



Governance Innovations for forest ecosystem service provision Insights from an EU-wide survey

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Environment Management & Conservation Policy
Professor Shibata

Michael Murawski

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Governance Innovations for forest
ecosystem service provision –
Insights from an EU-wide survey

Lasse Loft
Eeva Primmer
Mónica Hernández-Morcillo
Enzo Falco

Governance Innovation

briefly defined

Governance...

is about processes of organizing interaction between societal and political actors and their interdependencies in a defined system

- summarized from Kooiman, 2003

Innovation...

is understood as the process of making changes to something established by introducing something new.

The changes can be gradual and incremental or radical and disruptive

- sourced from Van Lancker et al., 2016

"Governance innovation refers to novel processes, products or services initiated by forest owners and managers that seek to improve the sustainable provision of FES types or bundles thereof"

Survey Methodology

<https://app.maptionnaire.com/en/5199/>

Question		Variable	Measurement
1	What type of forest ownership are you representing?	Land tenure	Multiple choice
2	Please state the size of the forest you own or are responsible for.	Forest size	Number [ha]
3	Please describe [the following] ecosystem services a) those your forest area currently provides , and b) what societal demand for these services you perceive.	FES Supply and demand	Continuous scale
4	In relation to your forests, has there been innovation for at least one ecosystem service in the last two decades?	Presence of innovation	Binary
5	Which innovations have you developed? [choice of 10] Please also separately mark the most economically important one , and the most innovative one .	Economic and innovative relevance	Binary
6	To what extent do the following 15 factors support or constrain the innovations you have been developing?	Influencing factors	Continuous scale

Survey Methodology

<https://app.maptionnaire.com/en/5199/>

Question		Variable	Measurement																																																
1	What type of forest ownership are you representing?	<div>15 pre-selected factors</div> <table><tr><th>Code</th><th>Options</th><th>Classification</th></tr><tr><td>Q6_1</td><td>Regulatory Framework</td><td>Institutional</td></tr><tr><td>Q6_2</td><td>Policy makers and stakeholders</td><td>Actors</td></tr><tr><td>Q6_3</td><td>Private sector</td><td>Actors</td></tr><tr><td>Q6_4</td><td>Societal demand for ES</td><td>Actors</td></tr><tr><td>Q6_5</td><td>High profitability before innovation</td><td>Markets</td></tr><tr><td>Q6_6</td><td>Low profitability before innovation</td><td>Markets</td></tr><tr><td>Q6_7</td><td>Profitability of innovation</td><td>Markets</td></tr><tr><td>Q6_8</td><td>Abundance of ecosystem services</td><td>Biophysical</td></tr><tr><td>Q6_9</td><td>Knowledge available</td><td>Biophysical</td></tr><tr><td>Q6_10</td><td>Public financial support</td><td>Technical</td></tr><tr><td>Q6_11</td><td>Scarcity of ecosystem services</td><td>Markets</td></tr><tr><td>Q6_12</td><td>Access to private investment capital</td><td>Markets</td></tr><tr><td>Q6_13</td><td>Organizational culture</td><td>Institutional</td></tr><tr><td>Q6_14</td><td>Individual leadership</td><td>Actors</td></tr><tr><td>Q6_15</td><td>Climate change</td><td>External</td></tr></table>		Code	Options	Classification	Q6_1	Regulatory Framework	Institutional	Q6_2	Policy makers and stakeholders	Actors	Q6_3	Private sector	Actors	Q6_4	Societal demand for ES	Actors	Q6_5	High profitability before innovation	Markets	Q6_6	Low profitability before innovation	Markets	Q6_7	Profitability of innovation	Markets	Q6_8	Abundance of ecosystem services	Biophysical	Q6_9	Knowledge available	Biophysical	Q6_10	Public financial support	Technical	Q6_11	Scarcity of ecosystem services	Markets	Q6_12	Access to private investment capital	Markets	Q6_13	Organizational culture	Institutional	Q6_14	Individual leadership	Actors	Q6_15	Climate change	External
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Survey process



