

Evaluation framework for the CAP's agri-environmental knowledge transfer measures

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Abstract- The research paper aims to contribute to the efforts for a more results-oriented (and thus better-performing) CAP in the policy area, which is currently underperforming. We developed a novel evaluation framework for the knowledge transfer activities in the field of agri-environment. Furthermore, we tested two new survey instruments on the case of the Slovenian Rural Development Programme in 2022. In contrast to the diversified and structured evaluation system of CAP's measures in other fields, the evaluation framework for knowledge transfer is surprisingly weak and needs further improvement. The critical challenge is the need for the impartial, continuous and long-term collection of data.

INTRODUCTION

In the European Union (EU), knowledge transfer is promoted by various measures under the Common Agricultural Policy (CAP), which enable farmers to access information and knowledge through a diverse set of extension activities (ENRD, 2019). Unlike the more exposed and financially extensive CAP interventions, such as investments and agri-environmental-climate measure (AECM), the methodology for evaluating instruments promoting knowledge transfer is relatively weakly defined (SCAR 2019). This is especially true at the level of results and impact indicators, which enable the most in-depth assessment of the measures' effectiveness (ECA, 2017). However, the effectiveness of different approaches to knowledge transfer remains relatively poorly researched in the scientific literature as well (Faure et al., 2012).

Improvement of the evaluation framework is an important priority of the CAP after 2022, since policy-makers envisaged strengthening of its performance and reorientation towards a more result-oriented policy (EC, 2017). The aim of this contribution is to develop a novel rigorous, yet flexible evaluation framework and a set of performance indicators in the field of knowledge transfer. Furthermore, new survey instruments for assessing results and impacts of agri-environmental knowledge transfer were developed and tested on the case of Slovenian agricultural policy.

METHODOLOGICAL APPROACH

Public policy often evolves in a cyclical manner, which can be divided into a series of stages: definition of areas of action, design, legitimization, implementation and evaluation (Cairney, 2019). In the EU programmes, evaluation of interventions, which is necessary for providing feedback in the next policy cycle, uses a three-level indicator hierarchy. The first level includes output indicators that assess activities and direct products of interventions. The result indicators are used to assess immediate results of interventions, whereas the impact indicators evaluate their long-term effects (Figure 1) (EC, 2017).

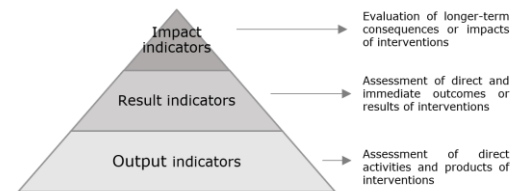


Figure 1. Hierarchy of evaluation indicators within the EU's Common agricultural policy (EC, 2017)

In this study, the design of the output indicators was based on the EU Guidelines for the preparation of national CAP strategic plans in the programming period 2020-27, and on the existing monitoring and evaluation framework for the programming period 2014-2020 (EC, 2017). The draft was checked and verified through two stakeholders' workshops with the representatives of the Slovenian Public Agricultural Advisory Service and the Ministry of Agriculture.

Next, we designed a survey instrument for evaluating immediate results of agricultural extension (i.e. satisfaction of participants with the received training) and a survey instrument for long-term impacts of knowledge transfer on farmers' knowledge, attitudes and behaviour. We selected statements for measuring relevant constructs in the literature. The selection of constructs was based on the Theory of Planned Behaviour (TPB) (Ajzen 1991), which has proven to be a useful conceptual and methodological framework in educational and behavioural research (Mark et al., 2011) and is often used to explain decision-making process and behaviour of farmers (e.g. Rezaei idr. 2019). In addition to TPB, we supplemented the questionnaires with constructs that are important for evaluating the knowledge transfer measures. In the case of result indicators, we used constructs such as the satisfaction with the training content, organisation and implementation (Gopal et al., 2021). In the impact indicators' questionnaire, we added a section for testing the farmers' knowledge of agri-environmental issues.

