EFFECTIVE MANAGING, INITIATE AND MONITORING FOOD FORESTS

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Abstract

Biomonitoring as a baseline in the process of acceptance of food forests and insight into the ecological processes in a food forest, measurement methods and skills. With the positive influence to local food supply and structural help to the needy people with a lesson in learning how to produce their own fresh food and become more independent and healthy.

Keywords: biomonitoring; managing; poverty; local food supply; own food production

Food Forest Measurements

To speed up the transition in the direction of sustainable food and food forests, it's necessary that everyone get the possibility to participate. We need measurements and scientific results to make the basic acceptance of food forests possible and effective. We started in 2017 with a project in collaboration with students from Wageningen University; Main Goal: How to make a system of easy, cheap and scientifically proven measurements to monitor the essential processes in a food forest, so we can compare measurements between food forest initiatives and learn from it. Society will better and more easily accept the newly shown possibilities. The second step is to stimulate the process of social interaction. The livestock population in the Netherlands must be drastically reduced in order to achieve the environmental goals and reducing the impact of climate change(1), but also to reduce the suffering of animals that live in a bad condition. A food forest is an alternative for keeping livestock. Are the necessary data available to make this change practical and convincing? One of the reasons to start our monitoring initiative FFRMnetwork. A complete change in food consumption and production is necessary; "less meat and more vegetables and legumes".

Worldwide and EcoVrede

Several national and international studies are motivated by and showed us the results of a needed fundamental change in the process of food production. To guarantee a basic food supply, anticipate on climate change, a better understanding of nature and new natural working processes, local food forests can give the tools. Food forests may have a essential function in these processes and beside that, they help people in poverty to get their needed fresh fruits and vegetables. This is a worldwide problem. They give the tools in the needed interaction with the process of climate change and its consequences. These are our goals and motivation.

Since 2010, EcoVrede distributes fruit, bread and vegetables in the area of Arnhem. The number of poor people without enough fresh food is still growing. This is in contrast to the recent economic growth and the expected effects for people with low incomes. Our food forest and distribution network provide the tools in practical help and a diving board to a better individual situation. We coach the people in this process and organise diverse other services like coaching, legal advice, advice in healthy living, learning trajectories, internships, household goods, repairs and clothes; everything needed to get free space to an effective individual transition. Food Forest EcoVredeGaard is an essential part in this process. We do this for free or small gifts and offer a workable, locally applicable

initiative that we can implement at any place. In order to support needy people in our rich society, EcoVrede started a multifunctional food forest called EcoVredeGaard (EVG) in October 2016, between Arnhem and Nijmegen in the Netherlands. We are also working towards other locations and we participate in different initiatives. We like to be invited to more locations and possibilities.(5)

How can we teach people to take responsibility of their own food production

A recent article (2018) of High School Larenstein Netherlands shows the need for food forests because of the badly organised food distribution in the Netherlands. People will be hungry in the city of Arnhem in five days if there would be an interruption in food deliveries. There is not enough local production of food, which is a really unwanted and unstable situation. A food forest adds to the production of fresh local fruit and vegetables. It's an essential tool in the process to a more stable food supply.(2) We show the local possibilities.(3)

Poverty and Food Forests

Beside this fact a lot of people are hungry, homeless, poor or without perspective. In the Netherlands there are between 1 and 2.5 million people(4). To support this group of people, a practical organization had to be developed. (6) At the same time, various tools were needed to enable volunteers, students and people in poverty to start. In addition, EcoVrede initiated and registered the effects and background of food forests in order to gain a more scientific substantiation to initiate and stimulate food forests initiatives.

Because of their often stressful, hopeless, uncertain situation, people with a low income get a lack of perspective and are sometimes far away from a healthy way of living(7). They die at a younger age on average. Children also get their own problems because of poverty, also because of a lack of money to buy fresh fruits and vegetables. In addition, people can cooperate with existing natural projects, initiatives and learn to produce their own food. By offering people new knowledge and a practical, enjoyable workplace, EcoVrede gives this group a better perspective and a new, positive personal vision and scope. Building up a new fundament with more natural goals. In time, we hope people participate in different aspects of developing food forests in more places. Let's multiply!

In the following section, based on the practical situation, the preconditions and the results of these first developments are presented.

Practical situation and preconditions

Planning structure: The EcoVredeGaard has the disposal of various sub-areas to a great diversity of people and a organization structure in which everyone can carry out their duties properly.

