, Michael Cherlet, LPDynR: A new tool to calculate the land productivity dynamics indicator, Ecological Indicators, Volume 133, 2021, 108386, ISSN 1470-160X. URL: https://doi.org/10.1016/j.ecolind.2021.108386

Pakistan – SO1-2.M2

Land productivity dynamics in the reporting period



Legend

- No data
- Declining
- Moderate decline
- Stressed
- Stable
- Increasing
- International Boundary

Projection: EPSG:4326 (WGS 84)

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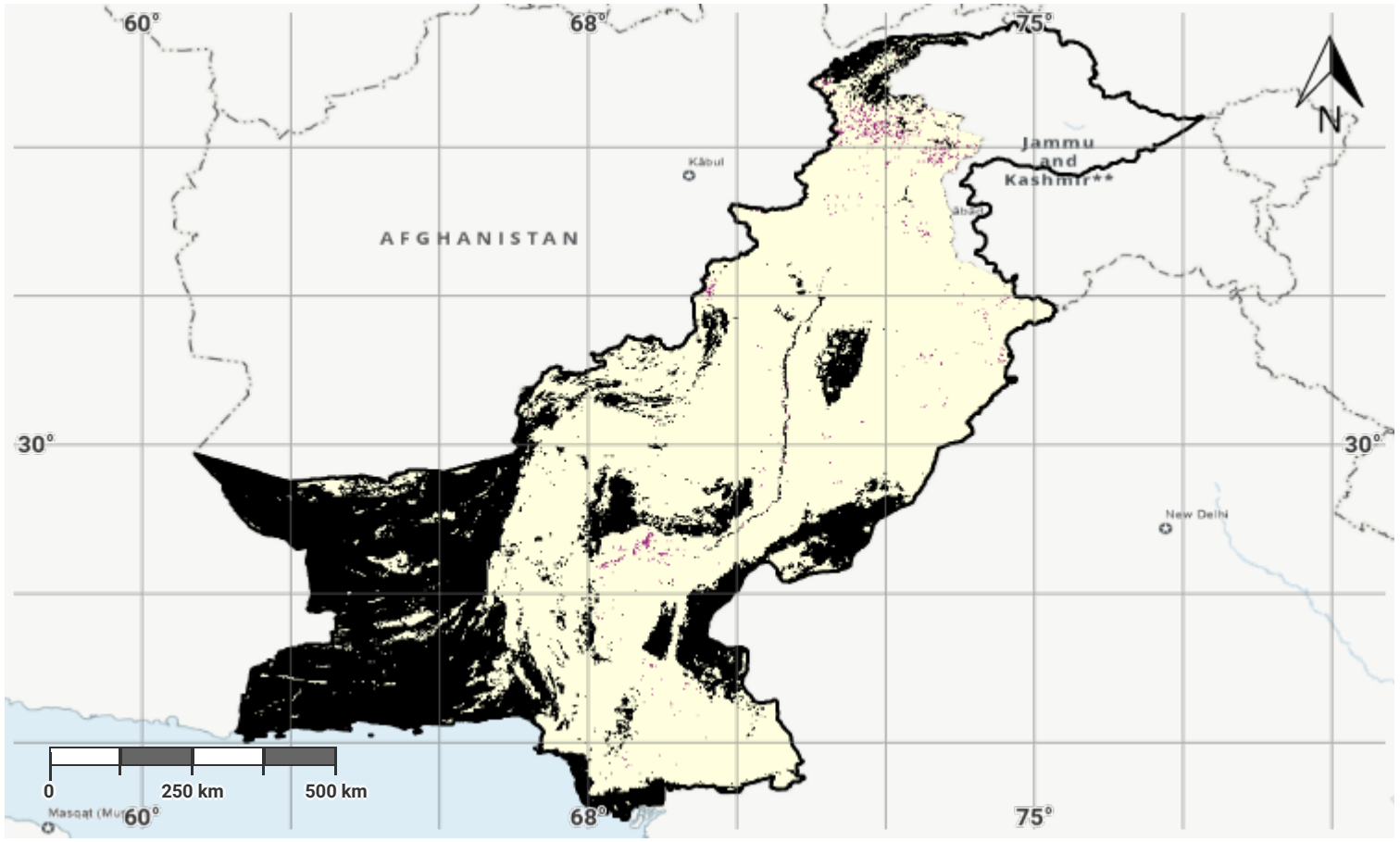
Pakistan – SO1-2.M3

Land productivity degradation in the baseline period



Legend

- No data
- Degradation
- Not degraded
- International Boundary

Projection: EPSG:4326 (WGS 84)

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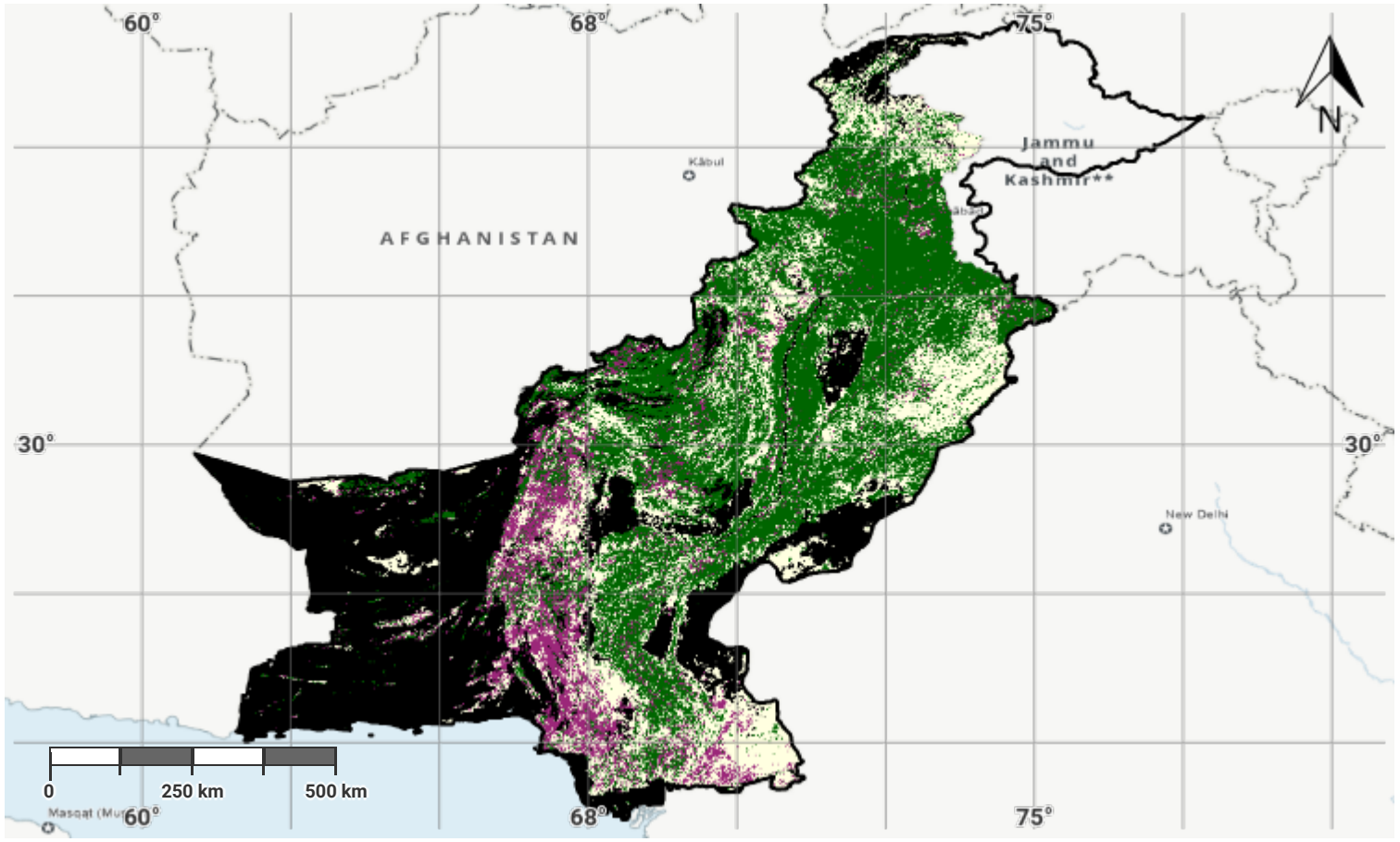
Pakistan – SO1-2.M4

Land productivity degradation in the reporting period



Legend

- No data
- Degradation
- Not degraded
- Improvement
- International Boundary

Projection: EPSG:4326 (WGS 84)

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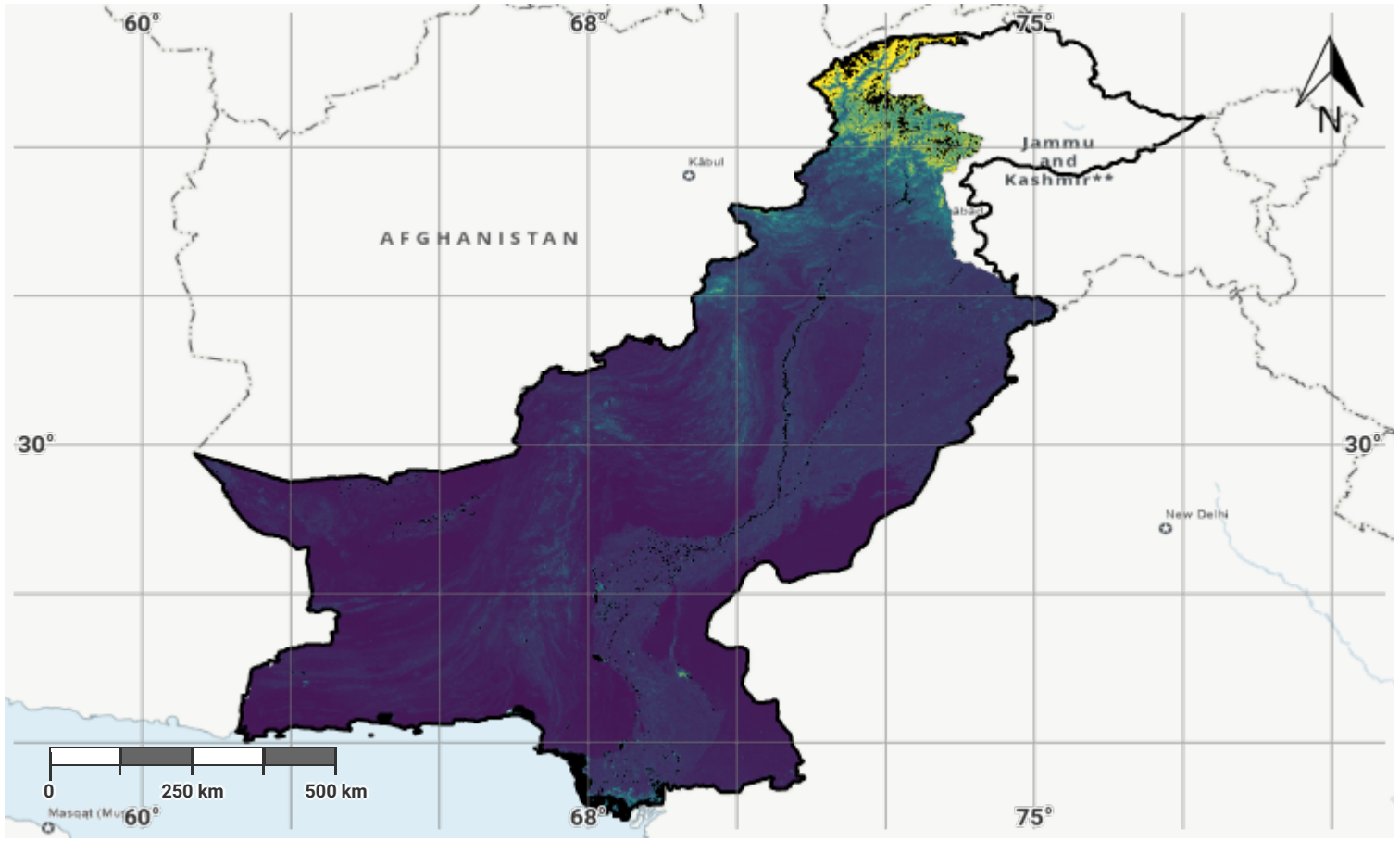
Pakistan – SO1-3.M1

Soil organic carbon stock in the initial year of the baseline period



Legend

- No data
- 0 - 116.5 t/ha
- 116.5 - 233.0 t/ha
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

