

**How Can the Global Food Security
Challenges be Addressed in a
Multilateral Trading System?**

By

Lakmini Priyanga Peiris Mendis

THESIS

**Submitted to the University of Adelaide in fulfilment
of the requirements for the degree of**

**Doctor of Philosophy
in
International Trade**

**Institute for International Trade
Faculty of the Professions
The University of Adelaide
August 2017**

Contents

Abstract.....	xiv
Declaration.....	xvi
Acknowledgments	xvii
Acronyms.....	xx
Chapter 1 Introduction.....	1
1.1 Introduction	1
1.2 Objective and research focus	7
1.3 Chapter plan.....	8
Chapter 2 Literature Review	11
2.1 Introduction	11
2.2 Food security negotiations before and during the Uruguay Round.....	11
2.3 Food security coverage in the AoA	14
2.4 Changes after the AoA	16
2.5 Trade liberalisation debate.....	17
2.6 Quantitative restrictions.....	18
2.7 Export subsidies and domestic support	22
2.8 Review on the adequacy of rules and policy measures	26
2.9 Dispute settlement system	27
Chapter 3 Survey results.....	30
3.1 Introduction	30
3.2 Sample	30
3.3 Survey design	34
3.4 Analysis and findings	37
3.4.1 Analysis.....	37
3.4.2 Findings	38
3.5 Conclusion.....	85

Chapter 4	What is food security?	87
4.1	Introduction	87
4.2	Methodology.....	89
4.3	Defining the food security concept.....	94
4.3.1	Summary	106
4.4	Analysis of responses on the varied reasons for diverse views	107
4.5	Conclusion.....	116
Chapter 5	Food security, trade interests and levels of development	119
5.1	Introduction	119
5.2	Methodology.....	119
5.3	People orientation and development levels	122
5.3.1	Summary: people orientation.....	128
5.4	Is the trade aspect of food security more important for developing country members than for others?	128
5.4.1	The overall relationship between trade orientation and development levels	129
5.4.2	Relationship between the three dimensions of trade orientation and development levels	130
5.4.3	Overall relationship between trade orientation and income levels	132
5.4.4	Relationship between the three dimensions of trade orientation and income levels	133
5.4.5	Summary: trade orientation.....	135
5.5	What impacts do the diverse interests of countries and negotiating groups have on food security–related trade negotiations?	135
5.6	Conclusion.....	140
Chapter 6	The WTO: mandate	143
6.1	Introduction	143
6.2.	Analysis of the survey findings	145
6.3	Analysis of the interview findings.....	148

6.4	Does the WTO have a mandate to address food security issues?.....	151
6.4.1	Delegates' views	151
6.4.2	Researchers' and officials' views.....	156
6.4.3	Summary	158
6.5	How can food security challenges be addressed in the MTS?	159
6.5.1	Delegates' views	159
6.5.2	Researchers' and officials' views.....	163
6.5.3	Summary	164
6.6	Why are WTO rules inadequate to address food security challenges?.....	165
6.6.1	Delegates' views	166
6.6.2	Researchers' and officials' views.....	173
6.6.3	Summary	175
6.7	Conclusion	176
Chapter 7	Trade restrictions and food security.....	180
7.1	Introduction	180
7.2	Analysis of the survey data.....	181
7.2.1	Findings	182
7.2.2	Conclusion: survey findings.....	188
7.3	Analysis of the interview findings.....	189
7.3.1	Impact of import and export restrictions as a food security policy/measure	191
7.3.2	Export subsidies and domestic support as a food security policy/measure..	195
7.3.3	Disciplining import and export restrictions.....	200
7.3.4	The DSM in addressing food security issues	205
7.4	Conclusion	211
Chapter 8	The dynamics hindering agriculture negotiations.....	216
8.1	Introduction	216
8.2	Chapter methodology	216

8.2.1	Analysis of the survey findings	216
8.2.2	Analysis of the interview findings	221
8.3	Changed dynamics hindering consensus	223
8.3.1	Development issues	223
8.3.2	Protectionist measures	226
8.3.3	Bilateral trade agreements	227
8.3.4	Issues in negotiations	228
8.3.5	Dynamics since the AoA	230
8.4	Conclusion	230
Chapter 9: Conclusion		233
9.1	The thesis	233
9.2	Actions that might be taken within the WTO	237
9.2.1	Better understanding of diverse concerns on the mandate	237
9.2.2	Amendments to the rules	237
9.2.3	Concerns about policy space	238
9.2.4	Structural change: reclassification of the developing group	238
9.3	Actions that might be taken among other international organisations	239
9.4	Beyond the WTO	239
9.5	Future research	240
9.5.1	What WTO rules should be amended to address food security issues effectively?.....	240
9.5.2	How effective are the different policies in addressing food security issues? 241	
9.5.3	Can there be a quicker, more cost-effective consultation process to facilitate food security issues under the purview of the Dispute Settlement Board (DSB)?	241
9.5.4	Can a collaborative effort among other organisations address trade-related food security issues more effectively than through the WTO?	241
9.5.5	How should the developing group be re-classified?	241