Snowball sampling



European State
Forest Association



Confederation of
European Forest
Owners



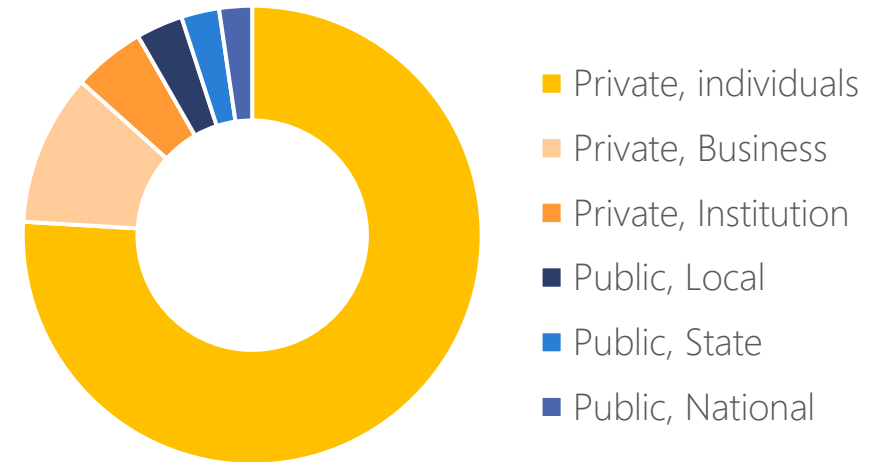
InnoForest



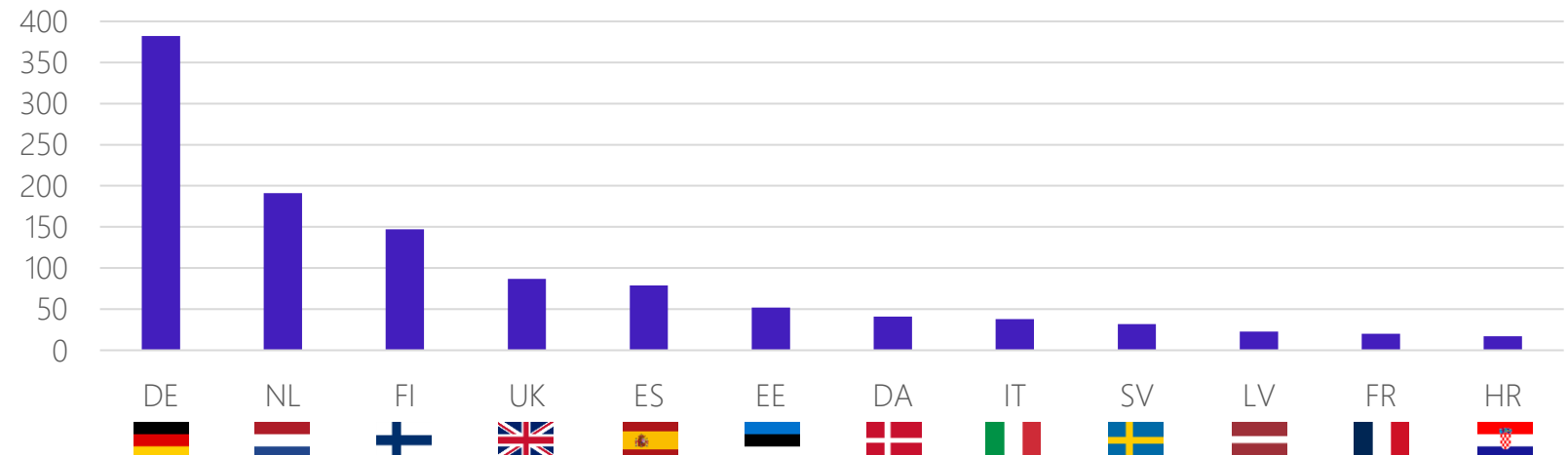
European Network
of Forest Extension
Organizations

- 19th Sep 19 to 10th Dec 19
- 1234 FOs participated
- 467 with innovations
- 366 with description

Respondents by Ownership



Respondents by Country



FES Innovation (Question 5)

Biomass, Biomass and ... again Biomass

Table 4
Governance innovation types developed by forest owners.