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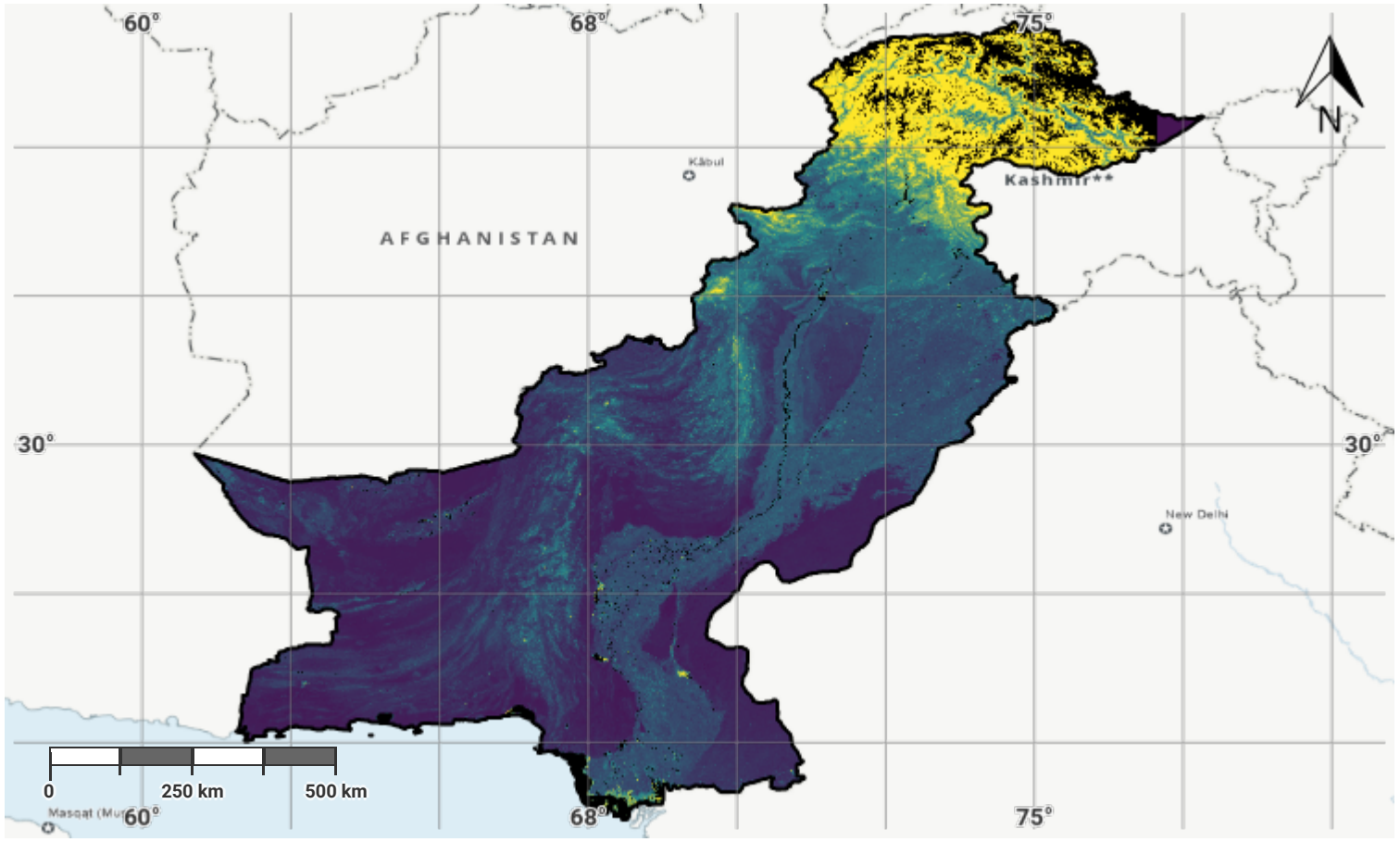
Source Data Credits

- International Soil Reference and Information Centre (ISRIC) SoilGrids250m dataset. URL: https://www.isric.org/explore/soilgrids

Pakistan – SO1-3.M2

Soil organic carbon stock in the baseline year



Legend

- No data
- 0 - 63.5 t/ha
- 63.5 - 127.0 t/ha
- International Boundary

Projection: EPSG:4326 (WGS 84)

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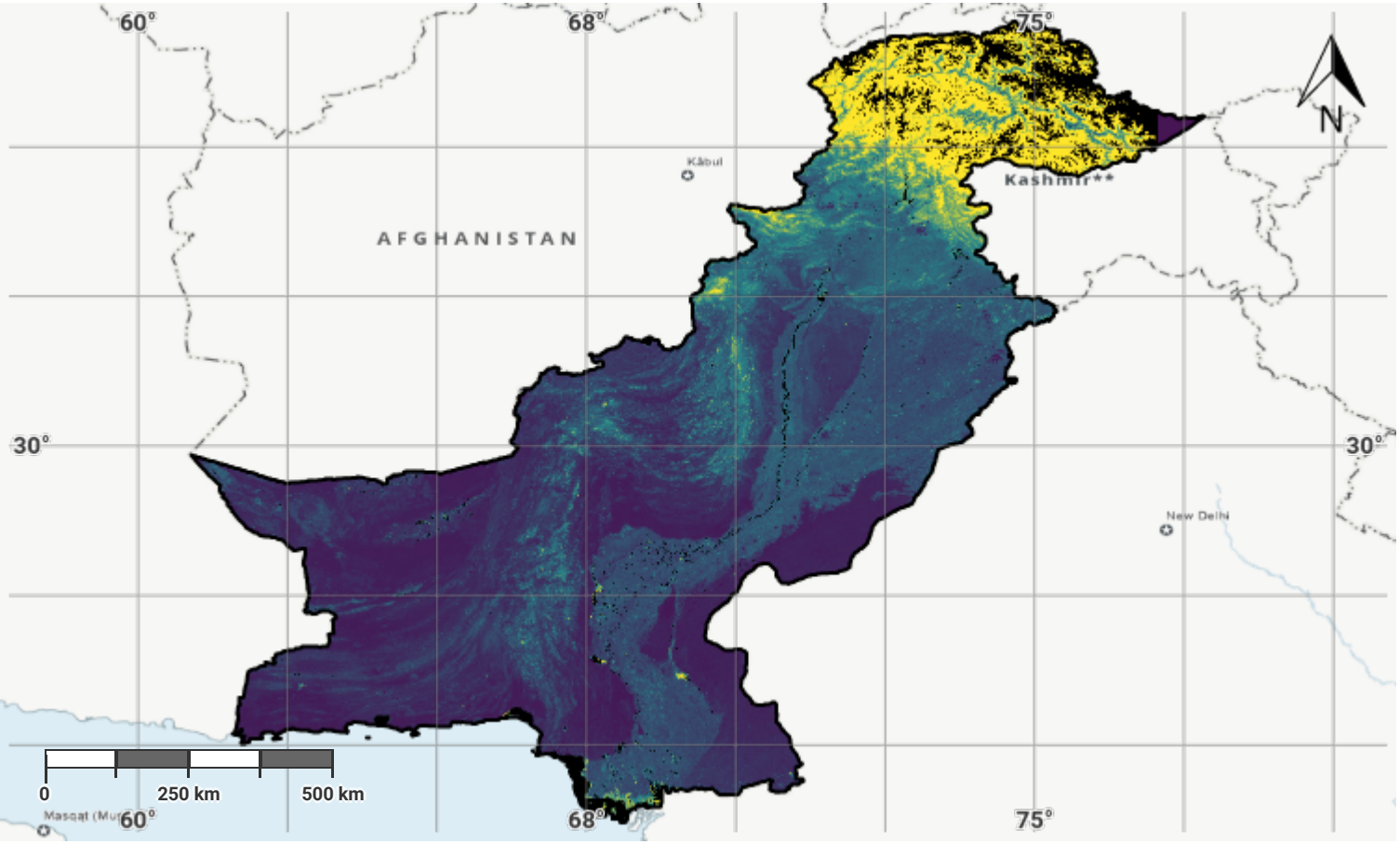
Pakistan – SO1-3.M3

Soil organic carbon stock in the latest reporting year



Legend

- No data
- 0 - 63.5 t/ha
- 63.5 - 127.0 t/ha
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

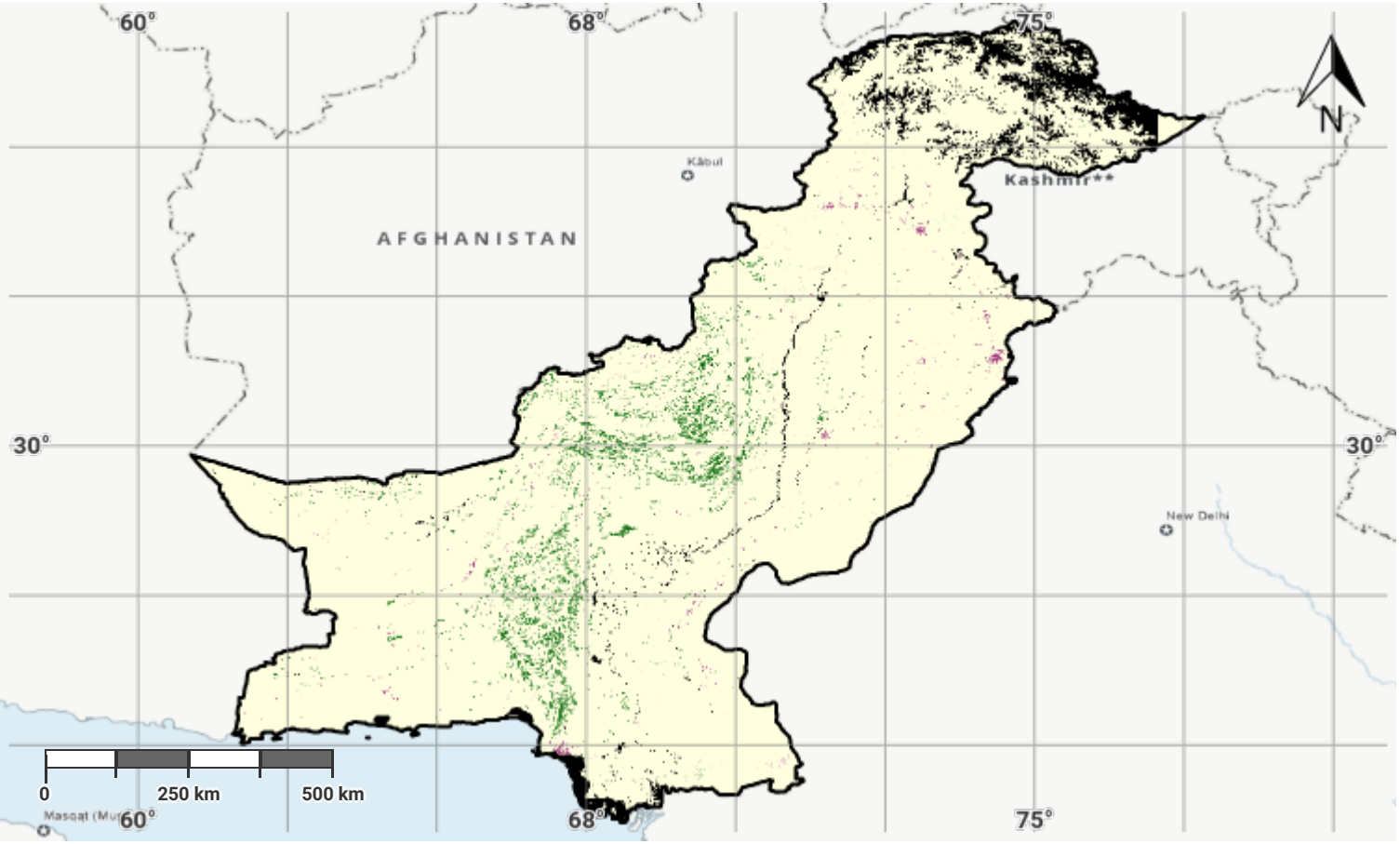
This boundary was extracted from trends.earth platform and does not represent the official boundary of Pakistan. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Source Data Credits

- International Soil Reference and Information Centre (ISRIC) SoilGrids250m dataset. URL: https://www.isric.org/explore/soilgrids

Pakistan – SO1-3.M4

Change in soil organic carbon stock in the baseline period



Legend

- No data
- -70.0 - 0 t/ha
- 0 - 70.0 t/ha
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