Appendix A: Preliminary materials	242
Appendix B: Questionnaires and surveys	250
Appendix C: Survey data for Chapter 3.....	265
Appendix D: Supporting material for Chapter 4	326
Appendix E: Hypotheses tested for tables in Chapter 5, and supporting tables	343
Appendix F: Hypotheses tested for tables in Chapter 6, and supporting tables	363
Appendix G: Supporting material for Chapter 7: Trade restrictions and food security	371
Appendix H: Supporting material for Chapter 8	410
References.....	415

Tables

Table 3.1: Categorisation of elements	39
Table 3.2: Significant challenges to food security.....	47
Table 3.3: Reasons for not arriving at a consensus on agriculture issues.....	67
Table 4.1: Distribution of views among the development levels	90
Table 4.2: Distribution of views among NFIDC respondents and the rest of the sample	91
Table 4.3: Distribution of views among negotiating groups	93
Table 4.4: Orientations and dimensions of the food security concept revealed through respondents' comments.....	96
Table 4.5: Delegates' views on orientations and dimensions (%).....	97
Table 4.6: Researchers' and officials' views on orientations and dimensions (%)	97
Table 4.7: Comparison of views among development levels of delegates on orientations and dimensions (%).....	100
Table 4.8: Comparison of views of NFIDC respondents and the rest on orientations and dimensions (%)	100
Table 4.9: Comparison of views of respondents from NFIDCs and other development levels on orientations and dimensions (%)	101

Table 4.10: Comparison of views of negotiation groups on orientations and dimensions (%)	101
Table 4.11: Comparison of OECD and APEC members' views on orientations and dimensions of food supply (%)	105
Table 5.1: Frequency percentages and p-values for people orientation and the corresponding development levels (%).....	126
Table 5.2: P-values for hypothesis testing on availability, accessibility, stability and the utilisation dimension and development levels	127
Table 5.3: Frequency percentages and p-values for trade orientation and its corresponding development levels (%).....	130
Table 5.4: Frequency percentages and p-values for availability, accessibility and stability and its corresponding development levels (%)	131
Table 5.5: Frequency percentages and p-values for trade orientation and its corresponding income levels	132
Table 5.6: Frequency percentages and p-values for the three dimensions (availability, accessibility and stability) of trade orientation and their corresponding income levels	134
Table 5.7: Trade interests and key dimensions of the agriculture negotiating groups	138
Table 6.1: Delegates' views on the mandate	155
Table 6.2: Researchers' and officials' views on the mandate.....	157
Table 6.3: Delegates' suggestions to improve MTS, and the corresponding development levels	162
Table 6.4: Researchers' and officials' suggestions to improve the MTS	164
Table 6.5 Delegates' views on the adequacy of rules.....	166
Table 6.6: Delegates' views on reasons for inadequate rules	171
Table 6.7 Researchers' and officials' views on adequacy of rules.....	174
Table 6.8: Researchers' and officials' views on reasons the rules are inadequate	174
Table 7.1: Delegates' views on import restrictions (%)	192

Table 7.2: Researchers’ and officials’ views on import restrictions (%).....	193
Table 7.3: Delegates’ views on export restrictions (%).....	193
Table 7.4: Researchers’ views on export restrictions (%)	194
Table 7.5: Impact of import and export restrictions	194
Table 7.6: Delegates’ identification of the negative impacts of subsidies (%).....	197
Table 7.7: Delegates’ identification of the positive impacts of subsidies (%)	197
Table 7.8: Researchers’ and officials’ views of the negative impacts of subsidies (%)	198
Table 7.9: Researchers’ and officials’ views of the positive impacts of subsidies (%)	199
Table 7.10: Delegates’ views on the effectiveness of provisions on export prohibition and restrictions (%).....	201
Table 7.11: Researchers’ and officials’ views on the effectiveness of provisions on export prohibition and restrictions (%).....	201
Table 7.12: Delegates’ views on the adequacy of provisions on export prohibition and restrictions (%).....	202
Table 7.13: Researchers’ and officials’ views on adequacy of provisions on export prohibition and restrictions (%)	203
Table 7.14 Delegates’ views on the effectiveness of provisions on import prohibition and restrictions (%).....	204
Table 7.15: Researchers’ and officials’ views on the effectiveness of provisions on import prohibition and restrictions (%)	204
Table 7.16: Delegates’ views on the effective use of the DSS in disciplining trade- distortive measures (%)	207
Table 7.17: Researchers’ and officials’ views on the effective use of the DSS in disciplining trade-distortive measures (%)	208
Table 7.18: Researchers’ and officials’ views on constraints (%).....	210
Table 7.19: Outcome at a glance	212
Table 8.1: Individual category views of the three most important rankings	219

