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Invasive Alien Species: A Threat to Sustainable  
Livelihoods in the Pacific? An Assessment of the  
Effects of *Wasmannia auropunctata* (little fire ant) and  
*Achatina fulica* (giant African snail) on Rural  
Livelihoods in the Solomon Islands

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## Abstract

Invasive alien species (IAS) are a global phenomenon and are recognised as a driver of environmental change which can affect the well-being of people in a multitude of ways. Despite this, the role of IAS in local livelihoods has received relatively little attention. Influencing all three of the sustainable development pillars (social, economic, environmental), IAS should be recognised as a significant development issue. But they are not. As such, IAS issues are new to many sectors and governments and therefore largely go unseen and un-actioned.

Contemporary rural livelihoods in the Solomon Islands are heavily reliant on subsistence/semi-subsistence agriculture. Following a livelihoods' framework developed for the Solomon Islands, this thesis explores the influence IAS have on rural livelihoods in this country. Using two qualitative case studies, *Wasmannia auropunctata* (little fire ant) and *Achatina fulica* (giant African snail), this study investigates how vulnerable/resilient rural livelihoods are to the effects of IAS and the implications IAS have for sustainable development in the Solomon Islands.

The effects of IAS on rural livelihoods are complex and at times contradictory. *W. auropunctata* for the most part is not negatively affecting the dominant livelihood strategy (subsistence/semi-subsistence agriculture) practised in the Solomon Islands. While there are some social impacts associated with *W. auropunctata*, overall Solomon Island households can be considered resilient to this IAS. *Achatina fulica* is a different story. This species is negatively affecting the subsistence/semi-subsistence agricultural sector on which so many rural Solomon Island households depend. This has resulted in households implementing negative livelihood diversification measures as they fail to cope or adapt to the snails' presence. Unlike for *W. auropunctata*, Solomon Island households have not demonstrated any resilience to *A. fulica*.

Understanding how rural livelihoods are affected by various stressors and adverse events can help to design development policies and interventions geared towards building better lives for all people. This can only occur however, if the full range of

shocks are recognised. To date, this is not the case for IAS, and as such, they are still a significant missing component of development policy.

**Key words:** Invasive alien species, *Wasmannia auropunctata*, little fire ant, *Achatina fulica*, giant African snail, livelihoods, agriculture, impacts, sustainable development, Solomon Islands.

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## Table of Contents

Abstract .....	i
Acknowledgements .....	iii
Table of Contents .....	iv
List of Tables .....	x
List of Boxes .....	x
List of Figures .....	xi
List of Photographs .....	xii
List of Acronyms .....	xiv
Chapter 1: Invasive Alien Species – Flying Beneath the Development Radar .....	1
1.0 Mary’s Story .....	1
1.1 Outline of the Research Problem .....	2
1.2 Thesis Contribution .....	4
1.3 Research Aims and Questions.....	6
1.4 Conceptual and Methodology Overview of the Thesis .....	6
1.5 Structure of the Thesis .....	7
Chapter 2: The Problem of Invasive Alien Species .....	12
2.0 Introduction.....	12
2.1 What are Invasive Alien Species?.....	12
2.1.1 The human dimension.....	16
2.1.2 The spatial/temporal dimension .....	16
2.1.3 The impact dimension.....	17
2.1.4 Definition .....	18
2.2 Invasive Alien Species: A Global Development Issue .....	19
2.3 Globalisation as a Driver of Invasive Alien Species .....	22
2.3.1 Invasive alien species and climate change .....	24
2.4 The Impacts of Invasive Alien Species .....	24

