Conservation of flowering meadows: a pioneering result-based agri-environmental measure piloted in Lithuania. Outcomes and lessons learned.

LIFE Platform meeting: *Agriculture for the Benefit of Biodiversity: How can results based* payment *schemes address the biodiversity crisis?*

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The content of the presentation was developed within the LIFE Integrated project “Optimizing the management of Natura 2000 network in Lithuania” (LIFE IP PAF-NATURALIT), No. LIFE16 IPE/LT/016 which is financed by the EU LIFE Programme and the Republic of Lithuania.

NATURALIT

Life

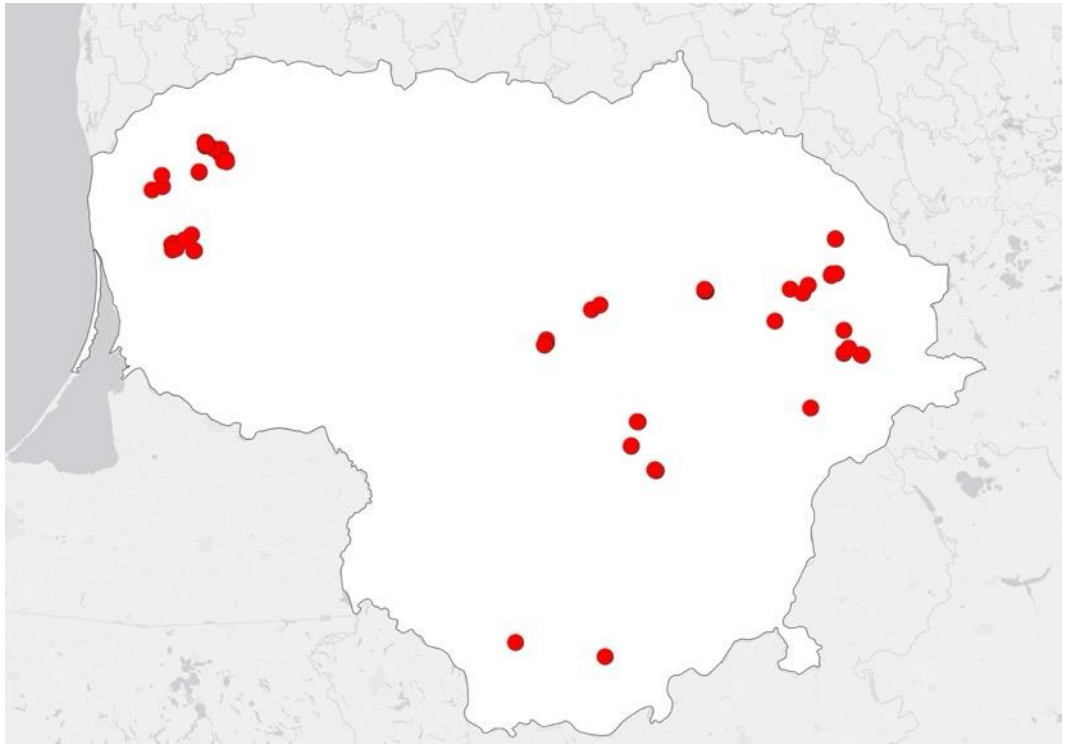
NATURA 2000

Objective of the result-based measure

Primary: to maintain already valuable grasslands

Secondary: improve its habitat status.

Timeline: 2021-2023 (3 vegetation seasons)
Area covered: 252 ha
Farmers involved: 30



Rules of participation for farmers (requirements):

- Are free to choose their farming approach;
- Must perform annual monitoring of indicator plants and submit report (self-monitoring is a basis for payment calculation);
- Fill and provide farming journal;
- Must participate in the training and feedbacking events organized by the coordinator (BEF)

Restricted: no management, ploughing, drainage, liming, fertilization (not applicable for cattle in case of grazing), seeding of cultivated grasses

Level of payment (calculated based on indicator plant scoring)