Table 8.2: Results of the PCA — three components	221
--	-----

Figures

Figure 1.1: Chapter map	9
Figure 2.1: Domestic support: spending on distortive measures (in US\$ m)	24
Figure 2.2: Green box support (in US\$ m)	24
Figure 3.1: MTS experience of (A) delegates and (B) researchers/officials	32
Figure 3.2: Country representation	33
Figure 3.3: Negotiating group representation	33
Figure 3.4: Research setting.....	35
Figure 3.5: (A) Delegates' and (B) researchers'/officials' overall views on food security and related challenges	41
Figure 3.6: The three most important views of the delegates on food security and related challenges.....	42
Figure 3.7: The three most important views of (A) developing and (B) developed country representatives on food security and related challenges.....	43
Figure 3.8: The three most important views of the researchers/officials on food security and related challenges	45
Figure 3.9: The three most Important views of (A) researchers and (B) officials on food security and related challenges	46
Figure 3.10: (A) Delegates' and (B) researchers'/officials' views on significant challenges to food security	49
Figure 3.11: The three most important views of the delegates on the most significant challenges to food security	50
Figure 3.12: The three most important views of (A) developing and (B) developed country representatives on the most significant challenges to food security.....	52
Figure 3.13: The three most important views of researchers/officials on the most significant challenges to food security.....	54

Figure 3.14: The three most important views of (A) researchers and (B) officials on the most significant challenges to food security	56
Figure 3.15: (A) Delegates' and (B) researchers'/officials' views on the role of the MTS of the WTO in addressing food security challenges.....	58
Figure 3.16: (A) Delegates' and (B) researchers'/officials' views on the sufficiency of Article XI of GATT and Article 12 of AoA	60
Figure 3.17: Delegates' and researchers'/officials' views on export and import restrictions.....	61
Figure 3.18: (A) Delegates' and (B) researchers'/officials' views on the effectiveness of export restrictions	63
Figure 3.19: (A) Delegates' and (B) researchers'/officials' views on subsidies	64
Figure 3.20: (A) Delegates' and (B) researchers'/officials' views on why consensus was not achieved.....	69
Figure 3.21: The three most important views of the delegates for not arriving at consensus	71
Figure 3.22: The three most important views of developing and developed country delegates for not arriving at consensus	72
Figure 3.23: The three most important views of researchers/officials for not arriving at consensus	73
Figure 3.24: The three most important views of (A) researchers and (B) officials for not arriving at consensus.....	75
Figure 3.25: (A) Delegates' and (B) researchers'/officials' views on the impact of trade policies of developed countries and previous proposals.....	76
Figure 3.26: (A) Delegates' and (B) researchers'/officials' views on the Bali negotiations	77
Figure 3.27: (A) Delegates' and (B) researchers'/officials' views on food security and political dimensions	80
Figure 3.28: (A) Delegates' and (B) researchers'/officials' views on the best trade policies	82

Figure 3.29: (A) Delegates’ and (B) researchers’/officials’ views on food security and future prospects.....	83
Figure 4.1: Reaction of negotiating groupings: (A) Cairns Group, (B) G-20, (C) G-10, (D) G-33, (E) ACP and (F) African Group.....	102
Figure 4.2: Reaction of other groupings: (A) OECD, (B) APEC.....	105
Figure 4.3 Word frequency cloud tag of comments by delegates	108
Figure 4.4: Word frequency cloud tag of comments by researchers and officials	109
Figure 4.5 Analysis of the relationship of the 7Cs and the impact on negotiations ..	114
Figure 5.1: Dimensions and development levels: (A) bar chart, (B) line chart, (C) table for the bar chart, and (D) table for the line chart	124
Figure 5.2: Country representation and trade interests of the developing and least-developed countries of respondents.....	139
Figure 6.1: Cumulative response rate of (A) delegates and (B) researchers and officials for survey Questions 3–6.....	145
Figure 6.2: Framework of the analysis of interview responses	150
Figure 6.3: Delegates’ views on the mandate	155
Figure 6.4: Researchers’ and officials’ views on the mandate	157
Figure 6.5: Delegates’ views on suggestions to improve MTS	162
Figure 6.6: Researchers’ and officials’ suggestions to improve MTS.....	164
Figure 6.7: Delegates’ reasons for inadequate rules	172
Figure 6.8: Researchers’ and officials’ views on reasons for inadequacy of rules....	175
Figure 6.9: Summary of delegates’ responses	177
Figure 7.1 Delegates’ (A) and researchers’ and officials’ (B) views on sufficiency of provisions to fulfil obligations on food security	182
Figure 7.2 Delegates’ (A) and researchers’ and officials’ (B) views on sufficiency of the provisions to regulate export restrictions.....	183
Figure 7.3 Delegates’ (A) and researchers’ and officials’ (B) views on import and export restrictions as trade-distortive and effective policy measures	184