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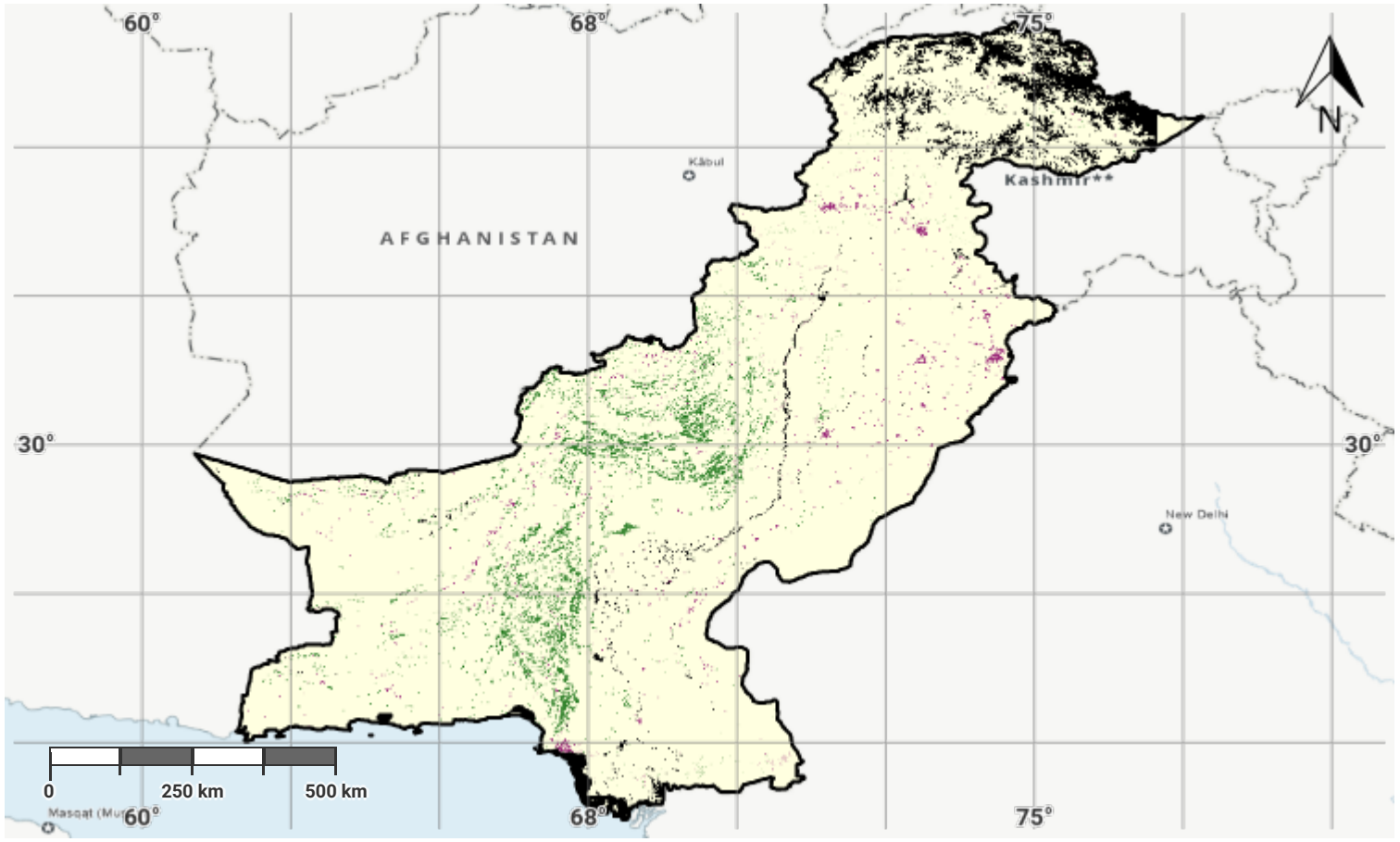
Source Data Credits

- International Soil Reference and Information Centre (ISRIC) SoilGrids250m dataset. URL: https://www.isric.org/explore/soilgrids

Pakistan – SO1-3.M5

Change in soil organic carbon stock in the reporting period



Legend

- No data
- -12.0 - 0 t/ha
- 0 - 12.0 t/ha
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

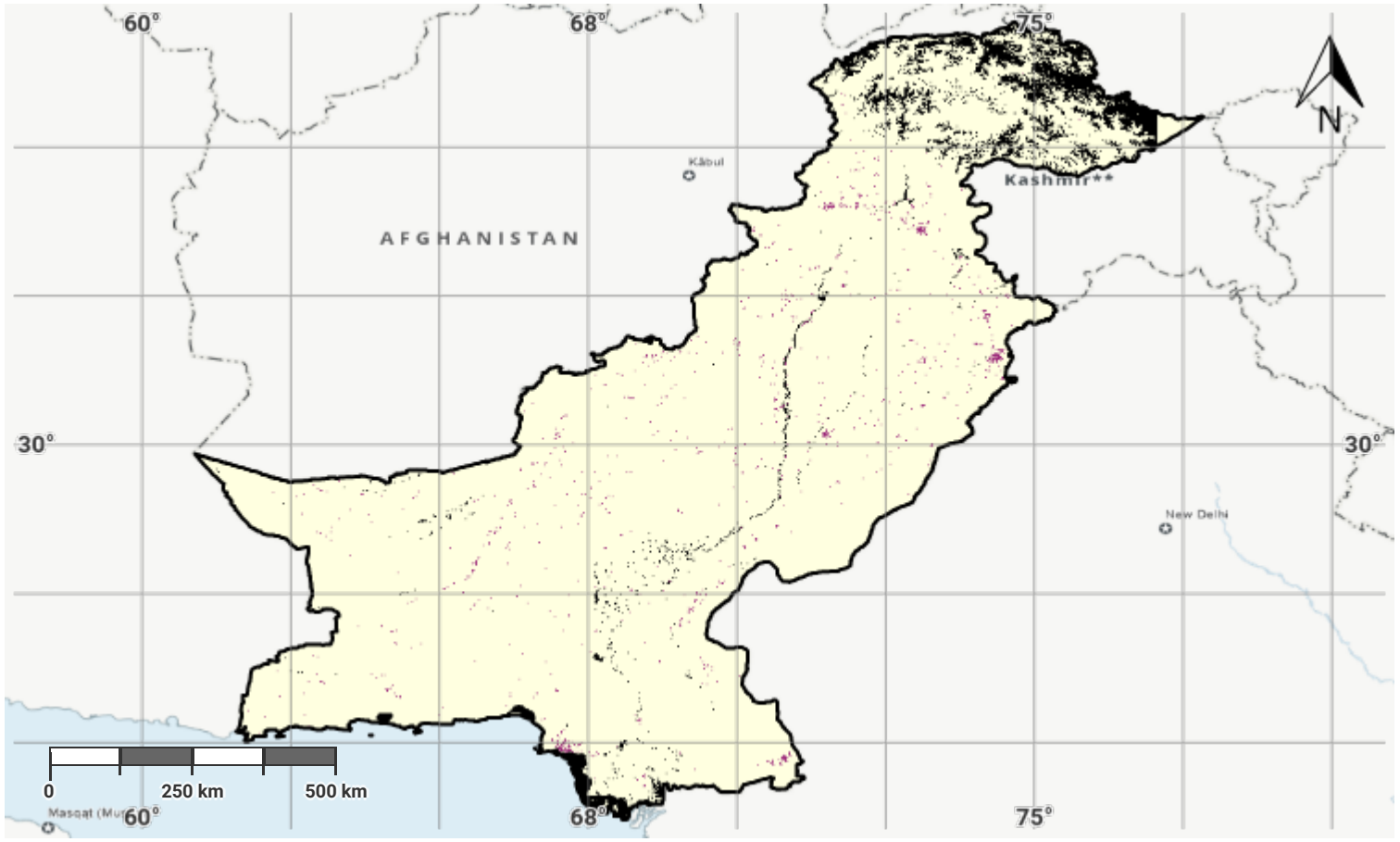
This boundary was extracted from trends.earth platform and does not represent the official boundary of Pakistan. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Source Data Credits

- International Soil Reference and Information Centre (ISRIC) SoilGrids250m dataset. URL: https://www.isric.org/explore/soilgrids

Pakistan – SO1-3.M6

Soil organic carbon degradation in the baseline period



Legend

- No data
- Degradation
- Not degraded
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

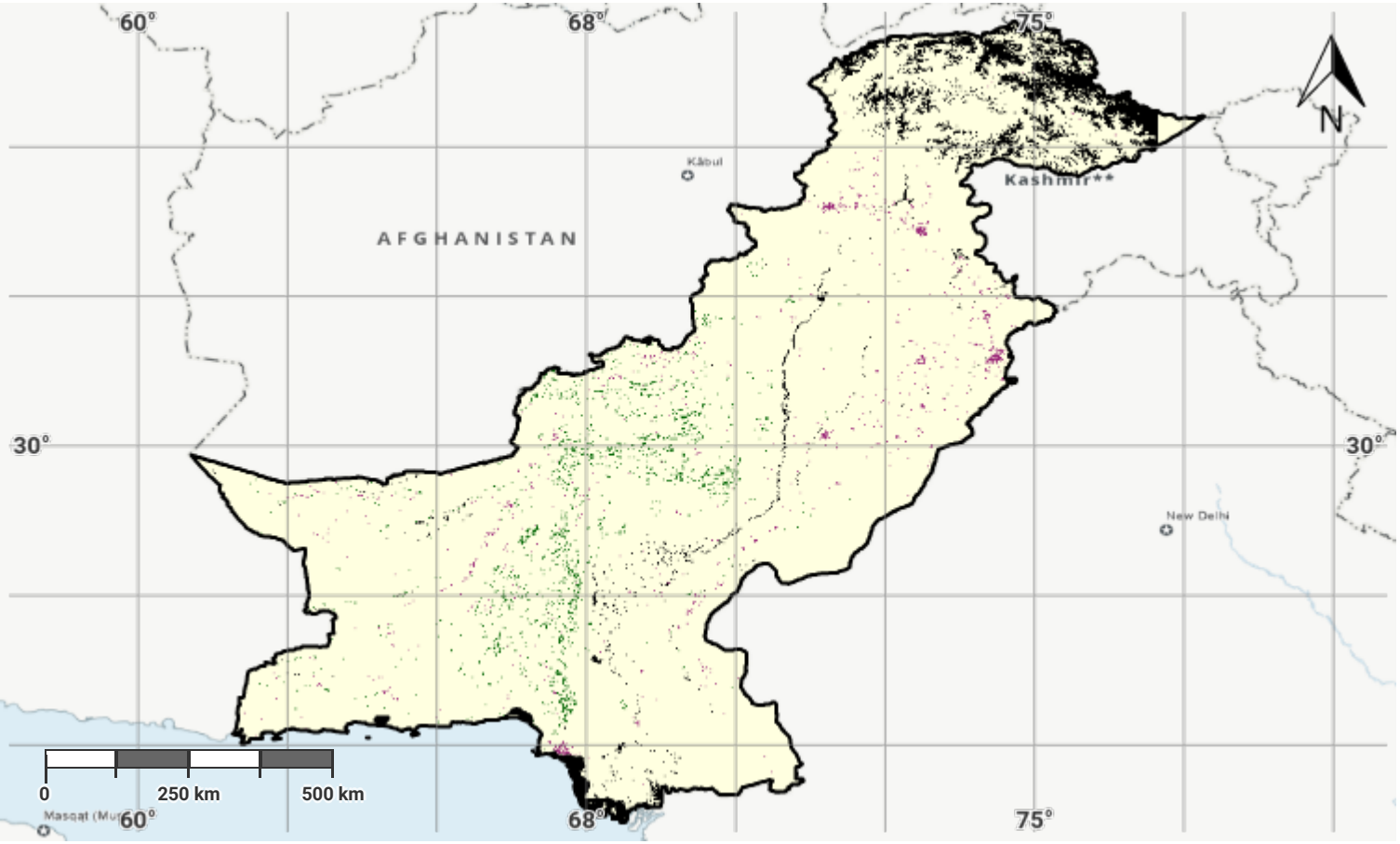
This boundary was extracted from trends.earth platform and does not represent the official boundary of Pakistan. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Source Data Credits

- International Soil Reference and Information Centre (ISRIC) SoilGrids250m dataset. URL: https://www.isric.org/explore/soilgrids

Pakistan – SO1-3.M7

Soil organic carbon degradation in the reporting period



Legend

- No data
- Degradation
- Stable
- Improvement
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

