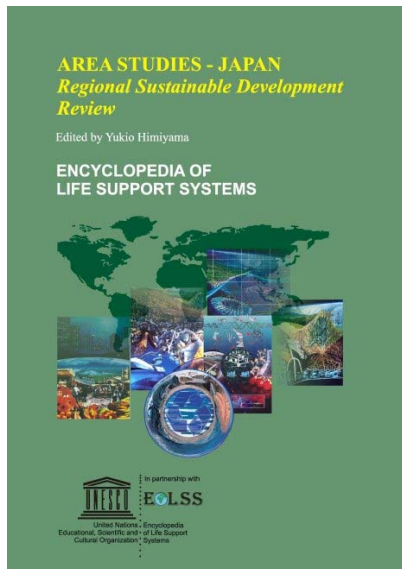


CONTENTS

AREA STUDIES - REGIONAL SUSTAINABLE DEVELOPMENT: JAPAN



Area Studies - Regional Sustainable Development: Japan - Volume 1

No. of Pages: 550

ISBN: 978-1-84826-170-9 (eBook)

ISBN: 978-1-84826-620-9 (Print Volume)

For more information of e-book and Print Volume(s) order, please [click here](#)

Or [contact : eolssunesco@gmail.com](mailto:eolssunesco@gmail.com)

CONTENTS

Regional Sustainable Development Review: Japan **1**

Yukio Himiyama, *Institute of Geography, Hokkaido University of Education, Asahikawa, Japan*

1. Introduction
2. Land, People, and Environment
 - 2.1. Geography
 - 2.2. Population trends
 - 2.3. Urbanization
 - 2.4. Changes in agricultural land use
 - 2.5. Changes to forest and wetland
 - 2.6. Changes of coast and sea
 - 2.7. Kogai: public nuisance
 - 2.8. Changes in environmental attitudes
3. The Situation During the 1990s, and After
 - 3.1. Land management
 - 3.1.1. Urbanization
 - 3.1.2. Changes in rural areas
 - 3.1.3. Changes in mountain areas
 - 3.2. Resource management
 - 3.2.1. Energy resources
 - 3.2.2. Water resources
 - 3.2.3. Ocean resources
 - 3.3. Waste management
 - 3.4. National efforts for sustainable development
 - 3.4.1. Basic Environment Law
 - 3.4.2. Basic Environment Plan
 - 3.4.3. Towards a "recycle-oriented" society
 - 3.4.4. Budget
 - 3.5. International co-operation
 - 3.5.1. Overseas development aid
 - 3.5.2. Asia-Pacific Network for Global Change Research (APN)
 - 3.5.3. Institute for Global Environmental Strategies (IGES)
 - 3.5.4. Japan International Co-operation Agency (JICA)
 - 3.6. The Kyoto Protocol
 - 3.7. Participation of local governments
 - 3.8. Participation of the scientific community
 - 3.9. Participation of the business community
 - 3.10. Participation of citizens and environmental NGOs
 - 3.10.1. Citizens
 - 3.10.2. Environmental NGOs and NPOs
4. Towards Domestic and Global Sustainable Development
 - 4.1. Future population trends
 - 4.2. Environmental technology and its transfer
 - 4.3. Education and environment
 - 4.4. The roles of Japan in the twenty-first century

Changing Consumption Patterns in Japan **34**

Midori Aoyagi-Usui, *National Institute for Environmental Studies, Japan*

1. Introduction
2. Objectives of this article
3. Background
 - 3.1. Industry's environmental countermeasures
 - 3.2. Mass consumption

- 3.3. "Ecological Footprint"
- 4. Analysis of the household carbon dioxide emissions
- 5. Driving forces –Industry
 - 5.1. Communication with consumers
 - 5.2. Perception of Global Environmental Issues
- 6. Driving forces-consumers
 - 6.1. Trust in Industry
 - 6.2. Green Consumers
 - 6.3. Gaps between consumer needs and attributes of environmentally friendly products
 - 6.4. Changing Society
- 7. Conclusion

