

FOREWORD

This is the report of the third research expedition of Kagoshima University on the State of Yap, Federal States of Micronesia. An interdisciplinary research team composed of 30 professors and students from various faculties of the university visited Ulithi Atoll of Yap State, from October to November 2001 using the training ship *Keiten-maru* of the Faculty of Fisheries. The expedition was aimed at: 1) looking at geological, ecological, bioproductive, hygienic and socio-cultural features of natural and human environments in Ulithi Atoll, and 2) in some way contribute to the development of agriculture, fisheries and the actual daily lives of the people of Yap, as well as promote international exchange between the State of Yap and Japan.

The expedition has three research teams. The first team produced three reports, which surveyed on human activity in Ulithi Atoll such as its traditional culture, tourism and social change, the politics of dancing, and the migration of islanders. The second team has nine reports, which investigated on aspects of the physical geography like the coastal waters, genetic diversity of coconut, agriculture and food supply, tuber proteins, influence of wave action on shell shape and oil spill, using satellite data in monitoring and analyzing shore environment, biogeography of insect fauna, RAPD (random amplified polymorphic DNA) analysis of yams, and ciguatera fish poisoning. The third team has five reports, which looked at the people-nature interactions such as aroid agriculture on atolls, classifications of citrus species, soil conditions, contamination of soil with parasite eggs, and the mosquito fauna.

We are truly grateful to several persons and institutions in Japan and the State of Yap, for their direct and indirect contribution and assistance during the research expedition. We hope that this report will provide information, understanding and appreciation of the Ulithi Atoll dwellers and their environments, as much as we have learned from and enjoyed that wonderful experience.

NORO Tadahide
Expedition Leader
Kagoshima University
Faculty of Fisheries

PREFACE

We are pleased to announce the publication of the official report of the research project “Social Homeostasis of Small Islands in an Island-Zone” conducted by the Kagoshima University Research Center for the Pacific Islands (KURCPI) in the years 2000 and 2001.

This multi-disciplinary research project was started in 1999 as a three-year project by the four members of the KURCPI with the collaboration of more than forty researchers from other faculties of Kagoshima University. The term “homeostasis” describes, as its biological origin suggests, the actual and potential ways in which the stability, not necessarily static but also dynamic, and the sustainability of a society are achieved, without forfeiting its interaction and interdependency with the outside world. The goal of the project is to obtain an understanding of how social homeostasis may be achieved in a society on a small island. The term “island-zone” indicates that an island, though insulated by the sea, needs to be understood in the context of a group of islands, where networks of people, things, and information are formed and interaction between islands take place.

As the main research fields for the project, we chose the Satsunan Islands in Southern Japan and the island-zone of Yap in Micronesia. Both are island-zones consisting of a group of small islands with biological, social, and cultural relationships among themselves, and they share common difficulties, typical of small islands. The main difference between them is that the Satsunan Islands are a peripheral part of one of the most developed economies in the world, whereas the island-zone of Yap belongs to a modest island nation. This contrast enabled us to make a comparative approach to the studies on small islands.

The present report represents results of the research project in its second and third years. It consists of two parts, each forming an individual volume in the KURCPI Occasional Paper Series. Part One, in volume 38, is a collection of papers which involve the researches carried out in Japan in 2000 and 2001. These researches concern a variety of topics relating to island-zones and small islands in Southern Japan. Part Two, in the present volume 39, contains papers based on the researches carried out in 2000 and 2001 in Yap, Micronesia, including the research conducted by the Survey Party in Ulithi Atoll in 2001. The drafts of the papers in Part Two were reviewed by the Council of Tamol (traditional chiefs in the Outer Islands of Yap) and by the Council of Pilung (traditional chiefs in the Yap Islands) to ensure accuracy before publication. Reflecting our multi-disciplinary approach, both Part One and Two are subdivided into sections on human activities, physical geography, and people-nature interactions. Each section involves, (1) history, society, culture, education, tourism, and human movement, (2) geology, geography, and ecology, and (3) agriculture, fisheries, public health, and the impact of natural disasters.

Please note that, following a recommendation by the Japanese Language Council, we have adopted a new practice in this volume that in accordance with Japanese practice the family name of a Japanese author precedes the given name.

We hope this two-volume report will bring benefits to the people of the local communities with which the research was concerned. We also hope this provides us with an insight into the present conditions of the two island zones in the Northwestern Pacific and that it will further encourage studies on the small islands in this part of the world, so that researchers can exchange ideas and information and develop general theories on small islands in the future.