Survey instruments for both results and impact indicators were validated on four focus groups with 6 agricultural economic and policy experts and 5 extension officers. They were also piloted on a sample of 29 and 15 farmers, respectively. A 7-point Likert-type scale was used for the assessment of individual statements, ranging from strongly disagree (= 1) to strongly agree (= 7). The final and aggregated assessment for the indicators was formulated as the median of the individual responses within one construct.

Pilot application of a survey instrument for result indicators was performed on the case of annual training for farmers enrolled in the AECM and Organic farming. A total of 2,873 farmers responded to the online survey, of which 2,467 were considered in the analysis. The survey for the impact indicators was conducted face-to-face with 305 farmers. Data collection took place in spring 2022.

Output indicators consist of five sets relating to (1) public expenditure for knowledge transfer activities; (2) the number of extension officers and their training; (3) the number of publications, website visitors, posts and reach on social media and publication media related to agri-environmental issues; (4) the number of activities and the number of participants by type of knowledge transfer activity; and (5) the number of other supported knowledge-transfer activities (e.g. communication and EIP projects). The proposed indicators should be monitored annually and mostly remain within the scope of current reporting for the CAP monitoring purposes.

Result and impact indicators

The result and impact indicators are aggregated from the constructs and statements in the survey instruments. Result indicators consisted of the farmers' aggregated assessment of the overall satisfaction with the training (based on 7 statements) and the satisfaction with specific aspects of the training (moderator, organisation and content) (Table 1). In addition, an aggregation of 5 statements was used to assess attitude towards knowledge transfer activities, of 4 statements for social norms regarding agri-environmental knowledge acquisition, and of 4 statements for farmer's availability to attend the training. Finally, 4 statements were used to assess farmers' intention for further participation in such training programmes.

Table 1. Aggregated estimation of the result indicators measuring farmers' satisfaction with agri-environmental and organic farming training in spring 2022 (n=2,467)

Indicator	Scale	Trial results
Overall satisfaction	1-7	6
Quality of moderator		6
Design and organisation		7
Content		4
Attitude		7
Social norm		6
Ability to attend		6
Intention for further participat.		6.5

A total of 34 statements were utilised to estimate impact indicators (Table 2). Farmers' knowledge of nature conservation and agri-environmental policy was assessed with 10 multiple choice questions. Farmers' attitude was aggregated based on 9 statements, social norms on 7 and perceived control regarding nature protection and implementation of agri-environmental practices on their farms on 7 statements. To monitor behavioural change, 12 statements on farmers' intentions to implement various nature conservation agricultural practices were added, and four on their intention to participate in agri-environmental measures.

CONCLUSIONS

The developed evaluation framework strives for a comprehensive and meaningful evaluation of CAP measures for agri-environmental knowledge transfer. A framework with relatively simple quantitative data collection can provide a basis for planning short-term changes in the knowledge transfer system in the agri-environmental field, such as the organisation of different approaches and methods of knowledge transfer. At the same time, it provides insight into longer-term needs, which need to be addressed in the planning of CAP measures and other activities, such as the requirements and needs of the agricultural advisory service. The framework and developed survey instruments are flexible and can be used to evaluate the knowledge transfer measures on other

agriculture topics, e.g. digitalisation and farm management. The critical challenge of this framework is the need for the impartial, continuous and long-term collection of data.

Table 2. Aggregated estimation of the impact indicator, measuring farmers' knowledge, attitude and behavioural intention in the field of agri-environment in 2022 (n=305)

Indicator	Scale	Trial results
Knowledge	1-10	5
Attitude		7
Social norm		6
Perceived control		5
<u>Intention:</u>		
Participation in AEMs		2.5
Knowledge acquisition	1-7	5
Agri-environmental practices:		5
• arable land biodiversity		3.5
• grassland biodiversity		5
• landscape features		5
• direct conservation action		7
Valorisation of biodiversity		5

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