Delphi method study about the need for stakeholder involvement in an indigenous cattle-breeding program in developing countries

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INTRODUCTION

Genetic improvement is one of the tools used to improve the productivity of indigenous breeds in developing countries. However, its implementation and sustainability involve several stakeholders. But the roles and relationships of these are not well defined. The Delphi method is mobilized to identify stakeholders, identify their roles and define the framework for interaction.

MATERIALS AND METHODS

Method Delphi

Delphi is a tool to collect expert opinions through a series of questionnaires iteratively. It is a very adaptable research method, used in many fields including social science and agricultural research (Frewer et al., 2011).

Data collection

Recruitment of experts

- FAO Dad-net Platform (20 experts)
- Emailing (15 experst)

Rounds of data collection

- Round 0: 35 experts
- Round 1: 17 experts
- Round 2: 12 experts

Data analysis

Quantitative analysis

Consensus and divergence

Factorial correspondance analyse:

Typology of stakeholders

Qualitative Analysis

Evalutate arguments and define scenarios

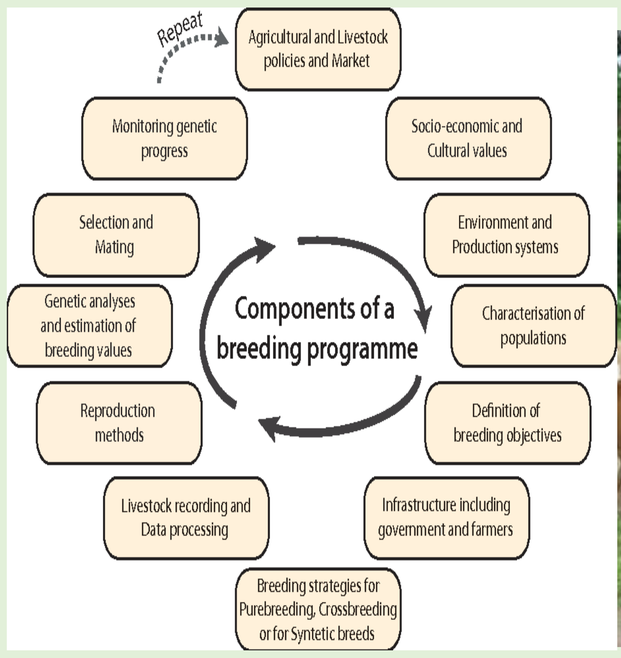
RESULTS

Experts by activity sector

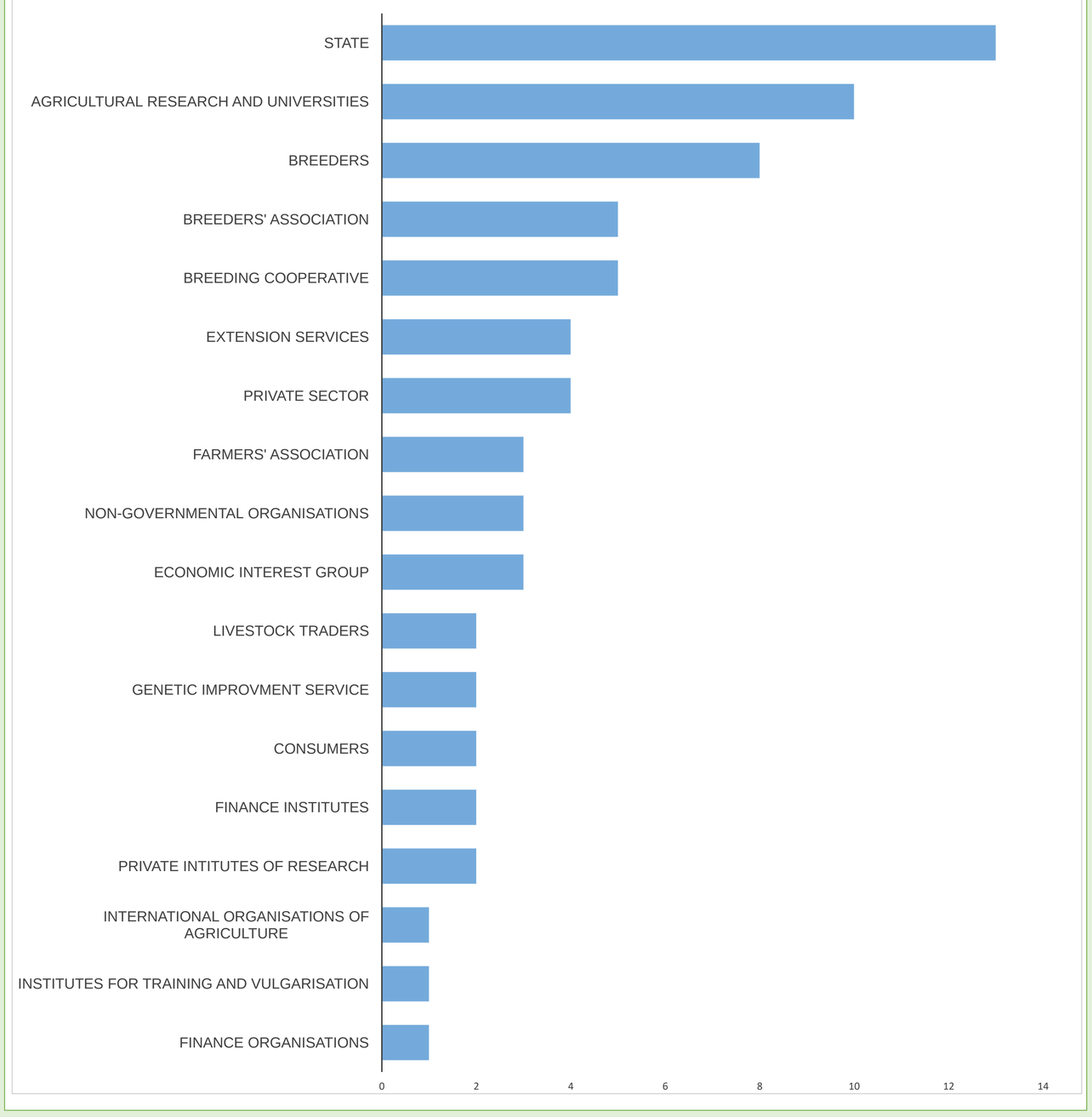
Activity	Round 0, Selected experts (No)	Round 1 No(%)	Round 2 No(%)
Academic (University)	12	6 (50)	4 (67)
Agricultural research	6	4 (67)	3 (75)
Development	2	2 (100)	2 (100)
Industry	2	1 (50)	0
Gouvernment	8	4 (50)	3 (75)
Others (unknow)	5	0	0
Total	35	17 (48,6)	12 (70,6)

