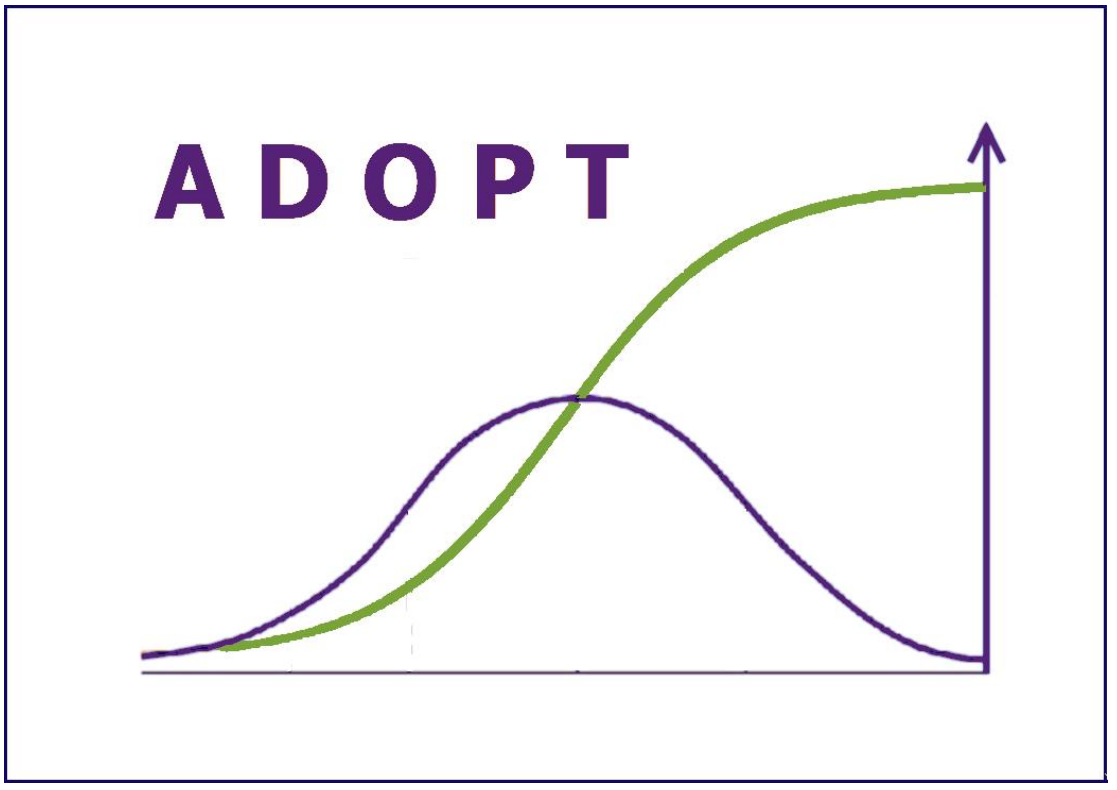
A D O P T: the adoption and diffusion outcome prediction tool

Adoption report for:

Promoting Silvi-Pasture in Private Farms of Rajasthan (Reponse by farmers)

19 December 2015



For more information about ADOPT contact:

Rick Llewellyn, 08 8303 8502, rick.llewellyn@csiro.au
or
Geoff Kuehne, 0417 831 591, geoffkuehne@gmail.com

Australian Government
Australian Centre for International Agricultural Research
The University of Western Australia
Government of Western Australia
Department of Agriculture and Food
Future Farm Industries CRC
CSIRO
GRDC Grains Research & Development Corporation
State Government Victoria Department of Primary Industries
Charles Sturt University

Report Authors:

ICARDA-CAZRI Team

This report is a Word document. You are able to edit it freely. We recommend that you Spell Check it and adjust formatting to suit your purposes.

You can replace this text with your contact details or any other comments relevant to this report.

Description of the Innovation

Sewan (Lasiurus hirsutus) and Dhaman (Cenchrus setigerus) are the two type of grasses which are being promoted in private farms of farmers to meet the fodder demand of animals and thus increasing the milk and ensuring regular fodder for animals.