Demographic Dynamics in Japan

55

Naohiro Ogawa, *Population Research Institute, Nihon University Tokyo, Japan*

- 1. Introduction
- 2. Fertility Transition and Nuptiality Change
- 3. Mortality Improvement
- 4. Urbanization and Internal Migration
- 5. International Labor Migration
- 6. Population Aging and Policy Responses
 - 6.1. Trends and Levels of Population Aging
 - 6.2. Prospects of Population Aging
 - 6.3. Socioeconomic Consequences of Population Aging
- 7. Concluding Remarks

Protection and Promotion of Human Health in Japan

79

R. Kishi, *Department of Public Health, Hokkaido University School of Medicine, Japan*
 J. Goshima, *Department of Public Health, Hokkaido University School of Medicine, Japan*
 A. Isu, *Department of Public Health, Hokkaido University School of Medicine, Japan*

- 1. Introduction
- 2. General Issues
 - 2.1. Health and Welfare Administration
 - 2.1.1. Administrative Reform
 - 2.1.2. Decentralization of Government Power
 - 2.1.3. Changes in Roles of Public Health Centers
 - 2.1.4. Other Issues in Health and Welfare Administration
 - 2.2. Medical System
 - 2.2.1. Medical Personnel and Care Facilities
 - 2.2.2. Health Insurance System and Medical Expenditures
 - 2.3. Aging Society
 - 2.3.1. Public Long-Term Care Insurance Program
 - 2.4. Decline in Child Population
 - 2.4.1. Angel Plan
- 3. Control of Communicable Diseases in Japan
 - 3.1. Emerging / Re-emerging Infectious Diseases in Japan
 - 3.1.1. Tuberculosis
 - 3.1.2. Influenza
 - 3.1.3. Salmonella
 - 3.1.4. HIV and AIDS
 - 3.1.5. Verocytotoxin-Producing E Coli Infection
 - 3.1.6. Sexually Transmitted Diseases
 - 3.1.7. Gonorrhea
 - 3.1.8. Genital Chlamydial Infection (GCI)
 - 3.1.9. Genital Herpes

- 3.2. Other Major Infectious Diseases Currently Controlled in Japan
 - 3.2.1. Measles
 - 3.2.2. Diphtheria
 - 3.2.3. Poliomyelitis
4. People with Disabilities
 - 4.1. Current Status
 - 4.1.1. Overview
 - 4.1.2. Residence
 - 4.1.3. Education
 - 4.1.4. Employment
 - 4.2. Government Action Plan
 - 4.3. Future Issues
5. Child Abuse in Japan
 - 5.1. Current Status
 - 5.2. Key Issues and Suggestions
 - 5.2.1. Duty of Reporting
 - 5.2.2. Hotlines
 - 5.2.3. Intervention of CGC
 - 5.2.4. Standardized, Quality Management
6. Urban Health Challenge
 - 6.1. Current Topics in Occupational Safety and Health
 - 6.1.1. "Karoshi"
 - 6.1.2. Suicides
 - 6.1.3. Occupational Accidents and Diseases
 - 6.2. Occupational Health Administration
 - 6.2.1. History
 - 6.2.2. Health Examination
 - 6.2.3. Total Health Promotion Plan
7. Environmental Pollution and Hazards
 - 7.1. Living Environment
 - 7.1.1. Water
 - 7.1.2. General Waste and Industrial Waste
 - 7.1.3. Environmental Risk Assessment and Environmental Risk Management
 - 7.2. Environmental Destruction
 - 7.2.1. Pollution Diseases
 - 7.2.2. Air Pollution
 - 7.3. Environmental Administration Policies in Japan
 - 7.3.1. History
 - 7.3.2. Basic Environment Plan

Promoting Sustainable Agriculture and Rural Development

110

Akira Tabayashi, *Graduate School of Life and Environmental Sciences, University of Tsukuba, Tsukuba, Japan*

1. Introduction
2. Modernization of Agriculture and its Problems
 - 2.1. Overview of Japanese Agriculture
 - 2.2. Traditional Agricultural System in Japan
 - 2.3. Modernization of Japanese Agriculture
 - 2.3.1. Agricultural Land Infrastructure Development and Modernization of Agriculture
 - 2.3.2. Transition of Productivity Enhancement and Management in Agriculture
 - 2.4. Agricultural Modernization and Issues in Agriculture and Rural Areas
3. Promotion of Sustainable Agriculture in Japan
 - 3.1. Development of Measures for Sustainable Agriculture in Japan
 - 3.2. Conservation Oriented Agriculture in Japan
 - 3.2.1. Technical Aspects of Conservation Oriented Agriculture
 - 3.2.2. Economic and Social Aspects of Conservation Oriented Agriculture

