Sustainable Land Use Resources and Food Systems in drought-prone regions of Kazakhstan and implications in the wider Central Asia region

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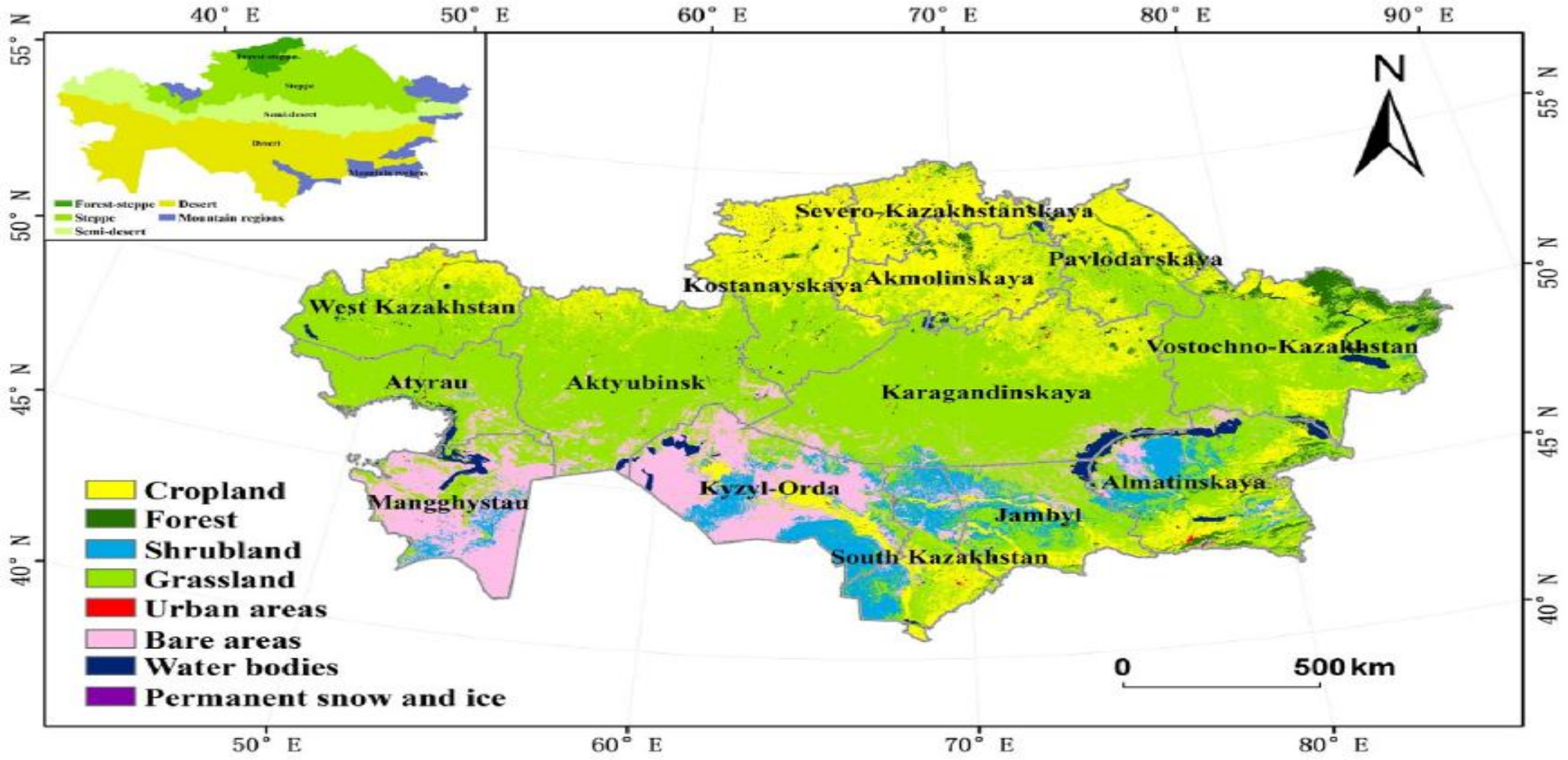
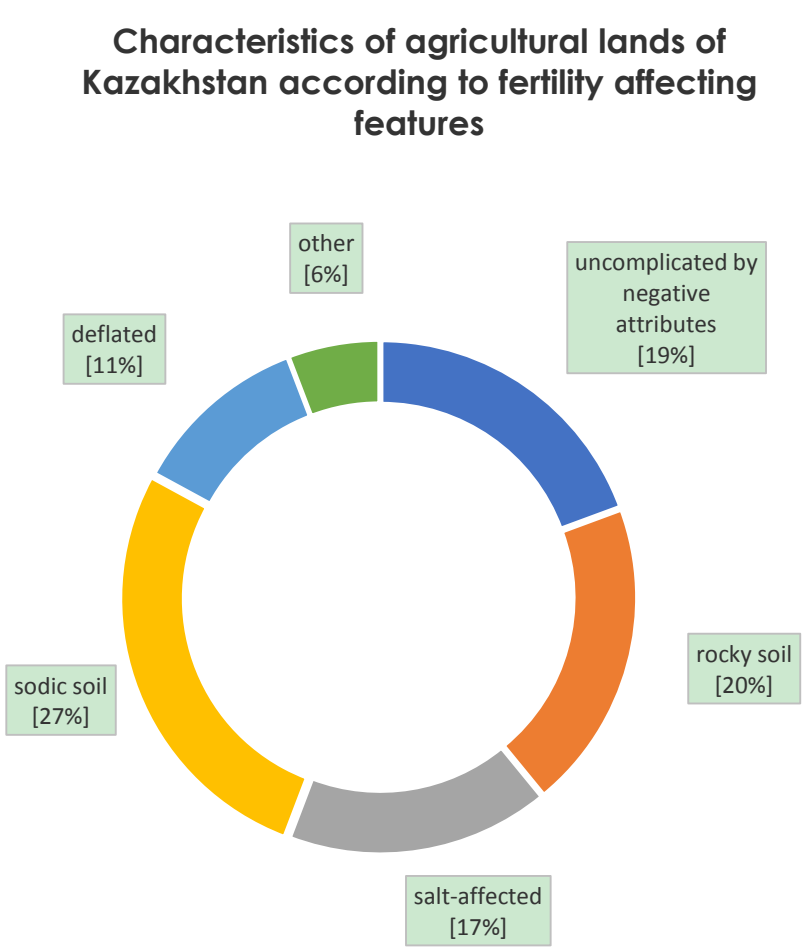
Land Use Cover Distribution in Kazakhstan



