CONTENTS

PREFACE i
CONTENTS iv
ABBREVIATION xiii
INTRODUCTION 1

Chapter – 1
FARMERS’ RIGHTS AND PLANT BREEDERS’ RIGHTS AREAS OF CONFLICT AND NEED FOR BALANCE

1.1 Modern Plant Breeding-Merits and Demerits 12
1.2 The Historical Journey to the Plant Breeders’ Right 17
   1.2.1 Patenting of life- History- Resulting in TRIPS and the UPOV 1991 18
1.3 A brief history of Plant Breeders’ Rights and patenting of life forms in U.S. 19
   1.3.1 Plant Breeders’ Rights -1930-1970 (From Plant Patent Act to Plant Variety Protection Act) 19
   1.3.2 Patent rights on life forms including plants -From 1852-1980 (From Le Roy v Tatham to Diamond v Chakrabarty and Ex parte Hibberd) 21
1.4 Historical Development of Farmers’ Rights as a reaction to PBR in the international level 27
1.5 Farmers in India- who are? 37
1.6 Farmers’ Rights over the Seeds in the past (Plant Genetic Resources in the modern sense) 40
1.7 Farmer-Definition 44
1.8 Types of persons involved in farming 44
1.9 How to fill the gaps in the Farmers’ Rights Concept 53

Chapter -2
NATURE AND SCOPE OF PLANT BREEDERS’ RIGHTS AND FARMERS’ RIGHTS OVER THE PGR OF PLANT BREEDERS’ VARIETY- TRIPS AND UPOV 63
2.1 TRIPS & PBR
   2.1.1 Trade Related aspects of Intellectual Property Rights (TRIPS)-The background of PBR 6.3
   2.1.2 TRIPS : the space for the Plant Breeders’ Rights and the Farmers’ Rights 63
   2.1.3 Patent in TRIPS and the exceptions 66

2.2 UPOV & PBR
   2.2.1 International Convention for the Protection of Plant Varieties (UPOV)-
   the nature and scope of PBR 70
   2.2.2 PBR under the 1978 UPOV 71
   2.2.3 Distinct 72
   2.2.4 New, Homogenous, and Stable 73
   2.2.5 Rights of the breeders 74
   2.2.6 Extent of the farmers’ access to the PGR (propagating material) of the plant breeder 75
   2.2.7 Nature and scope of PBR under UPOV 1991 76
   2.2.8 Expanded rights of breeders under UPOV 1991 78
   2.2.9 PBR and its nature-comparison with patent 80
   2.2.10 Extent to which farmers' access to PGR of plant breeders is affected 81
   2.2.11 UPOV 1991- position of farmers’ privilege (an exception, or not) 83
   2.2.12 Farmers’ right to re-use the PGR of plant breeders- problems raised in the context of biotechnology 86

2.3 Conclusion 92

Chapter - 3
PLANT BREEDERS’ ACCESS TO THE PGR AND TK OF FARMERS - INTERNATIONAL LAW - THE CONVENTION ON BIOLOGICAL DIVERSITY 94

3.1 Common heritage v Sovereignty of the States 99
3.2 FAO Resolution 4/89 on “common heritage of mankind" 102
3.3 Resolution 3/91: From “common heritage of mankind” to “sovereignty” 104
3.4 Access to the PGR and TK of the farmers - the rights recognized by CBD 108
3.5 Prior Informed Consent (PIC) 112
3.6 Importance and content 114
3.7 The basic principles of a prior informed consent system 117
3.8 Rights of the Indigenous People in relation to the genetic resources and the traditional knowledge in the international level 122
3.9 Right to equitably share the benefit – A new right given to farmers over their TK and PGR in the context of PBR 126
3.10 Benefit Sharing under the CBD and the Nagoya Protocol 128
3.11 The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilisation 129
3.12 Benefit Sharing: Shortcomings 135
3.13 Conclusion 141

Chapter - 4
FARMERS’ ACCESS TO PGR OF PLANT BREEDERS, AND THE PLANT BREEDERS’ ACCESS TO PGR AND TK OF FARMERS-THE INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE 147