Importance of stakeholders

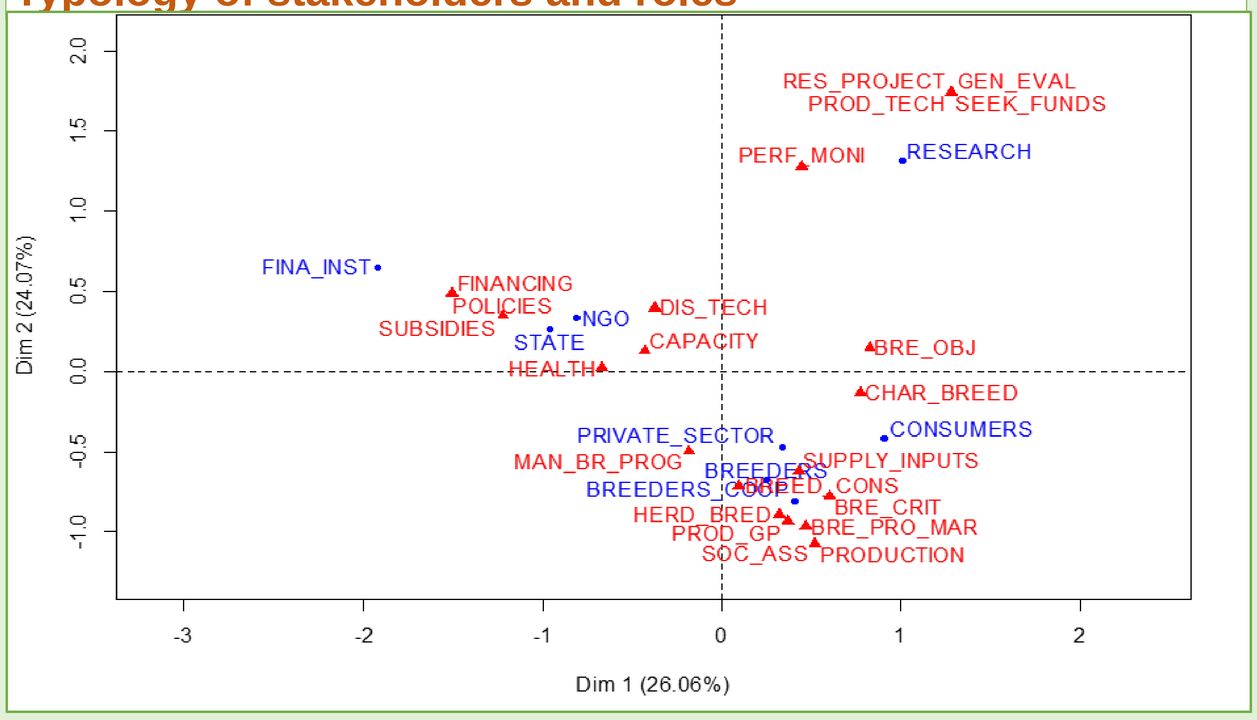
Stakeholders	Round 1				Round 2			
	No (%)	1Q	Me	3Q	No (%)	1Q	Me	3Q
State	10 (65)	2	3	3	9 (75)	2	3	5
Agricultural research and universities	9 (59)	2	3	3	8 (67)	2	3	3.5
Breeders	8 (47)	1.8	2	2	11 (92)	2	2	3.5
Breeders cooperative	5 (29)	2	3	4	4 (33)	2.8	4	5
Breeders' association	4 (29)	2.5	3	3.3				
Extension services	4 (24)	2	2	2				
Farmers' association	5 (24)	2	2	2				
Private research	3 (18)	1	1	1				
NGOs	3 (18)	2.5	3	3	3 (25)	2.5	3	3
Private sector	3 (18)	1.8	2	2	4 (33)	1	1.5	2.5
Consumers	2 (12)	2	2	2	2 (16)	2	2	2
Finance institutes	2 (12)	2	2	2	2 (16)	2	2	2



Stakholders cited and their roles



Typology of stakeholders and roles



DISCUSSION AND CONCLUSION

The implementation of breeding programs requires the involvement of the usual stakeholders (States, research and breeders) defined here as major. However, their sustainability depends on the level of interaction between these stakeholders but also between them and development partners (NGOs, private sector, finance institutes etc.) at each step of the development of these programs. These results will help to understand how cooperation can be an instrument for sustainable management of a breeding program in low input systems.

REFERENCES

Frewer L.J., Fischer A.R.H., Wentholt M.T.A., Marvin H.J.P., Ooms B.W., Coles D., Rowe G. 2011. The use of Delphi methodology in agrifood policy development: Some lessons learned. Technological Forecasting & Social Change 78 (2011) 1514 –1525