Source: Yan H. et al. (2020)

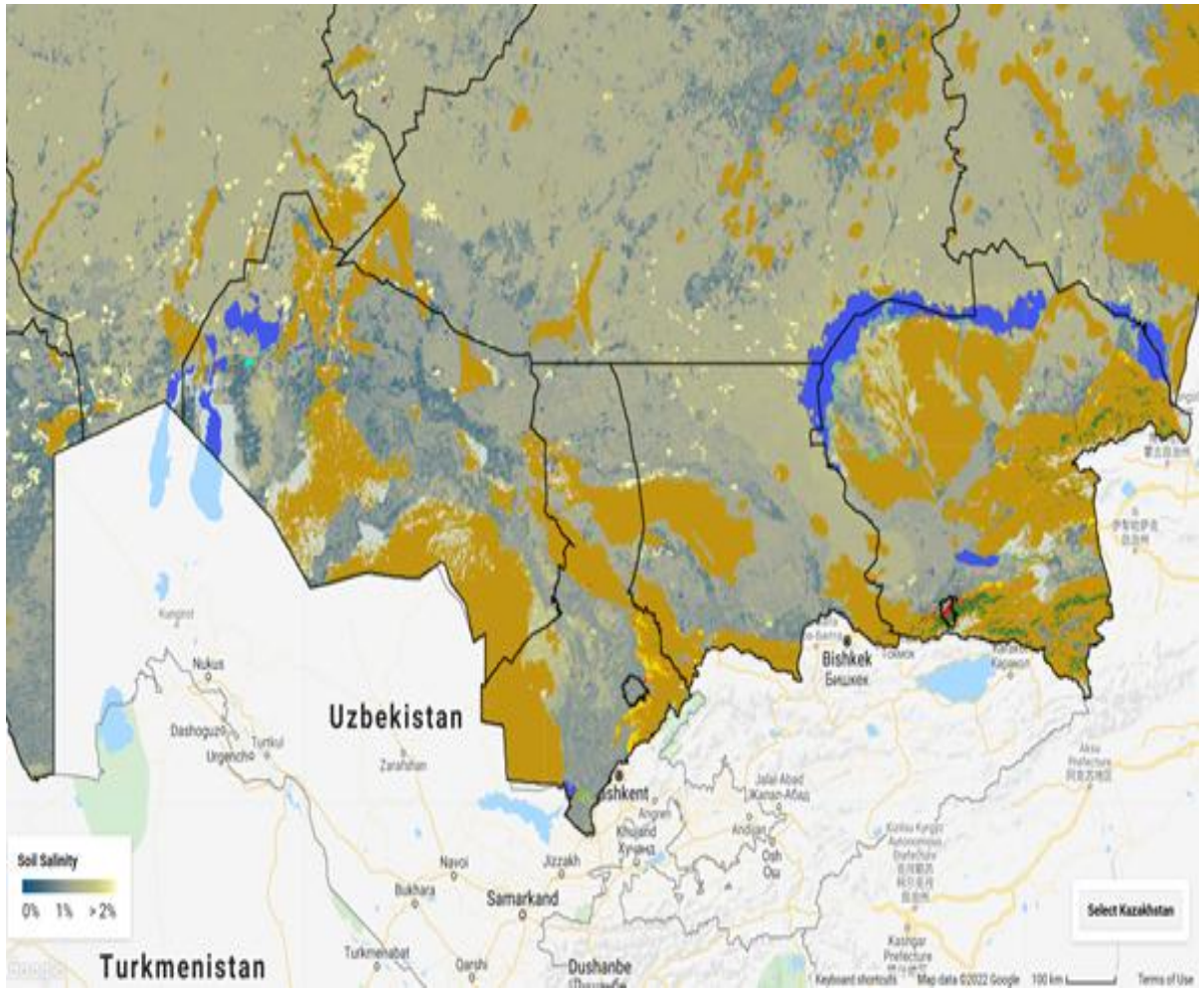
Land use challenges in Kazakhstan



Source: FAO (2021a)

- ✓ From 214.3 mln ha farmland only 19% are in good status
- ✓ About 75% of agricultural lands are subject to degradation and desertification processes
- ✓ 43% of irrigated lands require melioration
- ✓ Agricultural erosion has increased over 5 years from 18,700 thousand ha in 2015 to 21,300 thousand ha in 2019
- ✓ 13.7% of agricultural land is subject to water and wind erosion (Committee for Land Administration of the Ministry of Agriculture of Kazakhstan, 2020)

