



**West Bengal State Agriculture Commission**

**Government of West Bengal**



**Final Report  
2009**





# CONTENTS

Subject Matter	Page
Preface .....	(v)
Acknowledgements .....	(vii)
Acronyms .....	(xi)
<b>Part One: Introductory Chapter .....</b>	<b>(1-52)</b>
<b>Agriculture in West Bengal: Contemporary Scenario and Contextual Issues .....</b>	<b>3</b>
<b>Part Two: Recommendations in Brief .....</b>	<b>(53-164)</b>
<b>I. Crop Husbandry and Farming Systems .....</b>	<b>55</b>
<b>II. Horticulture .....</b>	<b>(79-112)</b>
A. Fruits .....	81
B. Vegetables .....	86
C. Floriculture .....	96
D. Plantation crops and spices .....	98
E. Medicinal and aromatic plants .....	102
F. Post harvest management of horticultural crops .....	106
<b>III. Animal Resources Development .....</b>	<b>(111-136)</b>
A. Cattle and buffalo development .....	113
B. Small animal development .....	117
C. Poultry development .....	120
D. Veterinary clinics .....	125
E. Animal health investigation .....	125
F. Feed and fodder development .....	128
G. Meat processing .....	129
H. Dairy development .....	131
<b>IV. Fisheries and Aquaculture .....</b>	<b>135</b>
<b>V. Agricultural Education, Research and Extension .....</b>	<b>147</b>
<b>VI. Agricultural Marketing .....</b>	<b>153</b>
<b>VII. Agricultural Credit &amp; Co-operatives and Self Help Groups .....</b>	<b>159</b>
<b>Part Three : Detailed Reports .....</b>	<b>(165-556)</b>
<b>I. Crop Husbandry and Farming Systems .....</b>	<b>167</b>
<b>II. Horticulture .....</b>	<b>(265-372)</b>
A. Fruits .....	270
B. Vegetables .....	298
C. Floriculture .....	323
D. Plantation crops and spices .....	331
E. Medicinal and aromatic plants .....	340
F. Post harvest management of horticultural crops .....	350
<b>III. Animal Resources Development .....</b>	<b>(373-496)</b>
A. Cattle and buffalo development .....	375
B. Small animal development .....	388
C. Poultry development .....	415
D. Veterinary clinics .....	438

E. Animal health investigation .....	441
F. Feed and fodder development .....	458
G. Meat processing .....	465
H. Dairy development .....	473
<b>IV. Fisheries and Aquaculture .....</b>	<b>497</b>
<b>V. Agricultural Education, Research and Extension .....</b>	<b>513</b>
<b>VI. Agricultural Marketing .....</b>	<b>541</b>
<b>VII. Agricultural Credit &amp; Co-operatives and Self Help Groups .....</b>	<b>551</b>
<b>Annexure to the Text .....</b>	<b>(567-732)</b>
Annexure Item 1 Copy of the Gazette Notification of the Government of West Bengal Constituting the West Bengal State Agriculture Commission .....	569
Annexure Item 2 Inaugural Address by the Chairman of the Commission .....	573
Annexure Item 3 Meetings and Visits .....	589
Annexure Item 4 Some Major Resolutions .....	591
Annexure Item 5 Some Important Demographic Features of West Bengal as Revealed in the Last Four Censuses .....	593
Annexure Item 6(a) – 6 (e) .....	<b>(594-602)</b>
(a) Utilization of land in West Bengal .....	594
(b) Rainfall (Actual) in West Bengal .....	596
(c) Area under Principal Crops in West Bengal .....	600
(d) Net Cropped Area, Gross Cropped Area and Cropping Intensity in West Bengal .....	602
(e) Production of Principal Crops in West Bengal .....	602
Annexure Item 7 Annual Plan (2008-2009): Budgeted Outlays .....	604
Annexure Item 8(a) – 8(r) District Profiles with District Maps .....	<b>(605-642)</b>
Annexure Item 9 International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) Executive Summary of the Synthesis Report .....	643
Annexure Item 10(a) – 10(b) .....	<b>(657-669)</b>
(a) Organic Package of Practices for Rice from West Bengal .....	657
(b) Excerpts from Down to Earth .....	667
Annexure Item 11 Academic Programmes: Existing and New Proposals .....	670
Annexure Item 12 System of Rice Intensification (SRI) .....	672
Annexure Item 13(a) – 13(b) .....	<b>(679-695)</b>
(a) Genetic Engineering in Agriculture and Corporate Engineering .....	679
(b) Who benefits from gm crops? .....	691
Annexure Item 14 Energy Issues in Agriculture .....	696
Annexure Item 15 Global Warming on Himalayan Ecosystem with special reference to Glacial Lake Outburst Floods (GLOF) .....	700
Annexure Item 16 Food Security in India from Sustainable Organic Agriculture .....	705
Annexure Item 17 India-US Knowledge Initiative on Agriculture Education, Research, Services and Commercial Linkages .....	715
Annexure Item 18 Farming System Models for different Agroclimatic Zones of West Bengal ..	719
Annexure Item 19 Agroforestry or Farm Forestry .....	724
Annexure Item 20 Urban and Peri-Urban Agriculture .....	725
Annexure Item 21 Let's Go Green .....	731