REPORT on

COLLECTION OF CASE STUDIES ON THE TOPIC OF LAND DEGRADATION, GENDER INEQUALITY, CLIMATE CHANGE, RURAL AREAS, SUSTAINABLE AGRICULTURE AND YOUTH ADVOCACY FOR SUSTAINABILITY PRESENTED BY PARTNERS ORGANIZATIONS

The context:

In Rural Voices 2030 application form is written:

" Collect and analyse existing case studies on land degradation, gender inequality, climate change, rural areas, sustainable agriculture, and youth advocacy for sustainability".

Elsewhere, the nature of the task is specified: Case study collection on the topic of land degradation and its linkages to gender inequality: The project will collect existing case studies in four areas of analysis.

1. How land degradation affects the lives of citizens and its connection to gender inequality?

2. How rural areas in the EU and global south, are interconnected? - at first glance a different reality, but research from the African continent shows how interconnected the European Union and the global south are in the field of agriculture. Not only through the specific conquest of lands in Africa / to give the example of Ghana - in the text /, or through the unequal trade of agricultural products, but also connected through the quite similar position of women in agriculture, in terms of land ownership, management of agricultural production and farms, in terms of their place in the agricultural process.

3. How scalable
practices to reduce soil degradation are possible solutions, including soil protective nutrition or local cooperatives of production?

4. How young advocates for political engagement, female changemakers, and rural change agents of sustainability serve as role models for educational actions?

The objective formulated in this way is relevant for the preparatory part of the project, where information is collected about stakeholders in the partner countries, about good practices in the field of combating soil degradation and gender inequality, and case studies related to the project theme are presented.

The presentation or selection of 12 case studies /one from each partner/ is important for the implementation of the project, because the studies themselves refer to cases that represent unique practices focused on the key theme of the project.

The presentations of the case studies are focused precisely on these new approaches, initiatives, programs, new technologies that are relevant to improving soil degradation, and in some cases this process is linked to the fight for equality between men and women.

These cases guide our efforts to implement the project because in most cases these are successful initiatives, problem solving, introduction of new technologies that are gentle on the soil and the environment, which suggest ways in which these approaches can be applied in our project.

Secondly, the diverse cases presented by the partners show our problem in depth, referring to different approaches and aspects for its solution.

Co-funded by the European Union

And last but not least, getting acquainted with the presented case studies helps us to take a better look at what lies ahead for us in the project, to try to apply some of the approaches used in the presented practices.

Since the case studies are from different fields, pursue different goals and are very different in volume, a model was created for their presentation. Preparing or following the same algorithm to be followed by the partners allows for focusing on the main points of the case studies, for indicating the benefits of a given case study for our project, or for reflecting on the lessons learned from a given case study.

The ten case studies obtained for the purposes of this report and for greater clarity can be grouped according to the indicators set in the application

And so each presentation of the case studies followed the following order - Introduction, Background and Context, Problem Statement, Methodology, Findings and Analysis, Solution or Action Plan, Results and Outcomes, Lessons Learned

This structure also allows the case studies to be briefly presented in this report, by trying to focus on the most significant characteristics and problems faced by each individual case study, the steps for its implementation and the main conclusions after each case study.

Of course, the partners who make a presentation of the case studies did not always have the necessary or sufficiently high-quality information to note in each step, and considering the above criteria for presenting the case studies in this report, we have almost nowhere presented all the information step by step, but only the most important, which will be useful for our project, and which presents the given case in its main dimensions and characteristics.

Depending on which of the four areas of analysis they correspond to, the case studies are divided into three or four groups:

1. **How land degradation affects the lives of citizens and its connection to gender inequality?**

Austria – Gender equality and the Austrian Agricultural Development Program

Slovenia - Gender Mainstreaming in the Talamh Beo Soil Biodiversity EIP **Ghana** – Gender and Glocal land governance in Ghana and Uganda

2. **How rural areas in the EU and global south, are interconnected?** **Germany** – CS on the realisation of Carbon credit project

3. **How scalable practices to reduce soil degradation are possible solutions, including soil protective nutrition or local cooperatives of production?**

Portugal - “Herdade do Freixo do Meio” mission is to build a community around that is democratic, inclusive, transparent, autonomous, and resilient, that achieves a constantly improving relationship with natural resources, and that encourages personal development. **Poland** - “Access to food based on the Community Supported Agriculture model.”

Greece: - ‘’Risk, Vulnerability, and Resilience in Agriculture and Their Impact on Sustainable Rural Economy Development’’

Bulgaria - CS on technological evaluation in agriculture

Italy Case study on awareness raising and participatory process, community engagement and local network, re-naturalization and multidisciplinary approaches in understanding and reducing hydrogeological risks, focusing on Emilia-Romagna region's badland formations and soil actions.

Greece Case study: Soil Governance in Greece

Hungary Barriers and Drivers of Agro-Ecological Transitions in Intensive Agricultural Areas

4. How young advocates for political engagement, female changemakers, and rural change agents of sustainability serve as role models for educational actions?

Spain – Climabar – communication campaign on climate changes

Of course, this division is conditional and in most cases case studies can be attributed to at least two of the four categories listed, but for the sake of clarity we have chosen to attribute each case study to only one category.

Austria - Gender Equality in Austrian Agricultural Program

From gender equality research to a campaign for gender focused rural development policy

Title of the case study: ''Gender Equality in the Austrian Rural Development Programme

When has the case study been realised? The evaluation study 'Equality between men and women in the Austrian Rural Development Programme 2014-2020' was realized in 2019

Who has prepared the case study presentation? Summarized by Sabine Klapf, sabine.klapf@suedwind.at and Anita Rötzer anita.roetzer@suedwind.at

Organisation, Country Südwind Entwicklungspolitik Salzburg, Austria

Introduction:

This case study is of interest from the perspective of our project because it examines the extent to which a gender equality approach has been implemented. by the Austrian federal government on agricultural policy (CAP) and rural development policy for the next ten years. It is important to note that in 2021, a decision was to be made at stake were 1.1 billion euros per year. A study (published 2019), funded by the federal ministry, evaluating the previous funding period found that essential data for a gender-equitable orientation of the programme was missing. Their findings and recommendations were picked up by the Austrian Women Mountain and Small Farmers (ÖBV), who demanded a more gender focused point of view on rural development policy.

Background and context:

The Rural Development Program LE 14-20 implements the 'second pillar' of the Common Agricultural Policy in Austria. The program's measures are primarily aimed at maintaining agricultural production in unfavourable locations, promoting organic farming methods and supporting investments in modern livestock farming systems. Other measures concern the development of human capital and the establishment of social services in rural regions.

For the purposes of our project, it is important to note that the study paints a fairly typical picture of the situation of women in rural areas and in agriculture for the European countries participating in the project. More young women than men are currently migrating to urban areas, a process influenced by factors such as lack of childcare or care for relatives in need of care, lack of mobility, ownership and property conditions, lack of jobs suitable for training or traditional and sometimes restrictive gender roles. At the same time, those women who

remain in rural areas continue to face disadvantages with regard to their economic independence: In rural regions, the labour force participation rate of women is significantly lower and the proportion of women working part-time is much lower than in urban regions.

As part of the Rural Development Program 2014-2020 the working group on gender equality in rural areas, initiated by the Monitoring Committee, aims to promote equality between women and men and equal opportunities for all population groups in rural areas with concrete measures. The presented case study from 2019 was commissioned on that basis.

Problem statement:

The aim of the study is to analyse the extent to which gender mainstreaming and the equality between women and men were taken into account in the Austrian Rural Development Program 2014-2020 and which areas still have potential for improvement. Suggestions are driven from this for further program design and implementation.

Methodology:

For the purposes of Rural voices 2030 it is important to point out the accepted methodology.The desired gender equality is analysed on the basis of the following three dimensions:

- Balanced utilization of program offers and funding by women and men ('Fixing the Numbers').
- Balanced participation of men and women in decision-making functions and institutions ('Fixing the Institutions / the Process').
- Inclusion of gender analyses and gender equality goals in the content of the respective field ('Fixing the Knowledge / the Content').

Findings and analysis:

The evaluation study 'Equality between men and women in the Austrian Rural Development Program 2014-2020' (part of this case study) found that essential data for a gender-equitable orientation of the program was missing.

Equality between women and men is anchored in the Austrian Rural Development Programme 20142020 as a horizontal cross-cutting issue, however, evaluators criticised the lack of concrete definitions, targets and objectives.

The evaluation study 'Equality between men and women in the Austrian Rural Development Programme 2014-2020' found that essential data for a gender-equitable orientation of the programme was missing.

The study offers some of the most shocking data on gender inequality in agriculture in Austria.

Over 30 % of young women are considering moving from the countryside to the city. Among young men, the figure is just over 17%..

The measures planned to promote rural development are not gender-neutral and take completely insufficient account of this systemically relevant work performed by women. This can be seen, for example, in the funding for agricultural investments, for which 701 million euros were budgeted in the 2014 - 2020 period. Only 15% of applications for investment funding were submitted by women, even though they run a good 30% of agricultural businesses.

The so-called 'direct payments' of the Common Agricultural Policy (CAP), which are calculated per hectare, are also not gender-neutral: 49% of the subsidies went to only 18.7% of farms in 2018. Farms with less than 1.5 hectares receive no payments. Large farms are far less likely to be run by women than small farms. Women run a third of small farms under 20 hectares, but only 13% of the largest farms.

Recommendations
The authors of the evaluation study recommend:

- Clear anchoring of the principle of gender mainstreaming and the topic of equality by controlling and coordinating through a support structure
- Integrating equality into management instruments
- Equality-orientated decision-making and participation bodies
- Raising awareness
- The definition of equality-orientated (impact) goals and suitable indicators as the basis for appropriate monitoring and further evaluations
- Ensure the gender equality-oriented use of funding and programme components.

Solution or action plan:

The good and important thing for us about this case study is that the conclusions from the study on gender equality in the rural program have been accepted and developed into a program of concrete steps by the ÖBV women farmers association.

We should consider the proposed action plan with extreme caution as a model for the other countries participating in the project.

1. investments within and outside agriculture

- Enable small projects: from € 1,000-15,000 project sum with simplified application and billing. The funding rate for these projects should be set at a high level (e.g. 40%) and partial payment in advance should be possible.
- Women's bonus for investments with women in operational management or with a women specific focus, as is the case with other business development programs · Special support for cooperation projects through investment promotion, e.g. cooperation between agricultural businesses and crafts/trade
- Applications should also be possible for community farms, e.g. solidarity farming

2. Social issues as part of a package of measures not isolated (e.g. focus on childcare from 0-3 years)

3. counselling

- The applicant's gender concept should be a prerequisite for funding · Gender training for counsellors (on topics such as strengthening women's jobs on the farms, social security, e.g. in the event of divorce, old age, care, death, etc.)
- Seminars for women's advice centers / start-up advice centers on opportunities in the funding program.

- Develop a mentoring program for women, with information, planning and networking aspects
- Transparency in the allocation of funding
- Facilitate and support non-family farm handovers

4.Education

- Expand educational programs for female founders in rural areas: Strengthen strategic planning (business plans)

5.Mobility

- Specific support for public mobility solutions for the last kilometre in rural areas – climate friendly solutions, active mobility and public transport in rural regions. Especially the last kilometre from and to households is the most pressing in adapting mobility behaviour.

6.innovation

- Involve women's advice centres and business start-up advice centres for women more in the development of funding guidelines
- Innovation hubs in the country, with a special focus on women
- Intensify cooperation with the women's and equal opportunities departments in the provincial administrations and with women's counselling centres in the regions and use their sound gender expertise
- Promotion and development of supporting structures such as (women's) networks · Regional managers for gender equality or gender focal points in the regions · Promotion of start-up advice centres for women
- Use of technical assistance for initiatives that contribute to the promotion of gender equality

7.Equality in committees

- At least 40% of each gender in committees

Lessons learned:

For public campaigns – like the one described in this case study – it is fundamental to have scientific back up. In this case it could be found – amongst others – in the described evaluation study. It should be thought, that a study like this one, prepared on behalf of the federal ministry, should have a deep impact. But even though it was difficult to place gender equality under priorities.