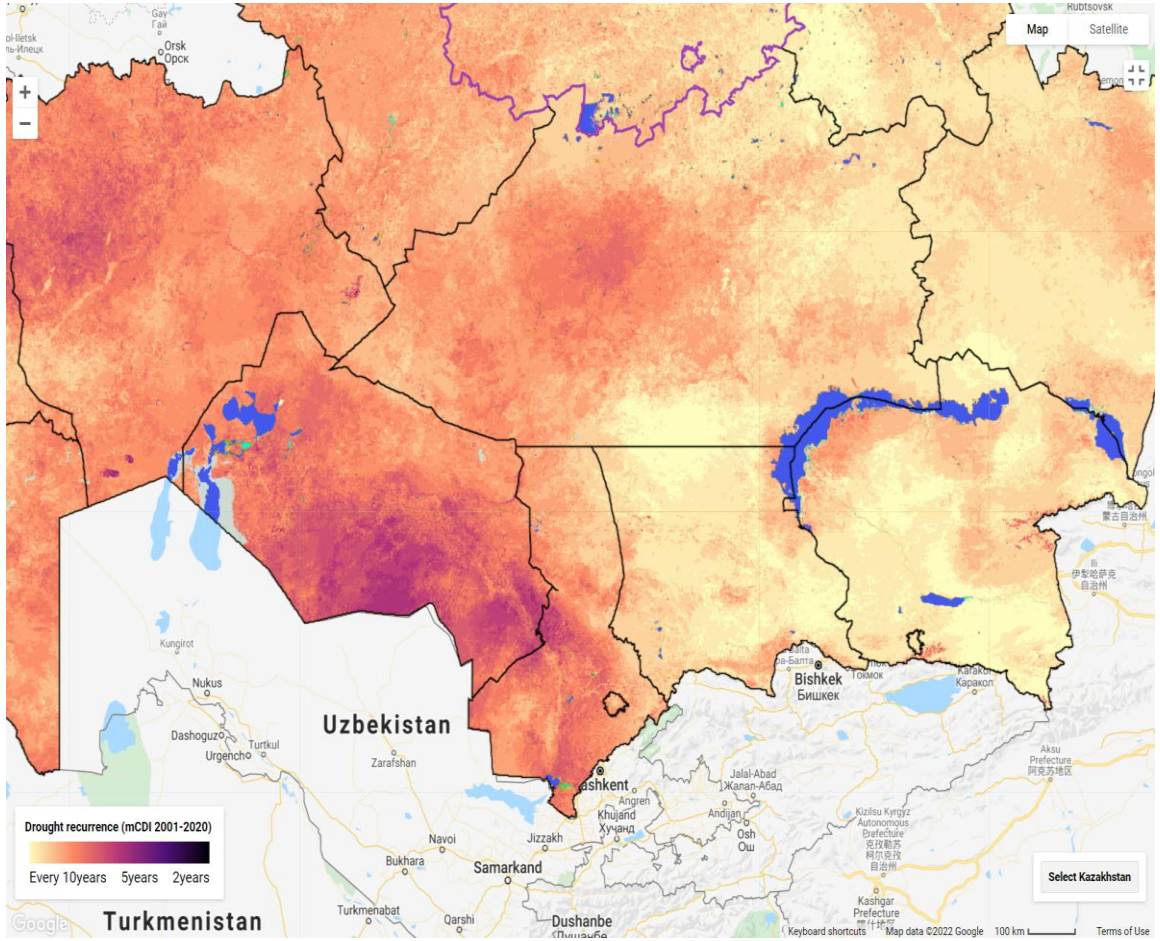
Land use and degradation in Kazakhstan



- ✓ 33% of irrigated lands are subject to salinization, especially in the southern agricultural regions
- ✓ In Kyzylorda province, 30-40% of soils in irrigated areas experience soil organic matter deprivation
- ✓ Soils with low content of humus on non-irrigated lands make up 63%, and on irrigated lands - 98%.

Source: FAO (2021b)

Land use and droughts in Kazakhstan



- ✓ FAO classifies Kazakhstan as a region subject to high levels of pesticide pollution
- ✓ Climate models show increase in the average annual air temperature at 0.32°C every 10 years for 1976–2020 (MEGNR, 2021)
- ✓ Climate change exacerbates land degradation; expansion of semi-arid and arid zones, crop impact including spring wheat, one of the country's primary export commodities

Source: FAO (2021b)

Land use and SDGs in Kazakhstan: SDG 2.4.1

SDG2, Target 2.4, Indicator 2.4.1

Proportion of agricultural area under productive and sustainable agriculture

Balance of economic, environmental, and social components for sustainable production

Links productivity, profitability, resilience, land and water use, decent work, and well-being, reflecting the multifaceted nature of sustainable agriculture.

