

LIST OF FIGURES

Figure I. 1 Gambier Plants	3
Figure I. 2. Gambier Production Process	3
Figure I. 3 Location of Lima Puluh Kota Regency	4
Figure I. 4. Construction of Industrial Development Plan Lima Puluh Kota Regency	6
Figure I. 5 Sub-district Productivity Comparison	8
Figure I. 6. Development of gambier export prices and farmer-level prices	9
Figure I. 7 Problems Relationship.....	11
Figure I. 8 Gambier Industry Situational Analysis	12
Figure I. 9 Pricing Policies as the Main Result.....	14
Figure I. 10 Scheme of Problem Formulation.....	18
Figure II. 1 Policies Formulation Model.....	30
Figure II. 2 Policies Formulation Process	36
Figure II. 3 General Supply Chain	39
Figure II. 4 Agro-Industry Supply Chain : B2B, B2C, C2C (Left to Right)(Lin & Zhongwei, 2011)	40
Figure II. 5 Circle of Risk	47
Figure II. 6 Step of Risk Management	47
Figure II. 7 Typical Agent.....	51
Figure II. 8 ABM Process of Development	54
Figure II. 9 Fuzzy Membership.....	65
Figure II. 10 State of the Art	73
Figure II. 11 Research Thinking Framework.....	75

Figure III. 1 General Research Process	92
Figure III. 2 Value Added Calculation Process.....	93
Figure III. 3 Value Added Improvement Strategy Weighting	94
Figure III. 4 Risk Identification Process	95
Figure III. 5 ABM Development Process.....	97
Figure III. 6 Pricing Policies Formulation Process	99
Figure IV. 1 Home Owner Business Process	102
Figure IV. 2 Leaf Collector Business Process	102
Figure IV. 3 Farmer Business Process	103
Figure IV. 4 Home Industry Business Process	104
Figure IV. 5 Collector and Distributor Business Process	105
Figure IV. 6 Exporter Business Model	105
Figure IV. 7 Supply Chain Gambier	109
Figure IV. 8 Supply Chain Gambier for Agent Based Model.....	110
Figure IV. 9 Value Added Ratio of Each Actors	120
Figure IV. 10 Risk Hierarchy	136
Figure IV. 11 Actor Weight	137
Figure IV. 12 Risk Weight	138
Figure IV. 13 Risk Weight at Farmer Level	139
Figure IV. 14 Risk Weight at Home Industry Level.....	139
Figure IV. 15 Risk Weight at Trader Level	140
Figure IV. 16 Risk Weight at Exporter Level	141
Figure IV. 17 Value Added Improvement Strategy Hierarchy	142
Figure IV. 18 Actors Weight Respect to Purposes	142

Figure IV. 19 Importance Level of Value Added Improvement Strategy	143
Figure IV. 20 Value Added Improvement Strategy at Farmer Level	144
Figure IV. 21 Value Added Improvement Strategy at Home Industry Level.....	145
Figure IV. 22 Value Added Improvement Strategy at Exporter Level	146
Figure IV. 23 Value Added Improvement Strategy at Exporter Level	147
Figure IV. 24 Balancing Model Flowchart	156
Figure IV. 25 Value Added and Risk Comparison	157
Figure IV. 26 Balancing Model Use Case Diagram	159
Figure IV. 27 Balancing Model Class Diagram.....	160
Figure IV. 28 Balancing Model Sequence Diagram	161
Figure IV. 29 System Requirement Flowchart	163
Figure IV. 30 Farmer Business Process	166
Figure IV. 31 Farmer Decision Making Process.....	168
Figure IV. 32 Home Industry Business Process	169
Figure IV. 33 Home Industry Decision Making Process	170
Figure IV. 34 Traders Business Process	171
Figure IV. 35 Traders Decision Making Process	172
Figure IV. 36 Exporter Business Process.....	173
Figure IV. 37 Exporters Decision Making Process.....	174
Figure IV. 38 Environment Impact Flowchart.....	175
Figure IV. 39 ABM in NetLogo Initial Simulation Flowchart	181
Figure IV. 40 ABM in Netlogo Iterative Simulation	182
Figure IV. 41 NetLogo Verification.....	183
Figure IV. 42 Profit Comparison for Initial Scenario	190

Figure IV. 43 Initial Utility Result.....	194
Figure IV. 44 Strategy Implication Utility Result.....	195
Figure IV. 45 Value Added Balancing Utility Comparison.....	196
Figure IV. 46 Risk Balancing Utility Comparison	196
Figure IV. 47 Selling Price Result for Price Stabilization	199
Figure IV. 48 Agent Learning Simulation Result	204
Figure V. 1 Risk, Cost and Value Relationship	229
Figure V. 2 Relationship Among Policies	230
Figure V. 3 Reliability of Policies	232