Governance innovation type	The most economically important ^a	The most innovative	Total Innovations developed	% of Innovations developed
Change of forest management to improve/ sustain biomass production	58	25	236	21.2
New technology for biomass production	67	37	151	13.6
Change of forest management to provide other ecosystem services	34	27	134	12.0
New way to generate value from ecosystem services	33	11	108	9.7
New users of ecosystem service(s)	20	15	108	9.7

Biomass simply steals the show

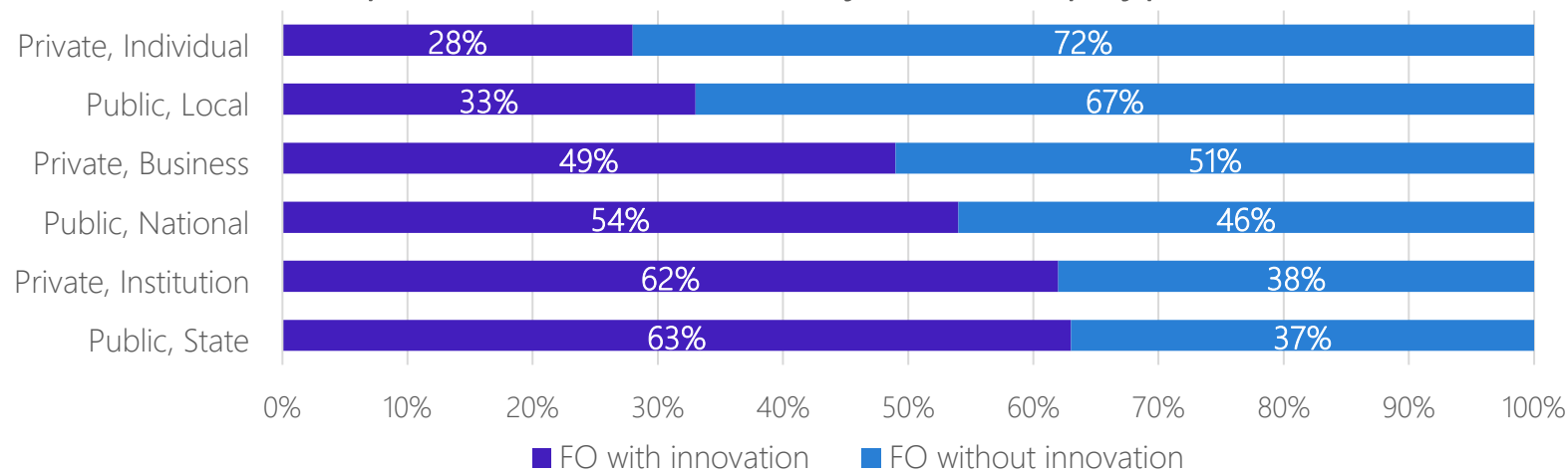
New ecosystem service	28	32	107	9.6
New trans-sectoral contract created	22	21	99	8.9
New communication or marketing strategy implemented	19	18	86	7.7
New transboundary cooperation created	15	15	50	4.5
New technology for other ecosystem services (than biomass production)	14	13	35	3.1
TOTAL	310	214	1114	100.0

