Evaluation of RDP effects on biodiversity in Estonia.

Lessons learned from the enhanced Annual Implementation Report in 2019

ENELI VIIK

EVALUATOR OF THE RDP MEASURES RELATED WITH ENVIRONMENT

AGRICULTURAL RESEARCH CENTRE (ARC)

HOW TO DEMONSTRATE RDP ACHIEVEMENTS AND IMPACTS: LESSONS LEARNED FROM THE EVALUATIONS REPORTED IN THE AIRS SUBMITTED IN 2019. 11-12 DECEMBER 2019. SEVILLA (SPAIN)

Outline

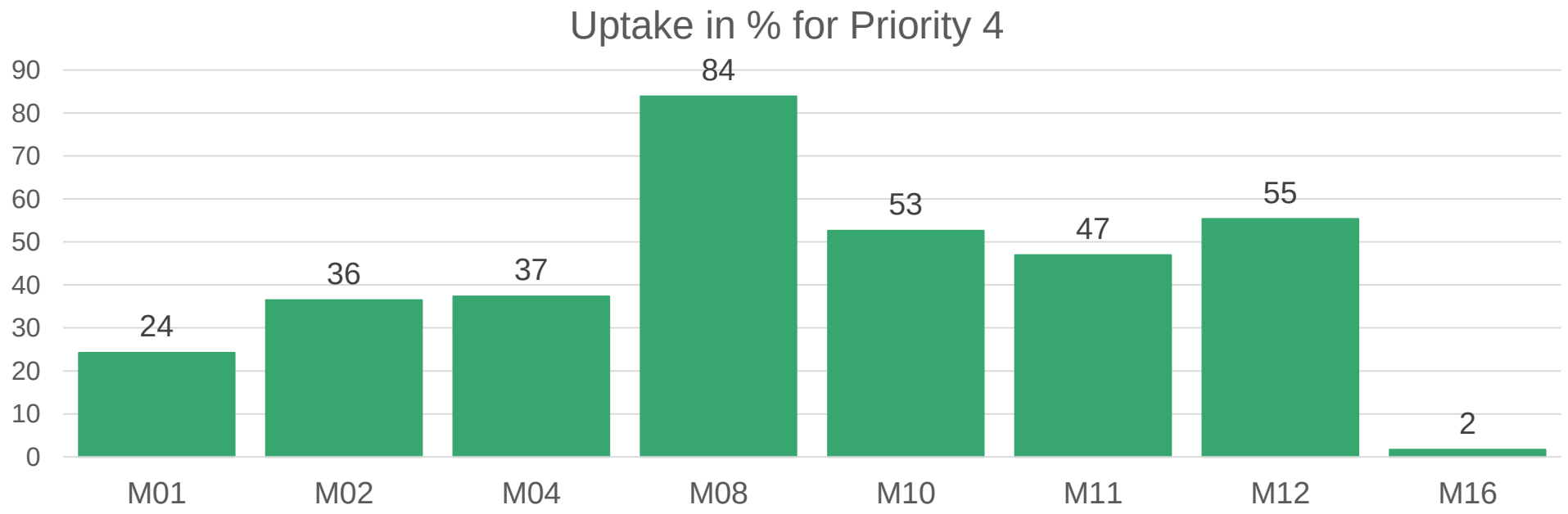
- Background
- Approach used to answer the CEQ8
- Short summary of the main findings
- Limitations
- Recommendations for the RDP ex post evaluation in 2023

Photo: Arne Ader

Photo: Arne Ader

Background

- Planned expenditure related with FA 4A: 373,837 million euro, 38% of the total RDP
- The planned expenditure of measures for priority 4 is not divided between FAs
- Priority 4 uptake was 51%



Approach used to answer Common Evaluation Question N. 8:

To what extent have RDP interventions supported the restoration, preservation and enhancement of biodiversity including in Natura 2000 areas, areas facing natural or other specific constraints and HNV farming, and the state of European landscapes?

Approach used to answer the CEQ 8

Judgement Criterion 1: BD on contracted land has been restored, preserved and enhanced

Common indicators	Reasons for adding additional indicators
• % of agricultural land under management contracts supporting BD and/or landscapes *(R7)* • % of forest or other wooded areas under management contracts supporting biodiversity *(R6)*	• % of land under support does not mean automatically that BD on that land has been restored, preserved and enhanced – special measurements on BD needed • % of land under support includes measures with different requirements and advantages for BD – good to present also separately to get a better idea • To even better address the CEQ there are several good additional indicators which indirectly show advantages to BD and complement the answer to the CEQ • Will to include genetic diversity

Approach used to answer the CEQ 8

Judgement Criterion 1: BD on contracted land has been restored, preserved and enhanced