Slovenia - Gender Mainstreaming in Action

Gender Mainstreaming in the Talamh Beo Soil Biodiversity European Innovation Partnership

Title of the case study: Gender Mainstreaming in the Talamh Beo Soil Biodiversity EIP

Who has prepared the case study? Bridget Murphy, Talamh Beo, Ireland; Breda Larkin; Silvia Graces, and others.

When has the case study been realised? 06/2021 – 12/2022

Who has prepared the case study presentation? Dr. Anamarija Slabe **Organisation, Country**

AOGE - Association Organic Gardens for Education (Društvo Šolski ekovrtovi), Slovenia

Introduction

Subject of the case study is The Soil Biodiversity Literacy and Enhancement Project. The project was managed by Talamh Beo, the agroecological farmers representative organisation in Ireland. The aim of the project was to regenerate soils using agroecology approaches accelerating soil health, agri-innovation and climate resilience. Another aim was to explore and present specific perspective of women farmers who participated in the project or are a part of Talamh Beo Women's Group. Although the project has been recognized as a European Innovation Partnership in agriculture (EIP Agri) Good Practice and it is excellently presented as such, the work and results related to the female perspective were not included in the good practice report itself, but presented only in the report "Gender Mainstreaming in the Talamh Beo Soil Biodiversity EIP". The aim of this case study is to present this female component of the project, its relevance within the project itself and beyond it. This includes project's gender mainstreaming as well as the specific conclusions and recommendation of women farmers which apply to social and agricultural policies in general.

Background and context

Among organic and agroecologically-oriented farmers, there is a relatively large share of women. For a number of reasons, such as producing quality food for their families and protecting the environment for the present and future generations, women are generally more interested in organic and agroecological approaches. As the authors of the report "Gender Mainstreaming in the Talamh Beo Soil Biodiversity EIP" point out, for democracy to function effectively, women need to represent themselves, their issues and their needs; only then better and more effective policies and programs can be developed.

Talamh Beo has equal representation of women and men in its structures, allowing for the expression of a gender perspective in the content of policies and practices. In the

presented project Talamh Beo women worked together with their male colleagues on soil

issues and peer-to-peer approaches, but they also used the inherent innovative aspect of EIP as an opportunity to include an exploration of their female perspectives.

Problem statement

The project observes that "the limited representation of women within economic and political spheres, coupled with their underrepresentation in agricultural representative structures, comes with a heavy cost to society. Making this sector more equal for women will not only benefit those women, but it will also benefit the sector and wider society as a whole. A more diverse, just and inclusive system will be better able to meet the needs of a changing world.

Findings and analysis

1. Challenges and barriers of women in agriculture

In relation to the barriers they are facing, women pointed out the still existing barriers to accessing land and finance, as well as being excluded from decision-making (on family farms) on land use. Inheritance practices often benefit men while excluding women, due to traditions – cultural factors and beliefs. Women farmers also lack visibility and representation. In addition to their farm work, they also perform traditional roles, such as caring for home and children, and often also work off farm to earn additional finances for farming livelihood. These traditional roles need to be recognized as essential work on farm and rewarded.

Unequal distribution of Common Agricultural Policy payments, based on historical productivity, is problematic for most farmers, but especially harmful for women farmers. Ireland prioritises export-oriented agriculture, while local food sovereignty
based on more diverse, small-scale enterprises are overlooked and hindered by inappropriate regulatory requirements. This should change. Women farmers also face a lack of support from public bodies, themselves being gender-unbalanced.

2. Why women farm and why they were drawn to agroecology or organic farming? There are several reasons for women to get into farming, such as desire to work with the land, growing quality food, contribute to mitigation of rural degeneration. But a growing trend has also been the need to take over the farm from another family member or being the most interested and experienced in farming. Women expressed their need to move into organic and more sustainable farming and to focus on peacebuilding, well-being, nurturing, and community while producing healthy food for all. Conventional farming practices were linked to adverse ecological and socioeconomic impact on their communities, while women want to build more supportive and cooperative food systems that are based on the principles of fairness and equality, to create a more just and sustainable food system.

Solution or action plan

On the basis of the Gender Mainstreaming Research, several ways to make farming more equal for women were identified, including:

- Enabling women to take on leadership roles in farming organizations and boards. Providing training and education specifically for decision-makers and stakeholders talking to and for women in the sector. Gender norms training and yearly language checking mainstreamed into all Irish governmental agricultural structures and their

publications.

- A strategy for fast tracking educational qualifications for women who have not been recognized as farmers but can show equivalence in experience or alternate farming methodologies (e.g. permaculture or biological farming practitioners).
- Qualifying alternatives to the current young farmers mandatory Quality and Qualification Ireland Level 5 and 6 Green Certificate training, providing agroecological, organic and biological options.
- Encouraging women to start their own farming businesses / enterprise stacking on family farms, by providing funding and easy access to land and land rights and breaking stigmas around the value women can bring to agriculture.
- Setting up a system for mentoring, partnerships and connecting land with aspiring women farmers.
- Cross generational incentives to encourage more succession opportunities for young women, reductions in stamp duty and targeted finance and grants.
- Stop promoting practices with a focus on productivity and exploitation. Direct payment supports for farms evolving into more respectful, nurturing practices and incentivising ecological and biodiversity enhancement aims.
- Supporting women-led initiatives that are working to improve the lives of women farmers.

Three most important recommendations from the project:

All projects and programs, including EIPs and other initiatives such as LIFE and Horizon, should incorporate gender mainstreaming. For existing projects, a comprehensive assessment should be conducted to identify existing measures and potential enhancements.

Implementing gender balance need not be an aspirational goal; it can be pragmatically achieved by stipulating it as a project, program, or scheme requirement.

Similarly, the evaluation of gender impact within a project and the project's impact on gender dynamics should be integrated into the core project assessment.

The main results of the gender mainstreaming approach were:

- An EIP Agri project (The Soil Biodiversity Literacy and Enhancement) which was gender mainstreamed from start to finish.
- An Operational Group which was gender balanced and a complement of Lighthouse farms which are gender balanced. It must be noted, however, that getting an equal number of women onto groups (for example the Operational Group) does not automatically mean their contribution is immediately accepted or integrated - or that their presence immediately results in more wellrounded and comprehensive decisions.
- Data gathering included disaggregated data collection and analysis.
- Capacity building and resource assistance integrated into employment opportunities offered by the Project.
- A body of research from women participants and the Talamh Beo Women's Group.
- A set of recommendations from the Gender Mainstreaming Research.

Lessons learned

The Soil Biodiversity Literacy and Enhancement Project was implemented under the EIP Agri scheme in which innovation is the key aspect. Gender mainstreaming proved to be an innovation too. Nevertheless, Gender mainstreaming is rarely thought of when thinking of innovation. Despite prioritising gender mainstreaming, the budget allocated to doing this work was 0.4% of the overall budget of the project and one thousand and seventy five euro in total. The lesson learned was that projects need to allocate proper budgets to gender mainstreaming.

The reason that gender mainstreaming could be properly implemented in this project in spite of the symbolic budget was due to the project manager incorporating gender mainstreaming into the project in the design phase (which was not funded) and implementing it as an integral component of her project management duties rather than it being a separate issue requiring separate staff and a dedicated budget. This can be seen as another case of unrecognised female work.

Ghana and Uganda- Gender Inequality and Glocal Land Governance

Title of the case study "Gender and Glocal Land Governance in Ghana and Uganda"

Who have prepared the case study? The authors are professors from the universities of Queens and Waterloo in Canada. Their names are: Ackah-Baidoo, Patricia, Andrea M. Collins, Andrew J. Grant.

When has the case study been realised? The study does not explicitly state the date of its realization within the provided context. However, it mentions that an earlier version of the chapter was presented at the 60th meeting of the International Studies Association conference in March 2019. This suggests that the study was likely completed or finalized around that time

Who has prepared the case study SYND, Ghana

Introduction

A Gender Strategy – part of the current Uganda National Land Policy! This is the normative basis of gender mainstreaming in Uganda, a basis that few European outsiders can boast of. The case study presented by the SIND partners seems to explore a radically different agrarian reality, but the analyses, results and conclusions themselves show many similarities between the situation of women in agriculture in sub-Saharan Africa and in our part of the developed democratic societies.

The research paper titled "Gender and Glocal Land Governance in Ghana and Uganda" delves into the intricate dynamics of land governance within the context of contemporary economic pressures and global influences. The study is situated against the backdrop of the post-2007/8 "global land grab" phenomenon, which has seen significant large-scale land acquisitions for commercial agriculture, forestry, and extractive industries, often leading to community protests and policy reforms.

Background and context:

The background of the study highlights the political and personal significance of land as a

resource, which often incites strong community responses when access is threatened. Many African states have liberalized land markets to attract investment, which has resulted in complex dynamics affecting land access, particularly for women.

Problem statement:

The study examines the impact of "glocal" (global and local) land governance on gender dynamics in Ghana and Uganda. Specifically, it addresses how the interplay of global economic pressures, national land policies, and local customary practices influence land access and resource control, particularly affecting women. It also focuses on the gendered outcomes of land governance in these countries, emphasizing that women, often excluded from land governance and decision-making, face reduced access to land and are pushed into precarious labour. This exclusion worsens with the expansion of commercial investments in extractive and agricultural sectors, as these activities can lead to environmental damage, food insecurity, and displacement, disproportionately impacting women.

The authors argue that the combination of global influences, economic pressures, and customary governance structures can undermine women's access to land and drive them into exploitative labour.

Key issues addressed in the study:

Gender Disparities in Land Access: The study reveals that despite legal frameworks allowing women to own land, customary practices and socio-cultural norms often restrict their access. In both Ghana and Uganda, women typically rely on male relatives for land access, which undermines their autonomy and economic security.

Impact of Global Economic Pressures: The case study explores how global economic trends and foreign investment in extractive industries can exacerbate existing inequalities. The push for land for commercial purposes often leads to the displacement of local communities, particularly affecting women's roles in subsistence farming and resource management.

Policy Recommendations: The findings indicate that decision-making processes regarding land use often exclude women, leading to incomplete information being used in governance. This exclusion can have significant environmental, economic, and food security impacts on entire communities. The study calls for policymakers to consider gendered impacts in land governance and to develop context-specific strategies that address the unique challenges faced by women in rural areas. It emphasizes the need for inclusive governance that recognizes women's contributions to land and resource management.

Engagement with Traditional Leaders: The study emphasizes the need for future land reforms to engage more with traditional leaders, who are the primary custodians of customary laws. This engagement is crucial for rethinking the modes of gaining access and ownership over land, as traditional norms often dictate land access and ownership.

Challenging Traditional Notions: It is recommended to challenge the traditional notions of land access, ownership, and control among agricultural actors, both men and women.

Grassroots Sensitization: It calls for grassroots sensitization efforts by civil society organizations and women's rights activists to educate women about their legal rights regarding land, as many women are unaware of their rights enshrined in national legislation.

Rights-Based Approach: The implementation of a rights-based approach to landholding and

allocation is suggested to ensure a fair and improved distribution of land.

Addressing Gender Inequality: The study highlights the importance of addressing gender inequality in land access and control as a means to empower women, enhance decision making power, and improve family well-being.

Results and outcomes:

The study "Gender and Glocal Land Governance in Ghana and Uganda" primarily serves as an academic analysis of gendered land governance issues in these countries. It does not directly implement pilot programs or community interventions. However, it contributes to the broader discourse that informs policy changes and interventions.

In Uganda, the National Land Policy includes a Gender Strategy designed to ensure that women, men, and vulnerable people have guaranteed access to, control of, and inclusion in the management of land resources. This strategy reflects a commitment to realizing gender equality in land tenure relations.

Understanding the gendered impacts of land governance can guide the project to address similar challenges and ensure that women's voices are included in land-use policies and practices in rural Europe and in the Global South.

''How rural areas in the EU and global south, are interconnected?''was the password for the case studies to be put into the second group. At first glance different realities to be compared, but research from the African continent shows how connected the European Union and the Global South are in the field of agriculture. Not only through the specific conquest of lands in Africa / as the Ghanian case study clearly shows /, or through the unequal trade of agricultural products, but also connected through the very similar position of women in agriculture, in terms of land ownership, management of agricultural production and farms, in terms of their place in the agricultural process.

