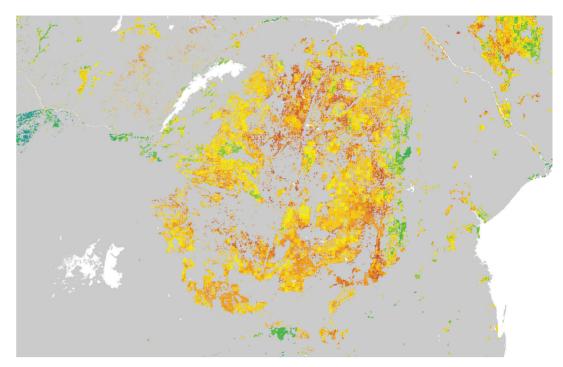
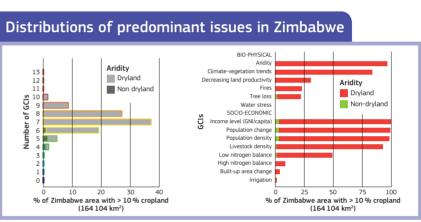
## Convergence of Evidence: southern Russia and Zimbabwe

## Convergence of evidence: Zimbabwe

A number of factors that may lead to land degradation are found in the southern African region, but it is in Zimbabwe where these appear to converge. Zimbabwe shares a similar arid climate and the same climate and vegetation anomalies as its neighbours. It is positioned between the arid Botswana to the east, a relatively arid South Africa to the south and moister Mozambique and Zambia to the north and west. It shares the poverty and population growth problems of its northern and eastern neighbours. It has high livestock densities, similar to Zambia and parts of South Africa and Botswana. High deforestation is driven by agricultural land expansion and harvesting of fuelwood for both tobacco curing and domestic use. This deforestation problem is shared with its northern and eastern neighbours, though the drivers might differ. Though there is high fertiliser use, this is mostly linked to the production of commercial crops such as tobacco, with staple food crops showing a high yield gap and seldom meeting national demand. Land tenure and poverty has resulted in a high proportion of land being opened for cropping and this, combined with the convergence of global change processes, results in Zimbabwe standing out in the region as a country with a high probability of land degradation. This is confirmed by an extensive literature highlighting degradation problems in Zimbabwe that date far back into its colonial past, and were often associated with its regions of communal tenure<sup>1</sup>. Prince et al (2009)<sup>2</sup> pointed out that degradation in Zimbabwe is observable from continental satellite imagery.





## Convergence of evidence: southern Russia

Vast stretches of land developed under Soviet Rule (1917-1991) were abandoned after the breakup of the Soviet Union in the 1990s: Thirty-one million hectares in European Russia, Ukraine and Belarus<sup>1</sup>. Kazakhstan was more affected still, losing more than half of its croplands, almost 20 Mha<sup>2</sup>.

Since then, the trend has reverted and re-cultivation of the best agricultural lands has begun in the forest steppe and steppe regions of Ukraine, Russia and Kazakhstan. In Northern Kazakhstan, 25% of land abandoned during the 1990s has been re-cultivated (Kraemer et al., 2015), and more than 50% in the steppe zone of Ukraine<sup>3</sup>. Governments and farms have not, however, reverted to the Soviet praxis of extensive development of every parcel of land. Only land best suited for profit-oriented agriculture from an agronomic point of view is being recultivated<sup>3, 4</sup>.

Notwithstanding privatisation and the tremendous changes in land use and state policy, grain agriculture in rain-fed steppe regions of the former SU has retain many of its extensive features: very large farms, low fertiliser usage, low yields, high percentage of fallow lands in crop rotations, low population density and

Distributions of predominant issues in Russian Steppe area

lack of transportation infrastructure. These factors contribute to explain the apparently limited environmental impact of steppe farming. Re-cultivation seems to have occurred until now at low environmental costs<sup>5</sup>.