2.4.1 The ecological impacts of invasive alien species.....	26
2.4.2 The economic impacts of invasive alien species.....	27
2.4.3 The social impacts of invasive alien species.....	29
2.5 Invasive Alien Species in the Pacific .....	30
2.5.1 <i>Wasmannia auropunctata</i> in the Pacific .....	32
2.5.2 <i>Achatina fulica</i> in the Pacific .....	37
2.6 Conclusion: A Holistic Approach to Invasive Alien Species .....	40
3.0 Theoretical Context and Study Approach .....	42
3.0 Introduction.....	42
3.1 The Livelihoods Concept and Approach.....	42
3.2 Livelihood Diversification.....	49
3.3 Critique of the Livelihoods Approach.....	52
3.3.1 The role of gender and culture .....	52
3.3.2 Vulnerability and resilience .....	54
3.3.3 Transforming structures and processes.....	59
3.4 The Study Approach.....	61
Chapter 4: Fieldwork Process and Research Methodology .....	63
4.0 Introduction.....	63
PART 1: FIELDWORK PROCESS .....	64
4.1 Choice of Research Focus and Location .....	64
4.2 Ethics .....	66
4.3 Fieldwork.....	69
4.3.1 Pilot trip .....	70
4.3.1.1 Establishing Initial Community Contacts .....	70
4.3.1.2 Research Approvals .....	71
4.3.1.3 Familiarisation and Logistics .....	73
4.3.2 Trips two and three.....	74

4.4 Research Assistant.....	74
<b>PART 2: RESEARCH METHODOLOGY .....</b>	<b>76</b>
4.5 Methodological Approach .....	76
4.5.1 Research design and methods.....	79
4.5.2 Sample size.....	81
4.5.3 Data collection.....	82
4.5.3.1 Interviews: One-on-One and Focus Groups .....	82
4.5.3.2 Participatory Approaches .....	85
4.5.3.3 Secondary Documents.....	86
4.5.3.4 Ant Samples.....	86
4.5.4 Data analysis.....	87
4.6 Limitations of the Research .....	88
4.7 Conclusion .....	90
<b>Chapter 5: Solomon Islands Context and Setting of the Case Studies.....</b>	<b>91</b>
5.0 Introduction.....	91
5.1 Background Information.....	92
5.1.1 Geography and climate .....	92
5.1.2 A brief history of the Solomon Islands .....	93
5.2 The Modern State .....	97
5.2.1 Socio-political and socio-economic context .....	97
5.2.1.1 1998-2003 Civil Unrest.....	101
5.3 Contemporary Rural Livelihoods.....	104
5.3.1 Livelihood diversification in the Solomon Islands.....	108
5.3.2 The role of gender in Solomon Island livelihoods .....	112
5.3.3 The role of custom in Solomon Island livelihoods.....	114
5.4 A Rural Livelihoods Framework for the Solomon Islands.....	116
5.5 Study Area Description.....	118

5.6 Conclusion .....	125
Chapter 6: Case Study 1 – The Impacts of <i>Wasmannia auropunctata</i> (Little Fire Ant) on Rural Solomon Island Livelihoods .....	126
6.1 Arrival and Distribution .....	126
6.2 Impacts on Subsistence Agriculture .....	132
6.2.1 Impacts on gardening activities in the Solomon Islands .....	133
6.2.2 Impacts on garden productivity in the Solomon Islands .....	137
6.3 Impacts on Small-scale Income-generating Activities .....	140
6.3.1 Impacts on small-scale plantation activities in the Solomon Islands .....	140
6.3.2 Impacts on small-scale plantation productivity in the Solomon Islands .....	142
6.3.2.1 Coconut .....	142
6.3.2.2 Cocoa .....	145
6.3.3 Impacts on other income-generating activities .....	146
6.4 Impacts on Social Activities .....	151
6.4.1 Sexual relations .....	151
6.4.2 Household impacts .....	152
6.5 Conclusion .....	154
Chapter 7: Case Study 2 – The Impacts of <i>Achatina fulica</i> (Giant African Snail) on Rural Solomon Island Livelihoods .....	156
7.0 Introduction.....	156
7.1 Arrival and Distribution .....	156
7.1.1 Official response to the arrival of <i>Achatina fulica</i> .....	161
7.2 Impacts on Subsistence Agriculture .....	166
7.2.1 Impacts of <i>Achatina fulica</i> on gardening activities in the Solomon Islands .....	168
7.2.2 Impacts of <i>Achatina fulica</i> on garden productivity in the Solomon Islands .....	173
7.3 Impacts on Small-scale Income-generating Activities .....	179