Sierra Leone - Dangers of Globalisation for rural life and for people's rights - Case study "Carbon Done Wrong: Controversial carbon credit project in Sierra Leone threatens people's land rights"

Title of the case study: Carbon done wrong – Controversial carbon credit project in Sierra Leone threatens people's land rights (Link)

Who has prepared the case study? The case study was co-published by the *Sierra Leone Network on the Right to Food* and the Swiss organization *HEKS/EPER*; with the supporting Sierra Leonean organizations *United for the Protection of Human Rights*, *Women's Network against Rural Plantation Injustice*, and *Green Earth Sierra Leone*.

When has the case study been realised? Between March, 2023 and March, 2024; published in May, 2024

Who has prepared the case study presentation? Sofie Barth, FINEP, Germany

Introduction

This case study examines the implementation of a controversial carbon credit project in Sierra Leone. The project was started by the Sierra Leonean corporation Rewilding Maforki in 2021, with the goal of creating a large-scale tree plantation to absorb carbon dioxide and generate profits through the sale of carbon credits. However, the initiative has raised significant concerns about its impact on local communities, particularly in relation to land rights, informed consent, and economic exploitation. This case study aims to highlight how such environmental projects, while promoting sustainability, can unintentionally harm the communities whose land they occupy.

Background and Context

The relevance of this case study lies in the global context of carbon offsetting projects, which are increasingly viewed as a tool for mitigating climate change. However, the reality on the ground often reveals complex challenges. The Rewilding Maforki project, which is being summarized here, targets rural communities in the Port Loko district in Sierra Leone, where people rely heavily on subsistence farming. The project is criticized by reports of a lack of transparency, inadequate consultation, and the risk of long-term land loss for the locals. Sierra Leone's legal framework, including the Customary Land Rights Act, provides protections for local communities, but the case shows how these laws may be bypassed or poorly enforced. At the core of this project is the collision between corporate interests seeking profits from carbon markets and the communities whose land and livelihoods are at stake.

In reference to the initial situation or rather history in Port Loko, it can be noted that as early as 2009, the palm oil company Sierra Leone Agriculture Ltd. had seized the land – under similarly questionable conditions – to establish palm oil plantations. After the project was halted and community members filed a lawsuit, which they won, it was decided that they would regain their land and receive compensation – a payment that has yet to be made.

Problem Statement

The fundamental problem this case study addresses is the violation of land rights and the lack of informed consent, which are supposed to be guaranteed under both Sierra Leonean law and international norms like Free, Prior, and Informed Consent (FPIC). Although the
case study focuses on just one region in Sierra Leone, similar practices are occurring in many countries across the Global South.

Methodology

It is important to note the application of an all-inclusive methodology, which can be applied to many of the initiatives under Rural Voices 2030 Project.

The research methodology is grounded in fieldwork carried out by a team of five NGOs, involving multiple site visits between March 2023 and March 2024. The longest field visit spanned 10 days, during which 14 NGO staff members from the five NGO (4 based in Sierra Leone, one in Switzerland), visited a total of 25 communities. They conducted interviews with

key stakeholders, including community members, local authorities, Paramount Chiefs, and representatives from Rewilding Maforki. To gain a more comprehensive understanding of the issues, gender-separate meetings were also held with affected community members, ensuring that both men and women could share their perspectives. Except for direct quotes, all information in the case study is based on at least two independent sources from informants.

Findings and Analysis

Involvement The case study's findings reveal significant discrepancies between the project's stated goals and its on-the-ground realities. Most notably, the project appears to violate Sierra Leone's Customary Land Rights Act, which requires that 60 % of a family's adult members (both men and women) must consent to any land deal.

Understanding on behalf of community Another key issue is the confusion surrounding the lease agreements. For example, in the same meeting where lease payments were made to the locals, they were also asked to sign documents, which led some to believe that the documents were simply receipts. Therefore, there is reason to believe that informed and free consent may not have been obtained.

Economic imbalance The economic imbalance is stark: while villagers are paid a mere 14 USD per hectare annually, companies involved in the project are expected to make substantial profits, i.e., several hundred USD per hectare annually.

Benefits unfulfilled The promised benefits, such as schools and healthcare facilities, have largely gone unfulfilled, with only a few exceptions, like boreholes and scholarships for children. Employment opportunities have also fallen short of expectations, with many jobs being temporary and casual rather than permanent. Neither of these commitments appears to be documented in writing, which constitutes a violation of the Customary Land Rights Act.

Uncertainty about project duration While there is no legally binding minimum time frame, the consensus is at least 100 years, with an absolute minimum of 50 years. Although the project mentions a crediting period of 50 years, individual lease agreements are being signed for only around 20 to 30 years.

Solutions and Action Plan

The case study does not explicitly outline an action plan; however, throughout the report, there are several indications of what is being called for. It advocates for a stronger enforcement of Sierra Leone's land laws, particularly around Free, Prior, and Informed Consent (FPIC). The report also calls for legally binding agreements that clearly outline the benefits for local communities, such as job creation, infrastructure improvements, and profit sharing from carbon credit sales

Additionally, the study implies that international certifiers like Verra should carefully scrutinize such projects before awarding carbon credits, ensuring they comply with both local laws and ethical standards.

Lessons Learned

- "Climate neutral" does not necessarily mean that the product is genuinely climate neutral. Even if it is, this doesn't guarantee that reforestation projects were conducted fairly or with respect for the rights of rural communities.
- Securing clear, informed consent from all affected parties before starting any landbased project is crucial.

- Projects like these must be rooted in social justice. While carbon sequestration is essential in fighting climate change, it cannot be done at the expense of the communities meant to benefit from it.
- We need robust legal frameworks to protect landowners, particularly in regions where land is often communal and passed down through generations. Even when legal frameworks are in place, they are not always enforced. Mechanisms to ensure compliance with these rights must be implemented, and legal consequences must follow when violations occur.
- This case highlights the importance of international accountability. Carbon certification bodies and investors must ensure that projects meet ethical standards before proceeding. Additionally, the ecological benefits of such projects must be clearly established.
- This case study is a modern example of colonialism, in a sense. Large companies, mainly from the Global North, profit from these often greenwashed projects that claim to protect the climate. Companies in the Global North that buy carbon credits can present themselves as climate protectors without truly reducing their emissions. Consumers in the Global North are left with a clear conscience when purchasing "climate-neutral" products. For this to happen, communities in the Global South are largely being dispossessed of their land while promising them "development" in a non binding manner – an outcome made possible by the vast power imbalance.
- It also offers connecting points to the issue of gender equality and youth participation, as it shows that in decision processes, mainly older male locals were being included. As demonstrated by the earlier case described in the report – when Sierra Leone Agriculture Ltd had taken over community land in 2009 and community members had taken legal action in 2018 and won –resistance from locals can be successful!

Portugal- Exploring rise and development of "Herdade do Freixo do Meio"

The "Sociedade Agrícola do Freixo do Meio" promotes a space for cooperation, inclusion, personal development, work and community building, seeking to achieve a community that harmoniously integrates the ecosystem to which
it belongs, that is autonomous, resilient, peaceful and ecumenical

Title of the case study: "Herdade do Freixo do Meio"

Who have prepared the case study? Person/ Organisation Ana Isabel Castanheira | Mónica Santos Silva - IMVF

When has the case study been realised? October 2024

Who has prepared the case study presentation? Ana Isabel Castanheira | Mónica Santos Silva - IMVF

Organisation, Country Instituto Marquês de Valle Flôr (IMVF) | Portugal

Background and context

"Herdade do Freixo do Meio" is located between "Alto Alentejo" and Ribatejo, near the village of

"Foros de Vale de Figueira", in the municipality of Montemor-o-Novo, Portugal. It comprises an area of approximately 584 hectares, being a space for conservation and research (over than 1.000 species represented), productive community (hosting around 7 independent projects), a living laboratory, open to sharing in the fields of ecological regeneration, agroecology (6 agroforestry systems) and prehistory (7.000 years of human presence), preservation of native breeds and varieties and gastronomy, with a focus on acorn-based dishes.

The "Herdade do Freixo do Meio" mission is to build a community around that is democratic, inclusive, transparent, autonomous, and resilient, that achieves a constantly improving relationship with natural resources, and that encourages personal development.

The main goal of" Sociedade Agrícola do Freixo do Meio, Lda" is to efficiently and collectively manage the "Montado do Freixo do Meio", aiming to continuously improve the relationship with resources and to achieve an abundance of goods and services. Established in 1996 to manage the resources of this estate using the traditional model, it soon transitioned to an agroecological approach, being currently owned by the farmer Alfredo Cunhal Sendim, who adopted a formula based on shared management of the space with other autonomous projects.

Agroecology was chosen as the ethic to guide the activity, returning to the medieval agroecosystem of the "Montado" as a way of approaching the present and building the future. In 2017, an international and collective reflection was organised in "Freixo do Meio" under the theme 'New Montado', which resulted in a clear strategy for the way forward in building a more dignified relationship with the natural system for everyone involved. This path was called the "New Montado": structuring the relationship with space from a primary axis - the stratified forest of dynamic succession.

Problem statement

The "Sociedade Agrícola do Freixo do Meio" promotes a space for cooperation, inclusion, personal development, work and community building, seeking to achieve a community that harmoniously integrates the ecosystem to which it belongs, that is autonomous, resilient, peaceful and ecumenical. Its mission is based on demand, transparency, sociocratic participation, knowledge and innovation, enriched by the visions of science, agroecology, permaculture and food sovereignty.

Several principles are in place that guide this practice:

- Act as a social enterprise that seeks to improve the community in which they live · Value and dignifying the people who work with them
- Promote stable and dignified employment for local residents
- Treat profit as a condition and not as a goal to be maximized
- Build living, healthy soil through the use of practices such as annual crop rotation, the use of compost, cover crops, green manuring and minimal tillage
- Practice certified organic farming according to European standards (Reg. (EU) 2018/848)
- For the sake of soil, human and ecosystem health, reject the use of chemically synthesized agrochemicals such as pesticides, herbicides, fungicides and fertilizers
- Reject the use of genetically edited organisms, synthetic resources, toxins and radiation

in all stages of production and in post-harvest operations

- Manage animals and all living beings on the farm from the perspective of ecosystem elements, respecting their characteristics and functions
- Feed ruminants (cows, sheep, goats, horses and donkeys) exclusively with natural fibers, such as natural pasture, sprouts, hay and straw
- Feed omnivores (pigs) and granivores (chickens and hens) appropriate diets, essentially using cereals, natural pasture, sprouts, fruit and vegetables
- Do not use food with genetically edited elements, antibiotics, ivermectin or synthesized hormones, as well as all prohibited substances
- Conserve and enhance natural resources, such as biodiversity, the climate and the atmosphere, reducing erosion and pollution of the air, soil and water, through the application of correct techniques
- Creating and preserving indigenous national breeds and using local seeds and plant varieties whenever possible
- Maximize the nutritional value of food by harvesting and slaughtering at the most appropriate times
- Practice minimal food processing, sufficient to preserve as much of its nutritional value as possible. Do not use radiation, ultra pasteurization, excessive heating, synthetic additives or those derived from genetically edited organisms
- Include all ingredients on the product label
- Manage and use water responsibly
- Minimize the ecological impact of the farm by using as much renewable energy as possible
- Promote and manage spaces that allow wildlife to exist on at least ten percent of the estate · Reduce the number of kilometers traveled by selling more locally

  Ensure the hygiene and food safety of the food produced
- Help promote the rural world
- Develop and share knowledge in all areas
- Act ethically in the market
- Determine the value of products through the cost of obtaining them · Promote and cooperate with scientific research

Results and outcomes:

As well as being an exemplary model of sustainable management, the “Montado do Freixo do Meio” has shown concrete results in mitigating climate change and promoting biodiversity:

- 51.75 tonnes of CO2 sequestered per hectare, Capital of 100 tonnes of living soil per hectare (around 60,000 tonnes of living soil over 600 hectares); 60-70% energy autonomy through renewable energy and 59 tonnes of CO2 avoided by the Solar Village
- 12 own-production micro-factories with 370 food references, 12 of which are acorn products
- Six Sunday Markets a year and around two Wednesday Markets a month · 168 co-producer families “CSA Share the Harvest Programme”,30 employees of various nationalities
- 3 hectares of organic and biodynamic vineyards with 5 Portuguese grape varieties (Trincadeira, Aragonês, Tinta Caiada, Touriga Nacional and Touriga Franca) · 40,000

shrubs and trees planted between 2018 and 2020,13 ha new vineyard area: 'Olive grove-fig grove-vineyard' agroforestry

- More efficient use of rainwater through small retention basins and widespread use of drip irrigation.
- Crop diversification and the planting of perennial trees, fruit trees and legumes in dynamic succession agroforestry systems with the aim of creating diversification, food abundance and various microclimates.
- Organic fertilisation of crops using beneficial micro-organisms
- Use of renewable energies, particularly solar energy
- Continuous work to increase organic matter in the soil, favouring greater water retention
- Implementation of ecosystem restoration techniques resulting from Permaculture and Agroecology concepts, namely the Keyline system (with scientific support from projects such as "Ecomontado XXI").