Description of the Population

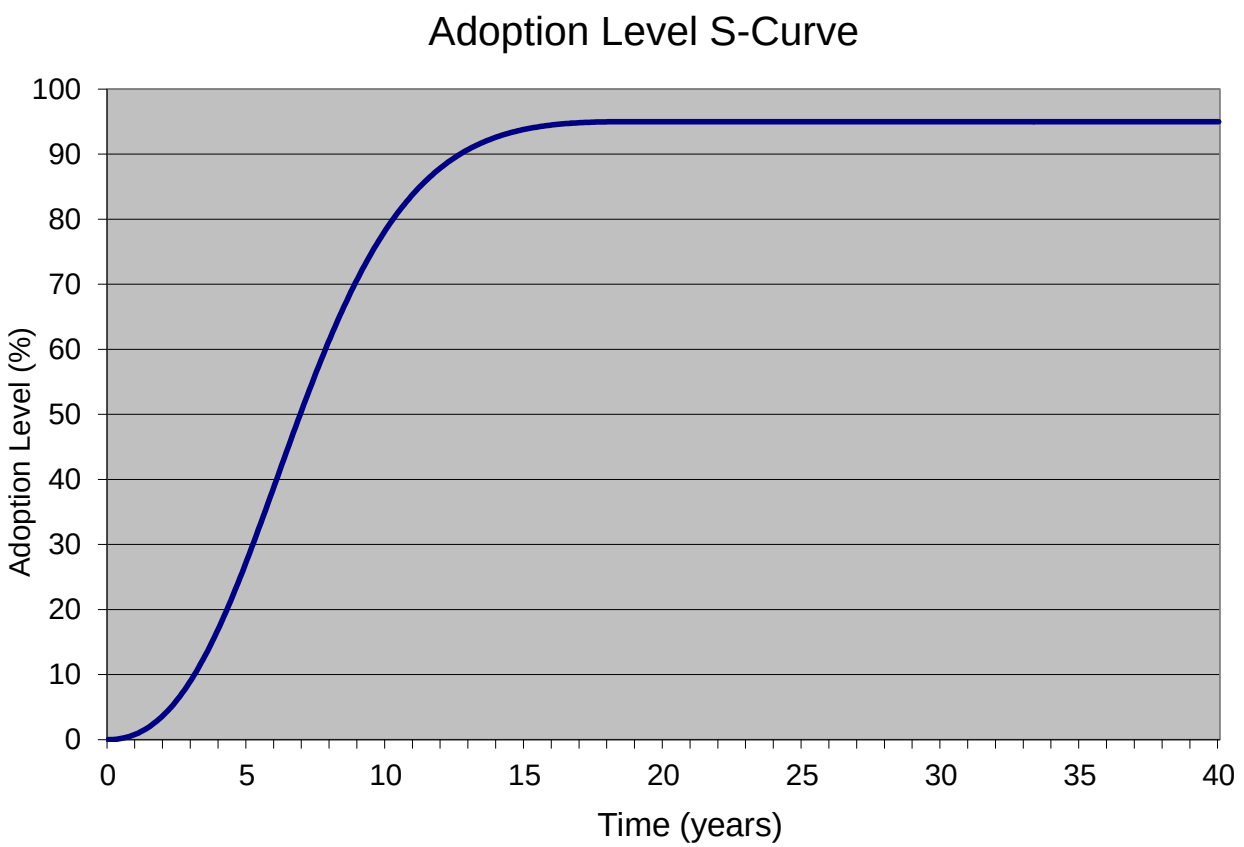
Rojour and Govindpura villages of Jodhpur Disctrict of Rajasthan