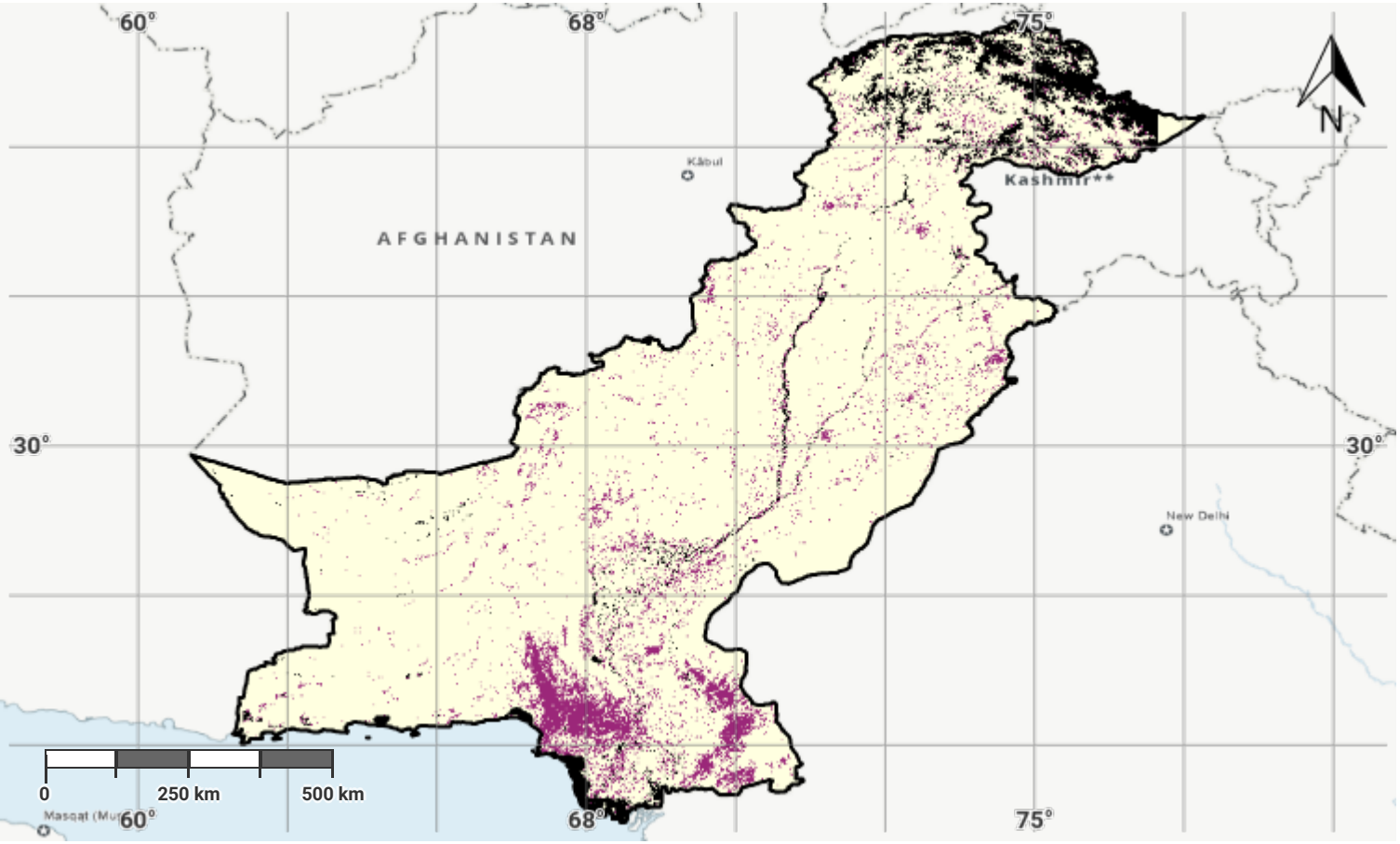
This boundary was extracted from trends.earth platform and does not represent the official boundary of Pakistan. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Source Data Credits

- International Soil Reference and Information Centre (ISRIC) SoilGrids250m dataset. URL: https://www.isric.org/explore/soilgrids

Pakistan – SO1-4.M1

Proportion of land that is degraded over total land area (SDG Indicator 15.3.1) in the baseline period



Legend

- No data
- Degradation
- Not degraded
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

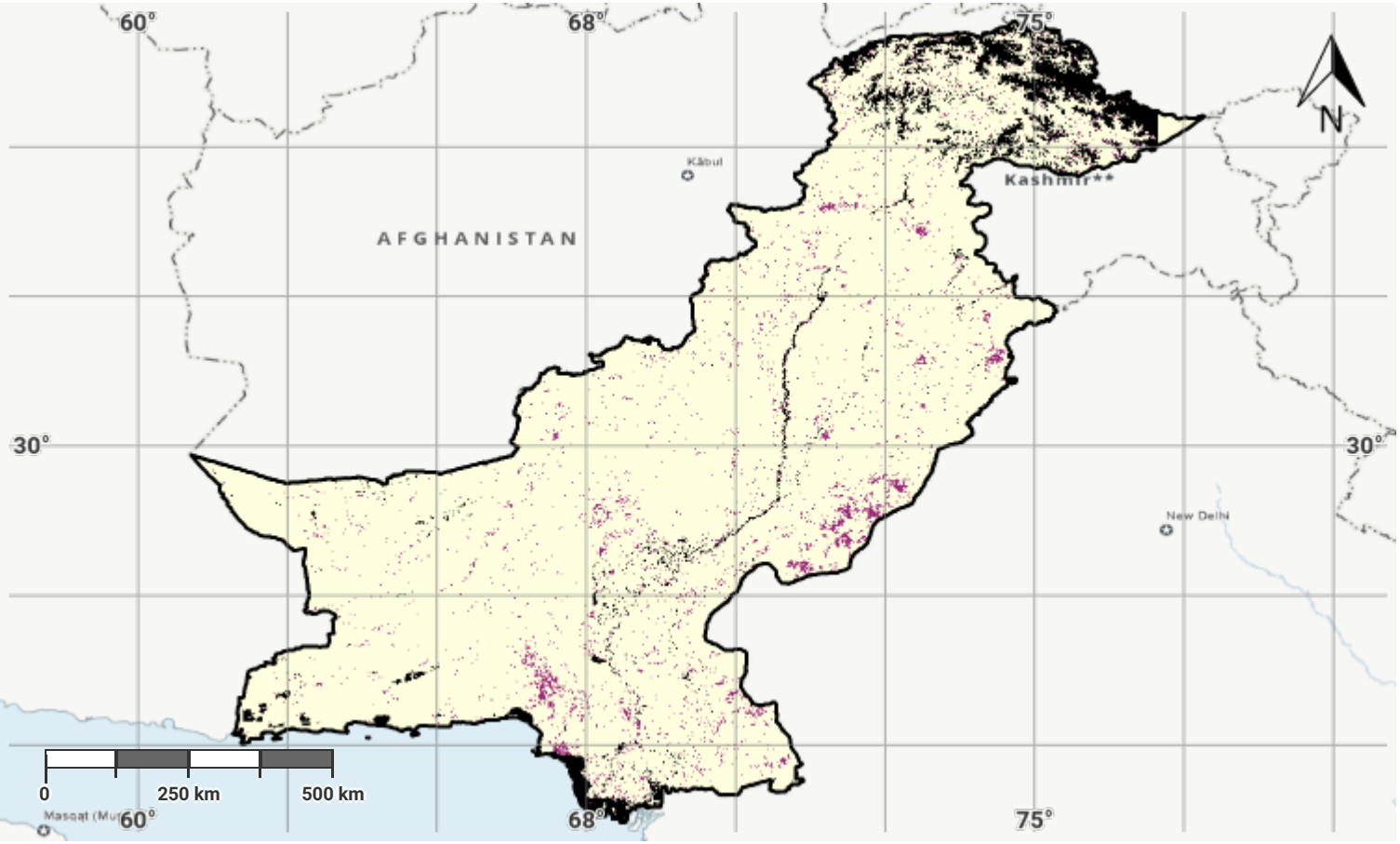
This boundary was extracted from trends.earth platform and does not represent the official boundary of Pakistan. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Source Data Credits

- Derived based on the methodology in the Good Practice Guidance Version 2 for Sustainable Development Goal (SDG) indicator 15.3.1 - Proportion of land that is degraded over total land area. URL: https://www.unccd.int/publications/good-practice-guidance-sdg-indicator-1531-proportion-land-degraded-over-total-land

Pakistan – SO1-4.M2

Proportion of land that is degraded over total land area (SDG Indicator 15.3.1) in the reporting period



Legend

- No data
- Degradation
- Not degraded
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

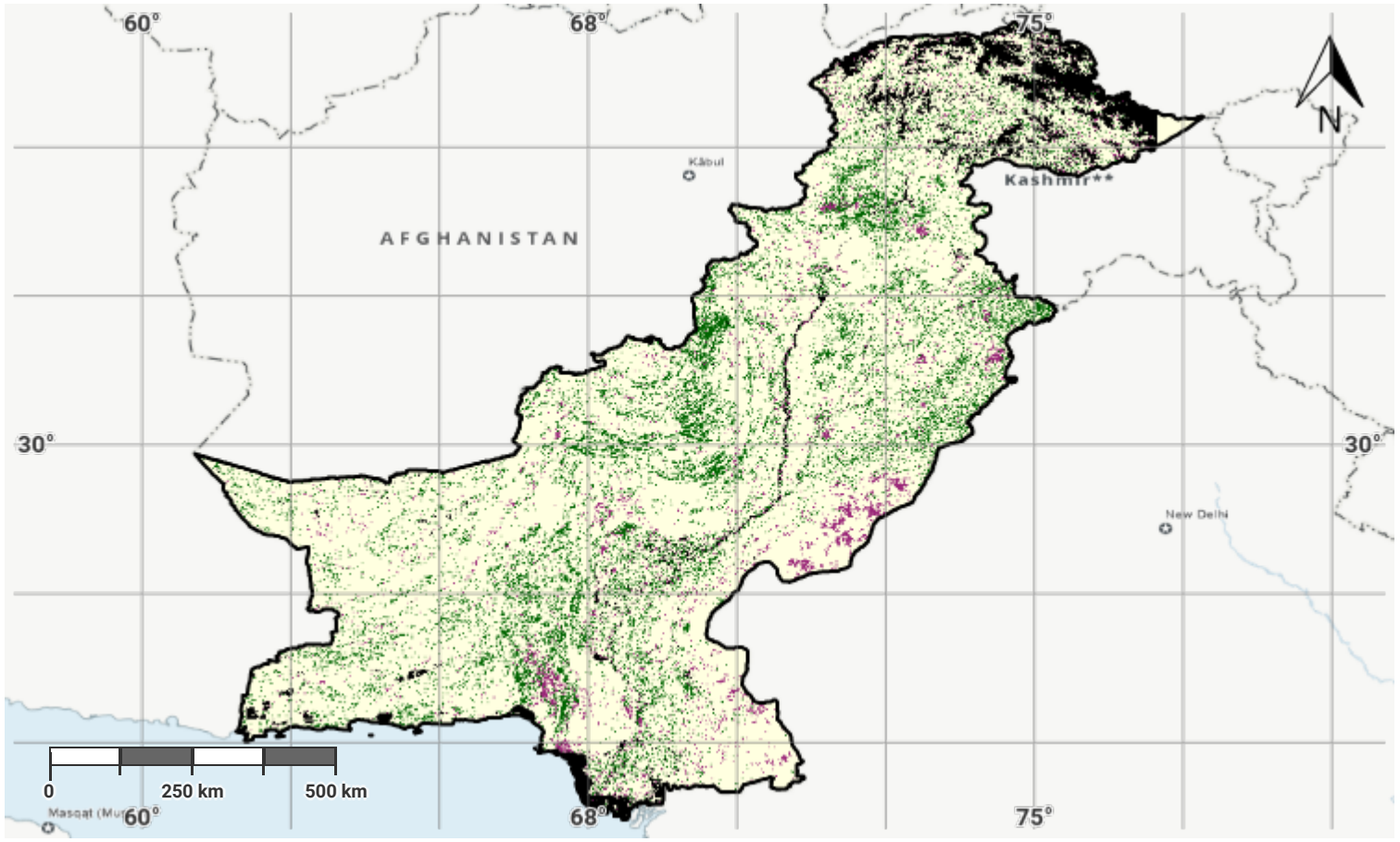
This boundary was extracted from trends.earth platform and does not represent the official boundary of Pakistan. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Source Data Credits

- Derived based on the methodology in the Good Practice Guidance Version 2 for Sustainable Development Goal (SDG) indicator 15.3.1 - Proportion of land that is degraded over total land area. URL: https://www.unccd.int/publications/good-practice-guidance-sdg-indicator-1531-proportion-land-degraded-over-total-land

Pakistan – SO1-4.M3

Progress towards Land Degradation Neutrality (LDN) in the reporting period



Legend

- No data
- Degradation
- Stable
- Improvement
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