Monitoring

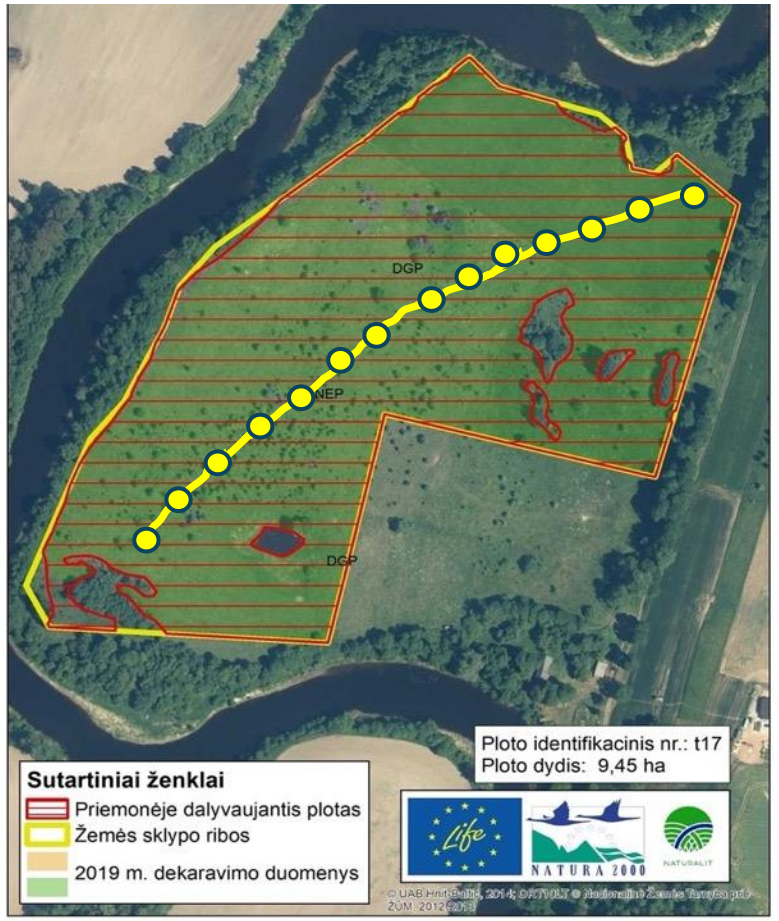
Farming approach	Basic (minimum score) Status – OK	2nd level Status – very good	3rd level Status – Excellent
Farming with grazing cattle	125 Eur	141 Eur	158 Eur
Farming without cattle	93 Eur	105 Eur	118 Eur

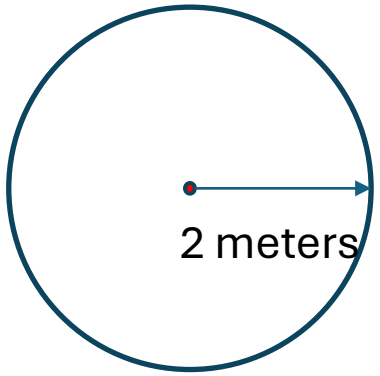
Eligible: for some CAP payments (direct payments, LFA, Natura 2000)
Not eligible: participation in agri-env. measures

Scoring

- 161 (!) indicator species list, grouped by scoring
- positive and negative (for ruderal sp.) scores
- Farmer's monitoring report transferred into scores and defines level of payment

Area (ha)	Sampling points No.
Up to 1	5
1	7
2	10
3	12
4	14
5	16
6	18
7	20
8	22
9	24
10	26