Lessons learned:

An approach to sustainable food system is possible, that honours the use of natural resources, highlights local knowledge and participatory processes and addresses social inequalities.

Some of the agroecological principals focus on soil health, biodiversity, land and natural resource governance, social values and participation, among others.

The "Montado do Freixo do Meio" has been a centre of innovation and sustainable practice, marking a new direction in the relationship with the ecosystem. Since 2014, it has become the Slow Food Gastronomic University Learning Centre collaborating frequently with INIAV, the Catholic University of Porto, the Faculty of Sciences of Lisbon, the University of Évora and the University of Coimbra. In September 2019, the "Montado do Freixo do Meio" was referenced in the study 'Climate change adaptation in the agriculture sector in Europe', published by the European Environment Agency, as an example of resilience measures that can be implemented in the context of adaptation to climate change.

Every day, the aim is to improve the relationship between human action and resources: water, soil, biodiversity, energy, science and culture. The focus is clearly on the real efficiency of processes and the utilisation of natural resources, as well as reducing waste and the ecological footprint.
The case study presented is interesting for Rural Voices 2030 partnership because it explores an entire region and rural community that is trying to become a sustainable community, a holistic approach that guarantees effective solutions to problems of ecological balance, sustainable development, and living in harmony with nature.

Poland - New developments of sustainable environmentally friendly change - "Access to food based on the Community Supported Agriculture model."

Title of the case study Access to food based on the model of Community Supported Agriculture Community.

When has the case study been realised? 12.07.2024

Who has prepared the case study? Person/ Organisation. Monika Onyszkiewicz, Fundacja Ekorozwoju

Who has prepared the case study presentation? Joanna Sawicka-Gajin, Joanna Szabuńko **Organisation, Country** Buy Responsibly Foundation, Poland

Introduction

The case presented below describes how the Community Supported *Agriculture (CSA) model* works in Poland. It is an example of activities related to soil conservation, biodiversity and also aimed at building strong social ties and shared responsibility. It indicates one of the possible directions in which Polish agriculture can develop, thanks to appropriate and effective education.

CSA model is based on five basic principles: partnership, solidarity, proximity, diversity, involvement. Consumers at the beginning of the season pay farmers a jointly agreed amount. This allows the farmer to know the annual income and, regardless of the harvest or market price fluctuations, to run the farm. Financial security also allows farmers to avoid debts. Farmers make effort to limit the use of chemical fertilizers and pesticides in cultivation. Consumers have access to fresh, healthy, local food at an affordable price - usually in the form of a weekly package of seasonal produce delivered by farmers. This document is based on the study "Access to food based on the Community Supported Agriculture model. A case study of food producing farms in Poland based on the model of Community Supported Agriculture" which is the first attempt to quantitatively describe this model in Poland. The presented case study describes Community Supported *Agriculture,* as an alternative to conventional agriculture, which dominates in Poland.

Based on the examples of 13 farms working in CSA model, it describes how they function, what kind of farms and cultivation methods are involved, and also focuses on the relationships linking to member individuals and finding their way into the Community Supported *Agriculture model.*

An important principle of CSA is protection of the soil and the environment in the process of cultivation. All of the farms showed a high awareness of ecology and biodiversity as well as taking care of the soil.

Background and context

Conventional agriculture accounts for the vast majority in Poland. Its main objective is to intensify production, with little consideration to the environmental costs, among them – soil degradation. In 2019, in the structure of farms, 53.5% are the smallest farms (up to 5 ha of agricultural land), the largest farms (with 50 ha and more of agricultural land) are 2.4%. An important point is that Poland is self-sufficient in the production of most basic agricultural raw materials for both direct consumption and food production

The presented case study offers a valuable alternative to conventional farming and shows how effective education about soil conservation and agriculture based on natural methods can be. At the same time, it takes care of the soil, by crop rotation or reducing chemical pesticides, and it also focus on fostering cooperation or building local communities. It is a concept that is still not very popular in Poland, even though, as the report shows, it is practiced successfully and gives satisfaction to those involved. There are crucial elements of cooperation, shared responsibility and a local dimension, which is important in terms of a shorter supply chain as well as supporting the local farming community.

Findings and analysis

- · Characteristics of the farms: Community Supported Agriculture farms surveyed provide food for 1,200 families. The area devoted by the farms to CSA growing varies from 0.2 hectares to 5.2 hectares.. In terms of group size, considerable differences are equally evident. For some, the group of customers ranges from 7- 18, in most of them it is between 30 - 170, one of the largest involves a group of 502 customers. Some deliver their products to larger cities, to agreed locations, some additionally sell their products in markets. In one case, products are delivered to a "parcel machine." Also in one case, the recipients are mostly neighbors from the countryside. Most of the farms are not certified as organic, but all owners emphasize that they cultivate the land according to the requirements of the certification, in care for soil quality, water conservation, composting ect. One farm uses conventional pesticides, but only in exceptional situations with care for the end product. All the farms supply seasonal vegetables, some of them also fruit and herbs. A few also provide eggs, one poultry. An interesting case is the farm which is also a research station of the Poznań University of Life Sciences, which conducts research in addition to producing organic food (although without a certificate). It is also the largest CSA farm in Poland.
- The interviewees have an extensive knowledge on how to farm crops with a large variety of species and cultivars (between 20 and 80 different varieties and species of edible plants are grown.) The interviewees are characterized by a high awareness of the impact of farming practices on biodiversity, know how to farm organically and what benefits and practices support and care for the soil.
- They get their knowledge from old gardening books that cover natural farming methods, the internet, by supporting each other and sharing experience. They also learn by observing similar farmers from all over Europe or the United States.
- An important piece of information from the survey is the high sensitivity of the entire group - both farmers and food collectors - to environmental issues. On each farm, crops are grown using at least organic methods.
- With the organic methods used in food production, it is of great importance to maintain the balance on the farm and take care of the soil quality (soil fertility, presence of pollinators, natural habitats for enemies of certain pests, protection against soil erosion, etc.).
- In the CSA in Poland, the farmers play a key role in coordinating the whole group. The initiative of consumers is most often the spark to set up the group, but activity often stops there and all organizational work remains on the shoulders of the farmers.
- An important topic is the approach to price. Like a lens, it brings together many aspects of the model: effective communication between farmers and consumers to show what costs the farmer incurs, a fair valuation of their work and meeting the possibilities and demands of consumers. In the vast majority of cases, farm owners set the price arbitrarily based on these aspects. Only in one case was this done by auction.

Solution or action plan

- The authors point out the necessity of supporting education by professionals (agricultural advisor, introducing the model of short supply chains into the formal education of future farmers) and strengthening the mutual education of the Community Supported Agriculture model community throughout the region (Poland, Czech Republic, Germany, Hungary, Slovakia) due to cultural and economic similarities and the high knowledge of farmers in agroecological practices producing food for Community Supported Agriculture groups.
- Another conclusion from the interviews is the identified need to disseminate

agricultural practices (organic, regenerative) and the specific knowledge that is necessary to farm in terms of so-called 'Market Gardening', i.e. diversified cultivation of vegetables in such a way as to make the most effective use of the available space and to extend the delivery season. In Poland, such knowledge is not commonly taught in formal education.

- A gap in the system is filled by the Organic People's University, organising a two-year course in organic farming, which is implemented using the methods of folk universities. Among the interviewees there are two graduates of this course who are successfully running their farms in CSA model and are sharing their knowledge with the next generation of students.
- The presented case shows that it is possible to cultivate land successfully while respecting the soil and the environment as well as providing additional aspect of building communities with the consumers. It is extremely important to spread the idea of CSA and other alternative forms of land cultivation as a counterbalance to the conventional agriculture that dominates in Poland.
- In order for this to be possible on a larger scale, educational activities are necessary, which the author of the report writes about, but it is also an opportunity for the Rural Voices 2030 project to include in its activities the spread of knowledge both about the CSA model, which, as the case proves, works very well, but also for other forms of land cultivation, which are aimed at caring for soil quality, biodiversity, saving water or using natural means.

Lessons learned

We see great educational value in spreading the idea of Community Supported Agriculture, because of the link between those producing food in a non-land destructive way and the consumers of the vegetables and fruit grown. Involving consumers in the process of cultivating the land, sharing problems with the crops, and taking collective responsibility for smaller crops or those damaged by drought or excessive rainfall, increases awareness and generates greater social responsibility to all parties involved in the food production and consumption. It teaches greater respect for food and can prevent food waste. As the Community Supported Agriculture model is based on cooperation, group building, communication, effective conflict resolution, a very important aspect is therefore the flow of information between the recipients and the cultivators: sharing difficulties, failures etc.

The author of the study points out the extraordinary value the CSA model gives to society: The whole of the farmer's work - its seasonality and connection to the season, the meteorological situation, the timing of the crops received, their size, their appearance - all this is lost when we buy from shops supplied with crops from all over the world. Recipients, in order to accept the diversity of supply (smaller in spring/winter and abundant in summer,) need to reconnect with the realities of growing food.

There is great potential in informal education: there is a willingness among farmers in CSA groups to meet face to face once a year in a large group, preferably on one of the farms, to exchange experiences, to see good solutions
The key to developing this concept on a wider scale in Poland is to educate people both about the model itself and the benefits of growing land in a more sustainable way with the support of an informed public.
The case study from Poland is extremely valuable for Rural Voices 2030 because it represents a study of a comprehensive CSA model and shows the path along which innovations should be

implemented to achieve sustainable and ecologically balanced agriculture. The unique inclusion of the community in the model through the mechanisms of the market economy is also very innovative and represents a model to follow.

Greece - Risk, Vulnerability and Resilience in Agriculture

Title of the case study: "Risk, Vulnerability, and Resilience in Agriculture and Their Impact on Sustainable Rural Economy Development"

When has the case study been realised? The case study 'Risk, Vulnerability, and Resilience in Agriculture and Their Impact on Sustainable Rural Economy Development' was realized in 2022

Who has prepared the case study presentation? Stavros Kalogiannidis , Christina Ioanna Papadopoulou, Efstratios Loizou and Fotios Chatzitheodoridis

Organisation, Country: National Hellenic Youth Council**,** Greece

Introduction:

This case study is interesting for the project because it draws attention to the issues of risk, vulnerability and resilience in the context of soil degradation and the state policy being implemented. This general approach reinforces the idea that our project should also strive for proposals for state intervention and policies in the processes of soil conservation and protection and gender equality in agriculture.

Promoting rural development is essential for the general economic transformation of people, hence requiring great attention from different government systems. This study assessed the risk, vulnerability, and resilience of agriculture, as well as its impact on sustainable rural economy development, using Greece as the case study. The study employed a quantitative research approach based on a cross-sectional survey design. A survey questionnaire was used to gather data from 304 Greek farmers.

Background and context:

There is, however, limited research on the general vulnerability of farmers in rural areas, the problems they face, and how they are coping with climate change, in relation to rural development. It is therefore important to evaluate the current risks associated with living in rural areas, the vulnerability of farmers, and how to reduce this vulnerability in order to increase resilience.