AOYAMA Toru
NODA Shinichi
Editors
KURCPI

CONTENTS

PREFACE	iii
FOREWORD	iv
Members of the Japanese Survey Party	vii
Host Scientists, Experts, Officials and Informants in the State of Yap	viii
The Route of the <i>Keiten-maru</i> for the 2001 Survey	ix
Maps.....	x

SECTION ONE: HUMAN ACTIVITIES

Report 1 TRADITIONAL CULTURE, TOURISM, AND SOCIAL CHANGE IN ISLAND, ULITHI ATOLL.....	1
KUWAHARA Sueo	
Report 2 POLITICS OF DANCING: CULTURAL AND SOCIAL NEGOTIATION AMONG THE ISLANDS OF ULITHI ATOLL AND YAP PROPER	11
AOYAMA Toru	
Report 3 MIGRATION OF MOGMOG ISLANDERS IN ULITHI ATOLL, YAP STATE, FSM	17
TAJIMA Yasuhiro and Sesariyo F. HARONG	
Report 4 A TALE OF TWO ISLANDS: TOURISM, CULTURE, AND CONFLICT IN YAP STATE	25
Donald H. RUBINSTEIN	

SECTION TWO: PHYSICAL GEOGRAPHY

Report 1 A STUDY OF THE COASTAL SEAWATER IN YAP ISLAND AND ULITHI ATOLL, FEDERATED STATES OF MICRONESIA, 2001	35
Gregory N. NISHIHARA, TERADA Ryuta, HIGASHI Akira, and NORO Tadahide	
Report 2 GENETIC DIVERSITY OF COCONUT (<i>Cocos Nucifera</i> L.) IN YAP STATE ...	45
ICHTANI Katsuyuki, HIKIDA Megumi, KAMADA Noriyuki, NAGAYAMA Hiroshi, ONJO Michio, TSUDA Katsuo and TOMINAGA Shigeto	
Report 3 AGRICULTURE AND FOOD SUPPLY ON ULITHI ATOLL	51
ONJO Michio, NAKANO Kazutaka, TOMINAGA Shigeto, TSUDA Katsuo, ICHTANI Katsuyuki, and PARK Byoung-Jae	
Report 4 COMPARISON OF TUBER PROTEINS OF YAM INTRODUCED FROM THE POHNPEI ISLAND AND YAP PROPER, THE FEDERATED STATES OF MICRONESIA	55
ONJO Michio, HAYASHI Mitsuru, and MATSUO Tomoaki	
Report 5 INFLUENCES OF WAVE ACTION ON SHELL SHAPE OF MARINE SNAIL <i>NERITA Plicata</i> AND OIL SPILL ON MARINE COASTAL ENVIRONMENTS.....	59
KAWAI Kei	

Report 6	PROBABILITY OF MONITORING AND ANALYZING SEA SHORE ENVIRONMENT IN YAP USING SATELLITE DATA	65
	ISHIGURO Etsuji, KASHIWAGI Sumitaka, KIKUKAWA Hiroyuki, HIGASHI Masataka, YOSHINAGA Keisuke, FUKUDA Ryuji, and MORIYAMA Masao	
Report 7	THE BIOGEOGRAPHY OF THE INSECT FAUNA OF THE ULITHI ISLANDS, MICRONESIA	73
	TSUDA Katsuo, WATANABE Masao, TOMINAGA Shigeto, ONJO Michio, and ICHITANI Katsuyuki	
Report 8	RANDOM AMPLIFIED POLYMORPHIC DNA (RAPD) ANALYSIS OF YAMS COLLECTED IN THE YAP ISLANDS AND THE ULITHI ISLANDS ...	77
	TAURA Satoru, PARK Byoung-Jae, ICHITANI Katsuyuki, ONJO Michio, and KAWABE Kotaro	
Report 9	CIGUATERA FISH POISONING IN ULITHI ATOLL, YAP STATE, MICRONESIA	83
	NORO Tadahide, Gregory Naoki NISHIHARA, TERADA Ryuta, and Andrew YOROPIY	

SECTION THREE: PEOPLE- NATURE INTERACTIONS

Report 1	AN OVERVIEW OF AROID CULTIVATION ON ATOLLS IN THE PACIFIC OCEAN	87
	NAKANO Kazutaka and ONJO Michio	
Report 2	CLASSIFICATION OF CITRUS SPECIES ON YAP ISLAND AND ULITHI ATOLL OF THE FSM	93
	TOMINAGA Shigeto, YAMAMOTO Masashi, KOHNO Rumiko, PARK Byoung-Jae, TSUDA Katsuo, ONJO Michio, and ICHITANI Katsuyuki	
Report 3	PRELIMINARY REPORT ON SOIL CONDITIONS IN YAP ISLAND AND ULITHI ATOLL OF THE FSM	99
	TOMINAGA Shigeto, ICHITANI Katsuyuki, ONJO Michio, TSUDA Katsuo, PARK Byoung-Jae, NAGAYAMA Hiroshi, KAMADA Noriyuki, and KOHNO Rumiko	
Report 4	CONTAMINATION OF SOIL WITH PARASITE EGGS IN MADRICH, YAP ISLANDS, FEDERATED STATES OF MICRONESIA	107
	NODA Shinichi and John GILMATAM	
Report 5	A SURVEY OF THE MOSQUITO FAUNA IN ULITHI ATOLL, YAP STATE, FEDERATED STATES OF MICRONESIA	111
	NODA Shinichi and John GILMATAM	

MEMBERS OF THE JAPANESE SURVEY PARTY TO YAP

The Titles were correct at the time of the survey in 2001.