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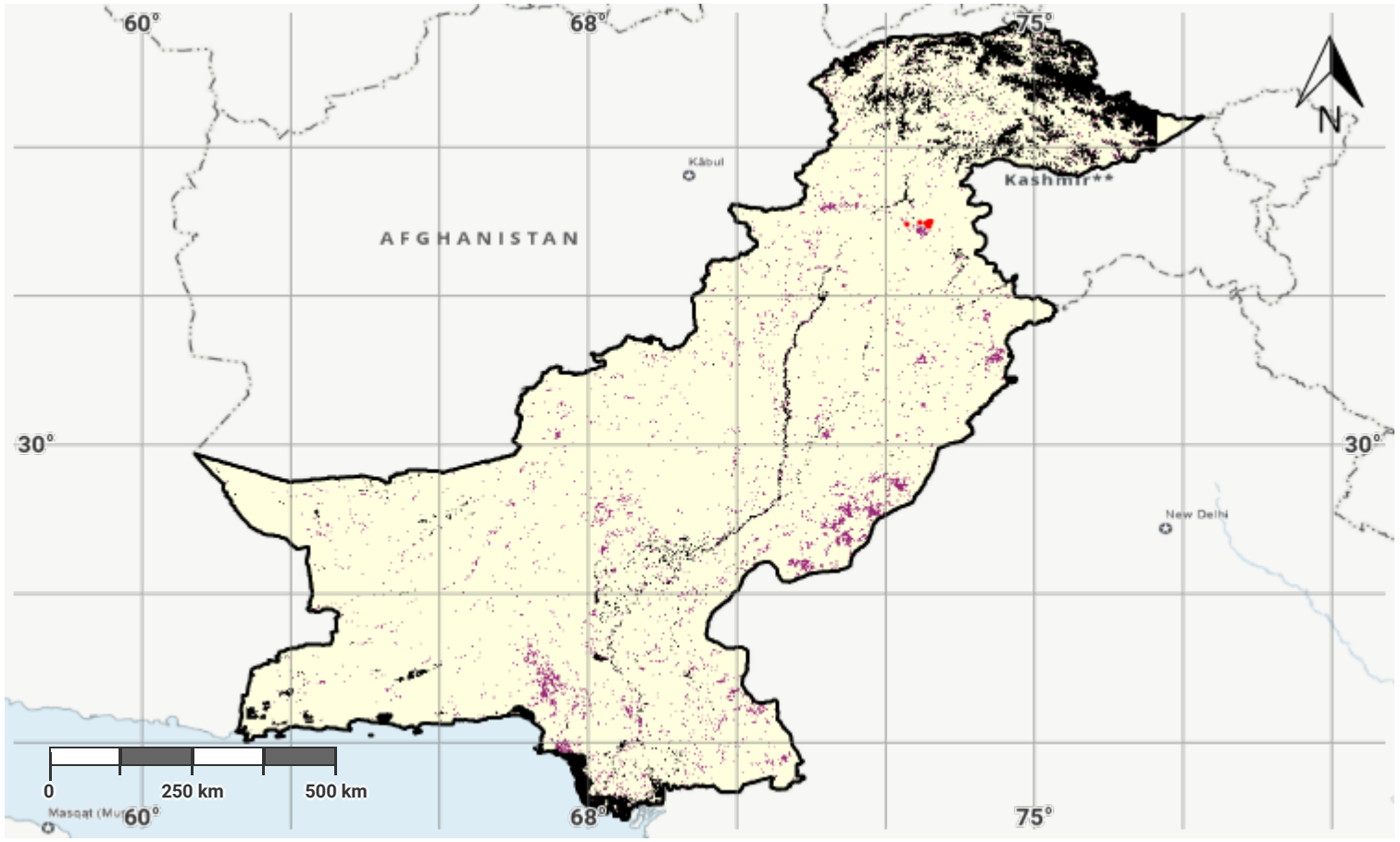
Source Data Credits

- Derived based on the methodology in the Good Practice Guidance Version 2 for Sustainable Development Goal (SDG) indicator 15.3.1 - Proportion of land that is degraded over total land area. URL: https://www.unccd.int/publications/good-practice-guidance-sdg-indicator-1531-proportion-land-degraded-over-total-land

Pakistan – SO1-4.M5
Land Degradation Hotspots



Legend

- No data
- Degradation
- Not degraded
- International Boundary
- Hot spots (MultiPolygon)

Projection: EPSG:4326 (WGS 84)

Disclaimer

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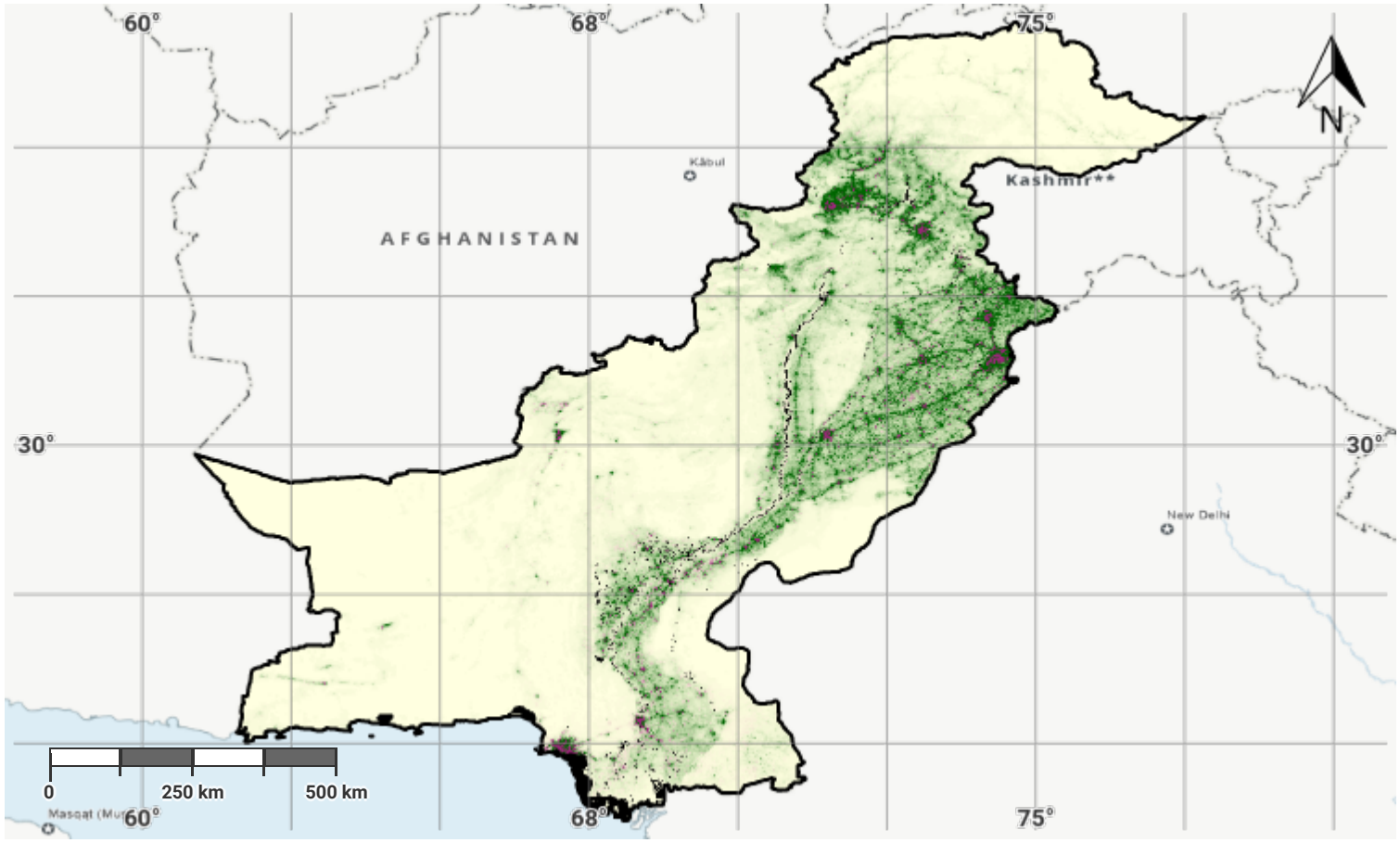
Source Data Credits

- Land Degradation data derived based on the Good Practice Guidance Version 2 for Sustainable Development Goal (SDG) indicator 15.3.1 - Proportion of land that is degraded over total land area.
- Data retrieved from Activity Data generated under REDD+ Project Pakistan

Pakistan – SO2-3.M1

Total Population exposed to land degradation (baseline)



Legend

- No data
- Population exposed to degradation (number of people, total): 0 - 870
- No land degradation
- Population not exposed to degradation (number of people, total): 0 - 870
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

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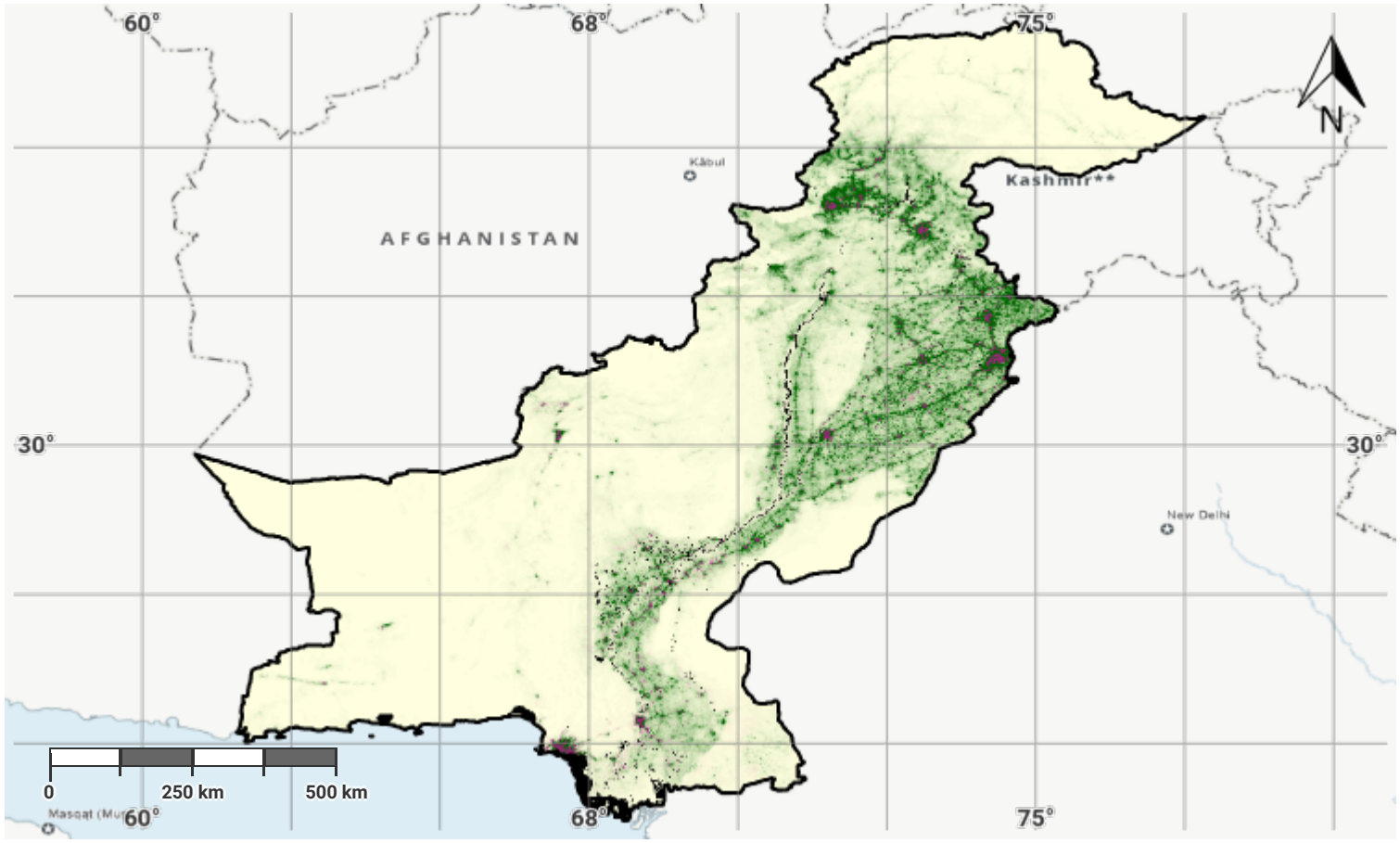
Source Data Credits

- WorldPop project URL: https://www.worldpop.org

Pakistan – SO2-3.M2

Female Population exposed to land degradation (baseline)



Projection: EPSG:4326 (WGS 84)