7.3.1 Coconut .....	180
7.3.2 Cocoa .....	180
7.3.3 Betel nut .....	183
7.3.4 Banana.....	184
7.3.5 Taro.....	186
7.3.6 Flowers.....	187
7.4 Impacts on Other Livelihood Activities .....	188
7.4.1 Health.....	188
7.4.1.1 Eosinophilic Meningitis .....	188
7.4.1.2 Mosquito Borne Diseases.....	190
7.4.1.3 Flies .....	191
7.4.2 Education.....	191
7.4.3 Household impacts.....	195
7.4.4 Cultural obligations .....	196
7.4.4.1 The Wantok System.....	196
7.5 Conclusion .....	198
Chapter 8: Invasive Alien Species – A Livelihood Issue.....	200
8.0 Introduction.....	200
PART 1: THE VULNERABILITY/RESILIENCE OF RURAL SOLOMON ISLAND LIVELIHOODS TO INVASIVE ALIEN SPECIES .....	201
8.1 The Influence of <i>Wasmannia auropunctata</i> .....	201
8.2 The Influence of <i>Achatina fulica</i> .....	205
8.2.1 Household response to <i>Achatina fulica</i> incursions into gardens.....	206
8.2.2 Coping with <i>Achatina fulica</i> .....	213
PART 2: DEVELOPMENT POLICY AND THE CHALLENGES OF INVASIVE ALIEN SPECIES .....	216
8.3 The Solomon Islands National Development Strategy 2011-2020.....	216
8.4 Conclusion .....	231

Chapter 9: Invasive Alien Species – A Blip on the Development Screen .....	232
9.0 Introduction.....	232
9.1 Recognising Invasive Alien Species as a Development Issue .....	232
9.2 Key Findings - The Impacts of Invasive Alien Species on Rural Livelihoods in the Solomon Islands .....	234
9.3 Lessons for the Future .....	240
9.4 Final Word – Donald’s Story.....	243
References .....	245
Appendices .....	270
Appendix 1: Massey University Ethics Approval .....	270
Appendix 2: Information Sheet and Informed Consent .....	271
Appendix 3: Interview Schedules .....	274
Appendix 4: Focus Group Composition .....	280
Appendix 5: Focus Group Pairwise Ranking Results.....	281
Appendix 6: Sample Locations for <i>Wasmannia auropunctata</i> .....	282

## List of Tables

Table 2.1: Definitions of Invasive Alien Species (IAS) .....	13
Table 2.2: Known Location of <i>Wasmannia auropunctata</i> in the Pacific .....	34
Table 4.1: Solomon Islands Fieldwork Dates.....	69
Table 4.2: Summary of Interviews.....	82
Table 6.1: Reported Location of <i>Wasmannia auropunctata</i> in the Solomon Islands .....	128
Table 7.1: Known Location of <i>Achatina fulica</i> in the Solomon Islands .....	157

## List of Boxes

Box 6.1: Livelihood Profile - Cocoa Small-holder .....	147
Box 6.2: Livelihood Profile – Chicken Farmer .....	150
Box 7.1: Livelihood Profile – Henry’s Story .....	167