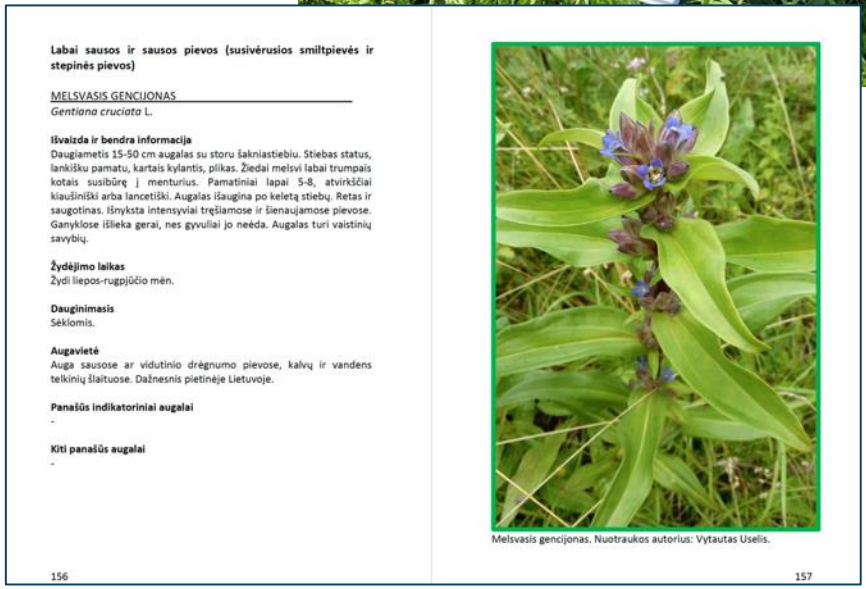
Sampling point observation area

Challenge of 161 indicator species – how it was handled?

- Targeted areas covers **high grassland diversity resulting long indicator list**:
  - xeric and dry grasslands (including calcareous grasslands);
  - semi-dry and mesic grasslands (including pastures and meadows);
  - wet and alluvial grasslands;
  - grasslands with expansive species (native and alien)

- Initial intention was to shorten the list of indicator species after first year experience, but **farmers preferred to have the flexibility of such long list** (!)

- ☑ Each farmer received a list of found species in the area at the initial inventory done by the expert (serves as an individual shortlist what to look for);
- ☑ At first implementation year, farmers had opportunity to accompany expert in the field and learn species recognition;
- ☑ Farmers received a special species recognition guidebook;
- ☑ Used species recognition apps (iNaturalist, PlantNet others);



Labai sausos ir sausos pievos (susivėrusios smiltpievės ir stepinės pievos)

MELSVASIS GENCIJONAS
Gentiana cruciata L.

Išvaizda ir bendra informacija
Daugiametis 15-50 cm augalas su storu šakniastiebiu. Stiebas status, lankišku pamatu, kartais kylantis, plikas. Žiedai melsvi labai trumpais kotais susibūrę į menturius. Pamatiniai lapai 5-8, atvirkščiai kiaušiniški arba lancetiški. Augalas išaugina po keletą stiebų. Retas ir saugotinas. Išnyksta intensyviai tręšiamose ir šienaujamose pievose. Ganyklose išlieka gerai, nes gyvuliai jo neėda. Augalas turi vaistinių savybių.

Žydėjimo laikas
Žydi liepos-rugpjūčio mėn.

Dauginimasis
Sėklomis.

Augavietė
Auga sausose ar vidutinio drėgnumo pievose, kalvų ir vandens telkinių šlaituose. Dažnesnis pietinėje Lietuvoje.

Panašūs indikatoriniai augalai
-

Kiti panašūs augalai
-

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Melsvasis gencijonas. Nuotraukos autorius: Vytautas Uselis.

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Out of 161 species 23-30 species were not found and 12-20 species were found only by farmers. These species are candidates for elimination from the indicator list.

Field guide of indicator species is structured based on the colour of flowering plants

