

Pulses and Food Security

In most developing countries, pulses play a fundamental role as a low-fat, high fibre source of protein, an essential component of traditional food baskets. Pulses, by contributing about 10 percent in the daily protein intake and 5 percent in energy intake, are of particular importance for food security in low income countries where the major sources of proteins are non-animal products. In addition, pulses also contain significant amounts of other essential nutrients like calcium, iron and lysine. Pulses are included in all 'food baskets' and dietary guidelines. The World Food Programme (WFP) for instance includes 60 grams of pulses in its typical food basket, alongside cereals, oils and sugar and salt

Over 60 percent of total utilisation of pulses is for human consumption. But the importance of pulses in human diets varies from region to region and country to country, with a general trend of higher consumption in lower income nations. The share of food use in total utilisation of pulses in the developing countries is over 75 percent, compared to 25 percent in the developed countries.

2 Socio-Economic Contribution of Legumes to Livelihoods in Sub-Saharan Africa

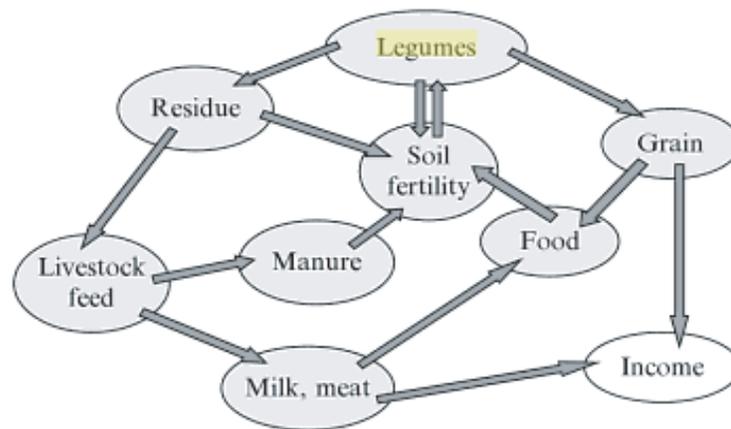


Fig. 2.3 Contributions of legumes to livelihoods in Sub-Saharan Africa. (Source: Bationo 1998)

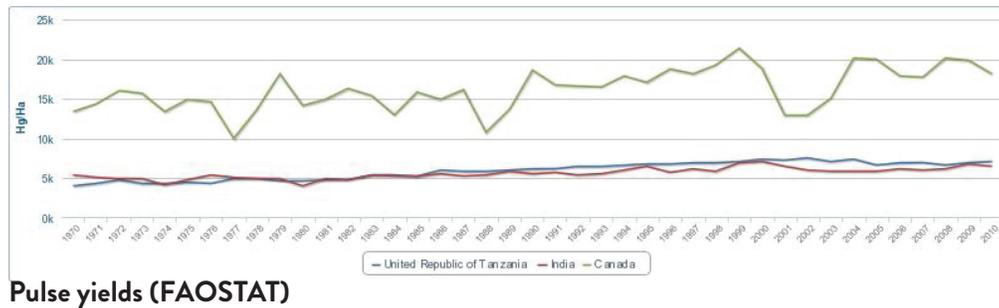
In Odendo, M., Bationo, A., Kimani, S., (2011)

Pulses, especially dry peas, are also used as feedstuff. Some 25 percent of pulse total use goes for feeding animals, namely pigs and poultry. Complementing animal feed with improved varieties of pulses has shown to significantly improve animal nutrition too, yielding better livestock, which in turns supports food security – a study in West Africa showed that animals fed cowpea hay, along with rice feed meal, during the dry season gain 95kg, compared to 62kg for animals that did not receive the cowpea fodder. The manure was also of improved quality and the study estimated that farmers which used cowpea fodder could benefit from an extra 50kg of meat a year and over 300kg of cereal grain from the improved soil quality.

Pulses are locally adapted and can be grown by local farmers for their own nutrition as well as for sale, which is important to improve food security. They are highly accepted crops, which can keep well in storage.

Pulses because of their role in improving sustainability, notably through soil management, also impact food security. Soil degradation is a major threat to food security in many areas. Africa is particularly impacted by soil degradation, yet pulses are part

of traditional diets and often grown by small farmers. By improving the crop patterns using pulses, farmers can improve their yields and limit the long-term threat to food security that soil degradation represents*.



There is a very significant yield gap in pulses in many developing countries – productivity is low and improving it could help enhance food security tremendously. The average global yield for pulses in 2010 was estimated at 819kg/ha. India's yields were even lower, at 600kg/ha while Canada and the US had yields more than three times that of India, at around 1800kg/ha. France achieves an even higher yield, of around 3800kg/ha, albeit on a much smaller planted surface

Resources:

Scherr, Sarah (1999) Soil Degradation: A Threat to Developing-Country Food Security by 2020? IFPRI http://www.ifpri.org/sites/default/files/publications/pubs_2020_dp_dp27.pdf

Progress H. Nyanga (2012) Food Security, Conservation Agriculture and Pulses: Evidence from Smallholder Farmers in Zambia. Journal of Food Research, Vol. 1, No. 2

Odendo, M., Bationo, A., & Kimani, S. (2011). Socio-Economic Contribution of Legumes to Livelihoods in Sub-Saharan Africa. http://link.springer.com/chapter/10.1007/978-94-007-1536-3_2?null

World Food Programme <http://www.wfp.org/nutrition/wfp-foodbasket>

*<http://www.ifpri.org/publication/soil-degradation>