- 3.3. State of Implementation of Conservation Oriented Agriculture in Japan
4. Characteristics of Conservation Oriented Agriculture in Japan
 - 4.1. Typology of Conservation Oriented Agriculture
 - 4.2. The Case of Conservation Oriented Agriculture
 - 4.2.1. Agricultural Productivity as a Motivating Factor - The Case of Miura City, Kanagawa Prefecture-
 - 4.2.2. Degradation of the Local Environment as a Motivating Factor – The Case of Kagamihara City, Gifu Prefecture
 - 4.2.3. Responding to Consumers and Markets – The Case of Sasakami Village, Niigata Prefecture-
5. Promotion of Rural Areas in Japan
 - 5.1. Fostering of Future Farmers
 - 5.2. Application of Agricultural Multiple Functions
 - 5.3. Conservation of Local Resources and Reviving of Rural Communities
 - 5.4. Conservation of Hilly and Mountainous Areas
6. Advantages and Problems of Sustainable Agriculture and Development of Rural Areas in Japan
7. Conclusion

Environmentally Sound Management of Biotechnology in Japan **148**

Akiko Murayama, *Biotechnology Center, Tokyo University of Agriculture, Japan*

Masato Ikegami, *Department of Life Science, Graduate School of Agricultural Science, Tohoku University, Japan*

1. Introduction
2. Current Status of the Biotechnology Products Accepted in Japan
 - 2.1. Food, Feed and Renewable Raw Materials
 - 2.1.1. Crops
 - 2.1.2. Livestock
 - 2.1.3. Forest and Aquatic Products
 - 2.1.4. Microorganisms
 - 2.2. Improvement in Human Health
3. The Management carried out for Biotechnology Techniques in Japan
 - 3.1. Background
 - 3.2. The Present Condition of the Management in Japan
 - 3.2.1. Laboratory Level
 - 3.2.2. Industrial Level
 - 3.2.3. Public Acceptance in Japan
4. Conclusion

Protection of Oceans and Their Living Resources-Japan **171**

M. Shimizu, *Professor emeritus, University of Tokyo, Tokyo, Japan*

1. Introduction
2. The marine environment around Japan
3. Changes in the marine environment
 - 3.1. Topographic changes: increases in reclaimed land and artificially altered coastlines
 - 3.2. Marine pollution
 - 3.3. Hazardous chemicals
 - 3.4. Eutrophication
 - 3.5. Damage to fisheries by pollution
4. Changes in living resources
 - 4.1. Living resources around Japan
 - 4.1.1. Fluctuations in pelagic fishes
 - 4.1.2. Changes in coastal resources
5. Case studies
 - 5.1. Tokyo Bay

- 5.2. The Seto Inland Sea
6. Environmental Protection. How to go forward
 - 6.1. The viewpoint on the protection of marine environment
 - 6.2. Characteristics of the seas and environmental protection
 - 6.3. Marine environmental monitoring and environmental impact assessment
 - 6.4. International partnership and cooperation

Soil and Groundwater Contamination and Remediation in Japan

208

T. Hirata, *Depts. of Environmental Systems, Wakayama University, Japan*

1. Introduction
2. Present State of Groundwater Pollution
3. Remediation for Organochlorines
 - 3.1. Availability of Technology
 - 3.2. Soil Excavation and Groundwater Extraction
 - 3.3. Dual Extraction
 - 3.4. Bioremediation
 - 3.5. Maintenance Free Technology
4. Nitrogen Pollution
 - 4.1. Natural Abundance of Nitrogen
 - 4.2. Acidification due to Fertilizer Application
 - 4.3. How to Identify Nitrogen Sources
 - 4.4. Feasible Option for Nitrate Pollution
5. Conclusion

Education, Public Awareness and Training

226

Masahiro Takahashi, *Environmental Education Project, Institute for Global Environmental Strategies (IGES), Japan*