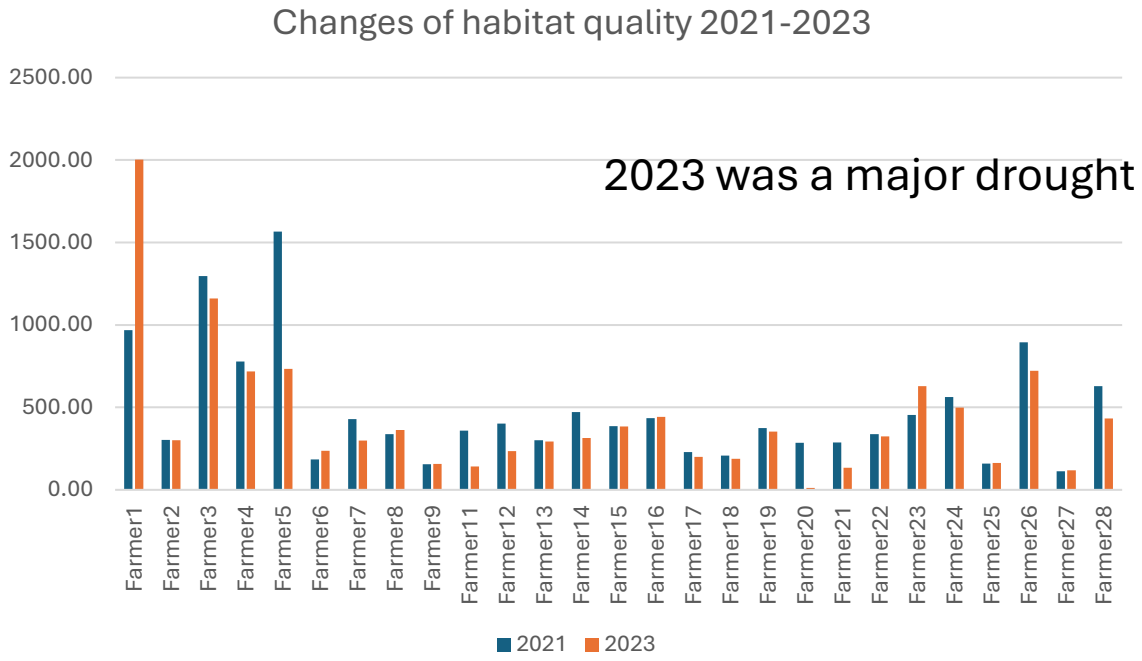
Expert involvement and administration is a key challenge to mainstream the measure to CAP strategic plan

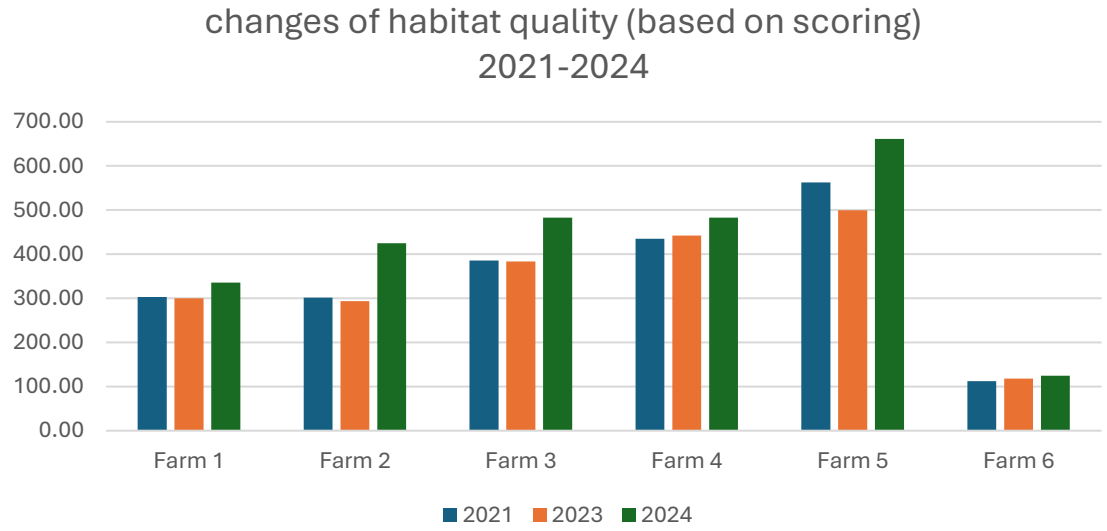
- Big efforts needed to shortlist and select farms – specifics of the measure targeting “best grasslands” ➡️ can be solved by performing initial mapping of areas to be eligible;
- During implementation of measure experts/administrators were involved in following aspects:
  - Primary inventory and selection of farms;
  - Initial training of farmers;
  - Annual farm visits for habitat monitoring purpose (part of resources relevant for pilot only);
  - Farmers support with expert advice, guiding material;
  - Administration of monitoring results and payments.
- Challenging assessment of quality trends within short implementation timescale and impact of weather conditions.