Disclaimer

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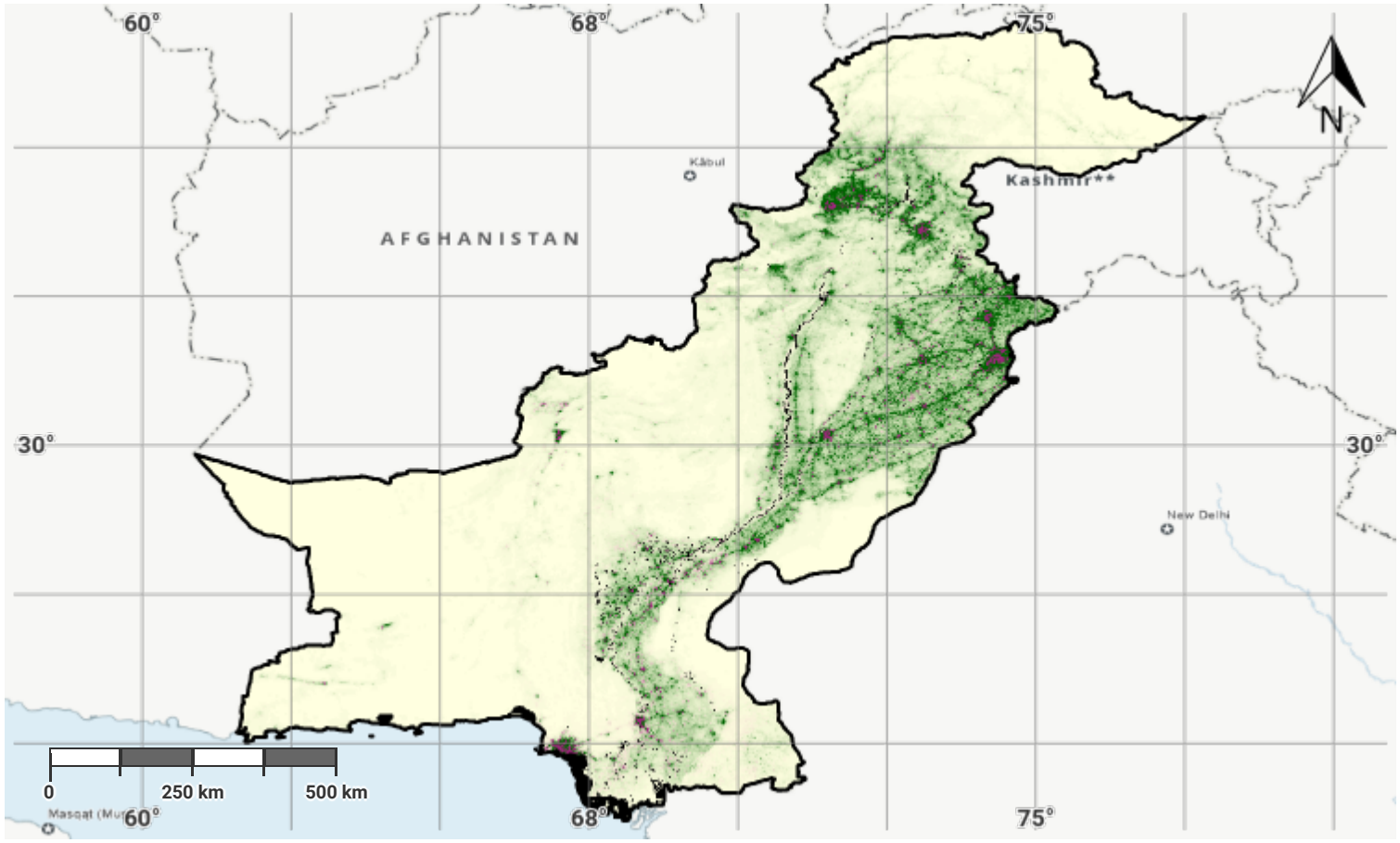
Source Data Credits

- WorldPop project URL: https://www.worldpop.org

Pakistan – SO2-3.M3

Male Population exposed to land degradation (baseline)



Projection: EPSG:4326 (WGS 84)

Disclaimer

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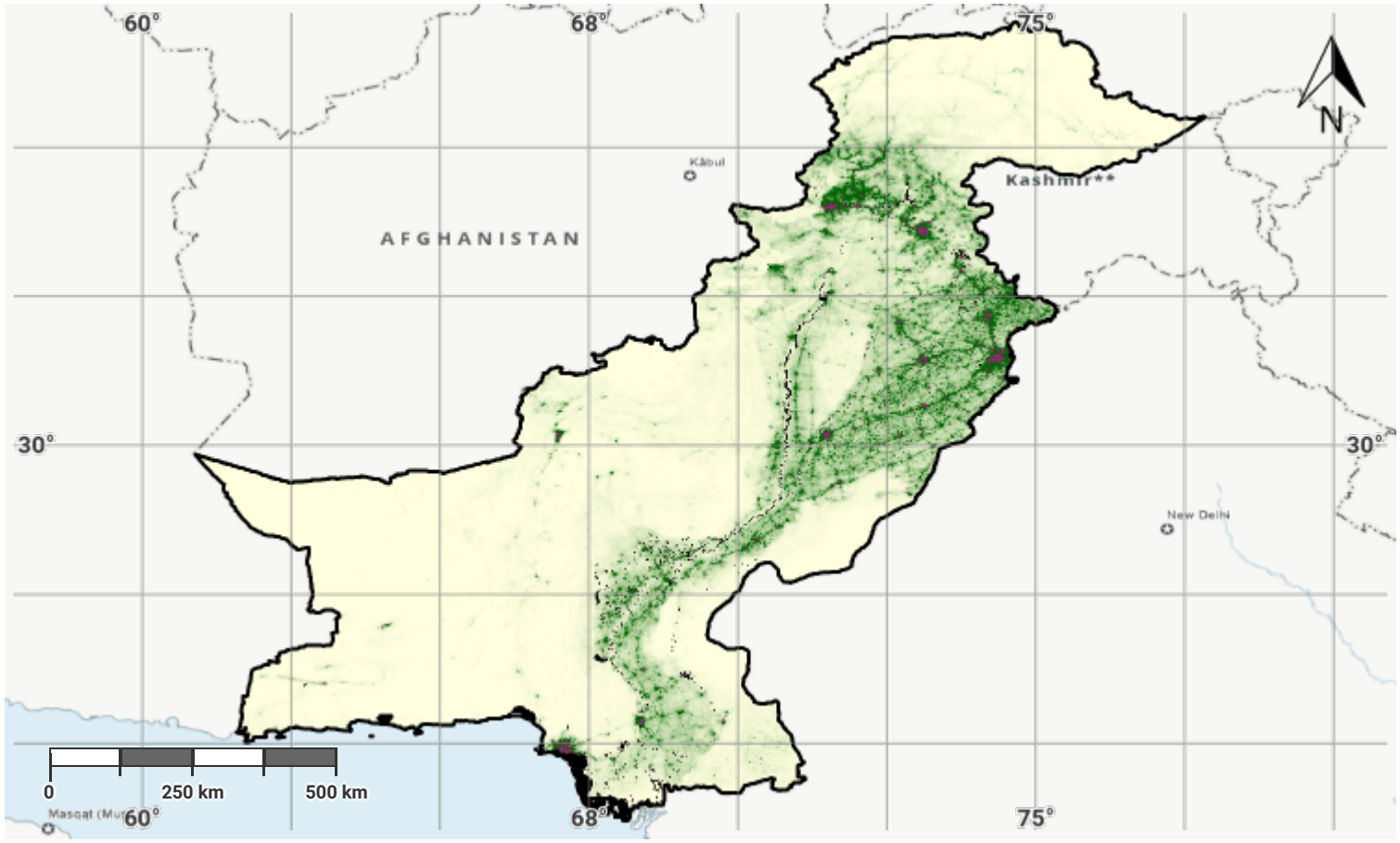
Source Data Credits

- WorldPop project URL: https://www.worldpop.org

Pakistan – SO2-3.M4

Total Population exposed to land degradation (reporting)



Legend

- No data
- Population exposed to degradation (number of people, total): 0 - 990
- No land degradation
- Population not exposed to degradation (number of people, total): 0 - 990
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

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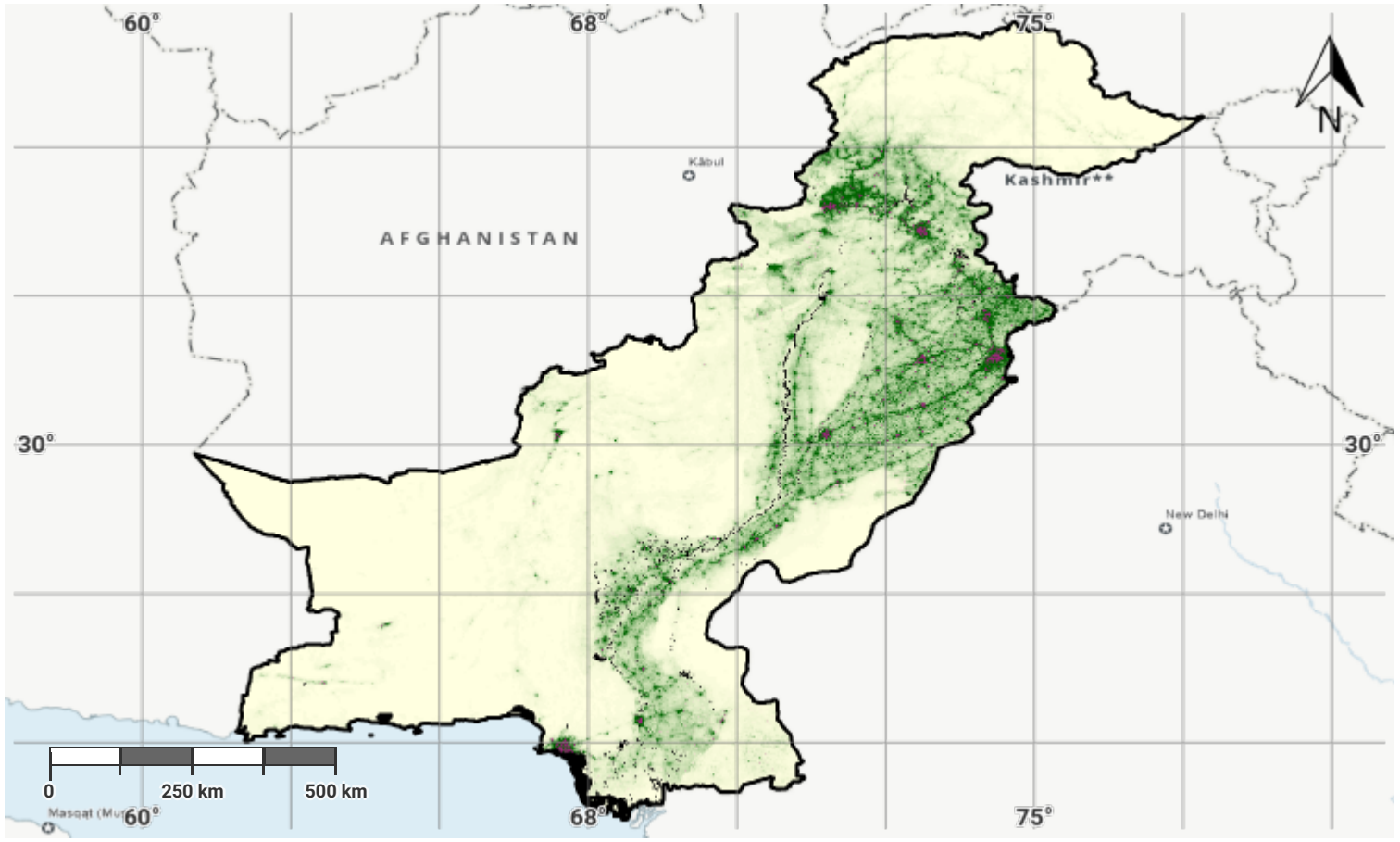
Source Data Credits

- WorldPop project URL: https://www.worldpop.org

Pakistan – SO2-3.M5

Female Population exposed to land degradation (reporting)



Projection: EPSG:4326 (WGS 84)