^a Number of governance innovations stated

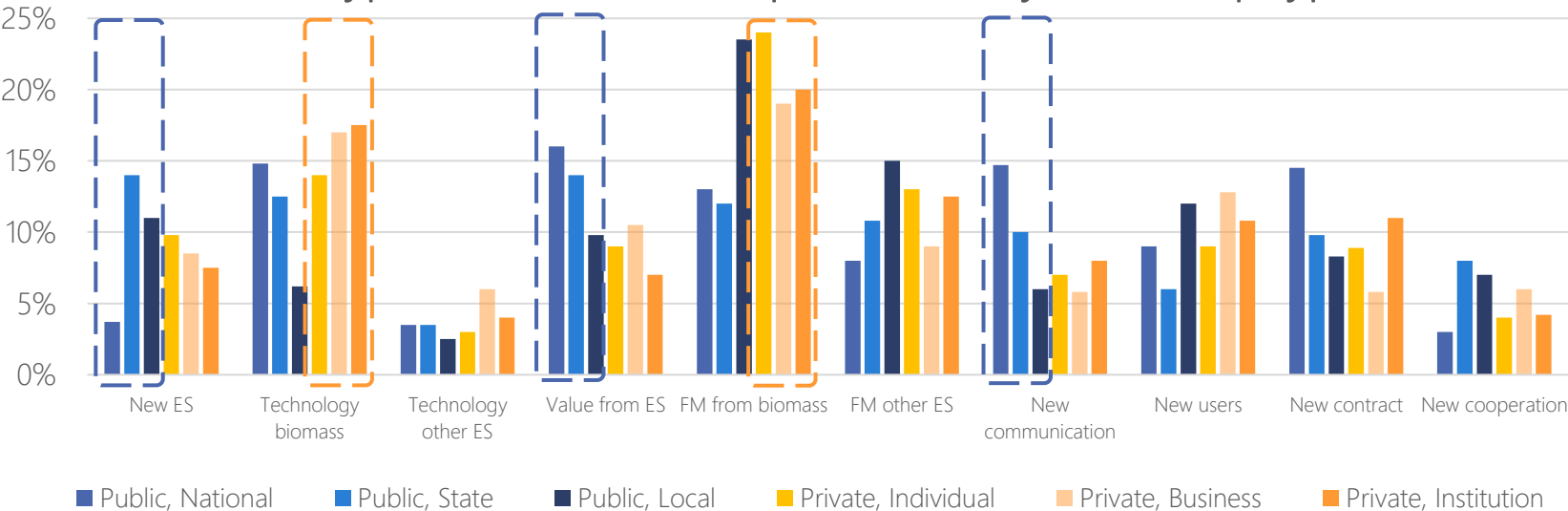
FES Innovation (Question 1 & 5)

Ownership type is decisive

Development of innovations by ownership type



Types of innovation implemented by ownership type



Forest Ecosystem Service Portfolio

Public ownership innovation



Diverse motivation

Private ownership innovation



Wood products



Non-wood products

Influencing factors

Profitability and innovation are strongly correlated

"Business Models" drive innovation

Climate change and interdisciplinary discussions bring in new people and open up new opportunities

Table 8

Summary of significant correlations between factors enabling or hindering the most economically important governance innovation types.

Governance innovation type (Q5)	Conditioning factor (Q6)	Correlation	P-value	Valid N (listwise)
New technology for biomass production	Private sector and business	0.239**	0.001	177
	High profitability/viability before the innovation happened	0.241**	0.005	135
	Low profitability/viability before the innovation happened	-0.204*	0.022	126
	Climate change	0.169*	0.033	159
Change of forest management to improve/sustain biomass production	Individual leadership	-0.169*	0.048	137
Change of forest management to provide other ecosystem services	High profitability/viability before the innovation happened	-0.185*	0.031	135
New users of ecosystem service(s)	Culture of your organization	0.213*	0.013	135
	Climate change	0.242**	0.002	159
New trans-sectoral contract created	Knowledge available	0.167*	0.030	170
	Climate change	0.193*	0.015	159

Conclusion



- Mainly public forests undertake innovation activities in Europe
- Private owners focus on biomass production and established market incentives
- Low profitability hinders progress



Points of criticism

- Insufficient sample size
- Twofold survey selection bias

My personal conclusion

- "PES research is relevant"
- Publication is a beacon for our qualitative research

Sources:

Page 1
<https://pixabay.com/photos/>

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Page 3
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Thank you for your attention!

Any comment, question or criticism would be
highly appreciated!