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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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## 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