



TRansition paths to sUustainable legume-based systems in Europe

## Effects of inoculated legumes in intercropping systems on weeds and soil fertility in Kenya

Intercropping legumes and non-legumes is a widely used strategy that benefits low-resourced small-scale farmers to mitigate food insecurity by improving soil fertility, and hence crop yield. In sub-Saharan Africa, intercropping cereals, commonly maize, with legumes maximizes utilization of land and labour, and attains higher crop yields.

Through the application of tacit knowledge to combat the impacts of climate change, farmers choose to grow a combination of non-legume crops such as maize, sorghum, millet, cassava with pulse legumes, namely common bean, cowpea, pigeon pea and/or N<sub>2</sub>-fixing trees and shrubs such as calliandra (*Calliandra calothyrsus*), sesbania (*Sesbania sesban*), tephrosia (*Tephrosia candida*) and desmodium (*Desmodium uncinatum*) as a sustainable source of protein, and organic nitrogen through biomass transfer.

In on-going trials carried out in Kenya, preliminary results have demonstrated that as well as being a source of biologically fixed nitrogen, legumes also deter or suppress germination of *Striga hermonthica*, a hemiparasitic plant that retards the productivity of cereal crops, especially in infertile soils. The trials also show that inoculation of the legumes enhances the growth and productivity of the legumes, especially the pulses. Embracing on the use of rhizobia-inoculated tephrosia as a fallow species can help eradicate *Striga hermonthica* and improves soil fertility.

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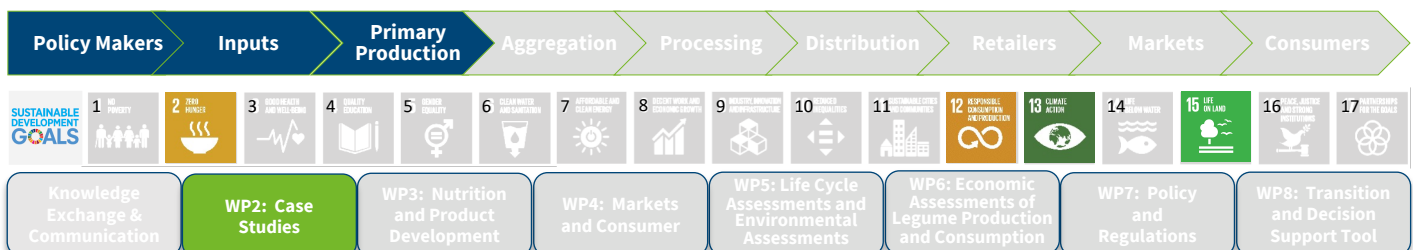
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Kenya

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Practice Abstract# 5



Spreading *Tephrosia* biomass in one of the experimental sub-plot in Nyabeda Primary School and carrying home fuel wood from a *Tephrosia* harvest. Photo credits ©: Emmanuel Makatian



About TRUE

The EU funded project "TRansition paths to sUustainable legume based systems in Europe" (TRUE) is a balanced practice-research partnership of 24 institutions, which aims to identify the best routes, or "transition paths" to **increase sustainable legume cultivation and consumption across Europe** and includes the entire legume feed and food value chains.

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