Towards a circular Economy for Soil Nutrient management in Sub-Sahara Africa: from Concept to Business Case

Side Event Wageningen Soil Conference August 29, 2017

The Fertile Grounds Initiative (FGI) organised a side event at the Wageningen Soil Conference to link people that work on circular economy aspects of soil nutrient management. In this side event we wanted to discuss examples and stimulate initiatives on this.

Remko Vonk, project manager of the Fertile Grounds Initiative project welcomed all participants to this workshop organised by the Fertile Grounds Initiative project.
In this workshop we wish to stimulate business cases and partnerships that can take part in the active development of the FGI concept and become involved in making the circular nutrient management reality.

Introduction to the Fertile Grounds Initiative project *Christy van Beek, WUR*
Christy presented the aim and the process flow of the FGI. Because there is an ongoing depletion of soils in east African soils, the FGI project is started to create availability of nutrients that can be applied to the soils and create efficiency of agriculture. The best way to do so is integrated soil fertility management: the use of organic and mineral sources of nutrients in combination with best agronomic practices. The problem is not a scientific problem, but it needs integration of soil fertility management. That is why FGI defined 8 steps to bring together nutrient flows at different levels of scal.

Subsequently, 3 business cases were presented.

Global Scale *Peace Quad, Ferm-o-Feed*
Ferm-o-feed is a company who produces organic based fertilizers. The product is produced in a facility in Helmond, the Netherlands. The base of the product is chicken waste and is composted at the farm itself. Afterwards the product is transported to the production facility and a fertilizer is prepared. This product is transported to more than 68 countries.

Regional scale *Sietse vd Velde, Oosterhofholman*
Oosterhofholman initiated the production of a soil improvement product made of sewage sludge. In this way a decrease of 65% of the volume of sewage sludge can be realized. Aim is to set up a supply chain from Europe to Africa. Oosterhofholman is looking for collaboration with FGI. There are questions if the product will not contain contaminants and pathogens.

Local scale *Yihenew G. Selassie, Bahir Dar University*

In the FGI project, 2 case studies are started in Ethiopia. One of these case studies is in the Adet region. In this study the compost which is used is analyzed and experiments were carried out with the use of solely compost, solely mineral fertilizers and a combination of both. Main results are that a combination of mineral and organic fertilizer increases harvest significantly. It is the challenge to make the farmers use the compost.

Are these cases viable for financing?

In three groups, participants discussed on the viability of these business cases from three perspectives (environmental, business and farmer). The outcome of the groups was reviewed by Shyaam Ramkumar (Circle Economy).

Main conclusions of the discussion were:

- Scale
  The solution of the lack of nutrients is a scaling problem. One part of the world has an abundance of nutrients while other parts have lack of nutrient. *The challenge of the nutrient gap is the distribution of manure.*
  At this moment we should create closed nutrient circles on a regional scale. From a business perspective, it seems better to compost sewage sludge in Addis Abeba for example.
  In areas where is too much manure, you should make a factory to make fertilizer out of manure. In that way manure is transportable.
  'Think small scale".

- Awareness of farmers
  There is too little awareness of famers of the depletion of the soil. Farmers do not realize there is a demand for nutrient application of the soil. When there is no demand from farmers, it is difficult to make a business out of organic fertilizer.
  The education of the farmers should be done from farmer's perspective. The age of farmers is increasing; there is little perspective of yought in agriculture.
  Modern technologies can be used to give advice on fertilizer application, like apps on smart phones or tablets.

- Perspective of organic fertilizers
  Perspective should be small scale businesses or cleaning the environment in cities. We should create value of out manure.

- Quality of organic fertilzer
  The quality of the organic fertilizer needs to have a proven standard. This means no heavy metals, no pathogens. Otherwise, farmers will not use this fertilizer.

- Role of FGI
  The 8 steps presented by FGI is not a chronological thing, but is a circular thing. Participants tell us to focus on all steps, but not from one starting point.
  Furthermore, the role of FGI should be to work out different approaches for different areas and testing and demonstration of products.
  A vision, shared with as many stakeholders as possible, is needed to set the goal. The FGI project should be the start of a different way of acting of stakeholders in sub-Sahara Africa.

- Investing
  Finding investors for organic fertilizer products that are in the experimental phase will be difficult. The product should be made very attractive to investors. Private investors might be provide start capital.

The meeting ends with the conclusion to work together on closing nutrients cycles in sub-Sahara Africa. The FGI project will organize a follow-up.