Disclaimer

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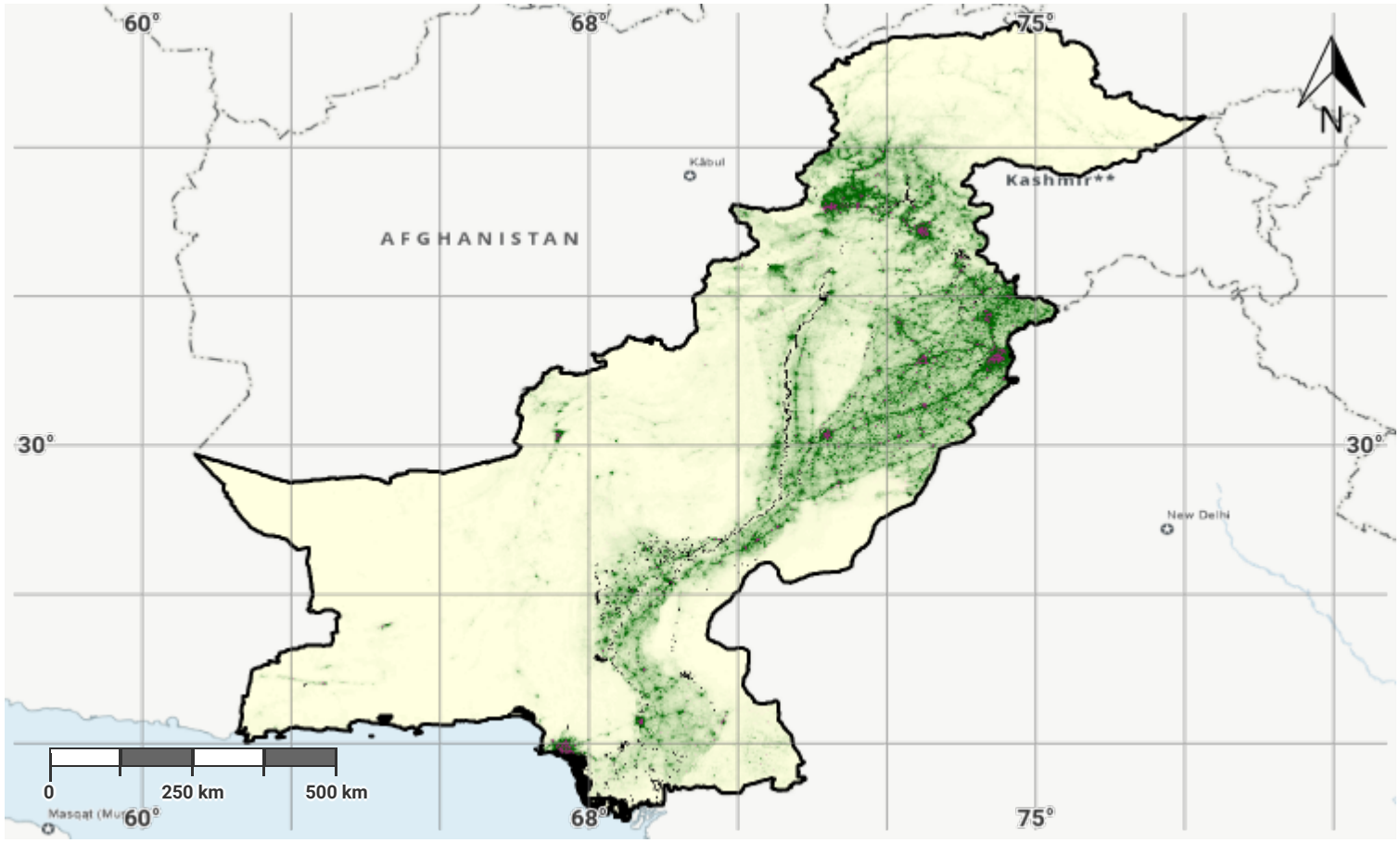
Source Data Credits

- WorldPop project URL: https://www.worldpop.org

Pakistan – SO2-3.M6

Male Population exposed to land degradation (reporting)



Projection: EPSG:4326 (WGS 84)

Disclaimer

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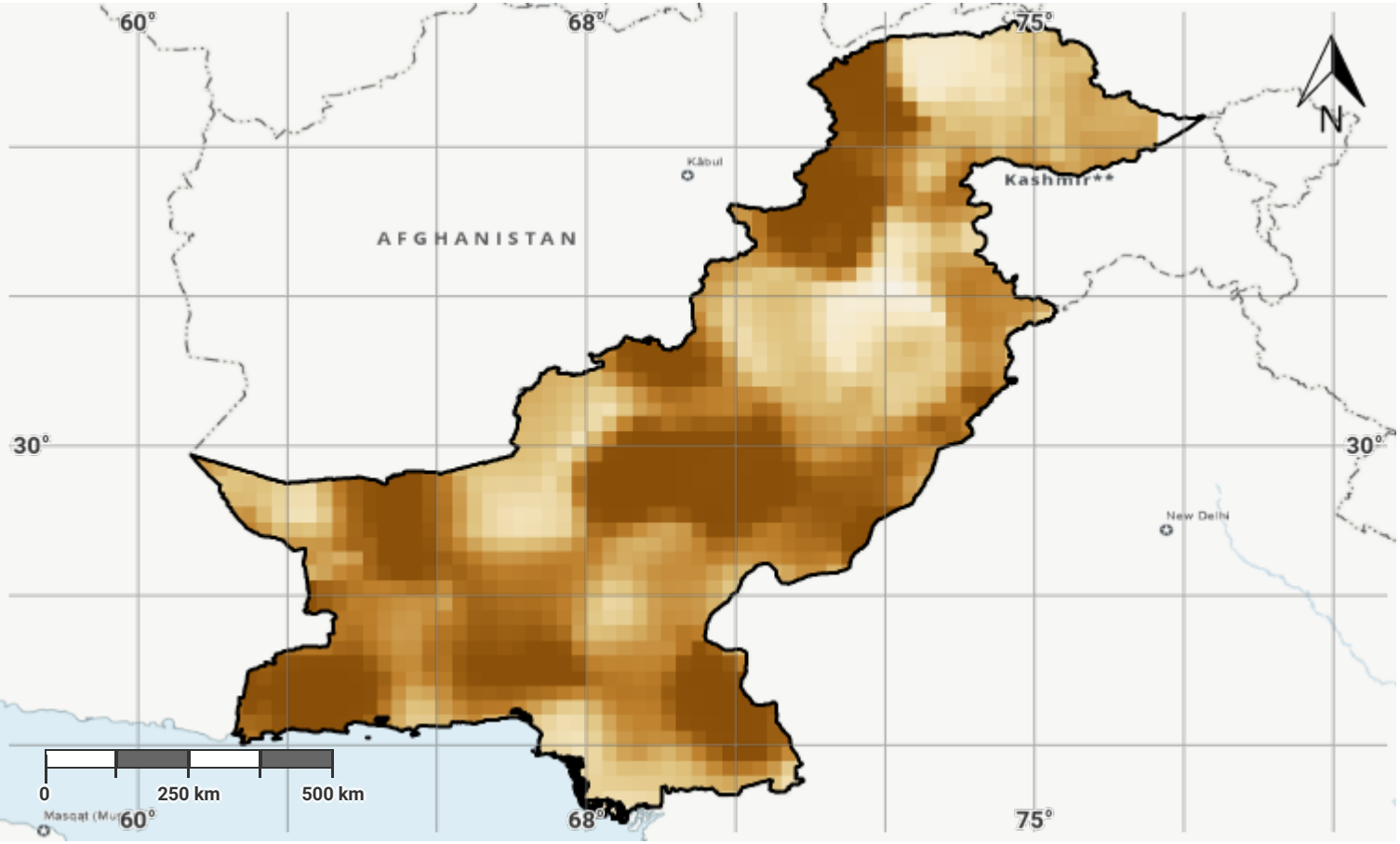
Source Data Credits

- WorldPop project URL: https://www.worldpop.org

Pakistan – SO3-1.M1

Drought hazard in first epoch of baseline period



Legend

- No data
- Extreme drought
- Severe drought
- Moderate drought
- Mild drought
- Normal
- Mildly wet
- Moderately wet
- Severely wet
- Extremely wet
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

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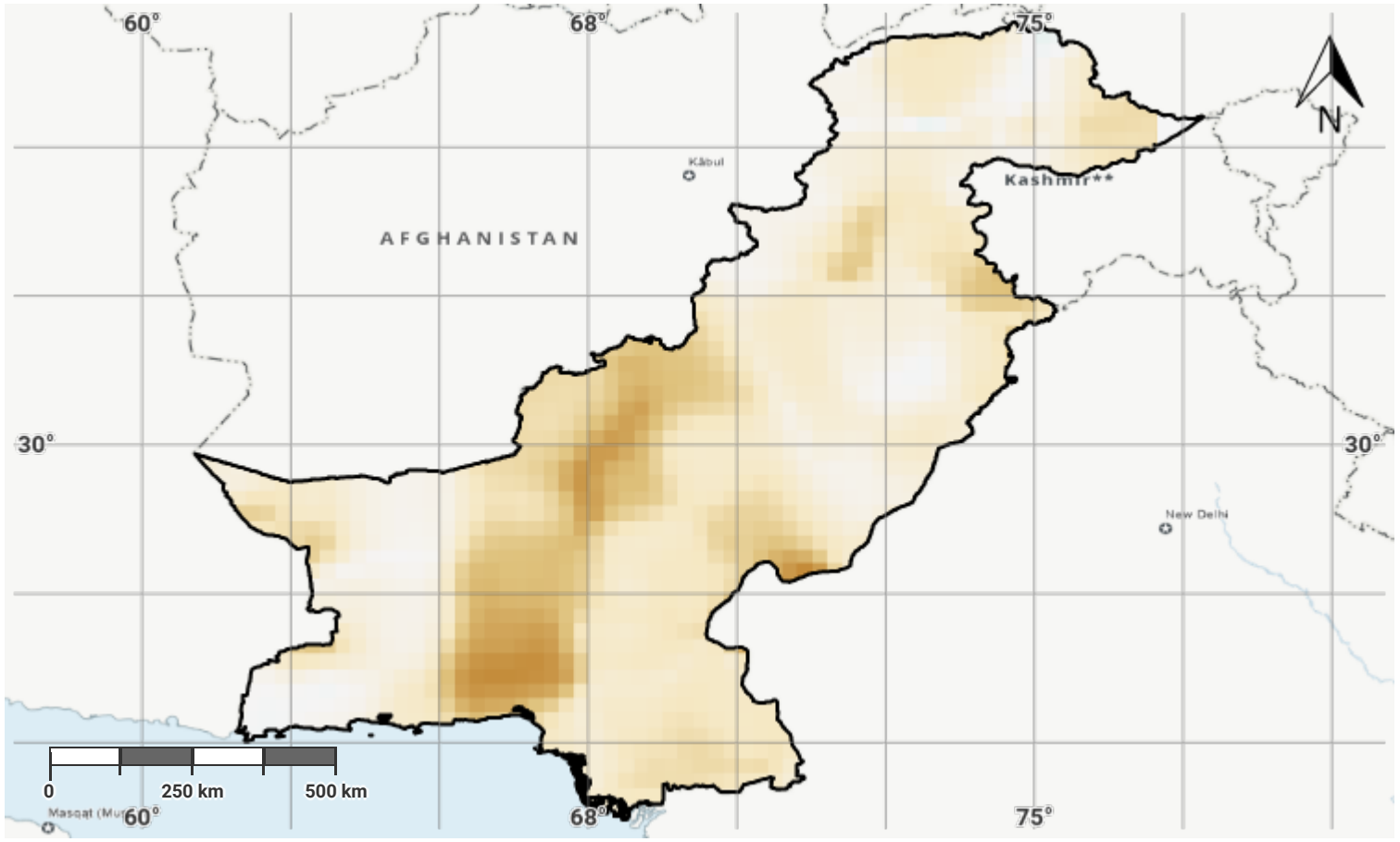
Source Data Credits

- Global Precipitation Climatology Centre (GPCC) monthly precipitation products,1982–present. URL: https://opendata.dwd.de/climate_environment/GPCC/html/gpcc_monitoring_v6_doi_download.html

Pakistan – SO3-1.M2

Drought hazard in second epoch of baseline period



Legend

- No data
- Extreme drought
- Severe drought
- Moderate drought
- Mild drought
- Normal
- Mildly wet
- Moderately wet
- Severely wet
- Extremely wet
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