Predicted Adoption Levels

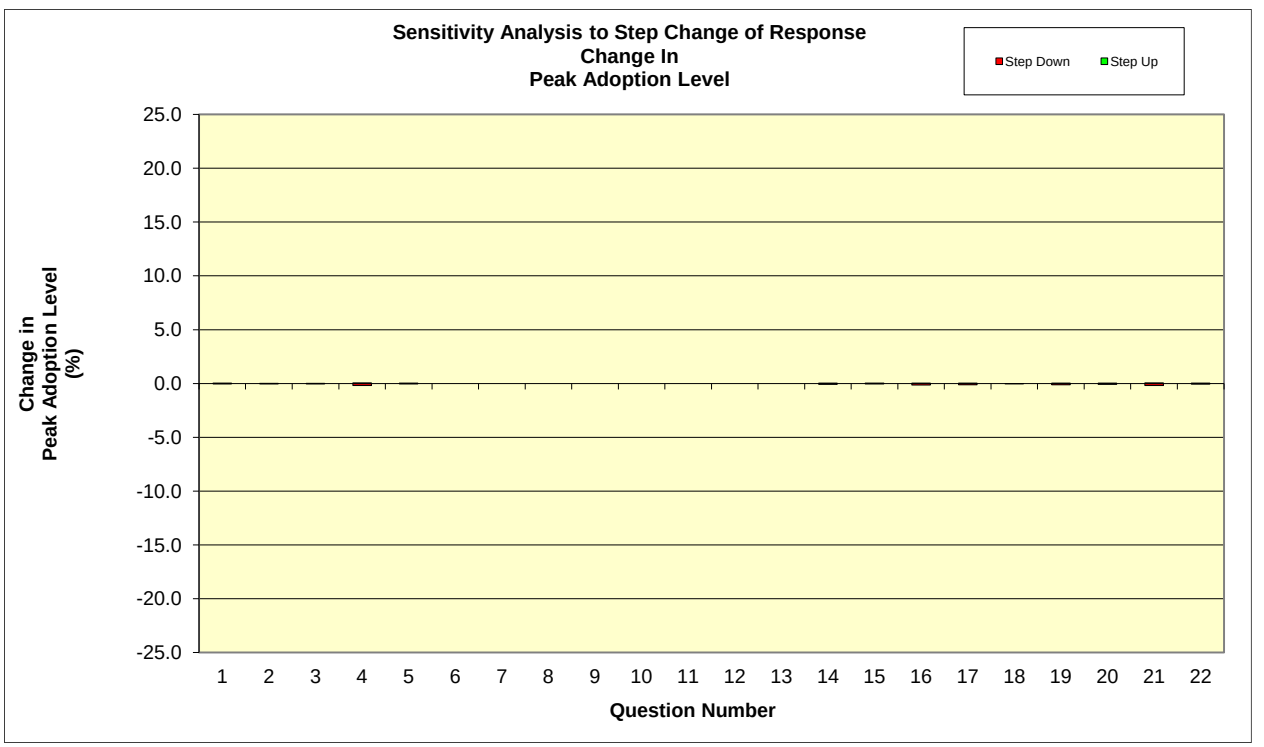
Predicted years to peak adoption	19.3
Predicted peak level of adoption	95%
Year innovation first adopted or expected to be adopted	N/A
Year innovation adoption level measured	N/A
Adoption level in that year	N/A
Predicted adoption level in 5 years from start	27.6%
Predicted adoption level in 10 years from start	78.4%