Figure 7.4 Delegates' (A) and researchers' and officials' (B) views on effectiveness of import and export restrictions in addressing short- and long-term food security needs	185
Figure 7.5 Delegates' (A) and researchers' and officials' (B) views on export subsidies of the developed countries	186
Figure 7.6 Delegates' (A) and researchers' and officials' (B) views on export subsidies and domestic support.....	187
Figure 7.7: Members' use of the DSS.....	206
Figure 7.8 Members' use of the DSM by category.....	206
Figure 7.9: Delegates' views on constraints	209
Figure 8.1: (A) Delegates' and (B) researchers' & officials' views on the five most important factors hindrances to negotiations	218

Abstract

Eradicating hunger and meeting food security expectations remain global goals. In the multilateral trading system (MTS) they can only be met through cooperation among countries in the form of international trade. Yet a number of trade-related incidents have eroded confidence in the capacity of the MTS to address food security issues.

The research question here is “How can global food security challenges be addressed in a MTS?” The main focus is on the role of the World Trade Organization (WTO), but the research also covers its interaction with other organisations and the context in which it operates, that is, the MTS.

The study covers four topics:

- What is food security?
- Does the WTO have a mandate and the capability to contribute to food security?
- What policy measures are used to address food security issues and are they effective?
- What significant changes in the context of the debate complicate or ease the quest for a consensus on how to respond to food security challenges?

The method used was to collect information on the views of delegates, researchers and officials, by an online survey and from interviews, and to analyse the data using different tools.

Views on “What is food security?” were grouped according to combinations of ‘orientations’ and ‘dimensions’. The former refers to a focus on people, trade or resources. The latter refers to availability, accessibility, stability and utilisation. Views on the nature of food security, while apparently showing a systematic variation by the frequency of responses, were not found to differ significantly in statistical terms over the development levels of the respondents’ countries. Lack of progress on food security issues in the WTO is therefore not caused primarily by a lack of a common understanding of the concept.

A majority view was that the WTO mandate on food security is limited, although the less developed economies supported the counterview. Respondents also confirmed that WTO rules are inadequate in addressing food security issues. Lack of policy space was an issue for the least-developed and developing countries; inadequacy in disciplining trade-distortive measures was also a concern for the developing, developed and research/official groups; and lack of transparency was especially undesirable for the developed and least-developed countries.

Import/export restrictions and subsidies (including domestic support) are widely used policy instruments for food security goals, despite their trade-distortive aspects. However, respondents had mixed views about the effectiveness of these policies, especially in the context of the inadequacy of rules to discipline them. The lack of case law through the dispute settlement system is compounding that issue.

The food crisis of 2006–2008 raised the profile of food security but other dynamics have made it difficult to reach a consensus for change. These include greater diversity in the interests of the developing group as a whole, the shift in the negotiating positions of emerging developing countries, and protectionist concerns related to the increase in green box spending.

For all these reasons – the uncertainty about the WTO’s mandate, the inadequacy of its rules and the diversity within the developing economy group – negotiations that are relevant to food security have been hindered and little progress has been made. The MTS could contribute to food security, but resolving these issues is the next step to doing so.

Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying, subject to the provisions of the Copyright Act 1968.

I also give permission for the digital version of my thesis to be made available on the web, via the University's digital research repository, the Library Search and also through web search engines, unless permission has been granted by the University to restrict access for a period of time.

I acknowledge the support I have received for my research through the provision of an Australian Government Research Training Program Scholarship.

Lakmini P Peiris Mendis

Acknowledgments

When looking back, I recall many individuals who supported me through this journey. If not for them, it would have been impossible.

