

Subsidies are key to better fertiliser access, study shows

By [Inga Vesper](#)

22 Aug 2019

Subsidies for manufacturing companies could help improve access to fertiliser in developing countries without increasing environmental stress, a team of international researchers has proposed.



Spraying fertilizer on farmland. Scientists warn there must be a balance between increasing access to fertilisers and preventing overuse.

©[pixel1](#) from [Pxabay](#)

In an article reviewing scientific evidence, the team presented a strategy to manage global fertiliser use while minimising nitrogen pollution — a common side effect. They note that it will be essential to increase access to fertilisers in developing countries in order to provide more food for a growing population.

The researchers highlight intergovernmental cooperation and incentives for companies to provide cheap, high-quality fertilisers as essential measures to tackle poor soils and food shortages.

“ Restoring soil nutrients with sustainable fertiliser practices is critical to promoting food security and the manifold benefits that this has for society. - Benjamin Houlton, director, University of California’s John Muir Institute of the Environment ”

Benjamin Houlton, lead author of the article and director of the University of California’s John Muir Institute of the Environment, said: "In many developing economies, lack of access to commercial fertilisers has resulted in less-than-optimal yields, and highly depleted soils which lack nutrient capital. Restoring soil nutrients with sustainable fertiliser practices is critical to promoting food security and the manifold benefits that this has for society."

The problem explored in the article is that chemical fertilisers can have negative effects on the environment. Fertiliser is washed off the soil by rain and runs into rivers, where it can pollute drinking water and upset the ecosystem. In addition, powdered nitrogen fertiliser can be carried by wind and cause aerial pollution, with health consequences for nearby communities.



Soil health: Feeding the world, protecting the earth

Venessa Moodley 8 Aug 2019



Therefore, the researchers say, improving access to chemical fertilisers in developing countries must go along with appropriate education, community work and consideration for local culture and farming practices.

However, according to Houlton, affordability remains the biggest barrier for farmers in poorer nations. He advocates policies, such as offering subsidies, that encourage companies to invest in developing cheap products.

"This can spur innovation and grow jobs and business opportunities. Subsidies with phase-out provisions can help launch environmental careers and inspire adoption of the most efficient agricultural technologies, with a key emphasis on efficient fertiliser technologies."

According to the UN's Food and Agriculture Organisation, the combined global use of nitrogen, phosphorus and potassium fertilisers reached 186.7 million tonnes in 2016. However, demand in Africa was only around 3.6 million tonnes in the same year.

On the other hand, some regions in Asia — in particular, India and China — suffered from chemical fertiliser overuse in 2015 due to their farmers' reliance on monocultures such as rice, according to the study, published in *Earth's Future* (23 July).



Restoring soil can help address climate change

David R. Montgomery 14 Aug 2019



The researchers admit that a balance needs to be struck between increasing access to fertilisers and preventing overuse. Chemical fertiliser pollution can be reduced by micro-application, where small amounts are placed closely to each plant, and by using organic fertilisers such as farm waste products wherever possible.

If correctly applied, fertiliser can revive depleted soils and thereby reduce the need for farmers to cultivate new land at the expense of forests and other habitats, believes Barbara Adolph, principal agro-ecology researcher at the International Institute for Environment and Development in London.

"The generally recognised recommendation [to reduce pollution] is to use organic matter and inorganic fertiliser together," said Adolph, who has worked in countries including Burkina Faso, Ghana and Malawi.

However, Adolph said that many farms in developing countries do not have access to sufficient organic matter. In some countries, waste products such as stalks and leaves are used to fuel fires, feed livestock and for fencing and roofing. In

addition, traditional farms that have both livestock and crops are in decline as farmers increasingly specialise, meaning some farms may have too much manure, while others have none.

"There are a lot of technical problems in terms of transport and the availability of biomass," added Adolph. "This is where chemical fertiliser comes in, to complement the use of organic matter. That's really good practice to avoid land degradation."

[This piece](#) was produced by [SciDev.Net's sub-Saharan Africa](#) English desk.

For more, visit: <https://www.bizcommunity.com>