1. Introduction
 - 1.1. Definition of Education, Public Awareness, and Training in Agenda 21
 - 1.1.1. Education
 - 1.1.2. Public Awareness
 - 1.1.3. Training
 - 1.2. Responsible Organizations for Environmental Education in Japan
 - 1.3. From Agenda 21 to Basic Environmental Law
 - 1.3.1. Basic Environment Law
 - 1.3.2. Basic Environment Plan
 - 1.4. Budget Allocation in Environmental Education
2. Education
 - 2.1. General Information about Education in Japan
 - 2.2. Brief History of Environmental Education in Japan
 - 2.3. Trail for Environmental Education before UNCED
 - 2.3.1. Handbook "Guidance for Environmental Education Teaching"
 - 2.3.2. Environmental Education in the Course of Study of 1989
 - 2.4. Trial for Enforcement of Environmental Education after UNCED
 - 2.4.1. Environmental Education in the Reports of Central Council for Education
 - 2.4.2. Environmental Education in the Report of the Curriculum Council, 1997
3. Public Awareness
 - 3.1. National Government's initiative in Enhancing Public Awareness
 - 3.1.1. The Biodiversity Center of Japan
 - 3.1.2. Environmental Partnership Office
 - 3.2. Local Governments' Initiative in Enhancing Public Awareness
 - 3.3. Other Activities for Enhancing Public Awareness
 - 3.3.1. Junior Eco Club
 - 3.3.2. Junior Eco Club Asia Conference

- 3.3.3. Pupil's Meeting for Global Warming Prevention
- 3.3.4. Supporting Voluntary Activities
- 4. Training for Managing Environment
 - 4.1. Training by Business and Industry
 - 4.1.1. Environmental Training Organized for Workers and Laborers
 - 4.1.2. Skill Training for Employees such as Internship, In-service Training, and Job-training
 - 4.2. Training for Teachers
 - 4.2.1. Teacher Training
 - 4.2.2. Organizations related with Teacher Training
- 5. Issues and Perspectives
 - 5.1. Major Issues or Problems in Environmental Education
 - 5.2. Perspective on Environmental Education

National Mechanisms and International Cooperation for Capacity Building - Japan 250

H. Omagari, *Office of International Cooperation, Japan Environmental Sanitation Center, Japan*

H. Kitawaki, *Faculty of Regional Development Studies, Toyo University, Japan*

T. Matsuo, *Faculty of Regional Development Studies, Toyo University, Japan*

- 1. Introduction
- 2. General Scheme of Capacity Building in Japan
- 3. Governmental Organizations for Capacity Building
 - 3.1. General
 - 3.2. Ministry of the Environment (MOE)
 - 3.3. Ministry of Education, Culture, Sports, Science and Technology (MEXT)
 - 3.4. Ministry of Health, Labor and Welfare (MHLW)
 - 3.5. Other Ministries
- 4. Research Institutions
 - 4.1. General
 - 4.2. National Institute for Environmental Studies (NIES)
 - 4.3. National Institute of Advanced Industrial Science and Technology (AIST)
 - 4.4. Center for Environmental Science in Saitama
- 5. Formal Education in Japan
 - 5.1. General
 - 5.2. Universities and Colleges
 - 5.3. Junior Colleges
 - 5.4. Special Training Colleges
 - 5.5. Colleges of Technology
 - 5.6. Graduate Schools
 - 5.7. University Research Institutes
 - 5.8. Acceptance of Foreign Students in Formal Education
- 6. Environmental Training for Japanese Experts
 - 6.1. General
 - 6.2. Japan Environmental Sanitation Center (JESC)
 - 6.3. Japan Sewage Works Agency (JSWA)
 - 6.4. Japan Education Center for Environmental Sanitation (JECES)
 - 6.5. Japan Environmental Measurement and Chemical Analysis Association (JEMCA)
 - 6.6. Energy Conservation Center (ECCJ)
 - 6.7. Japan Environmental Management Association for Industry (JEMAI)
 - 6.8. Japan Consultant Engineer Association (JCEA)
- 7. International Cooperation for Capacity Building
 - 7.1. General
 - 7.2. Training of Japanese Experts
 - 7.2.1. Japan International Cooperation Agency (JICA)
 - 7.2.2. Japan Overseas Cooperation Volunteers (JOCV)
 - 7.2.3. Foundation for Advanced Study on International Development (FASID)
 - 7.2.4. Institute of Developing Economies (IDE)
 - 7.2.5. Engineering Consulting Firms Association (ECFA)