Problem statement:

As such, this study primarily focuses on assessing the risks, vulnerability, and re- silience associated with sustainable agriculture as it relates to rural economic development. The specific objectives of the study include the following:

- To determine the effects of agricultural risks on the sustainable development of the rural economy;
- To assess vulnerabilities encountered in agriculture, and their influence on sustainable rural economic development;
- To identify the most resilient agricultural practices and their effects on sustainable rural economic development.

The research hypotheses of this study are as follows:

H1: Risks in agriculture have a positive effect on sustainable rural economic development.

H2: There is a significant relationship between vulnerability in agriculture and sustainable rural economic development.

H3: Resilient agricultural practices positively affect sustainable rural economic development.

Findings and analysis:

Rural human settlements in Greece are at risk due to environmental pollution, inadequate rural education, poor healthcare, and limited social security, among other factors, which all increase the possibility of rural families falling back into poverty.

In other words, as a consequence of complex social, political, and economic processes, as well as natural catastrophes (including historic ones), our vulnerability to risks will increase. Severe poverty can also lead to the breakdown or disintegration of a community's social and economic institutions in relation to the development of several types of risks. Farmers who have a narrower capacity to quickly adapt their thinking in response to changes in the external environment, along with an increased sensitivity, will show limited risk tolerance.

In order to produce more food with fewer resources and enhance the efficiency of external inputs, new strategies for the intensification of sustainable agricultural will be required if food production is to increase significantly in the future. Since agroecology makes better and safer use of pesticides, it may be used to effectively enhance the health of soils, consumers, and farmers.

Agriculture development may become more inclusive as a result of technological innovation. New digital tools, which can revolutionize extension services, increase access to markets and inputs, and simplify financial transactions, are being rapidly created and employed by young people. These technologies may also assist rural women in reducing their workload, overcoming obstacles to mobility, and crucially, reclaiming time. Young farmers, livestock keepers, and fishermen may become more resilient in the face of climate change as a result of using simple phone apps that offer access to information on weather pollution and other biophysical factors impacting agricultural output.

Effective risks in agriculture

Statement SD D NS A SA
Coping with climate change is a major threat to agriculture 1.3 4.2 2.6 34.5 57.4 Soil erosion and biodiversity loss normally affect the final yields of farms 6.9 2.6 50.9 37.9
SD -strongly disagree D- disagree A-agree SA -Strongly agree

The findings show that vulnerabilities in agriculture negatively affect the sustainability of the rural economy, and thus act as an obstacle to rural economic development. With regard to vulnerability, it was revealed that most vulnerabilities in agriculture are associated with the general exposure to elevated temperatures. Furthermore, the sensi tivity of crop yields to elevated temperatures is also a key factor. It is also important to note that some farmers lack the ability to adapt to the various effects of climate change, and this affects agricultural yields, which in the long term, affects the level of rural eco nomic transformation. Additionally, vulnerability and resilience have long-term effects on the livelihoods of farmers and herders in impoverished regions [50–52]. The ability to meet needs without depleting the natural resource

base, as well as its ability to recover, maintain, and increase capital in the face of stress, together define sustainable living. This research found a correlation between the enhancement of adaptive skills and the availability of high-quality education. Our results demonstrate that education is a crucial factor in decision making in the context of climate change, and contributes substantially to sustainable rural development. As a result, educational initiatives founded on rural extension and technical support services, with the intention to broaden the knowledge, experience, and skills required to meet sustainability concerns, must be undertaken in tandem with policies and activities that promote climate resilience

Lessons Learned

The results show that, although farmers are no longer at risk of being short of food and clothing in Greece, they still face different challenges associated with climate change or low productivity, and this can greatly affect yields if not given great attention. The study showed that increasing farmers' resilience and the efficacy of risk response are both essential tactics to use in order to effectively combat threats to the residential environment. However, the results show that vulnerability in agriculture has a significant negative influence on rural development. This research demonstrates how the development of a new, beautiful nation must involve improvements to and a guarantee of the safety of farmers' rural living environments, in order to reduce the impacts of risk and vulnerability, as well as strengthen
the nation's resilience. The results show that, in rural governance, the general preservation of living conditions is not only one of farmers' top priorities, but is also a crucial factor in enhancing their ability to deal with risks, and is the only route to real rural development. Governments should design their social protection programs to enhance agricultural
production, safeguard the lives of the most vulnerable populations, strengthen their resilience, and achieve the broadest possible rural transformation.

Bulgaria- Smart Farming Implementing an innovative digital system in farming production

Title of the case study: Smart Farming in Bullgaria

Who have prepared the case study? Karl Donnerd, EUROGED

When has the case study been realised? 2021

Who has prepared the case study presentation? Summarized by Rumen Valchev , rumenilievvalchev@abv.bg and VirginiaValova openedcen@abv.bg

Organisation, Country Open Education Centre Bulgaria

Introduction

An increase is observed in the share of small and medium enterprises (SMEs) who has received public support for the production of green products (9% for the period 2014-2018), but still, Bulgarian SMEs have one of the lowest proportions among EU states for offering green products. The Eco-Innovation reporting also states that Bulgaria performs almost 3 times below the EU average. A high number of organizations per population, however, have been ISO 14001 registered.

The case study presented here is quite interesting and it differs not only from the other case studies developed within the project, in that it represents the introduction of environmental innovations into the core business of the company, rather than simply accompanying the core business of the company with environmental practices.

The company under consideration, "Podbrani" and its project is from the town of Popovo in North-Eastern Bulgaria, one of the poorest and predominantly agricultural regions of the country-. An additional reason for choosing and presenting this case study is that nearly 12- 15 students and several multipliers participated in our survey questionnaire and that we intend to focus a large part of the Rural Voices project activities in this area.

The farm “Otbrani” grows different types of berries on the area of 900 hectares and has more than 20 years of experience. The firm grows crops in which the precise irrigation and fertilization, in accordance with the climatic conditions and the stage of growth is of utmost importance. In conditions of frequent droughts, adapted irrigation is needed, while at the same time it is important to save the available water resource. Due to the need to optimize costs and to become more resource sustainable, the farm is looking for solutions to implement automation of irrigation and fertilization.
The evolution of the company is all too typical - the beginning was linked to the cultivation of widespread varieties of raspberries, blackberries and strawberries mainly for processing and freezing. This activity does not place the highest demands on the quality of the fruit produced. Gradually, the company moved towards producing fresh berries for the market. The market's natural requirements for higher quality and the orientation towards environmentally friendly fruit for consumers raise the question of introducing new technologies by which this can be achieved.
An innovative software platform allows the creation of programs for irrigation programs and visualizes historical data about the processes, allows activation of alarms in case of accidents and adaptation of irrigation and fertilization according to the weather forecast for the next 3 days.

By using precise irrigation and fertilization, the team of "Otbrani" ensures that the plants are supplied with the optimal amount of water and nutrients. Thanks to this innovation the farm registers a significant increase in production. The technical team manages and controls the irrigation from their mobile devices even before they reach the farm. The farm also registers significantly less water consumption compared to previous years.

Problem statement:

The main purpose of the research is to discover and examine successful implementations of green practices in different Bulgarian companies. One of the main objectives is to show a diverse set of measures proven effective in the national business context and to increase environmental awareness. The research shows companies which have implemented in their operations green practices and/or have been successfully transitioned into a greener way of operations.

The aim of the study is to investigate to what extent environmental criteria and values are at the heart of this successful commercial project

To what extent the strategy through the promotion and implementation of green values in the agricultural sector leads to financially and meaningfully successful projects.

The problem thus presented to the company is to ensure environmentally friendly factors of production - water, soil, air while maintaining or reducing production costs.

The key event that is the subject of this case study is the introduction of a drip irrigation plant that revolutionizes the production model, improves the quality of the factors of production and achieves the criteria of organic products for the berries produced.

Secondly, the purpose of this case study is to review the firm's production and financial performance as well as environmental indicators of the firm's performance after the introduction of new technologies.

Findings and Analysis

- Description of the implementation: Investments and running costs - the initial Investment has been returned in 8 months due to the saved water, natural fertilizers, and increased production.
- Proof of this is the company's Global GAP certificate (Good Agricultural Practices) audits are voluntary audits that verify that fruits and vegetables are produced, packed, handled, and stored to minimize risks of microbial food safety hazards./, which is renewed annually and is a testament to the company's commitment to environmentally friendly production.
- GAP is the world's highest recognized certification for fruits and vegetables. It guarantees that our fruit is handled only according to certain food safety requirements, for the extremely high hygiene that we observe and for the protection of the environment in their cultivation. Another indicator of the company's efficiency is the expanded assortment - from a start with only raspberry production, today the company grows a large part of the spectrum of berries - this is also a kind of consumer evaluation of the quality of the berries.
- The increased demand on the market - the contracts with the large retail chains as well as the reaction of individual consumers are testimony to this indicator being met.

Results and outcomes:

Challenges: the management shares that they have faced almost no major challenges during the transition of the irrigation.

Role of digital technologies: In this practice, digital technologies play an incredibly important role. The software of the system calculates the usage of the resources by tracing different indicators such as weather forecast.

Results of implementation: 30% less water consumed, 20% less use of fertilizers, 20% increase in production.

All of this led to more sustainable farming and less impact on the environment.

Internally (towards the employees) During the transition, the employees received extensive training on how to control and manage the system via their smartphones.

Financial details explanation: One of the main costs – water was reduced significantly because of the investment

Lessons Learned

In our opinion, this is the great importance of this case study. The key trend for soil conservation, preservation and improvement should be precisely in the implementation of projects by

farmers - they directly and significantly achieve what is difficult to achieve with education, campaigns and the development of municipal and national programmes.

The overall impression of the owner was extremely positive over the digitalization and the optimal usage of the water resources. He beliefs that digital technology and automatization is a key for a producer – big or small.

Secondly - the project is more successful because different environmental goals are realized simultaneously - soil conservation, water saving, production of environmentally friendly products

You have to have values to conceive and implement such a project

The project is successful not only because a purely technological decision has been taken, but because it is the following of green values such as ecological production, sustainable production that is at its core.

Another important conclusion is the role of the family, which in practice facilitates high risk decision-making , such as the introduction of digitized irrigation and fertilization. In a family-run company, which is the majority of small and medium sized farms in Bulgaria, decisions to innovate and change are easier to make and defend.

Italy - Case study on awareness raising and participatory process, community engagement and local network, re-naturalization and multidisciplinary approaches in understanding and reducing hydrogeological risks, focusing on Emilia-Romagna region's badland formations and soil actions.

Title of the case study Geo-environmental Engineering and Erosion Control

Who has prepared the case study? ELCOS Umbria, Association of Local Authorities for Sustainable Development in collaboration with the National Research Council's Institute of Research on Terrestrial Ecosystems (CNR-IRET)
When the case study has been realized? October 2024

Organization. Country. Comune di Foligno (IT)

Introduction

This Case Study is the result of a research, addressing the issue of hydrogeological instability in badland areas of the Emilia-Romagna region. The study highlights the urgency of implementing mitigation measures and restoring the ecosystem functions of the soil, while emphasizing the importance of a bottom-up participatory approach to territorial management. This Case Study was selected in collaboration with the authors and researchers at CNR IRET National Research Council's Institute of Research on Terrestrial Ecosystems (CNR-IRET) to raise awareness about soil care and health in response to the dramatic flooding events that devastated much of Central Europe and other parts of the world in the autumn of 2024. Additionally, this case study was chosen for its analysis of a highly visible pilot action, making it emblematic and replicable in other regional, national, and European contexts.

It suggests the creation of bio-districts, defined as alliances among farmers, citizens, tourism operators, associations, and public administrations to promote the sustainable management of resources. These bio-districts are not administrative regions, but functional areas where natural, productive, and cultural resources are networked and valorized. Within a bio-district, the promotion of organic products is inseparably linked with the promotion of the territory and its unique characteristics, aiming for full economic, social, and cultural development.