Outcomes: achieving objectives to maintain (and possibly improve) grasslands quality

- Major challenge to assess quality trend – last vegetation season (2023) experienced a severe drought resulting negative effect on vegetation and unreliable assessment;

- Part of the plots were monitored in 2024. Majority of sites grassland quality improved or remained undeteriorated (expert judgement + data);
- More significant quality increase observed in plots, which initially were of moderate (basic) quality, initially high-quality areas remained more stable;





Farmers behaviour

Type of farming activities performed:

- Mowing once a year (19 plots);
- Mowing + grazing (10 plots);
- Grazing (5 plots)
- Grazing + litter shredding (6 plots)
- Biomass shredding (7 plots)

Faking monitoring results

- Copying from expert assessment (no intention to misuse):
  - 2021 – 3 farms (18% of total area)
  - 2023 – 1 farm (7,5% of total area)

  Can be easily fixed with proper training of expert

- Faking results (misuse):
  - 2021 – 2 farms (4% of total area)
  - 2023 – 0 farms

Engagement and motivation

- Majority – highly engaged farmers
- Very interested in plant recognition
- Recognition of social benefit – engagement of family members in monitoring, social networking among farmers

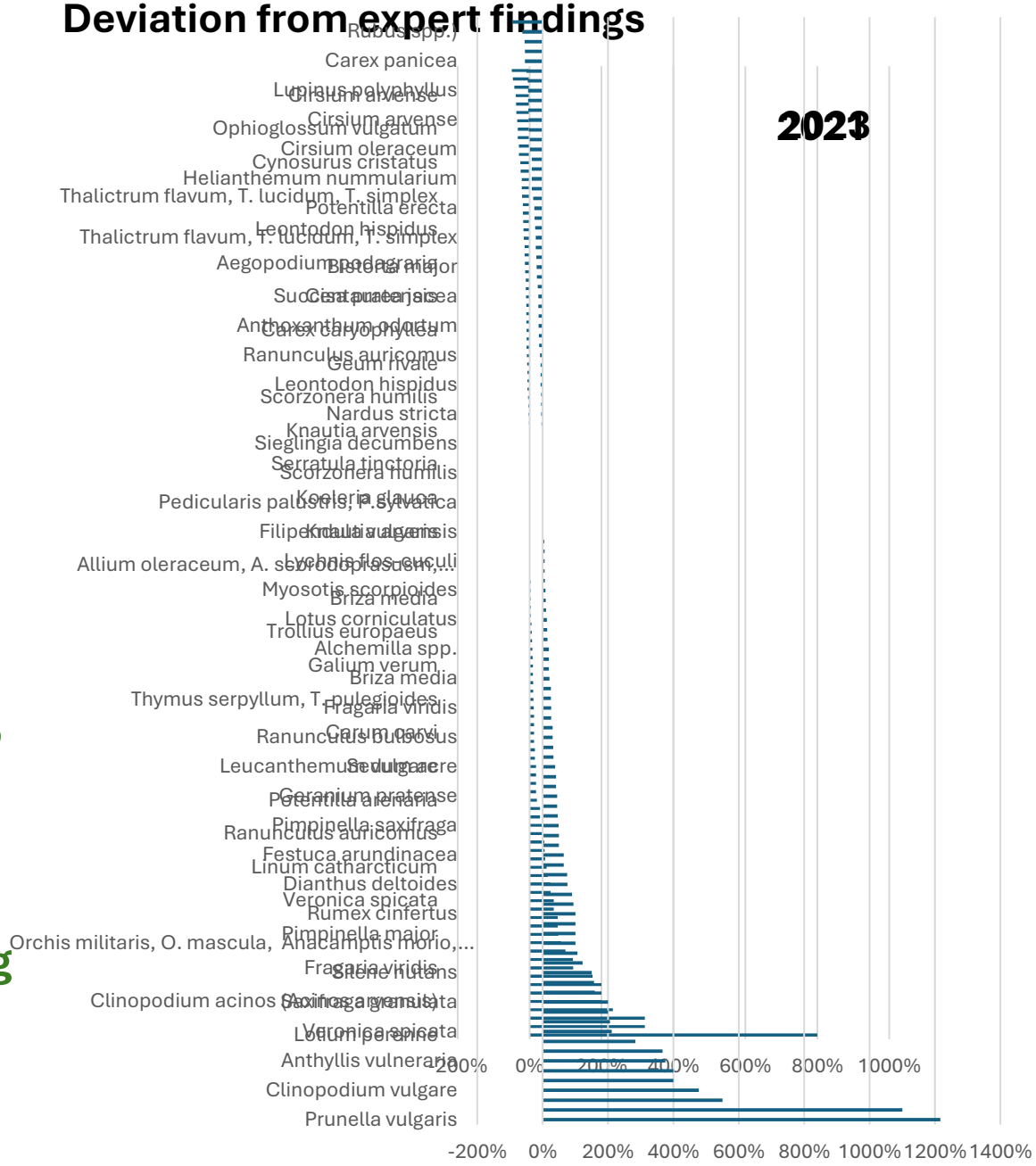
Farmers behaviour

Copetence to perform monitoring (species recognition)

- First monitoring points usually gather more species (farmers becomes less attentive at the end)
- 2021: for 62% of species farmers findings deviated less than 20% to the finding of experts. For 84 % of species deviation was less than 50%;
- 2023: for 38% of species farmers findings deviated less than 20% to the finding of experts. For 70 % of species deviation was less than 50%;

- **Overall results illustrate good ability of farmers to recognize species;**
- **Bad vegetation season (e.g. drought in 2023) decreases ability to recognise species. This can be fixed with selecting fewer indicators (excluding late blooming and difficult to recognize).**

Which species farmers found during monitoring?
Deviation from expert findings



Thoughts for consideration