Planning module: The work on the EcoVredeGaard is done on a voluntary basis. The volunteers live on relatively long distances, making it necessary to communicate by telephone or video calls which gives the possibility to several people to participate in the EcoVredeGaard on different levels.

Education program: Volunteers often have a limited background in the field of sustainable food production. An education program must be made so that people with a limited background understand the essence of sustainable food production and their personal profits. Education must be made as attractive as possible.

Biomonitoring program: Food forests provide diverse positive contributions and we promote these to policy makers. We developed a monitoring program to produce practical data in which people with a limited background are able to participate in the field of (scientific) research. This monitoring program is implemented with a (very) low budget. (8)

Results

Planning structure

We have chosen to work with a 3-layer planning:

1. Layer 1: Main task - the responsibility lies with the managers of the EcoVredeGaard

Interaction with (local) government, participants and colleagues, media and (high) schools.

2. *Layer 2: Project setup (everyone, but you need some experience)*

An example for a project is making a sawah (rice field) with a construction for aquaponics (a symbiotic by growing plants and aquatic animals in a recirculating surrounding). When a project is successful, we scale it up. People in poverty and other people can participate and have their own experience and build up knowledge.

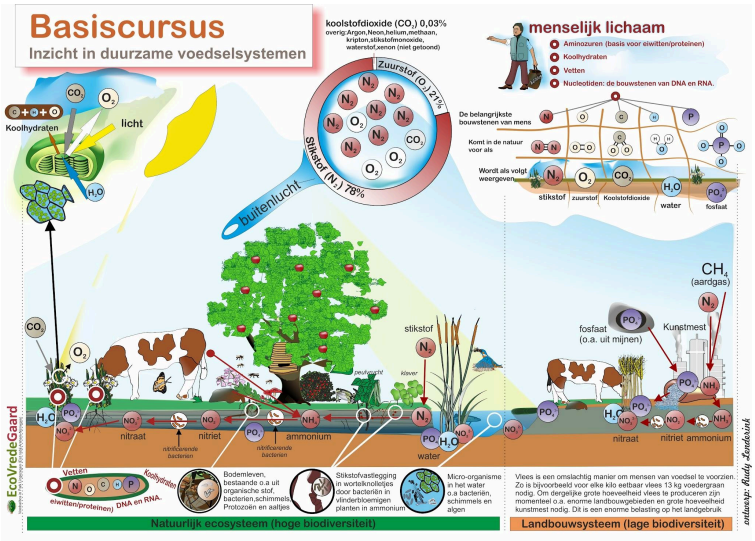
3. *Layer 3: To develop initiatives, everyone is able to do with some help*

An example for an initiative: the initiator can set up an exchange between the local restaurant and EcoVredeGaard. Old vegetables can be used as compost for the EcovredeGaard. This compost can be used for food production. We can offer this food to the local restaurant. People are coached in these individual processes.

The 3-layer planning gives a more effective way of working in general.

Planning module: We developed an effective planning module (based on Google sheet) which combinates planning with a data storage system with direct input on location. This tool can be used effectively with applications such as Whatsapp or Hangout. People from around the world with different skills are able to participate in their own field of interest in our food forest. This way we build up new opportunities and innovations with the actual possibilities there are on a daily basis.

Education program: To support people with a less educated background, we developed an education program. We use master posters with all the essential information. Based on these master posters, we explain the essential information. In this program we handle the following subjects: Definition (nature) ecosystem and sustainable food system, Four functions of each ecosystem (Supporting -, Provisioning -, Regulating - services), History of human food supply, implementation of traditional knowledge, New innovations like Food Forests; How to make the right choice on any location (Figure 1).



Development of a unique, low-budget biomonitoring program for food forests

EcoVrede has asked Wageningen University & Research to provide support in developing a biomonitoring program. The students have developed a unique, low-budget biomonitoring program consisting of a manual and a report. The manual explains how to carry out a proper biomonitoring research. Accepted by the scientific world and carried out at relatively low costs (Table 1).

Table 1: Result low-budget biomonitoring program for food forests

	Original situation	**New monitoring program**
Is being done by	scientists	**almost for everyone**
Price	high	**very low**

Follow up

FFRM network gives support in monitoring of food forests. We collect and share the monitoring information and give backup in collecting the data. We support monitoring and background information about food forests and related items.

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