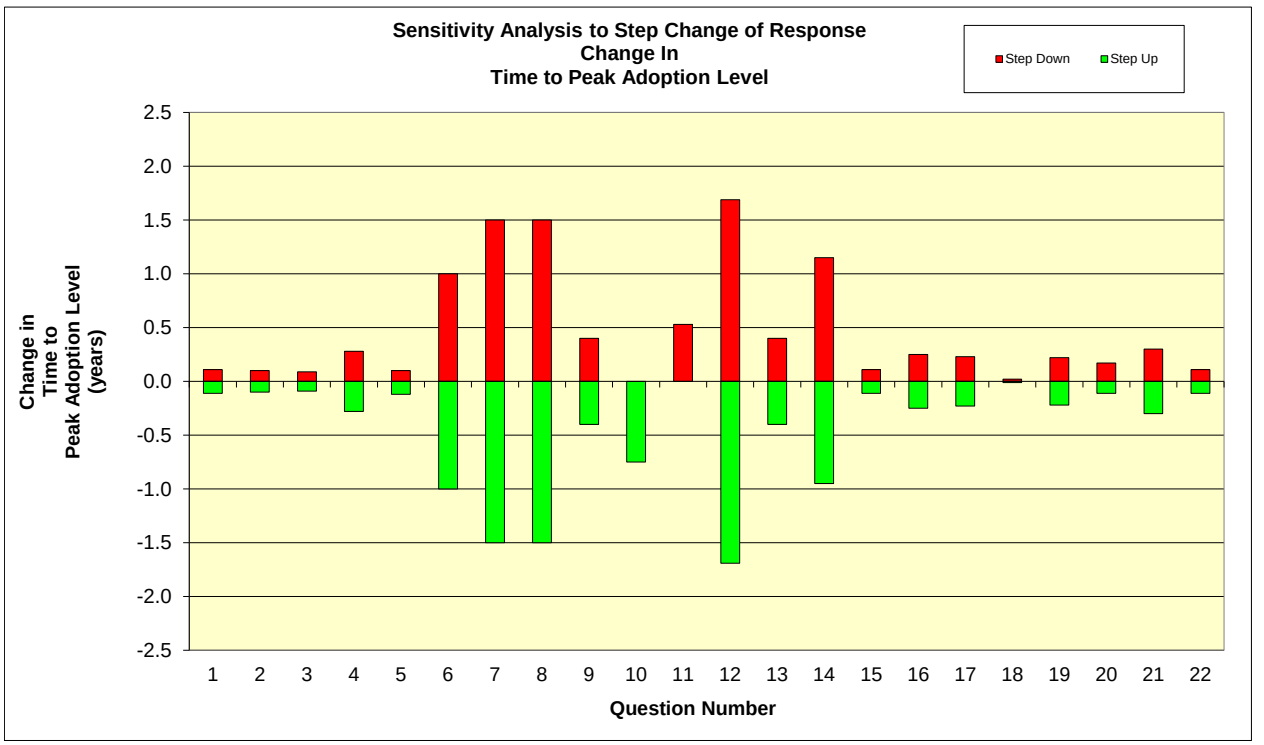
The predictions of 1) ‘Peak Adoption Level’ and 2) ‘Time to Peak Adoption Level’ are numeric outputs that are provided to assist with insight and understanding and like any forecasts should be used with caution.

