



DeCo!

Decentralized Composting for
Sustainable Farming and Development



Project Booklet



**SEED Awards
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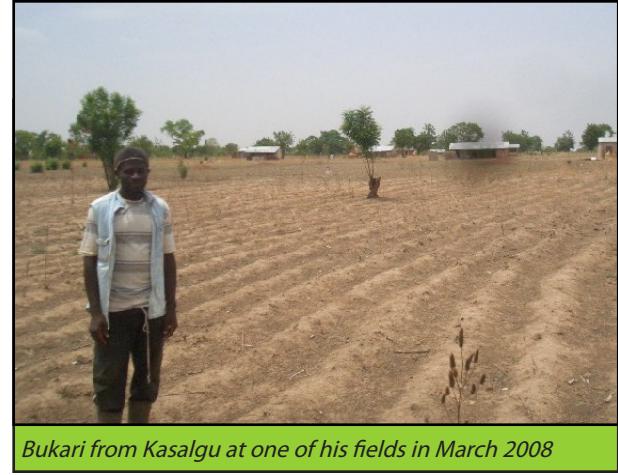
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2010/2011

Who is DeCo?

DeCo!...

- is a composting organisation producing organic fertilizer
- operates decentralized composting plants in the Savanna region of Ghana (North of Ghana)
- produces high quality organic fertilizer, which is offered to local farmers around the plant



The Problem

Farmers of the Savanna region face the problem of **soil degradation** caused by an insufficient amount of organic matter and nutrients in the soil.

Consequences are:

- low water holding capacity
- poor nutrient retention
- low soil fertility

-> Overall this leads to a significant decrease of the crop yield potential

Currently applied chemical fertilizers have only a short-term impact on the nutrient level of the soil. Moreover, a large share of the provided nutrients are washed away due to the low content of organic matter.

In the North of Ghana **no official supply of organic fertilizer** is offered to farmers. In addition, various initiatives to encourage farmers to compost themselves failed due to a lack of knowledge (high cost of educating all farmers) and the work involved in producing the compost.

Our Solution

DeCo! provides a composting service to local farmers by buying the biomass and biowaste in the villages. This input material is composted in decentralized plants around the village.

From the compost **DeCo!** produces a **ready-to-use organic fertilizer**, which is then offered to the local farmers.

This organic fertilizer is rich in humus and improves the water and nutrient holding capacity of the soil. As a result, **DeCo!** fertilizer has the potential to double crop yields (confirmed through field trials by SARI and MoFA).



DeCo! organic fertilizer

The Innovation



Freshly produced organic fertilizer at DeCo! production site in Kukuo

DeCo! takes a well-established composting technology and adapts it to the **regional conditions** by considering local input availability and soil conditions.

A **decentralized composting** approach, locating plants close to villages, lowers the costs of production by minimizing transport. In addition, the low-tech concept allows **DeCo!** to substitute expensive and susceptible equipment with **local labor** force.

In a later stage, **DeCo!** introduces a **franchising system** which leads to faster scalability and encourages local entrepreneurship.

10 Reasons to support DeCo!

1

Reduce Soil Degradation and Erosion

DeCo! improves the long term soil fertility in a region which is burdened by bad soil quality. The application of organic fertilizer leads to a better water and nutrient holding capacity.



Soil erosion and degradation in Northern Ghana

2

Improve Food Security

Applying **DeCo!** fertilizer enables farmers to harvest higher yield from their land. Thereby our product makes farming more profitable and improves food security.



One main objective of DeCo! is the creation of many low-qualified jobs

3

Create new Jobs

The dry season in the North is characterized by a lack of work for local people. In many cases they migrate to the south for work, which causes major social problems. **DeCo!** operates in the dry season and uses a labour-intensive composting technology. As a result many jobs for local people in the villages are created and migration is reduced.

4

Reduce GHG Emissions

Diverting organic waste from going to a poorly managed landfill, **DeCo!** avoids methane emissions. Further GHG emissions are reduced by substituting chemical fertilizer and reduced agricultural land expansion. In average, **DeCo!** saves between 1 and 1.5 ton CO₂-equivalent per ton of organic fertilizer.



Greenhouse Gas Emissions from landfilling

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Improve Waste Management

Composting is an important element of sustainable waste management as it offers a way of processing the organic waste fraction. Composting reduces the amount of waste to be transported and disposed of, thus also reducing negative effects to the environment and closes the natural nutrient cycle.



Ibrahim discussing with farmers from Bangyili about the fertilizer

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Participatory Approach

DeCo! works and operates in rural areas close to its supply and its customers. Since local people supply the inputs, the labour and use the product, **DeCo!** involves them as much as possible. Organized group discussions and interviews on a regular basis help to improve the whole process and increase the benefits for the farmers. **DeCo!** trusts on indigenous proficiency as much as on scientific knowledge.

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Diverse and Qualified Team



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Strong partnerships

DeCo! maintains strong links to stakeholders in the region. These include contacts to local NGOs, the **Ministry of Food and Agriculture** (MoFA) and local research and teaching institutions like the **University of Development Studies** (UDS) and the **Savanna Agricultural Research Institute** (SARI).

Moreover, **Dr. Konrad Schleiss** (UMWEKO GmbH) advises **DeCo!** on compost technology and **Codrin Kruijne** (Utrecht University) on business development. The company **myclimate** partners with **DeCo!** on developing a CDM project.



Stephen together with a NGO representative



Christoph with the chairman and an elder in Kasalgu

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Transparency and Publicity

Transparency is one core value of **DeCo!**. All money transactions are documented transparently and overhead costs are kept as low as possible. Extensive business and research reports are published on a regular basis.

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Sustainable business creation

DeCo! is a social business (registered as NGO), which aims to solve important social and environmental problems. The top financial goal is to be sustainable and cost-covering already in the first year after the pilot phase.

Pilot Phase

After initial research and experiments in 2009 and early 2010, **DeCo!** moves on with the next step of the pilot phase in October 2010. **DeCo!** operates a pilot plant in Kukuo Yepalsi, a small village 10 kilometers west of Tamale. After an initial production of 50 t in 2010, the production will be extended to 300 - 600t of fertilizer in 2011. Besides the production, a large share of the work goes into extending partnerships and into research to verify further assumptions and plan the expansion phase in 2011.



Thomas at the production site in Kukuo Yepalsi



DeCo! Team members discussing the future pathway of the company

Outlook

In October 2011 **DeCo!** will expand to five plants in the district of Tamale Municipal which is located South-West of Tamale. A total production of 3,000 t will be sold to around 3,000 to 4,000 small-scale farmers located around these plants.

Soon after **DeCo!** plans to introduce a franchising scheme. Potential plant managers will be trained on compost technology and management.

Financing

The costs for the pilot phase will be covered by research funds and private money. The operational costs are estimated to be 25,000 € for one year. In this calculation 12,000 € are spent for inputs and the operational costs. The remaining 13,000 € will cover the extensive research during the pilot phase as well as travel expenses.

After the pilot phase **DeCo!** plans to cover its operational costs and generates reasonable profits. From then on social investors will be attracted to finance the expansion. These investors are looking for profitable businesses but instead of maximizing profits their primary goal is to solve social and environmental problems.



Contact DeCo!

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DeCo! is grateful to have close partnerships with



SARI



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