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"Reconcile land system changes
with planetary health"

Is the nitrogen policy arena in Pakistan effective to address nitrogen pollution of the envrionmental sinks? results from policy analysis

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Abstract

South Asia is a major contributor in nitrogen emission especially through nitrous oxide and ammonia emissions from agriculture sector. Pakistan has a significant share in the emission of nitrogenous compounds to the atmosphere. The country, in the recent decade, has pursued an excessive regime of subsidies on fertilisers to – both producers and farmers – causing greater implications for effective nitrogen management in the country. The country almost became self-sufficient due to the availability of substantial subsidy on urea production in the form of natural gas. Due to such incentives, urea production increase from 2.1 million tonnes in 1989 to 6.1 million tonnes in 2020. Nutrient usage by major crops increased from 2.9 to 5 million tonnes from 2000 to 2021. The emissions of pollutants from fertilisers have also grown substantially despite a modest increase in cropped area ruling out that area expansion had little role than intensive fertiliser application. A substantial subsidy of nearly Rs.60 billion (cash subsidy to farmers plus tax relief to producers) was given for fertilisers which led to a 36 % increase in the nutrient-wise fertiliser use. The per hectare fertiliser nutrient uptake was the maximum for this year as well. There has been an evidence of increased emissions during the times when subsidy amounts were relatively high. The latest fertiliser policy was promulgated in 2001 which mostly provides incentives for local production, subsidy structure and import substitution framework with nothing to spell about the side effects of excessive fertilisers' application. In addition, 34 policies have been introduced that have a higher level of relevance and impact scope in relation to Nitrogen management. However, they are predominantly national policies whereas most of the nitrogen-emitting sectors (agriculture, transport and buildings) are provincial subjects. The governance structure, however, lacks proper distinction of roles, incentive mechanism and operational frameworks to effectively monitor policy implementation. Institutions dealing with nitrogen/fertiliser management need to be equipped with proper expertise and infrastructure to facilitate effective monitoring of relevant policies for realising sustainability of environmental sinks especially the soil.

Keywords: Efficiency, Frameworks, Institutions, soil, Stakeholders, Water

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