Methodology

The intervention proposal is structured around five key points:

- Knowing and understanding communities' perceptions and needs: Assessing the impact of hazard risks and the needs of local communities to ensure thar interventions address also socio-economic requirements.
- Ecosystem recovery objectives: Establishing goals that enhance the ecosystem functions of gullies and contribute to hydrogeological safety.
- Pilot experiments on micro-basins: Implementing trial interventions in selected areas to develop effective recovery and stabilization methods.
- Comparison of intervention methods: Evaluating the benefits of various approaches in reducing risk, conserving biodiversity, and supporting the local economy. · Dissemination and awareness-raising: Sharing best practices and intervention results locally to promote informed and participatory management.

Findings and analysis

- The study examines the restoration of the area through re-naturalization efforts, emphasizing a cross cutting approach that addresses problems using a systemic and multidisciplinary perspective.
- The primary objectives include increasing biodiversity and improving the existing ecological network. The case study advocates for and integrated management of at-risk areas through participatory approaches in which local communities are directly involved in the maintenance and monitoring of badlands. Sustainable and multifunctional management of badlands could not only ensure the safety of vulnerable regions, but also enhance the natural and landscape heritage of the area, improving the resilience of local ecosystems, and supporting rural economies by reviving agroforestry activities. The sections of the study provide a detailed and in-depth analysis of the need for a sustainable and participatory approach to managing hydrogeological risks and preserving the ecosystem functions of these areas in Emilia Romagna.

Solution or Action Plan

The proposed actions aim to restore ecosystem's functions and mitigate risks in gully-prone areas, including:

- The analysis conducted by CNR proposes guidelines for reducing hydrogeological risks through agroforestry and silvicultural management practices aimed at limiting erosion, improving biodiversity, and supporting rural economies. Suggested interventions include: Reforestation in at-risk areas; Sustainable management of gully basins; and Pilot experiments on micro-basins. The strategy aims to combine hydraulic safety with the recovery of local productive functions, fostering community participation and spreading best practices. It also targets the design and implementation of prevention, re-naturalization, and ecosystem restoration interventions using natural engineering techniques.
- Socio-ecological analysis and population participation: A participatory approach integrates local population needs into intervention planning, ensuring community involvement in land management and maintenance of implemented measures.
- Diversified ecosystem recovery objectives: Depending on the area's ecological and socio-economic characteristics, recovery goals may include both hydrogeological safety and local productivity, balancing environmental protection and rural development.
- Pilot projects on gully micro-basins: Initiating pilot projects in selected micro-basins to test and refine sustainable management and recovery practices. These projects can serve as replicable models for other at-risk gully areas.
- Sustainability assessment and practice comparison: Comparing different recovery approaches for effectiveness in risk reduction, biodiversity improvement, local economic support, and cost efficiency. This evaluation will help identify the most effective and sustainable practices for broader adoption.
- Dissemination of best practices: Sharing strategies and outcomes with the local community and other at-risk regions to encourage solution adoption. Building knowledge networks is crucial for integrated hydrogeological risk management.

Results

- Erosion reduction through reforestation: In areas such as *Castrocaro Terme*, reforestation efforts significantly reduced erosion. Restoring native vegetation has stabilized micro-basins, reducing significantly mudslide risks and improving hydrogeological stability.
- Ecosystem function regeneration: Native tree and shrub species restored water absorption, soil retention, and slowed water flows, containing erosion phenomena while enriching biodiversity and ecological value.
- Improved local socio-economic conditions: Recovery interventions benefited local communities, as stabilized areas are better suited for agropastoral and silvicultural practices, creating sustainable economic opportunities for rural populations.

Lessons learned

- Importance of prevention and planning: Hydrogeological risk management should prioritize preventative measures over reactive responses to emergencies, reducing long term costs and minimizing damage to communities, infrastructure, and ecosystems.
- Positive effects of reforestation and ecological restoration: Reforestation and recovery of native vegetation can stabilize soils, limit erosion, and improve water retention. Reforested gully basins demonstrate reduced erosive effects and increased stability.
- Needs for integrated soil management: Soil use and management practices (agroforestry, silviculture) strongly influence gully dynamics. Integrated management

that considers ecological, social, and economic needs is essential for addressing hydrogeological instability.

- Experimentation and adaptation of solutions: Pilot interventions on gully micro-basins allow for the evaluation of mitigation strategies, adapting approaches based on observed results and specific area characteristics.
- Valuing the rural socio-economic context: Sustainable management of gully areas supports rural economies, for instance, by enabling agroforestry activities and promoting local products.
- This synergy between conservation and rural development strengthens regional resilience.
- Dissemination of best practices: Sharing results and successful strategies helps spread hydrogeological risk management best practices to other vulnerable areas and communities, fostering understanding of the environmental and socio-cultural settings that influence risks from natural hazards, based on practical evidence.
- Community involvement: Local communities' participation is crucial for sustainable recovery initiatives. Communities contribute with local knowledge and directly benefit from interventions that enhance safety and natural resources value.
- Awareness raising and the role of education for a cultural approach to hazards and risks management: Engaging citizen in participatory and fieldwork processes strengthen community civic participation through the vital role of transdisciplinary and intergenerational learning.

Conclusions

The proposed strategies aim to integrate hydrogeological safety with environmental awareness, learning, conservation and socio-economic development. Through reforestation, agroforestry recovery, and community participation, a sustainable land and soil management model for badland areas can be established and replicated in other regions facing similar challenges.

This case study shows the importance of community engagement in areas affected by hydrogeological instability, orienting development towards the conservation of resources, environmental compatibility, the valorization of local differences and, thus, the quality of life.

In particular the creation of bio-district can offer a territorial model for a local network of natural, cultural, and productive resources, valorized by local policies oriented towards the protection of the environment, traditions and local knowledge.

Greece - Soil Governance in Greece

Title of the case study: Soil Governance in Greece – A Snapshot

When has the case study been realised? The evaluation study 'Soil Governance in Greece' was realized in 2021

Who has prepared the case study presentation? Spyros Schismenos, Dimitrios Emmanouloudis, Garry Stevens, Nikolaos Katopodes, Assefa Melesse

Organisation, Country: Hellenic National Youth Council, Greece

Introduction:

For the project, this case study is interesting because it provides an overview of the soil

conservation process in Greece and also indicates main trends in soil management in the European Union countries.

For thousands of years , soil resources in Greece have been a critical understanding of local socioeconomics. However, soil threats are increasing rapidly, primarily due to human activity and the impacts of climate change. Greek and the other European state governments have established legal frameworks to protect soil, but there is a great need for centralization and harmonization with European Law. This study highlights the importance of integrated soil governance frameworks that could be applied at the regional or international level while also supporting public engagement and local focus. It also considers the urgent need to address erosion – a major threat in soil resources in Greece that affects local wellbeing, environmental sustainability and heritage sites.

Background and context:

Agriculture has been one of the major economic activities in Greece for the past millennia, but poor soil management practices have resulted in degradation in this resource over time agricultural land covers about 50 percent of the land area) and contributes substantially to the country's economy with an estimated total annual production value of approximately US$ 12 billion However, a growing body of research suggests this percentage of arable land may decrease in coming decades due to soil threats such as erosion and land take for urbanization.

Soil sealing and land take: An increasing threat in Europe related particularly to rising population densities and planning laws.
Salinization and sodification: Issues particularly affecting Hungary, Spain and Turkey.
Contamination: Heavy metals and mineral oils are key soil pollutants in Europe, although efforts are being made to minimize this threat.

Organic carbon change: The reduction of organic carbon levels is a common issue in agricultural lands.

Nutrient imbalance: Principally associated with both the over- use and underuse of fertilizers.

Soil erosion: Mountainous and sloping areas are highly affected by erosion. The geomorphology of Greece means that it is particularly affected

Loss of soil biodiversity: Ecosystems that are urbanized or contaminated typically experience substantial loss of local biodiversity
Soil acidification: Acid rain is the main factor in this threat. Although most European countries took early action against soil acidification, it will take years for soil to recover.

Waterlogging: This is primarily observed in Central Asia; it is associated with irrigation.

Compaction: This threat occurs when heavy machinery is used.

Problem statement:

Key technical and governance issues that frequently undermine application of existing soil laws in Greece are:

i) the interpretation and application of these laws by con- trolling authorities can differ widely.

The controlling authorities include citation of different soil laws that focus on the same or overlapping themes (e.g. soil conservation and pollution) and often causes confusion;

ii) the complexity in principles and operating protocols regarding soil-pollution and soil-waste management also cause confusion; iii) the failure of controlling authorities to ensure legal compliance in a timely manner, iv) and the gaps that exist regarding governance and oversight of entities that knowingly damage soil resources or do so unintentionally (e.g. escaped substances) and limits to remediation options when such actors declare bankruptcy.

Findings and analysis:

These issues highlight some of the practical limits of the existing soil protection arrangements in Greece. These could be addressed through further legislative changes or updates, particularly changes that are able to centralize, integrate and harmonize these legislative instruments and support common understandings, goals and implementation frameworks.
To improve research on erosion are suggested the use of two tools, the Automated Soil Erosion Monitoring System (ASEMS) for continuous and accurate measurements, and the Soil Erosion Integrated Information System (SEI^2S) for larger areas.
The need for a regional and international soil governance frame works that actively promotes local engagement is urgent.

It's necessary to introduce the Eco-Holistic Soil Conservation framework which is based on a detailed analysis of success and failure indicators for soil conversation projects. They argue that in order for soil legislation to work, societies need to perceive soil resources as living systems and develop soil behavior that enshrines ethical use. This could begin with raising community awareness of the critical role of soil conservation in the preservation of vital ecosystems that sustain all life and in the battle against climate change.

To implement these effectively, is needed a trans-disciplinary approach of three stages:
i) diagnosis of the causes for soil threats;
ii) synergy between the different stakeholders to integrate the related assessments; iii) active evaluation and monitoring of the impacts on soils. At the program level, such a framework must support consistent oversight and delivery across a range of diverse government portfolios and legislation, and non government actors, essentially as a 'cross-cutting' issue.

Solutions or action plan:

The protection of soil resources is not just a national matter, but a global priority. Soil, and its health, are elements essential to achieving, and often linking, the Sustainable Development Goals. As such, it should be treated with the same focus and urgency afforded to more 'championed' natural resources such as water, air, and clean energy media. At present, soil governance is not under a specific framework, but spread across different themes and portfolios. The UN FAO Global Soil Part nership is pushing to increase global awareness of soil conservation. This could be achieved by developing integrated soil governance strategies that minimize current threats, and protect livelihoods, heritage and the environment. For example, a centralized soil framework with the oversight of the European Union could better coordinate European state responses, while minimizing any state political or internal issues with the potential to delay effective action. The European Soil Health Law which will be introduced in 2023, aims to improve Europe's soil status by 2050 and is another step to this direction). This law could also align with and strengthen current policies to address climate change and human-induced activities that harm the natural resources upon which we rely. At the national level, countries such as Greece could develop frameworks that support soil protection, public engagement and local focus. The Eco-Holistic Soil Conservation framework that suggests

developing a societal narrative, ethos and soil behaviors for managing soil resources could be the basis for such frameworks.

Lessons Learned

Soil resources are essential for mankind. In Greece, soil resources particularly underpin agriculture, a sector vital to the financial well- being and development of the country. However, natural and human- induced factors increasingly threaten soil health. As erosion is one of the most serious soil threats in the Mediterranean Basin, Greece has established legal frameworks to protect against this hazard. While ef forts are being made to decrease erosion and find innovative solutions, a constellation of factors threaten profound impacts to soil resources and the socio-economy more broadly in the decades to come. Integrated soil legislation informing national and regional management frameworks may be the 'game changer' needed to protect this critical resource at all levels.