Status: SDG Indicator 2.4.1

Not implemented in the national monitoring system, no targets set to achieve by 2030

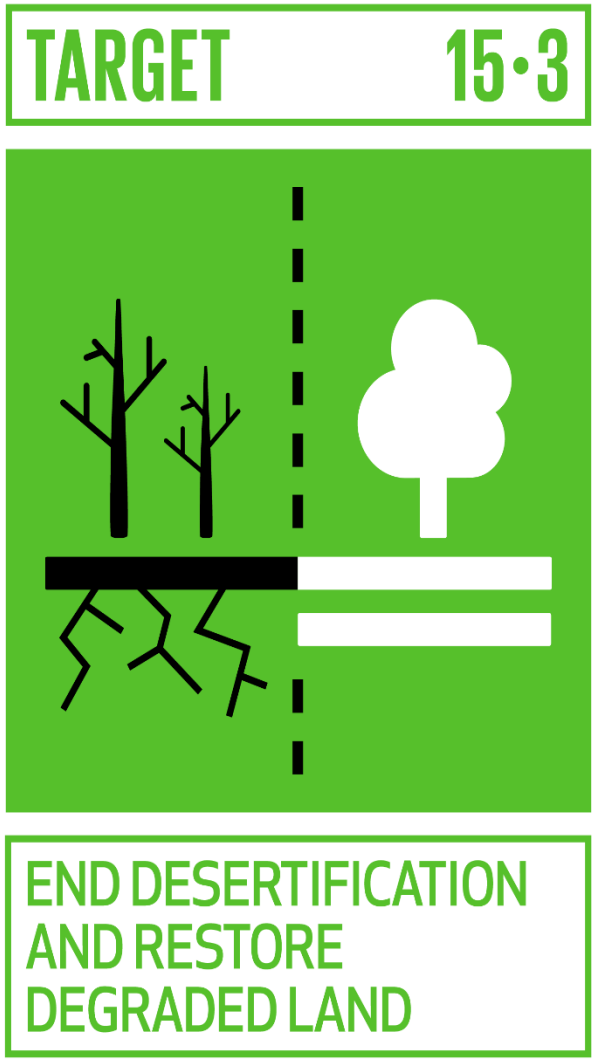
Processes of sustainable agricultural production are not yet a priority in the national policy for the development of the agricultural sector.

Prepared with the technical support of the Food and Agriculture Organization of the United Nations

Land use and SDGs in Kazakhstan: SDG 15.3.1

SDG15, Target 15.3, Indicator 15.3.1

Percentage of land that is degraded over total land area



The indicator is monitored based on the combined use of three components: land cover, land productivity and carbon stocks above and below ground.

Status: SDG Indicator 15.3.1

Also, not implemented in the national monitoring system, and targets for 2022 are undefined

Efficient use of land resources requires a permanent system of control and monitoring of the qualitative and quantitative state of the land use in the country

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Land use SDGs in Kazakhstan: SDGs 6.4.1, 6.4.2

SDG6, Target 6, Indicators 6.4.1 and 6.4.2

Change in water use efficiency over time, by economic activity (6.4.1)

Level of water stress: freshwater withdrawal as a proportion of available freshwater resources (level of water stress) (6.4.2.)

High dependence on irrigation usage in drought-prone southern regions of Kazakhstan where 80% of irrigated land is located (Bureau of National Statistics, 2022)

Status: SDG Indicators 6.4.1 and 6.4.2

Both indicators are included in the country monitoring system

For 6.4.1, findings demonstrate improvement in water consumption per production unit in agriculture.

For 6.4.2, since 2016, there has been a 2.6% increase in the water stress, although at a national level is not yet critical.

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Sustainable land use management in drought prone regions

- ✓ Improving monitoring of SDG-related Indicators by customizing them to national features and peculiarities of the country
- ✓ Seeking compromise among the nutritional value of food produced, crop productivity, climate change resilience
- ✓ Reverting land degradation process with the implementation of significant reforms in the field of agri-food systems
- ✓ Seeking Land Degradation Neutrality strategy by introducing incentives for environment-friendly investments

Prepared with the technical support of the Food and Agriculture Organization of the United Nations

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Thank you!

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