I owe my deepest gratitude to Professor Christopher Findlay, my principal supervisor, firstly for agreeing to be my supervisor and for his time in spite of his busy schedule as the Executive Dean, Faculty of Professions; and secondly, for his style of mentoring, which was instrumental in drawing out the potential in me, for his guidance, patience, advice, support and understanding throughout the four years – for this, I thank him profusely.

My heartfelt gratitude goes to my other two supervisors, Mr Keith Wilson (Institute for International Trade – University of Adelaide) and Dr Alec Zuo (Centre for Global Food and Resources – University of Adelaide), for their guidance, helpful comments and support, which was available any time I needed it.

This research is based purely on the views of Agriculture Delegates in Geneva, researchers and officials. Therefore, I am immensely thankful to each and every one who shared their views and country positions to make this research a success. I take this opportunity to thank the Director General and staff of the WTO for extending their support and allowing me to conduct interviews at its premises.

I am grateful to the Adelaide University Graduate Centre for granting a travel scholarship to facilitate my data collection in Geneva.

I would like to thank Ms Miranda Roccisano (Editor on Call) for editing this thesis.

My appreciation goes to the Institute of International Trade (IIT) staff for their kind support – to the postgraduate coordinators Ms Linnie Shoo (former) and Associate Professor Shandre Thangavelu, Lydia, Lisa, Mei, Eloise and Marie (late).

I fondly remember many people associated with my professional development: Professor Kym Anderson and Dr Virginie Mason (School of Economics), Dr Igusti Darmawan (School of Education), Professor Purnendra Jain (School of Social Sciences), Dr Cate Jerram (School of Business), Mr Andrew Stroller (former Executive Director, IIT) and Mr Jim Redding (IIT); Visiting WTO Fellows Dr Arne Klau and Mr Yves Renouf for thought-provoking discussions, Dr Laura Marquez-Ramos, Dr Uwe Kauffman, Dr Melinda Moata and Dr Fizza Sabir for their assistance and Rio, Michael, Gracia and Adriana for their company.

My heartfelt gratitude is extended to Dr. Dayaratne Silva (Ex-Ambassador to WTO), Mr Nimal Karunatilake (Ex-Ambassador to WTO), Mr P D Fernando (former Director General of Commerce), Mrs Sonali Wijeratne (Director General of Commerce), officials of the Department of Commerce and Mrs Sheitha Senarathna, Additional Secretary, of the Ministry of Industry and Commerce in Sri Lanka, for their support.

I am extremely grateful to my parents, my brother and his wife, and my friends for their abundant love, moral support, encouragement and prayers. I am especially thankful to my husband Nirendra (Chris) and my son Nikhil for their understanding, unwavering support and continuous encouragement throughout this challenging journey.

I believe nothing just happens, but everything is planned for a purpose. Therefore, I hope this thesis will facilitate the noble cause in question to bring glory to the Lord almighty, whose hand I have experienced in every moment in this journey!

Dedication

to

my son Nikhil

Acronyms

ACP	African, Caribbean and Pacific
ACWL	Advisory Centre on WTO Law
AMS	Aggregate measurement of support
AoA	Agreement on Agriculture
APEC	Asia – Pacific Economic Cooperation
ASEAN	Association of South-East Asian Nations
BRICS	Brazil, Russia, India, China and South Africa
D	developed
DDA	Doha Development Agenda
DSB	Dispute Settlement Body
DSM	Dispute Settlement Mechanism
DSU	Dispute Settlement Understanding
Dv	developing
EC	European Commission
EU	European Union
EU CAP	EU Common Agricultural Policy
FAO	Food and Agriculture Organization
G-10	Group of 10
G-20	Group of 20
G-33	Group of 33
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariff and Trade
GDP	gross domestic product

GNI	gross national income
HD	high-income developed
HDV	high-income developing
ICTSD	International Centre for Trade and Sustainable Development
IMF	International Monetary Fund
ITO	International Trade Organization
LDCs	least-developed countries
LDV	lower middle-income developing
LIFDC	low-income food deficit country
MDGs	Millennium Development Goals
MFN	most-favoured-nation
MTS	Multilateral Trading System
NFE	net food exporters
NFG	net food group
NFI	net food importers
NFIDC	net food-importing developing country
OECD	Organization for Economic Cooperation & Development
PCA	Principal Component Analysis
PTA	preferential trade agreement
RAM	recently acceded member
RDev	Rest of the developing
RTA	regional trade agreement
SCM	subsidies and countervailing measures
SDGs	Sustainable Development Goals

SDT	special and differential treatment
SPS	sanitary and phytosanitary measures
SSM	special safeguard mechanism
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNIDO	United Nations Industrial Development Organization
UPDV	upper middle-income developing
US	United States
WHO	World Health Organization
WTO	World Trade Organization