Hungary: A Case Study from Hungary Barriers and Drivers of Agro-Ecological Transitions in Intensive Agricultural Areas

Title of the case study Barriers and Drivers of Agro-Ecological Transitions in Intensive Agricultural Areas: A Case Study from Hungary
Who have prepared the case study? UNISECO (=Understanding and improving the sustainability of agroecological farming systems in the EU) – Agro-ecological knowledge hub Coordinator: Dr. Gerald Schwarz, Thünen-Institute of Farm Economics, Germany
When has the case study been realised? 1 May 2018 - 30 April 2021
Who has prepared the case study presentation? HBaid

Introduction:

The main sustainability challenge highlighted in the Hungarian case study is the quality and health of the soil. Arable farmers are increasingly facing extreme weather events that lead to either soil erosion or insufficient water during critical growing periods. Implementing soil conservation practices is seen as a crucial first step toward an agro-ecological transition in market-oriented arable farming systems. This case study can be beneficial for the Rural Voices 2030 project, as it provides scientific information about the necessity and possible methods for soil protection. Young people working in farming are way more likely to participate in a project about soil protection, if they understand the necessity and benefits of it.

The case study researched the farming system of Somogy county in Hungary, which had the following characteristics:

- Sustainability issue: Pressure on natural resource: soil quality and its ecological sustainability, social and economic trade-offs
- Case study theme focus: national, farm level investigations in Belső Somogy
- Farm production type: arable systems, specialist crop production, market-oriented farming
- Agro-ecological practices include extensive margins, nutrient management, reduced/no tillage, conservation management of soils
- Level of Cooperation: Some farmers cooperate with industrial input supplier in environmental management (demonstrations: soil conservation, field margins management). Sub-regional self-organizing cooperation for agri production and selling.

Background and context:

The case study was prepared by UNISECO, a European research project aiming to develop innovative approaches to enhance the understanding of socio-economic and policy drivers and barriers for further development and implementation of agro-ecological practices in EU farming systems. The project included case studies in each participant country. The Hungarian case study was about promoting soil-friendly management to improve environmental and economic sustainability at farm level.

This case study is relevant to the Rural Voices project, as it contains good practices and solutions to the problems of soil degradation, and offers up-to-date information about the condition of arable lands in Hungary.

Problem statement:

The case study dilemma is how to integrate agro-ecological practices on arable land in highly market-oriented arable farming systems to maintain and improve soil quality without significant negative impacts on the economic viability of farms

- Technological / knowledge: access to independent advice on benefits of soil conservation practices
- Economic:
- Technologies and machinery require big investments which are not available to smaller farms
- Lack of added value for goods for production systems with soil conservation farming practices
- Policy-related: soil as natural resource with underrepresented social/institutional value, lack of national strategy and lack of special focus on soil in the subsidy system, i.e. inconsistency of support schemes with regard to soil conservation

Actions

Fostering shifts in mindset, improving know-how

- improving know-how level, raising awareness among farmers and knowledge exchange (real-life demonstration farms, real-scale experiments and solutions, variety testings and unbiased recommendations, prove economic feasibility)
- better provision of independent information, data and advice to farmers soil information system

Research and advisory development supporting the transition

- creating an independent professional and practical network to promote good soil condition
- establishing extension services supported by academia,
- practice-oriented advisory coupled with research (practical knowledge base for farmers, soil data and practical soil indicators for farmers, economic returns of soil conservation farming practices)

Methodology:

Conceptual framework: Adapted socio-ecological systems framework

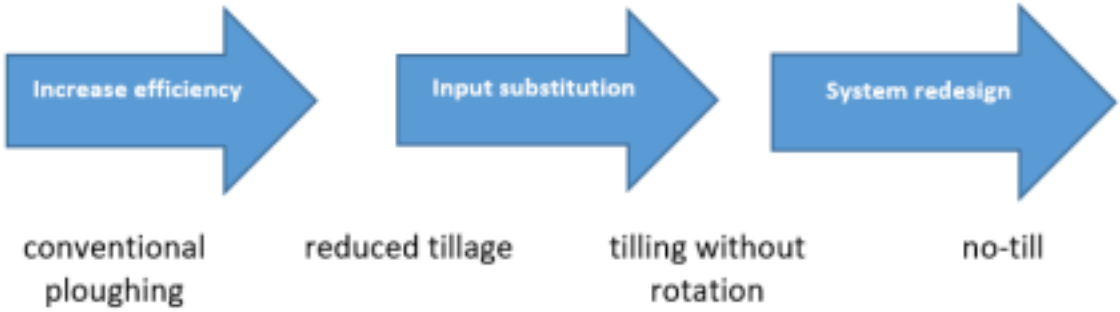
Multi-actor approach: 1) Use of participatory workshop methods and decision support tools 2) Key role of stakeholder champion trusted by farmers and key actors.

Findings and analysis:

The case study explored the different stages of conservation agriculture. We can distinguish three stages in the agroecological transition: efficiency improvement, input substitution and a complete redesign of the farming system.

Co-funded by the European Union

The first step is reduced tillage compared to conventional ploughing.



Experience has shown that the complete transition takes about 6-10 years, by which time the soil condition is such that less crop protection and nutrient replenishment is required.

Solution or action plan

The barriers needed to be identified and will need to be addresses in the transition phase.

Barriers:

- **Biophysical:** Changes in environmental and climate conditions (e.g. soil erosion, extreme weather events and droughts) drive the awareness of innovative farmers of the need to change management practices.
- **Social – cognitive:** traditions and customs of arable farming, most farmers regard ploughing as an essential and inherent part of soil cultivation
- **Social – normative:** culture of individualism after the collapse of the socialist regime (with inefficient cooperations) leads to low social capita
  - · support for agricultural education and research that enables independent results (not biased by agro-industry value chains)
  - · Enhanced role of the Chamber of Agriculture as a coordination centre for independent advisory services

Capacity building

- · modernising teaching and practical curricula to entail latest innovations and digitalisation of the agricultural sector (e.g. precision agriculture)
- · supporting for agricultural education at all levels: secondary agronomic schools, vocational training, further training, adult education to enable proper level of demonstration and training.

Improving policies for enhancing transition and uptake of soil conservation farming practices.

- · strategy specifically related to fostering soil conservation farming.
- · Specific support for soil conservation practices
  - Eco-schemes may support 1) crop diversification and rotation (beyond GAEC 8) with the inclusion of species that are particularly beneficial, 2) maintain/shift to less water demanding crops/variety (or rootstock) in water stressed areas 3) maintenance of zero-tillage,
  - new types of service contracts that either favour environmental results over management prescriptions giving farmers freedom to implement multi-year site-specific farming practices (e.g. management commitments to increase soil water retention capacity, management commitment for intercropping,

sequential cropping, management commitments for anti-erosion landscape features, or collective actions at landscape level (e.g. collective actions for land use planning based on land suitability maps).

- adjusted greening measures to disable the misuse of cover crops,
- improving the Farm modernization and investment measure to enable purchasing of specific agricultural machinery and tools related to conservation agriculture, bank, insurance companies to elaborate capital schemes for such investments.

Changes needed at the food system level initiating market instruments · carbon quota: compensating farmers for CO2 sequestration in soil,

· soil conservation label – price premium.

General information campaign for public awareness raising about soil as natural resource

· environmental education in schools about the importance and multifunctionality of soils,

· Consumer education by government and NGOs for shortening supply chain, · demanding consumers are more conscious about the choice of healthy food and not biased by commercial ads and the lock-in of cheap food.

Fostering cooperation

· Between farmers (knowledge exchange e.g. at field days, participatory research), · Between all stakeholders by setting up national platform for soil conservation farming to:

- clarify the definitions in soil conservation farming, define technological recommendations, parameters, and indicators,
- narrow the science-policy-practice nexus by setting research agenda based on needs from practice and policy,
- act as a board of representation of actors for policy consultations,
- provide information and help raising public awareness.

Results and outcomes:

The expected outcomes of the implementation of soil conservation management are: · Increasing soil cover and organic matter:

- Activating soil life:
- Energy saving and cost reduction:
- Biodiversity:
- Use of cover crops:

Lessons learned:

Adopting soil conservation farming practices are considered as a first step for market oriented arable farming systems towards transition to agro-ecological farming systems.

Farmers, however, need knowledge and advisory support to accompany them along the systemic change, as well as scientific evidence to underpin the economic viability of such practices.

Many actors in the agri-food system are relevant to assist farmers to bring the widespread adoption of soil conservation farming practices to a success.

Innovative design changes to existing rural development measures have the potential to successfully promote transitions to soil conservation farming if accompanied by measures of research and advisory development, raising public awareness and demand for crops produced this way.

Co-funded by the European Union

Spain- Campaigning for Climate Change in Social Media

Title of the case study Climabar: clima, caña y concienciación

Who have prepared the case study? FAMSI, Cooperativa El Alambre and Sheila Prado Saraiva, expert consultant in cause communication.

When has the case study been realised? 2024

Who has prepared the case study presentation? FAMSI, Cooperativa El Alambre and Sheila Prado Saraiva, expert consultant in cause communication.

Introduction:

Expanding knowledge, understanding and capacity for action - at a personal, collective or political level - depends on people taking an interest in the issue and wanting to know about what is happening, getting involved in the debate, changing practices and also exercising political action, which is essential to drive broad changes morequickly. Despite the amount of information and evidence available on climate change, the average citizen still remains distant and with little interest in becoming informed and learning more about the issue. However, it is an issue that affects us and on which we will have to act continuously in our lives. It is precisely to propose a solution to this context that Climabar emerges and creates a modern model and an innovative climate communication strategy, with high identification of youth and capable of making them interested and continuously follow the climate pattern in their daily lives. It is the youth speaking for the youth, but also showing us that talking about climate can be fun and interesting.

Background and context:

During the confinement by Covid-19 in 2020, two young Spanish friends, Carmen Huidobro and Belén Hinojar, 24 years old, aware and concerned with the lack of attention and understanding about the climate emergency in society, decided to start talking about the issue together, using social media and video as a main resource to get closer and tell people more about what is happening, mainly young people like them.

After a meeting in a bar with friends to talk about '*the issues that matter*', including climate change, they came up with the idea of using the bar as a stage and the *'moment of the beer'* - fundamental elements of Spanish culture and the modus operandi of young people - to draw attention and attract the public to a conversation that manages to combine information, education and science in an entertaining, creative, relaxed moment, with touches of humour and, at the same time, deeply connected to youth and local culture.

This is how 'Climabar' came about, an initiative that currently has more than 88,000 followers on social networks (October 2024)

Problem statement:

In this sense, Climabar argues that the climate crisis '*has the worst communication campaign in history*' because, despite being one of the most important and urgent problems facing humanity, it has failed to capture the attention and commitment of the majority of the population (who, in general, have already heard about climate change, but have difficulties in understanding the causes, consequences and possibilities for action (individual, collective,

political measures, etc.)).

Methodology:

Climabar's methodology is based on **communicating the climate crisis in an accessible way,** with a priority focus on young audiences. Some key aspects of their approach:

· Informal communication:
· Intelligent information:
· Personal relevance:
· Practical solutions:
· Use of social media:

Findings and analysis:

In order to communicate the climate cause and involve people in the action, it is a basic premise to know in depth what the target public thinks and feels, and how they act in relation to environmental guidelines, specifically, in relation to climate change. Climabar knows this and it is why they designed the action from the perspective of the communication and marketing area which, as we know, in a market environment, tends to analyse the profile of its potential consumers frequently and in some depth, with the aim of understanding their habits, consumer behaviour and even the emotional and psychological dimension, in order to offer a product or service with a greater degree of identification and adherence to their personality. Climabar follows, to a certain extent, this marketing logic, but it does not sell a product, it sells a cause.

To understand the profile of the target audience with which Climabar deals, here are some data from the study '*Young People and the Environment'*, launched by the SM Foundation in January 2024, after listening to nearly 1,500 young people aged 15 to 29 in Spain about their perceptions and concerns regarding the ecological crisis we are currently experiencing.

The following are the main conclusions:

Concern about global warming: 86.2% say they are very concerned about global warming. Even so, their view is indiscriminate, that is, it is a generic perception of the general situation of environmental degradation but not of specific issues (such as soil x climate change; climate justice; climate x gender, for example).

Interest in knowing more: 82% of the young people surveyed demand more training on environmental issues such as climate change, pollution and responsible consumption in schools, as almost half of them admit that they are unaware of the impacts or environmental repercussions of their purchases, for example.