Predicted Adoption Curve



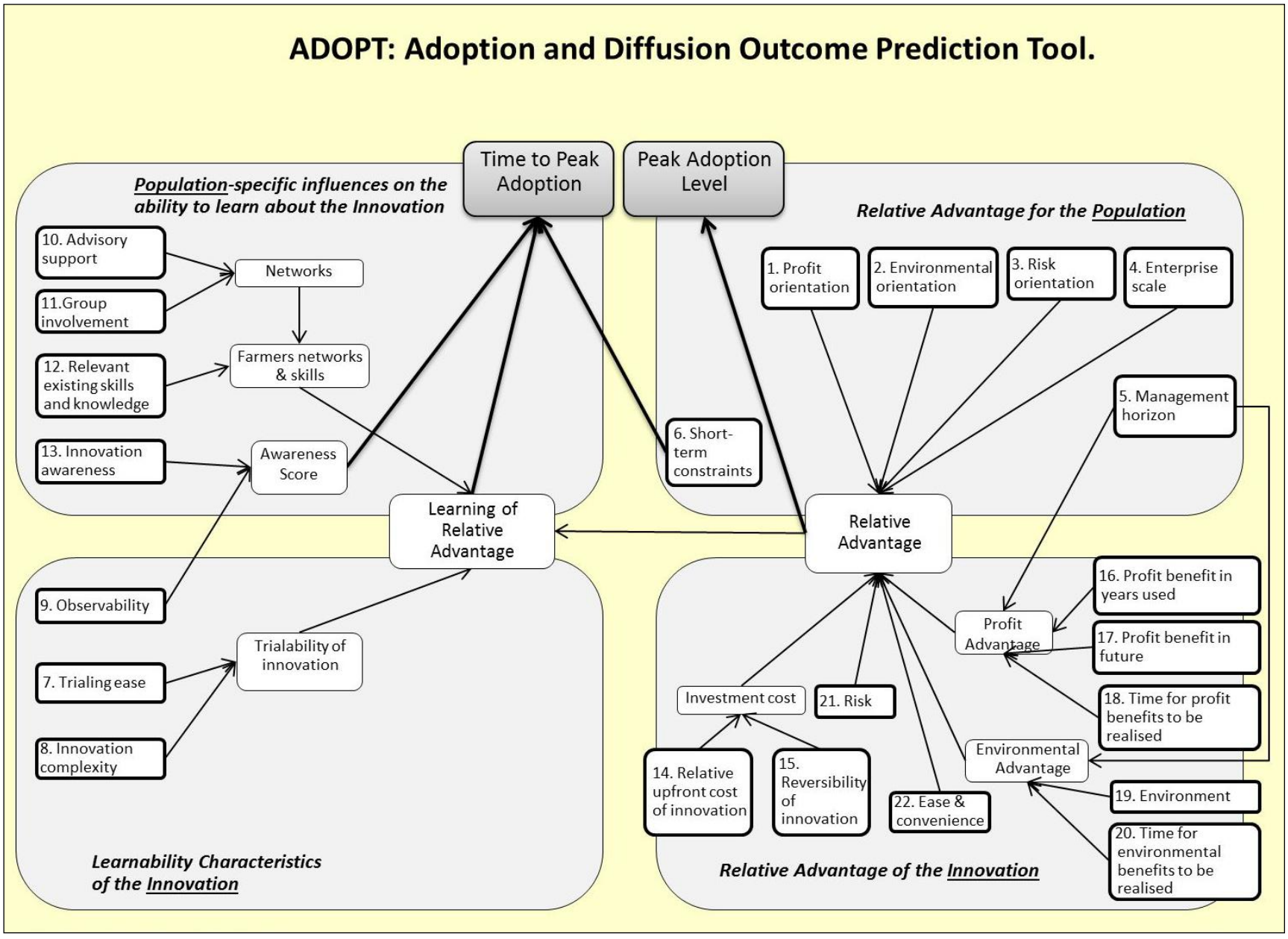
Sensitivity Analysis





ADOPT Questions & Conceptual Framework

1. What proportion of the target population has maximising profit as a strong motivation?
2. What proportion of the target population has protecting the natural environment as a strong motivation?
3. What proportion of the target population has risk minimisation as a strong motivation?
4. On what proportion of the target farms is there a major enterprise that could benefit from the innovation?
5. What proportion of the target population has a long-term (greater than 10 years) management horizon for their farm?
6. What proportion of the target population is under conditions of severe short-term financial constraints?
7. How easily can the innovation (or significant components of it) be trialled on a limited basis before a decision is made to adopt it on a larger scale?
8. Does the complexity of the innovation allow the effects of its use to be easily evaluated when it is used?
9. To what extent would the innovation be observable to farmers who are yet to adopt it when it is used in their district?
10. What proportion of the target population uses paid advisors capable of providing advice relevant to the innovation?
11. What proportion of the target population participates in farmer-based groups that discuss farming?
12. What proportion of the target population will need to develop substantial new skills and knowledge to use the innovation?
13. What proportion of the target population would be aware of the use or trialing of the innovation in their district?
14. What is the size of the up-front cost of the investment relative to the potential annual benefit from using the innovation?
15. To what extent is the adoption of the innovation able to be reversed?
16. To what extent is the use of the innovation likely to affect the profitability of the farm business in the years that it is used?
17. To what extent is the use of the innovation likely to have additional effects on the future profitability of the farm business?
18. How long after the innovation is first adopted would it take for effects on future profitability to be realised?
19. To what extent would the use of the innovation have net environmental benefits or costs?
20. How long after the innovation is first adopted would it take for the expected environmental benefits or costs to be realised?
21. To what extent would the use of the innovation affect the net exposure of the farm business to risk?
22. To what extent would the use of the innovation affect the ease and convenience of the management of the farm in the


ADOPT: Adoption and Diffusion Outcome Prediction Tool.
Time to Peak Adoption
Peak Adoption Level
Population-specific influences on the ability to learn about the Innovation
Relative Advantage for the Population
10. Advisory support
11.Group involvement
Networks
12. Relevant existing skills and knowledge
Farmers networks & skills
13. Innovation awareness
Awareness Score
1. Profit orientation
2. Environmental orientation
3. Risk orientation
4. Enterprise scale
5. Management horizon
6. Short-term constraints
Learning of Relative Advantage
Relative Advantage
9. Observability
Trialability of innovation
7. Trialing ease
8. Innovation complexity
16. Profit benefit in years used
Profit Advantage
17. Profit benefit in future
18. Time for profit benefits to be realised
Investment cost
21. Risk
Environmental Advantage
14. Relative upfront cost of innovation
15. Reversibility of innovation
22. Ease & convenience
19. Environment
20. Time for environmental benefits to be realised
Learnability Characteristics of the Innovation
Relative Advantage of the Innovation

Information Entered into ADOPT

The above predictions are based on the following information entered into the Adoptability and Diffusion Outcome Prediction Tool.

