

To:

European Commission

Open Public Consultation:

New EU Strategy on Adaptation to Climate Change

Cottbus, August 19, 2020

**DeFAF Position Paper: New EU Strategy on Adaptation to Climate Change
- Open Public Consultation**

Agriculture is particularly affected by climate change. The impacts of climate change on agriculture are already ubiquitous and increasing extreme weather events, such as heat waves or heavy precipitation, present serious challenges for European farmers. Therefore, effective adaptation strategies are urgently needed to mitigate the consequences of climate change in the future and to ensure the ecological and economic performance of our rural areas.

While suffering from climate change, agriculture itself is also a producer of greenhouse gases. In Germany, ~7.5 % of greenhouse gases (~70 million tons of CO₂ equivalents) are generated in agriculture, mainly by nitrous oxide emissions from fertilization, methane emissions from animal husbandry and slurry management, the mineralisation of organic soils and the fuel consumption of agricultural machinery. The German Federal Government's Climate Protection Plan 2050 aims to reduce greenhouse gases from agriculture to 58 – 61 million tons of CO₂ equivalent by 2030.

In order to deal constructively with these challenges and to create solutions for a sustainable and climate-resilient way of life and economy land cultivation will have to change. In this context, **agroforestry systems in particular represent a promising and practicable approach for a climate-smart land use management.** Numerous scientific studies from Germany, Europe and the international research community are proof of this. The IPCC Special Report "Climate Change and Land Systems" (2019) assesses agroforestry systems as a particularly effective and very cost-effective option for action with multiple positive climate effects in land use management. The German Federal Government has also recognized this and has included agroforestry systems as a measure in the Climate Protection Programme 2030 under the heading "Humus preservation and development in arable land". However, the efforts to increase the implementation and promotion of agroforestry systems in Germany as well as at the European level are not yet to be regarded as sufficient.

In order to re-establish agroforestry systems, the area of shrubs and trees must remain part of the agricultural area and be eligible in the 1st and 2nd pillars of Common Agricultural Policy (CAP). The relatively high costs of establishing shrubs and trees should be made available through the European Agricultural Fund for Rural Development (EAFRD). There still is an urgent need to improve the legal framework.

By deliberately combining tree and shrub cultures with arable or vegetable farming, pasture or animal husbandry, agroforestry systems represent multifunctional

and integrated land use concepts with a high productivity as well as high future potential and cultural value. Such systems are also versatile, adaptable to local site conditions and, if carefully prepared and implemented, they can also provide a wide range of ecological services. This includes positive effects with regard to the structural diversity of landscapes, biodiversity and faunistic habitat protection.

However, agroforestry systems could develop their most significant positive impact in terms of climate adaptation. With regard to climate change adaptation, agroforestry systems provide the following ecosystem services:

- Increased resilience to extreme weather events;
- Cooling effects, especially at close range to woody plants;
- Increased humus accumulation and water retention (humus build-up, especially in the area of woody plants);
- Increased water availability due to a more favourable microclimate (wind protection, fewer temperature extremes, less potential evaporation);
- Reduction of wind and water erosion (protection of the fine fraction and soil organic carbon);
- Improved climate resilience (and thus yield stability) compared to annual agricultural crops cultivated as monocultures;
- Provision of greater habitat diversity and biotope cross-linking to support biodiversity, e.g. beneficial insects.

In addition to measures for greater climate resilience, efforts to avoid greenhouse gas emissions in the agricultural sector, as mentioned above, are also necessary. Agroforestry systems can contribute significantly in reducing agricultural emissions, in particular by binding carbon in lignifying biomass (above and below ground) and in soils as well as by partially extensifying agricultural production (strong reduction or complete abandonment of fertilizers and pesticides in the tree area).

As DeFAF, we therefore see agroforestry systems as a concrete, practicable, particularly effective and therefore absolutely necessary approach with multiple potential to contribute to the EU's new adaptation strategy AND EMISSION REDUCTION.

German Agroforestry Association (DeFAF e.V.)

The German Agroforestry Association, founded in June 2019, is committed to ensure the promotion and use of agroforestry in German agriculture. In the long term, a sustainable and future-oriented agriculture must not only be economic, but also be socially and ecologically responsible. In this context agroforestry offers many advantages.

Definition of agroforestry

Agroforestry is a land use system in which agriculture (agricultural or horticultural crops, grassland and/or livestock) is combined with the use of woody plants (trees and/or shrubs) on the same cultivated area in order to generate both ecological and economic benefits.

Sources

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