Indicator	Methods	Data
R: Two bumblebee indicators and two farmland bird indicators (abundance, Shannon diversity index): share of the indicator value on a land with RDP from the indicator value on a land without RDP	Difference in difference: change in the indicator value in the current period (2015-2018 average) compared to the previous period (2010-2013 average) in percentages	Special studies for the evaluation purposes, coordinated by Agricultural Research Centre
R: The mean number of plant species per 8 m^2 in grassland strips next to arable fields	Before and after, descriptive statistics: change in the indicator value in the current period (2016) compared to the previous period (average of 2011 and 2013) in percentages	

Blue text – additional indicator

R – result, O – output indicator

Approach used to answer the CEQ 8

Judgment Criterion 2: RDP has supported the elements and areas managed in a way that is favorable for BD

Indicator	Methods	Data
R6 and R7	Descriptive statistics: value in 2018 (%)	Agricultural Registers and Information Board
O5. Supported area of N2000 private forest (M12.2)	Descriptive statistics: value in 2018 (ha)	Estonian Private Forest Centre
O5. Supported area of N2000 agricultural land (M12.1)		Agricultural Registers and Information Board
O5. Supported area of organic farming (M11)		
O6. Physical area supported (agri-environment-climate measure, M10.1)		
O: The length of restored stone walls (M04)	Descriptive statistics: the sum of values in 2016 and 2018 (m)	

Blue text – additional indicator

R – result, O – output indicator

Approach used to answer the CEQ 8

Judgment Criterion 2: RDP has supported the elements and areas managed in a way that is favorable for BD

Indicator	Methods	Data
R. The share of land under N2000 private forests support (M12.2) from the M12.2 eligible land	Before and after, descriptive statistics: change in the indicator value in the current period (2018; in case of organic farming 2017) compared to the previous period (2013) in percentages	Estonian Private Forest Centre, Estonian Nature Information System
R. The share of land under organic farming support (M11) from the UAA		
R. The share of land under semi-natural habitats (SNH) support (M10.1) from the SNH in Estonian Nature Information System		Agricultural Registers and Information Board, C18 (UAA)
R. The share of M12.1, M11 and M10.1 from the N2000 area on agricultural land	GIS analysis and descriptive statistics: the value in 2018 (%)	Agricultural Registers and Information Board, Estonian Nature Information System

Blue text – additional indicator

R – result, O – output indicator

Approach used to answer the CEQ 8

Judgment Criterion 3: RDP has supported genetic diversity

Indicator	Methods	Data
O5. Supported area of local crop varieties	Descriptive statistics: value in 2018 (ha)	Agricultural Registers and Information Board
O. Supported number of local varieties of fruit trees and berry bushes	Descriptive statistics: value in 2018 (nr)	
C. Indicators about 4 native breeds: the number in Estonia	Before and after, descriptive statistics: change in the indicator value in the current period (2015-2018 average) compared to the previous period (2009-2013 average) in percentages	The Veterinary and Food Board, Agricultural Registers and Information Board
R. Indicators about 4 native breeds: the share of individuals under RDP support for endangered breeds		