Relative Advantage for the Population

Profit orientation	Response: A majority have maximising profit as a strong motivation
	Reasoning: Almost all farmers are livestock owners and to meet regular fodder demand for their animals they have strong motivation. Also keeping cow is a religious symbol for farmers.
Environmental orientation	Response: A majority have protection of the environment as a strong motivation
	Reasoning: All farmers have vision of sustainability of their farms and silvi-pasture will help them for better sustainability
Risk orientation	Response: A majority have risk minimisation as a strong motivation
	Reasoning: All have half risk minimization as strong motivation
Enterprise scale	Response: A majority of the target farms have a major enterprise that could benefit
	Reasoning: All most all have animals in their farm and mainly have cow and innovation can help in meeting fodder requirement. Animal health is also ensured.
Management horizon	Response: A majority have a long-term management horizon
	Reasoning: Long sustainability of production system and unutilized land can be a source of regular fodder for animals.
Short term constraints	Response: A majority currently have a severe short-term financial constraint
	Reasoning: Poor socio-economic status of the farmers and frequent draught occurs, also farmers are resource poor farmers.

Learnability Characteristics of the Innovation

Trialable	Response: Difficult to trial
	Reasoning: Perineal in nature, poor germination and have long gestation period, initial investment in not cost-effective.
Innovation complexity	Response: Moderately difficult to evaluate effects of use due to complexity
	Reasoning: Results are not quick. labour intensive in beginning and initial investment is not cost-effective.
Observability	Response: Easily observable
	Reasoning: Farmers learn from each other and adopt technology based on its success/failure with other farmers

Learnability of Population

Advisory support	Response: Almost none use a relevant advisor
	Reasoning: No one use paid service in silvi-pasture in India, it is used in high value cash crop, that to only very rare.
Group involvement	Response: Almost all are involved with a group that discusses farming
	Reasoning: Farmers learn from each other and learn by seeing.
Relevant existing skills & knowledge	Response: About half will need new skills and knowledge
	Reasoning: Farmers have no/limited knowledge about improved practices and need training and awareness on this. Seed availability is one of the big problem.
Innovation awareness	Response: A majority are aware that it has been used or trialled in their district
	Reasoning: Farmers are aware but they are seeing others response on its success/failure based on that they will adopt. But yes, innovators are coming forward to take this innovation.

Relative Advantage of the Innovation

Relative upfront cost	Response:

of innovation	Moderate initial investment
	Reasoning: initial investment is not cost-effective, labour intensive and poor germination in case there is not rain.
Reversibility of innovation	Response: Difficult to reverse
	Reasoning: farmers are taking this innovation to barren/uncultivated land and even if there is bad year chances are less for reverse.
Profit benefit in years that it is used	Response: Moderate profit advantage in years that it is used
	Reasoning: Timely availability of fodder is one of the leading problem with livestock rearers, farmers who have livestock as major enterprise, it could help them in big way.
Future profit benefit	Response: Small profit advantage in the future
	Reasoning: overall sustainability of the system and helping the milking animals with regular fodder supply.
Time until any future profit benefits are likely to be realised	Response: 1 - 2 years
	Reasoning: Establishment is after 1-2 years of germination, but if there is no rain then sowing again has to be carried out. Usually it take 1-2 years minimum if other conditions are favourable.
Environmental costs & benefits	Response: Large environmental advantage
	Reasoning: Overall sustainability of the farm and increase biodiversity.
Time to environmental benefit	Response: 6 - 10 years
	Reasoning: Usually it will take 6-7 years for helping overall growth of the system.
Risk exposure	Response: Moderate reduction in risk
	Reasoning: better income, sustainability for livestock owners by providing regular fodder.
Ease and convenience	Response: Moderate increase in ease and convenience
	Reasoning: Time saving in grazing and livestock feeding.