Farmers behaviour

- Level of misuse and faking is low – more trust to the farmers can be given. More trust = less recourses for control/administration;
- Through participation farmers increased their ecological competences about grasslands. This increases their reporting quality and stimulate interest on good farming stewardship supporting biodiversity;

- Farmers are highly motivated to participate because:
  - farmers clearly recognize objectives of the measure and can link it with actions taken and result delivered;
  - Ecological changes caused by their farming can be observed, farmers are eager to adjust their practices to improve results;
  - Farmers remain stewards of their farm (taking own decision on farming strategy);
- Result-oriented approach can stimulate adjusting farming practices, which are not possible in measures limited to setting management rules;
- Measure stimulate intrinsic motivation to conserve and provides social benefits (e.g. monitoring became a way to spend family time together);
- Such result-based measure might not be upscaled to big area, but farmers involved become true advocates of farmland biodiversity conservation – a very important target group in the debate in the context of Green Deal and NRL;

Thoughts for consideration

Indicators

- For mainstreaming pilot measure, it is **reasonable to break it into 2 separate measures**:
  - “Low quality” grasslands targeted on habitat improvement, short list of indicator species, lower payment level, simpler to use and control, could be widely applied;
  - “Best grasslands” measure targeted on habitat maintenance/improvement – long list of indicators (due to grassland diversity and complexity), higher payment level. More limited uptake, but it can be targeted through initial determination of eligible areas (based on grassland inventory, monitoring data, protected areas administrations advice);

- There are ways to handle long indicator lists (specially designed guidebooks, farm specific shortlists, AI apps), but they are relevant to target more complex situations (e.g. targeting high quality natural grasslands). Long indicator lists also motivate farmers for deeper learning