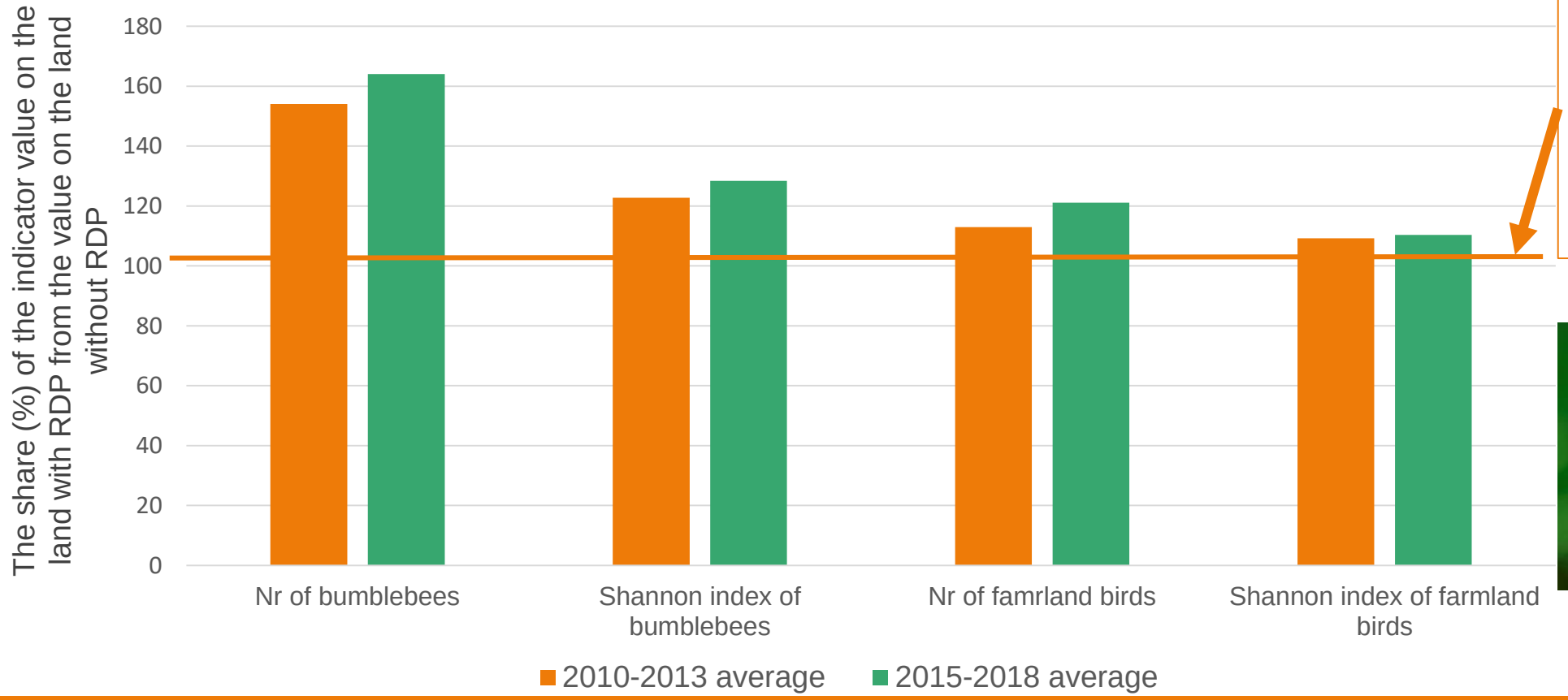
Blue text – additional indicator

R – result, O – output,
C – context indicator

Short summary of the main findings (1)

JC 1: QUALITATIVELY bumblebees and farmland birds indicators average values were higher on the land with RDP than on the land without RDP BUT see the next slide…

JC 2: The value for R7 was 100,17% → Quantitative target achieved



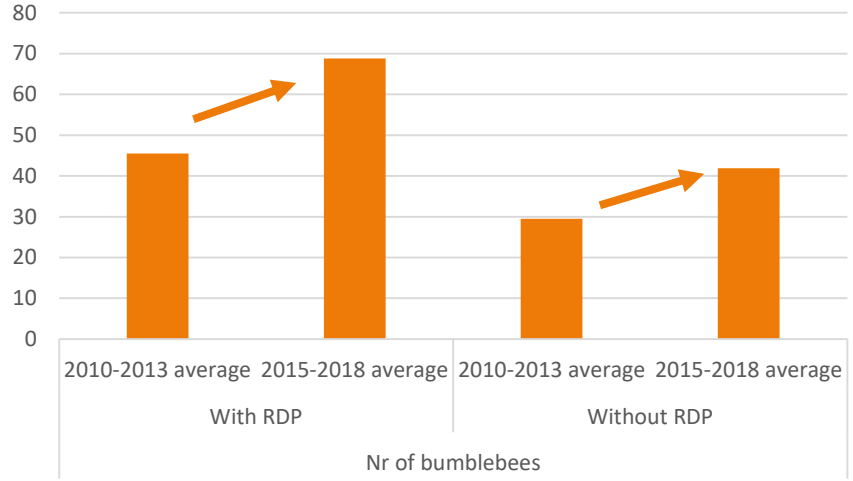
Higher than 100% means that the value on the land with RDP was higher than on the land without RDP