NODA, Shinichi	Overall Project Leader	Director and Professor, KURCPI
NORO Tadahide	Party Leader	Professor, FF-KU

Survey Team 1: Human Activity

AOYAMA, Toru	Professor, KURCPI
RUBINSTEIN, Don H.	Visiting Professor, KURCPI (UG)
KUWAHARA, Suelo	Associate Professor, FLEH-KU
TAJIMA, Yasuhiro	Professor, FE-KU
DOMEN, Noriko	Graduate Student, FLEH-KU
NAKAUMRA, Tomoko	Graduate Student, FLEH-KU
UEHARA, Kentaro	Graduate Student, FE-KU
YOSHIDA, Tamaki	Graduate Student, GSSS-TMU

Survey Team 2: Physical Geography

KAWAI, Kei	Associate Professor, KURCPI
ISHIGURO, Etsuji	Associate Professor, FA-KU
KASHIWAGI, Sumitaka	Technical Officer, FA-KU
NORO, Tadahide	Professor, FF-KU
HIGASHI, Masataka	Associate Professor, FF-KU
FUKUDA, Ryuji	Research Associate, FF-KU
TERADA, Ryuta	Research Associate, FF-KU
YOSHINAGA, Keisuke	Research Associate, FF-KU
NISHIHARA, Gregory Naoki	Graduate Student, UGSAS-KU
MAEDA, Kenjiro	Graduate Student, FA-UR
KONGO, Sentaro	Undergraduate Student, FA-KU

Survey Team 3: Human-Nature Interactions

NAKANO, Kazutaka	Professor, KURCPI
NODA, Shinichi	Professor, KURCPI
TOMINAGA, Shigeto	Professor, FA-KU
TSUDA, Katsuo	Associate Professor, FA-KU
ICHITANI, Katsuyuki	Lecturer, FA-KU
ONJO, Michio	Lecturer, FA-KU
HIKIDA, Megumi	Graduate Student, FA-KU
WATANABE, Masao	Graduate Student, FA-KU
PARK, Byoung-Jae	Graduate Student, UGSAS-KU
KAMADA, Noriyuki	Undergraduate Student, FA-KU
KOHNO, Rumiko	Undergraduate Student, FA-KU
NAGAYAMA, Hiroshi	Undergraduate Student, FA-KU

HOST SCIENTISTS, EXPERTS, OFFICIALS AND INFORMANTS IN THE STATE OF YAP, FSM

We thank the following people for the invaluable help while we stayed in Yap. The titles were correct at the time of the survey in 2001.

CHOCHOL, Godfrey	Project Coordinator, Division of Agriculture and Forestry, YSG
FALAN, Henry	Director, Department of Education, YSG
FUJITA, Yasuyuki	JOCV, Yap
HARONG, Sesariyo F.	Superintendent, Elementary School, Mogmog
HASURMAI, Mike J.	Marine Resource Management Division, Department of Resource and Development, YSG
JUANITO, Yarusemal	Representative Chief of Mogmog
LANGAL, Isaac	Resident, Asor
LIMOL, Sophiano	General Manager, Yap Visitors Bureau
MAREFONG, Felix	Resident, Asor
MARLEMAR, William	Agricultural representative Ulithi Atoll, Mogmog
MATHEB, Pius	Resident, Fassarai
MUG, Wakin	Resident, Mogmog
NERY, Philip	Outer Islands High School teacher (retired)
RAREFONG, William	Resident, Fassari
RULMAL, John	Governor's Representative, Ulithi (retired)
SOGRUI, Hosey	Dispensary Officer, Mogmog
SULOG, Tamnad	Chief, Division of Agriculture and Forestry, YSG
TACHELIOL, Hilary	Director, Department of Youth and Civic Affairs
TAFLEICHIG, Andy	Marine Resource Management Division, Department of Resource and Development, YSG
TAMAGAWA, Keiko	JOCV, Division of Statistics, Department of Planning and Budget, YSG
WURPIG, A, Maria	Extension worker, Division of Agriculture and Forestry, YSG
YANGERLUO, Robert B.	Student Service Coordinator, COM
YOLOPIY, Andrew	Representative Chief, Asor

Abbreviations

COM	Community College of Micronesia, Yap Campus
FA	Faculty of Agriculture
FE	Faculty of Education
FF	Faculty of Fisheries
FLEH	Faculty of Law, Economics and the Humanities
GSSS	Graduate School of Social Sciences
JOCV	Japan Overseas Cooperation Volunteers
KU	Kagoshima University
KURCPI	Kagoshima University Research Center for the Pacific Islands
TMU	Tokyo Metropolitan University
UG	University of Guam
UGSAS	United Graduate School of Agricultural Sciences
UR	University of the Ryukyus
YSG	Yap State Government

The Route of the *Keiten-maru* for the 2001 Survey of the Research Project 界Social Homeostasis of Small Islands in an Island-Zone

Arrival and Departure Dates at the Ports

Ports	Arrival Dates	Departure Dates
Kagoshima		10 October 2001
Colonia	16 October 2001	18 October 2001
Ulithi Atoll	19 October 2001	27 October 2001
Colonia	28 October 2001	31 October 2001
Kagoshima	6 November 2001	