4.1 Plant breeders’ access to PGR and TK of the farmers 152
4.2 Rights (if any) during access - The multilateral system 154
4.3 Benefit sharing 161
4.4 Farmers’ Access to the PGR of the plant breeders 170
4.5 Conclusion on the International Law 175

Chapter - 5
INDIAN SCENARIO- ACCESS TO THE PGR AND TK OF THE FARMERS THE BIOLOGICAL DIVERSITY ACT 184
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Farmers’ Rights (over their PGR and TK) while access is given to the plant breeders- Position in BDA, 2000</td>
<td>186</td>
</tr>
<tr>
<td>5.1.1</td>
<td>Prior Informed Consent- Whether recognized?</td>
<td>186</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Benefit Sharing- the position in BDA.</td>
<td>199</td>
</tr>
<tr>
<td>5.2</td>
<td>TPGRFA and BDA- The position of PIC</td>
<td>203</td>
</tr>
<tr>
<td>5.3</td>
<td>Provisions relating to PIC and benefit sharing and other rights of farmers- from the Bangladesh Biodiversity legislation</td>
<td>205</td>
</tr>
<tr>
<td>5.4</td>
<td>Provisions relating to PIC and benefit sharing and other rights of farmers- from the AU Model legislation PIC</td>
<td>208</td>
</tr>
<tr>
<td>5.4.1</td>
<td>Property Rights</td>
<td>209</td>
</tr>
<tr>
<td>5.4.2</td>
<td>Farmers’ Rights under AU legislation</td>
<td>210</td>
</tr>
<tr>
<td>5.5</td>
<td>Conclusion</td>
<td>211</td>
</tr>
</tbody>
</table>

Chapter - 6
THE INDIAN SCENARIO FARMERS’ ACCESS TO THE PGR OF THE PLANT BREEDERS AND FARMERS’ RIGHTS OVER THEIR PGR AND TK--THE PROTECTION OF PLANT VARIETIES AND FARMERS RIGHTS ACT

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>Nature and scope of Plant Breeders’ Rights</td>
<td>215</td>
</tr>
<tr>
<td>6.2</td>
<td>Farmers’ Right over the PGR and TK of plant breeders</td>
<td>221</td>
</tr>
<tr>
<td>6.2.1</td>
<td>Farmers’ Right to use and re-use the PGR of plant breeders- Problems in the context of Biotechnology</td>
<td>223</td>
</tr>
<tr>
<td>6.2.2</td>
<td>An extension of the traditional right in the context of modern biotechnology</td>
<td>231</td>
</tr>
<tr>
<td>6.3</td>
<td>Farmers’ Rights over their PGR and TK</td>
<td>236</td>
</tr>
<tr>
<td>6.3.1</td>
<td>Property Rights as breeder of new variety</td>
<td>236</td>
</tr>
<tr>
<td>6.3.2</td>
<td>Property Rights over the traditional PGR and TK (Farmers’ Variety) - _Problems in enforcement and enjoyment</td>
<td>237</td>
</tr>
</tbody>
</table>
6.3.3 Existing Farmers' Variety- Registration and rights -_Problems due to overlapping definition of extant variety and Farmers’ variety 241

6.4 Rights of the farmers when plant breeders are given access to their PGR and TK- (a) Benefit sharing and (b) Compensation 269

6.4.1 Benefit Sharing 269

6.4.2 Compensation 274

6.4.3 Impact of scheme of benefit sharing under ITPGR on the recognition of FR 276

6.5 Conclusion 280

Chapter - 7

CONCLUSIONS AND SUGGESTIONS 287

7.1 Conclusions 287

7.2 Suggestions 295

7.2.1 Draft Model Legislation for identifying the farmers who conserved the PGRFA and to give them certain rights over the same 296

7.2.2 Suggestions for including FR in TRIPS – Plant Breeders’ Access to the PGR and TK of farmers and Farmers rights over their PGR and TK 302

7.2.3 Suggestions to be included in TRIPS – Farmers’ access to the PGR of plant breeders 307

7.2.4 Other Suggestions. 309

7.2.5 Draft United Nations Convention on the Human Rights of Farmers (CHRF) 313

7.2.6 Some more general Suggestions. 322

BIBLIOGRAPHY xvi