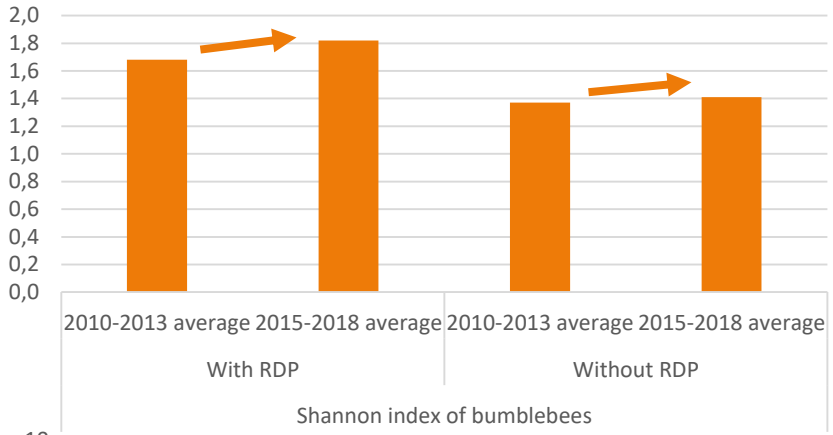
Photo: Margit Mõttus

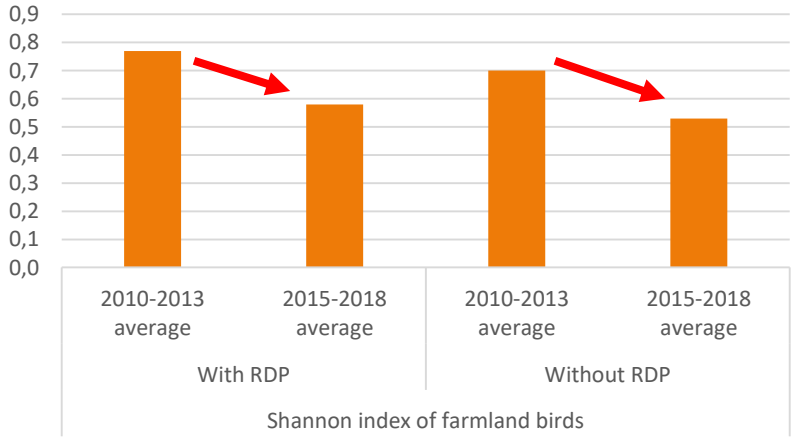
*The values above columns – average values per monitoring transect

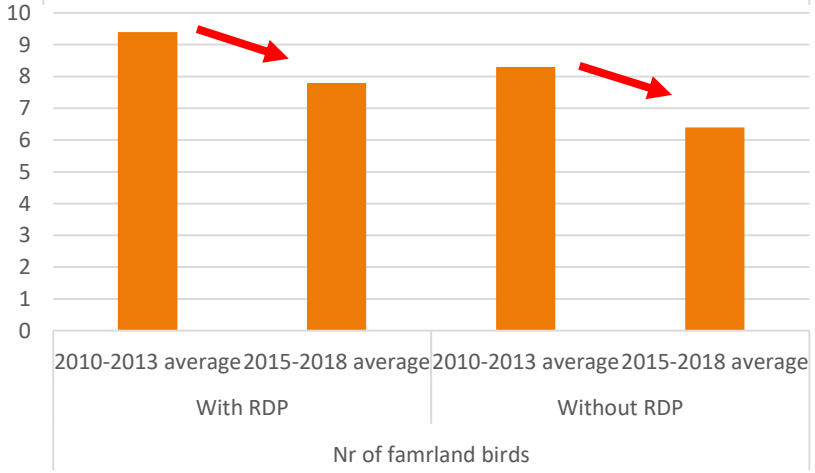
Short summary of the main findings (2)

JC 1: bumblebee indicators average values increased on the land with as well on the land without RDP whereas farmland birds indicators average values decreased on both types of land









Bumblebees

BD on contracted land has been restored, preserved and enhanced

Farmland birds

BD on contracted land has not been restored, preserved and enhanced

Main limitations of the approach

The special studies on bumblebees and farmland birds coordinated by Agricultural Research Centre:

- The size of the monitoring sample (66 farms) could be higher
- Combining two quite different measures (organic farming and environmentally friendly management support – both under M10.1) to represent the land supported by the RDP
- Results represent arable land – not permanent grassland
- Are the changes caused by RDP? – possible effect of ohter factors?

Additional indicators

- Interpretation of the indicators – the highest isn't always the best, need to look behind the main indicators
- There are no indicators about HNV farming and landscape (except the length of restored stone walls)
- Are there too many indicators?
- Too many descriptive statistics used?

Recommendations for the RDP ex post evaluation in 2023

- The indicator values for baseline and current RDP: consider using the average of years not only the value of one year
- Consider adding judgement criteria which shows indirectly the effects to BD
  - E.g JC *2 RDP has supported the elements and areas managed in a way that is favorable for BD* – common indicators R6 and R7 belong rather under this judgement criteria
  - It could be an alternative if there is no data to evaluate if BD on contracted land has been restored, preserved and enhanced OR just have additional value (like JC 2 in Estonia)
- Do not forget that genetic diversity is part of BD – this is why we included it as an additional JC
- Caution with making conclusions based on one indicator – different indicators may give different results (e.b bumblebees vs farmland birds)
- Caution with interpreting the indicators – the highest value may not always show automatically positive results (e.g in case of farmland birds in Estonia)

Thank you

Eneli Viik

Agricultural Research Centre (ARC) → https://pmk.agri.ee/en

e.: eneli.viik@pmk.agri.ee

More information on bumblebees and farmland birds studies:

https://www.cb.iee.unibe.ch/unibe/portal/fak_naturwis/d_dbio/b_ioekev/abt_cb/content/e58878/e337393/e337410/e404805/e539619/Marja_BioCon2014_eng.pdf