

SUSTAINABLE RURAL DEVELOPMENT THROUGH THE UTILIZATION OF INVASIVE ALIEN SHRUBS TO PRODUCE LOCAL BIOENERGY

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Invasive species are considered the second biggest threat to global biodiversity. *Amorpha fruticosa*, a very aggressive alien invasive plant, has colonised a large part of the floodplains of the Tisza and the Hármas-Körös rivers. This high density shrub increases flood risk, increases the cost of agricultural land use, fragments habitats and reduces biodiversity. A local community, along the river Tisza, started to develop a pilot project to use this shrub as a local natural resource. One of the biggest challenges facing this local community, like many others, is the energy supply to public institutions and households. The initiative is based on the concept that these invasive plants have high energy content and can be converted into bioenergy. The local municipality with other stakeholders set up a pilot project along the river Tisza, began to eradicate this shrub and established a local biomass supply chain to harvest and convert invasive plants into woodchips. The produced woodchips, as bioenergy source is utilized in biomass boilers that produce green heat for local public buildings, as well as transported to a heating plant. On the one hand, in order to prevent the encroachment of invasive alien shrubs and to ensure the continuous production of biomass, the public authority established a native tree plantation for energy. The project has already delivered multiple impacts both for the community and the environment, such as the substitution of natural gas, CO₂ emission reduction and heating cost saving annually.