

Contents

1	Introduction	1
1.1	Introduction	1
1.2	Major Objectives of the Study	3
1.3	Study Area, Data Collection and Methodology	3
1.4	Scope of the Study	5
1.5	Chapter Scheme	6
2	An Overview of Rice Economy	7
2.1	Introduction	7
2.2	Asian Rice Scenario	7
2.3	Rice Scenario in India	9
2.4	Area, Production and Yield of Rice—Selected States	14
2.5	District-Wise Profiles	22
2.6	Conclusion	28
3	The Need for Sustainable Rice Cultivation Practices	29
3.1	Introduction	29
3.2	Rice Production Technologies	29
3.2.1	Adoption and Impact of Improved Germplasm	29
3.2.2	Adoption of Natural Resource Management Practices	31
3.3	The Need for Sustainable Practices	32
3.4	The Need for Sustainable Intensification of Agricultural Practices—System of Crop Intensification (SCI)	34
3.5	The Case of SRI	34
4	The System of Rice Intensification (SRI)	37
4.1	Introduction	37
4.2	System of Crop Intensification—Wider Application of SRI Principles	40
4.3	Pros and Cons of SRI	41

4.4	International Experience of SRI	42
4.5	SRI in India	49
4.6	Farmers' Experience of SRI in Karnataka.	52
4.7	Farmers Experience of SRI in Madhya Pradesh	54
4.8	Farmers Experience of SRI in Orissa	55
4.9	Gender Implications of SRI	55
4.10	Key Actors and the Role of Institutions in the Spread of SRI.	56
4.11	Conclusion	58
5	National Food Security Mission and SRI.	61
5.1	Introduction	61
5.2	NFSM-Rice Interventions	63
5.3	NFSM-SRI Interventions	63
5.4	Impact of NFSM on Rice	64
5.5	NFSM in Karnataka	64
5.6	NFSM in Madhya Pradesh	65
5.7	NFSM in Orissa	66
6	An Overview of SRI Adoption and Socio-economic Profile of the Households.	71
6.1	Introduction	71
6.2	An Overview of SRI Adoption in the Selected Study Areas.	71
6.3	Socio-economic Profile—An Overview	75
6.4	Socio-economic Profile—District-Wise	80
6.5	Economics of SRI Adoption—Rice Yield, Household Farm Income and Cost of Cultivation	87
6.6	Adoption of SRI—Rice Varieties in the Study Region.	95
6.7	Conclusion	95
7	Depth and Intensity of SRI Adoption	97
7.1	Introduction	97
7.2	Conceptual Framework.	99
7.3	Model Specification	101
7.3.1	Description of Variables	102
7.4	Estimation Results and Discussion	105
7.4.1	Descriptive Statistics	105
7.4.2	Status and Intensity of SRI Adoption (in Terms of Acres of Land Under SRI)	107
7.4.3	Access to Effective Information and the Intensity of Adoption (in Terms of Acres of Land Under SRI)	109
7.4.4	Status and Depth of SRI Adoption (in Terms of the Number of SRI Practices)	111
7.4.5	Access to Effective Information and the Depth of Adoption (in Terms of Number of Practices).	113

7.5	Conclusion	114
	Appendix	116
8	Adoption of Multiple SRI Practices	117
8.1	Introduction	117
8.2	Conceptual and Econometric Framework	118
8.2.1	Multivariate Probit Model	118
8.2.2	Ordered Probit Model	120
8.3	Descriptive Statistics: Description of Dependant and Explanatory Variables.	120
8.3.1	The Dependent Variables	121
8.3.2	Explanatory Variables	121
8.4	Results and Discussion	123
8.4.1	Young Seedling.	127
8.4.2	Shallow Planting	128
8.4.3	Single Seedling at a Wider Space	128
8.4.4	Use of Organics.	129
8.4.5	Use of Cono-Weeder.	129
8.4.6	Water Management—Wetting and Drying.	129
8.5	Conclusion	132
	Appendix	133
9	Impact of SRI Adoption on Rice Yield and Household Income.	137
9.1	Introduction	137
9.2	Conceptual and Econometric Framework	138
9.3	Description of Variables and Hypothesis	140
9.4	Estimation Results and Discussion	142
9.4.1	Descriptive Statistics	142
9.4.2	Factors Influencing the Adoption of SRI.	143
9.4.3	Average Treatment Effects of Single and Different Combinations of SRI.	146
9.5	Conclusion	149
	Appendix	150
10	Conclusion and Policy Implications	153
	References	161

Rice Productivity and Food Security in India
A Study of the System of Rice Intensification
Varma, P.

2017, XXIII, 168 p. 38 illus. in color., Hardcover
ISBN: 978-981-10-3691-0