- 7.3. Training of Foreign Experts
 - 7.3.1. Japan International Cooperation Agency (JICA)
 - 7.3.2. Japan International Training Cooperation Organization (JITCO)
 - 7.3.3. Kitakyushu International Techno-Cooperative Association (KITA)
 - 7.3.4. Association for Overseas Technical Scholarship (AOTS)
- 8. Conclusion

International Legal Instruments and Mechanisms in Japan

281

Mineo KATO, *Faculty of Economics, Yokohama National University, Japan*

- 1. Introduction
- 2. Japan's Initiatives in Response to International Movements in Environmental Conservation
 - 2.1. Response to International Environmental Treaties and Conventions
 - 2.2. "Voluntary Action" by Industries
- 3. COP3 and Climate Change Policy
 - 3.1. Present condition of the GHGs emission
 - 3.2. Target of the present policy
 - 3.3. Policy implementation and problems
 - 3.3.1. Amendment and new legislation
 - 3.3.2. Response in the private sector
 - 3.4. Policy recommendation
- 4. Biodiversity and Forest Conservation
 - 4.1. Response and policy in biodiversity conservation
 - 4.2. International forest conservation
 - 4.3. Present condition of biodiversity conservation in Japan\
 - 4.4. Policy recommendation
 - 4.4.1. Improving management in the existing protected areas
 - 4.4.2. Conserving new areas
- 5. Voluntary Action in the Industrial Sector and Citizens as "Green Consumers"
 - 5.1. The change in industry's attitude to environmental problems
 - 5.1.1. Environmental initiatives by "Keidanren"
 - 5.2. ISO 14001 Environmental Management System
 - 5.2.1. The effect of ISO 14001 Environmental Management System
 - 5.3. Citizens as "Green Consumers"

Information for Decision Making

296

T. Murayama, *Waseda University, Tokyo, Japan*

- 1. Introduction
- 2. Objective
 - 2.1. Bridging the Data Gap
 - 2.2. Improving Availability of Information
- 3. Information on pressures on the environment
 - 3.1. Overview
 - 3.2. Standardized Pollutant Release Inventories in Japan
 - 3.2.1. Pilot project of Environment Agency of Japan (EAJ)
 - 3.2.2. Evaluation of the project
- 4. Information managed by government
 - 4.1. National government
 - 4.1.1. Administrative information of the EAJ
 - 4.1.2. Environmental Information Center of the National Institute for Environmental Studies (NIES)
 - 4.2. Local governments
 - 4.2.1. Prefectural level
 - 4.2.2. Municipal level
- 5. Environmental information reporting by private companies

- 5.1. Outlines based on several surveys
- 5.2. Detailed analysis in the electrical appliance industry
- 6. Towards an improved situation
 - 6.1. Historical changes in the environmental information system
 - 6.2. Development of indicators for evaluating environmental protection measures
 - 6.2.1. Outline on the development of environmental indicators in Japan
 - 6.2.2. Contents of the indicators
 - 6.3. Promotion of Administrative Information Provision and Disclosure
 - 6.3.1. Information provision
 - 6.3.2. Information disclosure
- 7. Conclusion

Forestry Principles in Japan

327

Toshiaki Nishino, *Takasaki City University of Economics, Takasaki, Gunma Prefecture, Japan*