## List of Figures

Figure 3.1: The sustainable livelihoods framework .....	46
Figure 3.2: Sustainable livelihoods framework for the Pacific .....	53
Figure 3.3: Conceptual framework for vulnerability (V) and resilience (R) .....	57
Figure 3.4: General livelihoods framework, seen through the lens of IAS.....	62
Figure 5.1: Map of the Solomon Islands .....	92
Figure 5.2: Conceptualisation of rural livelihoods in the Solomon Islands .....	105
Figure 5.3: Livelihoods framework for the Solomon Islands as seen through the lens of IAS .....	117
Figure 5.4: Map of the northern coast of Guadalcanal, Solomon Islands.....	119
Figure 6.1: Map of the reported locations of <i>Wasmannia auropunctata</i> in the Solomon Islands .....	129
Figure 7.1: Map of the known locations of <i>Achatina fulica</i> in the Solomon Islands .....	159
Figure 8.1: Sequence of impacts on rural households practising subsistence agriculture in the Solomon Islands following the arrival of <i>Achatina fulica</i> within a community. .....	212
Figure 8.2: Structure of the Solomon Island National Development Strategy 2011- 2020.....	217

## List of Photographs

Except for Photos 2.1, 2.2 and 7.1, all photographs used in this thesis are by the author (2013).

Photo 2.1: <i>Wasmannia auropunctata</i> (little fire ant) .....	33
Photo 2.2: <i>Wasmannia auropunctata</i> (little fire ant) .....	33
Photo 2.3: <i>Achatina fulica</i> (giant African snail) is widespread in the Pacific region	37
Photo 2.4: <i>Achatina fulica</i> (giant African snail) shell from the Solomon Islands .....	38
Photo 2.5: <i>Achatina fulica</i> (giant African snail) shell from a garden site on the Guadalcanal plains, Solomon Islands .....	39
Photo 5.1: Coconut plantation, West Guadalcanal .....	96
Photo 5.2: Exploded WWII munitions on the roadside, East Guadalcanal.....	96
Photo 5.3: Timber packed for export to New Zealand.....	98
Photo 5.4: Oil palm nursery (foreground) and established oil palm plantation on the East Guadalcanal plains.....	121
Photo 5.5: Oil palm fruit being harvested on the Guadalcanal plains by Guadalcanal Plains Palm Oil Limited (GPPOL) .....	121
Photo 5.6: Downtown Honiara .....	122
Photo 5.7: Walking tracks connect the many rural communities and households scattered across the Guadalcanal plains .....	124
Photo 5.8: Henderson Market on the outskirts of Honiara, opposite the international airport .....	124
Photo 6.1: Community map produced during a focus group with adult agricultural students from a rural training centre on Guadalcanal .....	132
Photo 7.1: A SIAQS <i>Achatina fulica</i> awareness poster .....	164
Photo 7.2: Juvenile <i>Achatina fulica</i> beneath tomato plants (which have been pulled back to reveal their presence) in a subsistence garden on the Guadalcanal plains ..	169
Photo 7.3: Enlarged area from Photo 7.2 showing juvenile <i>Achatina fulica</i> which have clustered together beneath tomato plants in a subsistence garden on the Guadalcanal plains .....	169

Photo 7.4: One morning's collection of <i>Achatina fulica</i> from a small subsistence garden measuring approximately 25m x 10m on the Guadalcanal plains .....	171
Photo 7.5: Brushing and burning of vegetation along the roadside in an attempt to reduce snail habitat and limit their spread into areas on the right hand side of the road, which was still largely snail free .....	173
Photo 7.6: <i>Achatina fulica</i> damage on eggplant and tomato in a subsistence garden, East Guadalcanal plains .....	174
Photo 7.7: Sweet potato grown in an area free of <i>Achatina fulica</i> , East Guadalcanal plains .....	177
Photo 7.8: Sweet potato grown in an area free of <i>Achatina fulica</i> , East Guadalcanal plains .....	177
Photo 7.9: Defoliated sweet potato in an <i>Achatina fulica</i> infested garden, East Guadalcanal plains .....	178
Photo 7.10: Defoliated sweet potato in an <i>Achatina fulica</i> infested garden, West Guadalcanal plains .....	178
Photo 7.11: <i>Achatina fulica</i> in a cocoa tree.....	182
Photo 7.12: Black pod disease in cocoa, East Guadalcanal plains .....	182
Photo 7.13: <i>Achatina fulica</i> consuming banana .....	186
Photo 7.14: Empty <i>Achatina fulica</i> shells littering the undergrowth on the East Guadalcanal plains .....	192
Photo 7.15: Empty <i>Achatina fulica</i> shells .....	192
Photo 8.1: An abandoned garden area near the Ngalimbiu River, East Guadalcanal, which was in use up until mid-2012 .....	210
Photo 8.2: <i>Achatina fulica</i> in an abandoned garden area on the banks of the Ngalimbiu River, East Guadalcanal .....	210