Thoughts for consideration

Costs, Efficiency

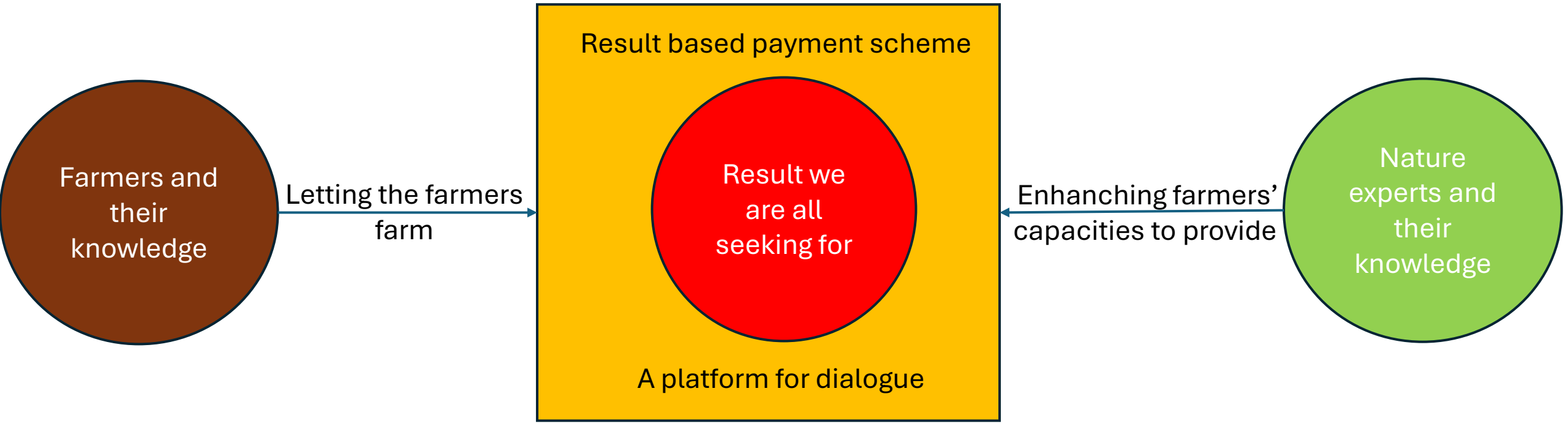
- **Administration** of the measure requires different approach from the current practices of management-based measures:
  - More trust to farmers;
  - Transformation of pure controlling attitude into „training, guidance and control“;
  - Measure requires more intensive interaction between administration institution and farmer (higher administrative costs);
  - Specific biological expertise is needed, which is not available “in-house” (possibly higher costs);
- Major **costs** positions on administration:
  - Screening and shortlisting areas (relevant if focus is on maintenance of “best quality” grasslands) – initial application covered 1300 ha – the need to visit in order to shortlist into 252 ha. Possible solution: based on existing data and preselect possible eligible areas and create spatially explicit data set;
  - Labour intensive consolidation and analysis of farmers monitoring data; Solution: online upload of monitoring reports, more automatization is possible.
  - Expert on ecology visits to farm for monitoring, training, guidance – it requires special competencies and means additional costs. But it should not be just considered as high cost – it is important investment into capacity building of farmers. Other available options: online help, pier to pier learning.

Thoughts for consideration

Costs, Efficiency

- Good delivery of results vs. objectives: high quality grasslands were maintained, some quality improvements observed;
- Conservation perfectionism – nature is complex and conservationists are often perfectionists. Maybe we need to look at the objectives more simplified e.g. we want to maintain high quality grasslands (we do not necessarily need to improve or make it perfect). Low quality grassland improvement can be observed with simple indicator list;
- Result-based measure principle to provide freedom for farmer to take own management decisions is an important motivator to farmer, which supports competitiveness of measure even if payment level is relatively moderate;

Key messages



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Acknowledgments:
Žymantas Morkvėnas, Vaclovas Stukonis, Rita Jonkuvienė, Birutė Valatkienė, Domas Uogintas, Gitana Sidabrienė, Marija Jankauskienė, Dovilė Staponkienė, Tautgirdas Masiulis, Vaidas Vyšniauskas, Giedrius Vaivilavičius,

The project “Optimizing the management of Natura 2000 network in Lithuania” (LIFE IP PAF-NATURALIT), No. LIFE16 IPE/LT/016 is financed by the EU LIFE Programme and the Republic of Lithuania.