- 1. Introduction
- 2. Forestry Principles and Forestry in Japan
 - 2.1. Active Participation in IFF
 - 2.2. Setting a Model Forest
 - 2.3. Promotion of Forest and Forestry Cooperation
 - 2.4. Forest/Forestry Cooperation through International Organizations
 - 2.5. Basic Survey and Training for Preservation of Tropical Forest
 - 2.6. Contribution of Japanese Enterprises to Afforestation in Foreign Countries
- 3. Problem of Global Warming and Correspondence of Japanese Forest Administration
 - 3.1. Decision of the Global Warming Countermeasure Promotion Outline
 - 3.2. Role of Forest, Forestry and Lumber Industry for Prevention of Global Warming
- 4. Present Condition of Japanese Forestry and Mountain Villages
 - 4.1. Composition of Japanese Forest
 - 4.2. The Stagnation of Japanese Forestry
- 5. The Influence of Forestry Stagnation
 - 5.1. Problems of Depopulation, Aging and Area Maintenance in Mountain Village Area
 - 5.2. Problem of Forest Workers
 - 5.3. Problem of Insufficient Control of Forest and Neglect of Forest
 - 5.4. Influence on the Preservation of Global Environment
 - 5.5. Building of a Watershed Management System and its Subject
 - 5.6. Forest and Forestry in the National Development Plan
- 6. Conclusion

Agreements: Rio Declaration

350

Yasuko Kawashima, *National Institute for Environmental Studies, Japan*

- 1. Objectives
- 2. Activity or Pressure
 - 2.1. Japan's Position in the International Community
 - 2.2. Japan's Dependency on Overseas for Natural Resources, Especially Energy Resources
 - 2.3. Growing Awareness Inside Japan
 - 2.4. Japan's Anticipation of Emission Reduction Credits for Greenhouse Gases
- 3. State, Detection and Diagnosis of Situation
 - 3.1. Laws out of Date
 - 3.2. Institutional Constraints
 - 3.3. Role of Various Stakeholders in the Community
- 4. Correction and Response
 - 4.1. Legislation at National Level
 - 4.1.1. Basic Environment Law
 - 4.1.2. Basic Environment Plan
 - 4.1.3. National Agenda 21 Action Plan

- 4.1.4. Environmental Impact Assessment
- 4.1.5. Legal Follow-Up Regarding International Efforts
- 4.1.6. Integration with Economic Planning
- 4.1.7. National Land Development
- 4.1.8. Waste Management
- 4.1.9. Environment and Trade
- 4.2. Initiative of Local Governments and Other Actors
 - 4.2.1. Local Authorities
 - 4.2.2. Non-Governmental Organizations (NGOs)
 - 4.2.3. Business and Industry
 - 4.2.4. Scientific and Technological Community
 - 4.2.5. Women, Youth and Indigenous People
- 4.3. Cooperation at International / Regional Level
 - 4.3.1. Environmental Congress for Asia and the Pacific (ECO-Asia)
 - 4.3.2. Asia-Pacific Seminar on Climate Change
 - 4.3.3. Asia-Pacific Network for Global Change Research (APN)
 - 4.3.4. Acid Deposition Monitoring Network in East Asia (EANET)
 - 4.3.5. UN Economic and Social Committee for Asia and the Pacific (ESCAP)
 - 4.3.6. The Special Session of the United Nations General Assembly on the Environment (UNGASS)
 - 4.3.7. Special Needs of the Least Developed Countries
 - 4.3.8. Technology Transfer

Global Forum NGO Treaties: Linking Japan to the World

380

Satoko Mori, *Department of Humanities and Social Sciences, Meisei University, Tokyo, Japan*

1. Introduction
 - 1.1. UNCED and the Global Forum
 - 1.2. Conceptual Framework
 - 1.3. A Brief Background of Japanese NGOs
2. The Pre-UNCED Period (1990-1992)
 - 2.1. The "UNCED Process" in Japan
 - 2.2. Networking among Japanese NGOs
 - 2.2.1. The Establishment of the Peoples Forum for UNCED
 - 2.2.2. Activities and Events leading up to UNCED
 - 2.3. Relationships with the Government
3. During UNCED
 - 3.1. Japanese NGOs at the Global Forum
 - 3.1.1. Participating Japanese NGOs
 - 3.1.2. Activities of Japanese NGOs at the Japan Peoples Center
 - 3.2. The Peoples Voice of Japan
 - 3.2.1. "Earth Charter and Agenda 21" proposed by the Japanese NGOs
 - 3.2.2. "I have the Earth in Mind, the Earth has Me in Hand"
 - 3.2.3. Policy Report
 - 3.3. NGO Treaties and Japanese NGOs
 - 3.4. What did the Japanese NGOs achieve at UNCED?
4. The Post-UNCED Period
 - 4.1. Follow-up Activities
 - 4.1.1. Activities at the International Level
 - 4.1.2. Activities at the National Level
 - 4.2. Relationships with the Japanese Government
 - 4.2.1. The National Agenda 21 Action Plan
 - 4.2.2. Financial Assistance from the Japanese Government to NGOs
 - 4.3. Lessons Learned from UNCED: Survey Results
 - 4.4. Assessment
5. Agenda for the Future