Sense of urgency: 40% of young people strongly or somewhat agree with the idea that the so-called "ecological crisis of humanity is being greatly exaggerated". This perception has increased by 10 percentage points since 2005. In fact, more than half of 15-29 year olds think that there is 'still a lot of time to act " on environmental problems ."

Lack of hope: 47% of young people believe that 'the battle to save the environment is already lost': 'Whatever we do'. They believe that 'ecological collapse' is no longer avoidable.

Worry and negative emotions: The feeling of a 'lost battle' is also reflected in the predominant

emotions observed among the young people surveyed: helplessness (45%), fear (42%) and sadness (36%) in the face of the environmental crisis, which has been included in studies on mental health and eco-anxiety.

Mistrust of politics: 73% of young people feel distrustful of the willingness of political leaders to implement agreements, targets and concrete actions to curb climate change. **Too much trust in science and technology:** if politics generates distrust, science and technology generates, for the most part, more trust. In this sense, 57% of young people are confident that science and technology will be able to prevent the Earth from becoming uninhabitable.

Consumerist lifestyle: more than 70% of young people believe that society is incapable of abandoning its consumerist lifestyle.

Among other aspects found and which are of interest for the strategy adopted in Climabar:

· Food and health are the areas of personal life with which people in Andalusia are most concerned in relation to the impact of climate. In this sense, there is a potential to connect these guidelines to educational calls and contents,

· Gender perspective: as we saw in the Rural Voices survey in Andalusia, gender equality is the most incorporated and relevant topic for rural youth, most likely due to the historical and political context of work and the visibility acquired by gender guidelines in Spain in the last decades.

We have also found what is a relevant issue about communicating causes and raising awareness today: the use of new technologies and social networks to reach and connect with young audiences. 20 years ago, without these resources available and

From a practical point of view, Climabar uses these resources in the following way:

- They use 3 main social networks: Instagram, YouTube and Twitch.
- Today they have more than 88,000 followers on Instagram
- They make short videos, focused on relevant information, based on science or practical actions, but transmitted in a quick and entertaining way.
- They adopt aesthetics visually very connected with the young public (with colours, clothing, scenery and references that generate identification).
- Colloquial, easy language, as if they were chatting with friends in a bar. They use a lot of humour and irony.
- They fill the content with references to young people (series, singers, personalities, influencers, etc.).
- They use music, playlists, current songs
- They make alliances with other platforms, programs, projects and influencers. · They do not pretend to transmit all the knowledge at once or to achieve depth, but to bring a small and forceful reflection at a time, but very connected to the context and daily life of their audience.
- In their recently launched communication manual, the content is permeated by drink recipes, playlists and youth references, alluding to the idea of 'bar conversation between friends'.

Solution or action plan:

The communication strategy adopted and implemented by Climabar is based primarily on the presence in 3 social networks: Instagram, YouTube and Twitch; on the publication '*Manual para dar la turra sobre la crisis climática*', available in digital and paper format; and on alliances with

other organisations or content producers.

Climabar occasionally forms alliances with other organisations, projects and/or influencers to strengthen the dissemination of a specific approach, always under the 'umbrella' of climate change. They also give talks and conferences for universities and organisations that hire them for this purpose.

Results and outcomes:

In its fourth years of existence, as an unfunded young initiative (the current funding model is not clear, but it arose as a spontaneous activity carried out from home by two young people during the pandemic), Climabar has managed to reach a significant number of people compared to projects that have been militating for years in sustainable development and climate in Spain.

We estimate that its reach, adding together platforms and social networks, possible face-to face talks, alliances and collaborations, and news published about Climabar, exceeds 150,000 people who have had a first contact with the climate guideline. This is not the same as educating or changing daily practices, but it does indicate the success of an initial awareness-raising campaign capable of awakening interest in the campaign and bringing young people closer to the issue.

As other results, we could infer that they have achieved:

- Broaden the visibility of the climate agenda with the youth
- Broaden the knowledge of their audience on specific issues of the climate agenda · Stimulate their followers to adopt new habits and behaviours
- Broaden critical awareness and reflection on climate
- Bring part of your audience closer to the Climate Conference.
- Provide resources (such as the handbook and videos) that can be used by other projects and organizations in their own awareness-raising processes.

Lessons learned:

- Know your audience: it is essential to get to know in depth the audience you want to talk to.
- Talking about climate can be fun: Climate change is already a dense and challenging topic in itself. For this reason, it is necessary to find ways to talk in a lighter and more pleasant way about such tough topics, without reinforcing pessimism and eco-anxiety. Music, humor, festivity and fun, in different formats, are welcome, possible and desirable to educate and raise awareness.
- The importance of being the 'first door' to the climate guideline: a single project may not achieve everything in its implementation time, but it is legitimate - and necessary - to have actions that 'simplify' the message in order to reach a larger number of young people and to be only the gateway to the issue.
- Accessibility of information: the message has to be where young people are and in the formats they are interested in seeing. It is only by awakening their interest that it will be

possible to involve them in other types of initiatives.

- The potential to connect urban and rural worlds: content and messages are still very much targeted at urban and young urban audiences. It is essential to bridge the gap between these two worlds. The rural youth also wants to feel part of the city and the city can learn from the rural youth.
- Gender perspective in the way of doing: the gender perspective has to be transversal, in the way of doing, thinking and executing the action itself. As content too, of course, but it only makes sense if it becomes a real practice in the initiative and not just a discourse.

CONCLUSIONS

In each of the presented case studies there is enough place for results, findings, solutions, lessons learned and in the report we have tried to highlight the main ones, because they are relevant to our understanding of the problem and realizing the Project "Engaging young rural European citizens in a gender responsive approach to soil protection" and will be useful in the implementation of the project activities.

In this concluding part we have tried to note the most important conclusions that are directly relevant to the implementation of our project. It should be noted that some of the conclusions are repeated in many of the presented case studies, so we do not always note which case studies they are from.

1.For the purposes of our project, it is important to note that the study paints a fairly typical picture of the situation of women in rural areas and in agriculture for the European countries. In other words, the problem of gender mainstreaming in agriculture is key for all countries participating in the project, a situation which justifies the main approach of our project Engaging young rural European citizens in a gender responsive approach to soil protection.

2. Another important conclusion in the case studies is in the answer to the question: Why women farm and why were they drawn to agroecology or organic farming?

There are several reasons for women to get into farming, such as desire to work with the land, growing quality food, contribute to mitigation of rural degeneration. But a growing trend has also been the need to take over the farm from another family member or being the most interested and experienced in farming. Women expressed their need to move into organic and more sustainable farming and to focus on peacebuilding, well-being, nurturing, and community while producing healthy food for all".

Similarly, the evaluation of gender impact within a given project and the project's impact on gender dynamics should be integrated into the core project assessment.

3. Another important conclusion is that gender mainstreaming does not find a place in the projects, initiatives and programmes and policies implemented in the individual countries, and where it does, it is merely formal and does not lead to serious results.

An example is the Austrian programme "Equality between women and men" anchored in the Austrian Rural Development Programme 20142020 as a horizontal cross-cutting issue, however, evaluators criticised the lack of concrete definitions, targets and objectives.

The conclusion for our project is that where we will implement or support the implementation of projects, campaigns, initiatives or seek to initiate policies for soil protection, gender

mainstreaming should be an essential dimension in each of them. Implementing gender balance need not be an aspirational goal; it can be pragmatically achieved by stipulating it as a project, program, or scheme requirement.4. The question ''How rural areas in the EU and global south, are interconnected?'' was the password for the case studies to be put into the second group. At first glance both are quite different realities to be compared, but Ghanian case study and the German case study showm how connected the European Union and the Global South are in the field of agriculture. Not only through the specific conquest of lands in Africa / as the Ghanian case study clearly shows /, or through the unequal trade of agricultural products, but also connected through the very similar position of women in agriculture, in terms of land ownership, management of agricultural production and farms, in terms of their place in the agricultural process.

4.From the case studies that present projects for agri-community development such as those from Italy, Portugal and Hungary, the conclusion is that those projects that apply a holistic approach are successful. As noted in the Portuguese case study, "The project is interesting for us because the case study explores an entire region and rural community that is trying to become a sustainable community, a holistic approach that guarantees effective solutions to problems of ecological balance, sustainable development, and living in harmony with nature". Or an approach to sustainable food system is possible, that honours the use of natural resources, highlights local knowledge and participatory processes and addresses social inequalities / in our case gender inequalities/..

A similar conclusion can be drawn from the presented case study from Poland, which examines a community-supported agri-agriculture project.

We see great educational value in spreading the idea of Community Supported Agriculture, because of the link between those producing food in a non-land destructive way and the consumers of the vegetables and fruit grown. Involving consumers in the process of cultivating the land, sharing problems with the crops, and taking collective responsibility for smaller crops or those damaged by drought or excessive rainfall, increases awareness and generates greater social responsibility to all parties involved in the food production and consumption.

The case study from Poland is extremely valuable for Rural Voices 2030 because it represents a study of a comprehensive CSA model and shows the path along which innovations should be implemented to achieve sustainable and ecologically balanced agriculture. The unique inclusion of the community in the model through the mechanisms of the market economy is also very innovative and represents a model to follow.

The latter conclusion is also confirmed by the case study presented from Hungary. ''The case study dilemma is how to integrate agro-ecological practices on arable land in highly market-oriented arable farming systems to maintain and improve soil quality without significant negative impacts on the economic viability of farms''.

Adopting soil conservation farming practices are considered as a first step for market oriented arable farming systems towards transition to agro-ecological farming systems.

Many actors in the agri-food system are relevant to assist farmers to bring the widespread adoption of soil conservation farming practices to a success.

Innovative design changes to existing rural development measures have the potential to successfully promote transitions to soil conservation farming if accompanied by measures of research and advisory development, raising public awareness and demand for crops produced

this way.

5. Another important conclusion, following from the analysis of the presented case studies - especially in community development projects and in projects related to technological innovations and green methods, The state as an expressor of the needs of society should provide support and encouragement for the implementation of regenerative agriculture projects.

6. The issue of technological innovations as leading to agro-agriculture is also confirmed by the presented case study from Bulgaria. In our opinion, this is the great importance of this case study. The key trend for soil conservation, preservation and improvement should be precisely in the implementation of projects by farmers - they directly and significantly achieve what is difficult to achieve with education, campaigns and the development of municipal and national programmes. Secondly - the technologically innovative projects areis more successful because different environmental goals are realized simultaneously - soil conservation, water saving, production of environmentally friendly products

7. Another important conclusion from the presented case study is the question of the values that are at the heart of successful agricultural transformation projects. It is about the so-called green values. The project is successful not only because a purely technological decision has been taken, but because it is the following of green values such as ecological production, sustainable production that is at its core.

8. The presented case study from Hungary shows, in addition to the values in famous cities of successful agricultural projects, the use of scientific information, scientific methods for the implementation of successful projects. "This case study can be beneficial for the Rural Voices 2030 project, as it provides scientific information about the necessity and possible methods for soil protection. Young people working in farming are way more likely to participate in a project about soil protection, if they understand the necessity and benefits of it.

9. Finally, all the conclusions so far about a holistic approach, about gender mainstreaming, about community-supported projects and initiatives, about the role of values and scientific knowledge are also confirmed by the only case study investigating an information campaign on climate change, presented by Spain.

In this sense, Climabar argues that the climate crisis '*has the worst communication campaign in history*' because, despite being one of the most important and urgent problems facing humanity, it has failed to capture the attention and commitment of the majority of the population (who, in general, have already heard about climate change, but have difficulties in understanding the causes, consequences and possibilities for action (individual, collective, political measures, etc.)).

- Know your audience:
- Talking about climate can be fun:
- The importance of being the 'first door' to the climate guideline:
- Accessibility of information: the message has to be where young people are and in the formats they are interested in seeing.
- The potential to connect urban and rural worlds:
- Gender perspective in the way of doing: the gender perspective has to be transversal, in the way of doing, thinking and executing the action itself.

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Rural Voices 2030 is an international collaboration of 13 organizations, connecting for systemic change by tackling land degradation and empowering women.
We are joining rural youth on a pathway towards sustainable communities that embrace soil health and gender equality. As we learn from each other, we highlight the potential of our rural realities and increase their values together.

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