## List of Acronyms

AECD	Allergenic Eczematous Contact Dermatitis
AUD	Australian Dollar
AUSAID	Australian Agency for International Development
BP	Before Present
CABI	Centre for Agriculture and Biosciences International
CBD	The Secretariat of the Convention on Biological Diversity
CBN	Cost of Basic Needs
CII	The Cooperative Islands Initiative
CLIP	Cocoa Livelihoods Improvement Project (AUSAID)
CTAHR	College of Tropical Agriculture and Human Resources
DFID	Department for International Development (UKAID)
GAS	Giant African Snail ( <i>Achatina fulica</i> )
GEO	Global Environment Outlook
GISD	Global Invasive Species Database
GISP	Global Invasive Species Programme
GLF	Guadalcanal Liberation Front
GPPOL	Guadalcanal Plains Palm Oil Limited
GRA	Guadalcanal Revolutionary Army
HH	Household
IAS	Invasive Alien Species
IDS	Massey University Institute of Development Studies
IFM	Isatabu Freedom Movement
ILO	International Labour Organisation
ISSG	Invasive Species Specialist Group
IUCN	The International Union for Conservation of Nature
KGA	Kastom Gaden Association
LFA	Little Fire Ant ( <i>Wasmannia auropunctata</i> )
MA	Millennium Ecosystem Assessment
MDG	Millennium Development Goals

MDPAC	Solomon Islands Ministry of Development, Planning and Aid Coordination
MECDM	Solomon Islands Ministry of Environment, Climate Change, Disaster Management and Meteorology
MEF	Malaitan Eagle Force
MEHRD	Solomon Islands Ministry of Education and Human Resource Development
MFAT	New Zealand Ministry of Foreign Affairs and Trade
MP	Member of Parliament
NDS	Solomon Islands National Development Strategy 2011-2020
NGO	Non-government Organisation
NZ	New Zealand
NZAID	New Zealand Agency for International Development
OCTA	Office of the Chief Trade Adviser
PACER	Pacific Agreement on Closer Economic Relations
PDCT	New Zealand Pacific Development and Conservation Trust
PIAG	Pacific Invasive Ant Group
PIFS	Pacific Islands Forum Secretariat
PII	Pacific Invasives Initiative
PRA	Participatory Rural Appraisal
RAMSI	Regional Assistance Mission to Solomon Islands
RRA	Rapid Rural Appraisal
RSIPF	Royal Solomon Islands Police Force
RTA	Regional Trade Agreement
SBD	Solomon Islands Dollar
SDG	Sustainable Development Goals
SI	Solomon Islands
SIAQS	Solomon Islands Agriculture Quarantine Service
SIBC	Solomon Islands Broadcasting Corporation
SIDS	Small Island Developing States
SIDT	Solomon Islands Development Trust
SIG	Solomon Islands Government
SINU	Solomon Islands National University

SITRC	Solomon Islands Truth and Reconciliation Commission
SPC	Secretariat of the Pacific Community
SPREP	Secretariat of the Pacific Regional Environment Programme
SPS	Sanitary and Phytosanitary
UK	United Kingdom
UKAID	United Kingdom Agency for International Development
UN	United Nations
UNEP	United Nations Environment Programme
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
US	United States of America
USP	University of the South Pacific
VDR	Vidaka Damage Rate
WCED	World Commission on Environment and Development
WHO	World Health Organisation
WTO	World Trade Organisation
WWII	World War Two