The View of Nature in Japanese Literature

404

Hajime Abe, *Faculty of Humanities, Toyo Gakuen University, Nagareyama, Chiba, Japan*

1. Introduction
2. Four Types of the View of Nature
3. The State of the View of Nature in Pre-modern Japanese Literature
 - 3.1. The Ancient Age (to 794)
 - 3.2. The Classical Age (794-1185)
 - 3.3. The Medieval Age (1185-1600)
 - 3.4. The Early Modern Age (1600-1867)
4. The Response to Modernization
 - 4.1. The Meiji Period (1868-1912)
 - 4.2. The Taisho and Early Showa Period (1912-1940s)
 - 4.3. The Postwar and Economic Growth Period (since 1950s)
 - 4.3.1. The Experience of Unfamiliar Nature
 - 4.3.2. The Recognition of the Indigenous Human-Nature Relations
5. Conclusion

Towards A Sustainable Civilization and Society: A Socio-cultural Ecological Perspective from Japan

430

Koyu Furusawa, *Dept of Socio-Economic (Ecological) Networking, Faculty of Economics at Kokugakuin University, Tokyo, Japan*

1. Introduction
2. What is Sustainability?
 - 2.1. The Awakening of a symbiotic and harmonious society
 - 2.2. Characteristics of 20th century civilization
 - 2.3. A critique of the previous development pattern
 - 2.4. Two approaches toward sustainability
3. A historical Perspective on Japanese Agriculture and Resource Management
 - 3.1. Sustainable agriculture and civilization
 - 3.2. Socio-cultural evolution - ecological life in the rice plant
 - 3.3. Violence of modern agriculture blending with the Green Revolution
 - 3.4. Organic agricultural movement and alternative direct marketing
 - 3.5. Alternative activities - changing the consumption pattern
4. Transformation of Modern Development
 - 4.1. Critique and turning point in the modern Japanese system
 - 4.2. Questions about the modern production system
 - 4.3. The need for more comprehensive perspectives for a sustainable society
 - 4.4. Socio-economic sector and sustainable society
5. Conclusion - Making a New Global Strategy

Future Scenarios: Predicting Our Environmental Future

454

Toshiaki ICHINOSE, *Graduate School of Environmental Studies, Nagoya University, Japan*
 Itaru YASUI, *United Nations University, Tokyo, Japan*

1. Introduction
2. 2005: Overwhelmed with Waste
 - 2.1. Restrictions on Waste Incineration and a Move toward Complete Separation of Wastes
 - 2.2. A Serious Shortage of Final Waste Disposal Sites and the Continuation of Illegal Dumping
3. 2010: Expected and Unexpected Costs of the Twentieth Century
 - 3.1. Fulfilling the Greenhouse-gas Reduction Target of the Kyoto Protocol Becomes Difficult
 - 3.2. Genetic and Reproductive Abnormalities Attributable to Dioxins
 - 3.3. Increasing Ultraviolet Radiation
 - 3.4. A Worldwide Food Crisis
4. 2020: Energy Dependency and Insecurity in Asia-Pacific Region

- 4.1. Energy Crisis and its Effects in Japan
- 5. 2030: Limitations on Metals, and Untoward Effects of Technology
 - 5.1. Total Recovery of Lead and Mercury Required
 - 5.2. Soil Contamination by Electronic Equipment
- 6. 2050: Global Environmental Change and Human Challenges
 - 6.1. The Decrease of Crude Oil Production and Reliance on Nuclear Power
 - 6.2. Solar Power Satellites and Growth of the Space Industry
 - 6.3. Impacts of Global Warming Become Apparent
- 7. Conclusions

Index **515**

About EOLSS **525**