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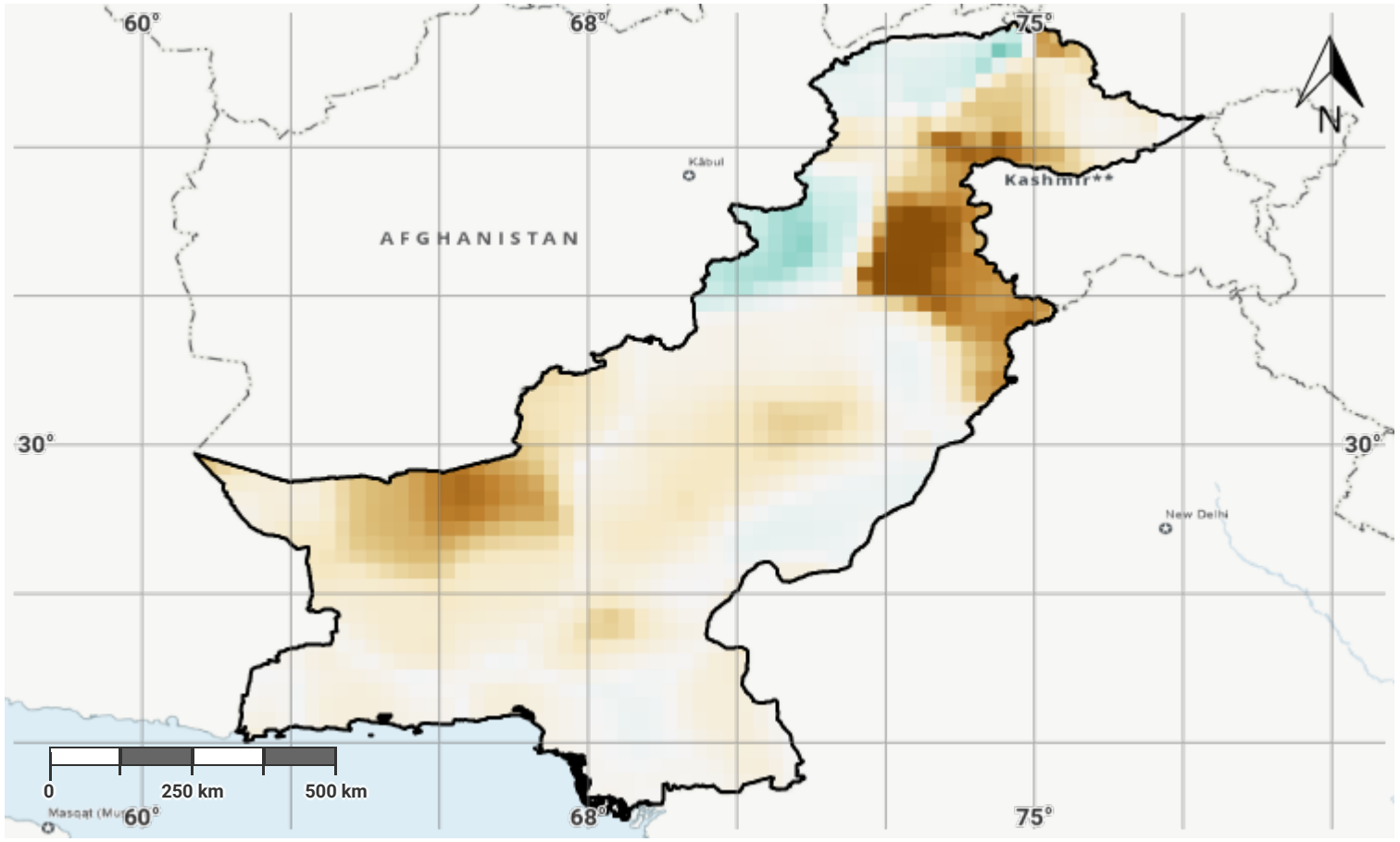
Source Data Credits

- Global Precipitation Climatology Centre (GPCC) monthly precipitation products,1982–present. URL: https://opendata.dwd.de/climate_environment/GPCC/html/gpcc_monitoring_v6_doi_download.html

Pakistan – SO3-1.M3

Drought hazard in third epoch of baseline period



Legend

- No data
- Extreme drought
- Severe drought
- Moderate drought
- Mild drought
- Normal
- Mildly wet
- Moderately wet
- Severely wet
- Extremely wet
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

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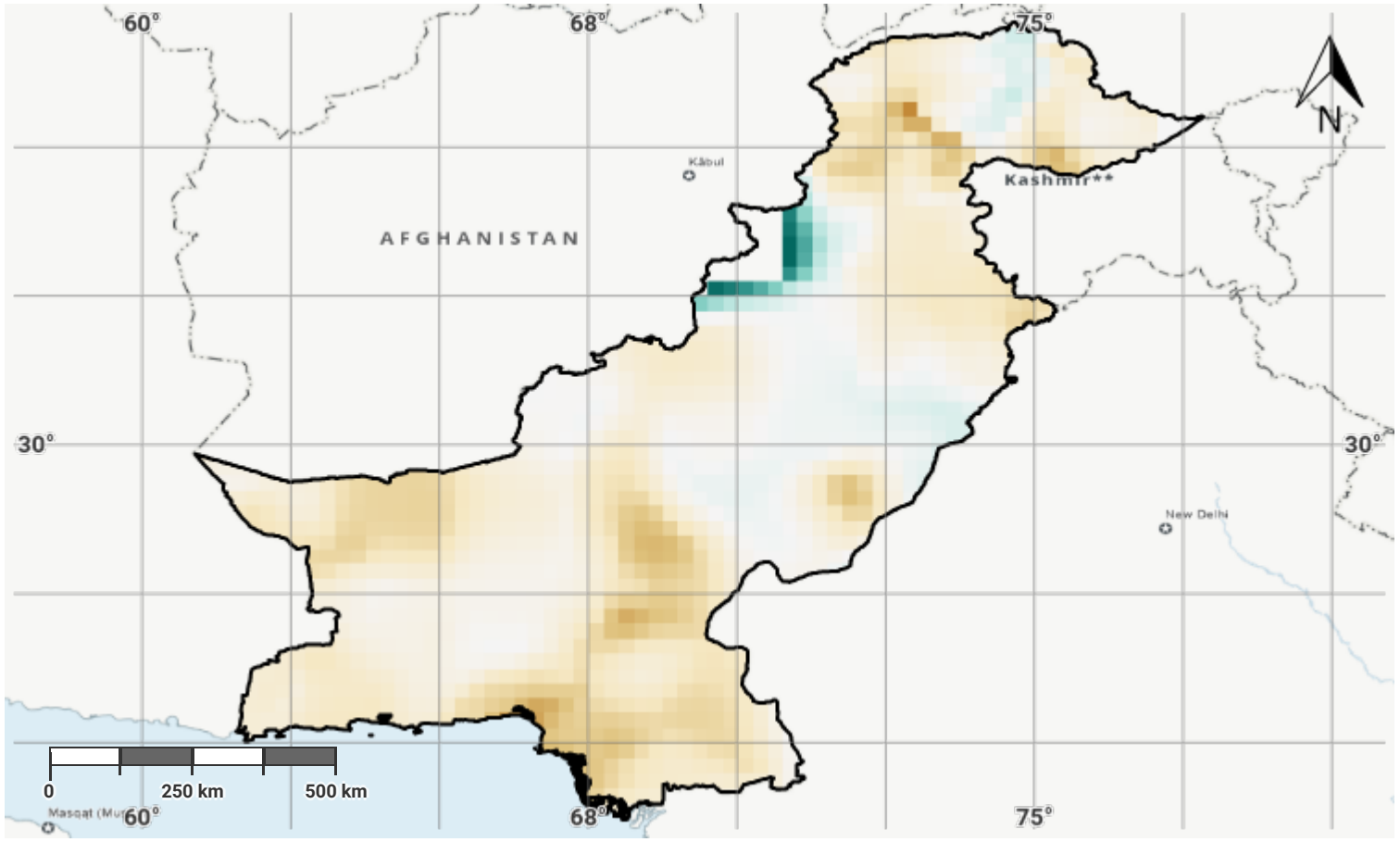
Source Data Credits

- Global Precipitation Climatology Centre (GPCC) monthly precipitation products,1982–present. URL: https://opendata.dwd.de/climate_environment/GPCC/html/gpcc_monitoring_v6_doi_download.html

Pakistan – SO3-1.M4

Drought hazard in fourth epoch of baseline period



Legend

- No data
- Extreme drought
- Severe drought
- Moderate drought
- Mild drought
- Normal
- Mildly wet
- Moderately wet
- Severely wet
- Extremely wet
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

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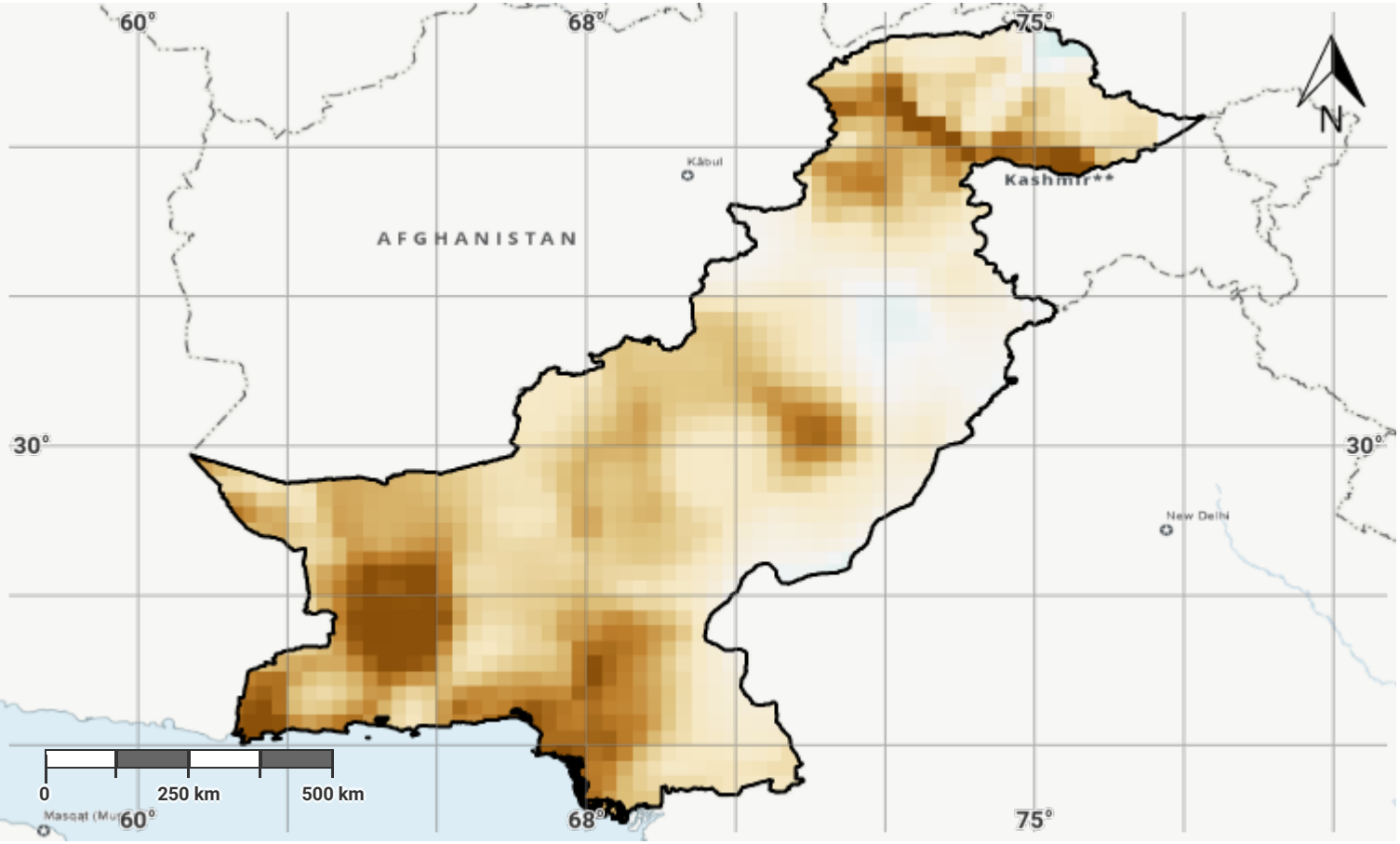
Source Data Credits

- Global Precipitation Climatology Centre (GPCC) monthly precipitation products,1982–present. URL: https://opendata.dwd.de/climate_environment/GPCC/html/gpcc_monitoring_v6_doi_download.html

Pakistan – SO3-1.M5

Drought hazard in the reporting period



Legend

- No data
- Extreme drought
- Severe drought
- Moderate drought
- Mild drought
- Normal
- Mildly wet
- Moderately wet
- Severely wet
- Extremely wet
- International Boundary

Projection: EPSG:4326 (WGS 84)

Disclaimer

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Source Data Credits

- Global Precipitation Climatology Centre (GPCC) monthly precipitation products,1982–present. URL: https://opendata.dwd.de/climate_environment/GPCC/html/gpcc_monitoring_v6_doi_download.html