

CHAPTER 21. EVALUATION OF AGRI-ENVIRONMENTAL POLICIES IN JAPAN

Yukio Yokoi¹

Abstract

This paper provides an overview of the evaluation methodology which is applied to all agriculture, forestry and fisheries policies in Japan, with specific reference to agri-environmental policies. The Ministry of Agriculture, Forestry and Fisheries (MAFF) establishes policy evaluation target indicators and their values for each policy area. For example, for the policy area “environment protection measures in crop production”, the two target indicators “maintenance of organic matter use” and “reduction of chemical fertiliser use” have been adopted. The target indicators cover the outcome of various policy measures including regulatory measures, economic measures, information provision and voluntary measures. MAFF has also a policy evaluation framework for each policy measure.

Introduction

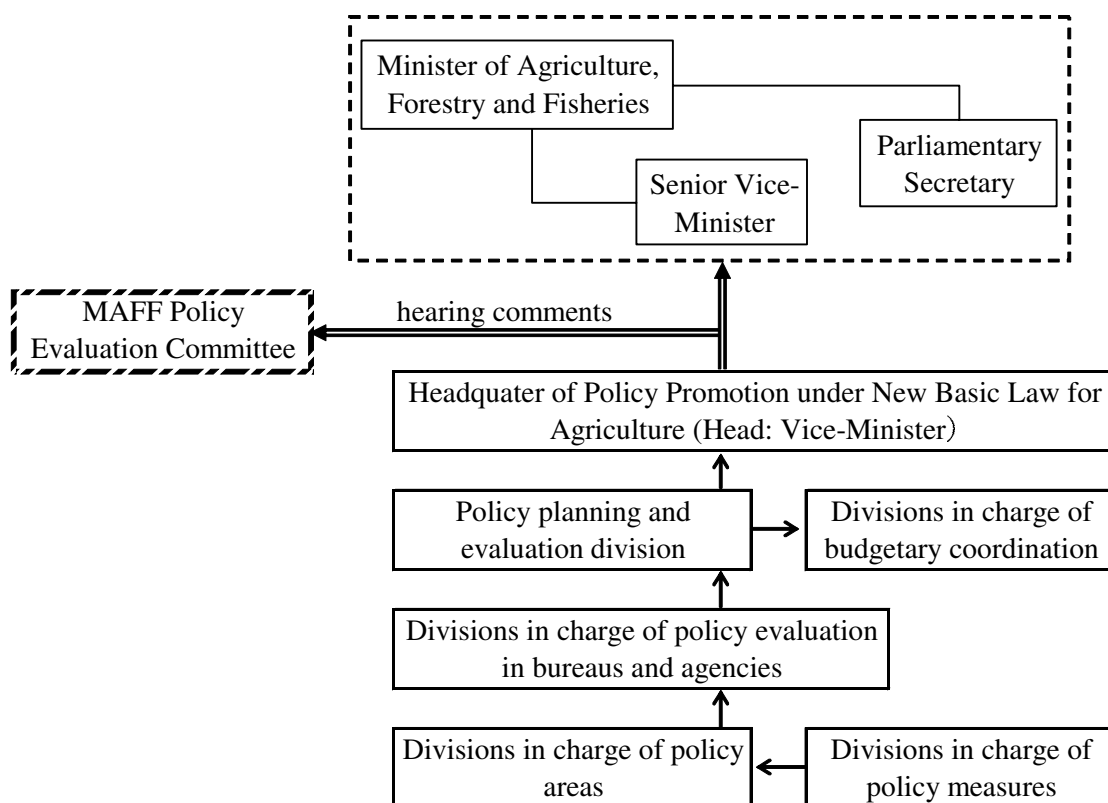
In 2000, the Ministry of Agriculture, Forestry and Fisheries of Japan (MAFF) initiated policy evaluation, a year before the introduction of policy evaluation mechanisms in other ministries. Like other OECD member countries, policy evaluation is applied to agri-environmental policies in Japan. The first section of this paper describes the policy evaluation mechanism which MAFF has introduced. The following section then describes two agri-environmental policy areas subject to policy evaluation: “environmental protection measures in crop and livestock production” and “promotion of biomass use”, including the relevant indicator trends and evaluation results.

Framework of policy evaluation in MAFF

All Japanese ministries introduced policy evaluation mechanisms when they were restructured in January 2001. Prior to this, MAFF started evaluating policies pertaining to identified policy areas in 2000. The objectives of the policy evaluation include: accountability of the ministry to the public, high quality and effective public services, and a shift to outcome-oriented policy development. The mechanism also aims to provide a management system consisting of four consecutive elements, *i.e.* planning, doing, checking, and taking action. To ensure the objectivity of policy evaluation, a “MAFF Policy Evaluation Committee” has been established, made up of seven members who are not MAFF officials. The Committee holds several meetings each year to discuss policy evaluation, the results of which are to be reflected in policy development including budgetary consideration (MAFF, 2004a; Figure 1).

1. The author was with the Environment Policy Division, Ministry of Agriculture, Forestry and Fisheries, when he prepared this paper for the Workshop: he is now employed by the Japan International Co-operation Agency (JICA).

Figure 1. Organisation chart of MAFF policy evaluation



Source: MAFF (2004a).

The policy evaluation framework categorises all the policy areas covered by MAFF, adopts target indicators for each policy area, and measures actual values as outcome of policies against target levels. The policy areas are structured into a three-tiered system with five main targets, 12 sub-targets and 59 policy areas. The five main targets are:

1. establishing a system in which consumers can purchase safe food;
2. supplying fresh and good-quality food and forestry products in stable amounts at reasonable prices;
3. facilitating structural reform of agriculture, forestry and fisheries, making them attractive industries with affluent, effective and stable management bodies;
4. promoting networking between urban and rural areas (people, products and information) to create a society in which both areas are mutually vitalised; and
5. creating a society based on sustainable development, where all nationals can benefit from multifunctionality thanks to appropriate production activities and proper management of natural resources in rural areas.

Agri-environmental policies are placed within the fifth main target, under the sub-target “maintaining multifunctionality for the future by enhancing the environment-positive function which agriculture, forestry and fisheries have in nature, by further promoting biomass use which is sustainably available, and by properly managing the natural environment.” This sub-target covers, among others, two policy areas: “environmental protection measures in crop and livestock production” and “promotion of biomass use.”

Target indicators and target values are adopted for each policy area and the relevant background and conceptual information is well documented. The achievement rates are calculated and the evaluation results are ranked “A”, “B”, or “C”: “A” means that the achievement rate is 90% or above, “B” between 90% and 50%, and “C” 50% or below. The policy measures in the “C” ranked policy areas will be subject to a thorough policy review process (MAFF, 2004a).

In addition to the evaluation of each policy area, policy evaluation is also conducted for each policy measure. A framework and target values to be obtained by the end of 2004 fiscal year have been provided for agri-environmental policy measures. However, specific results have not yet been obtained (MAFF, 2004b).

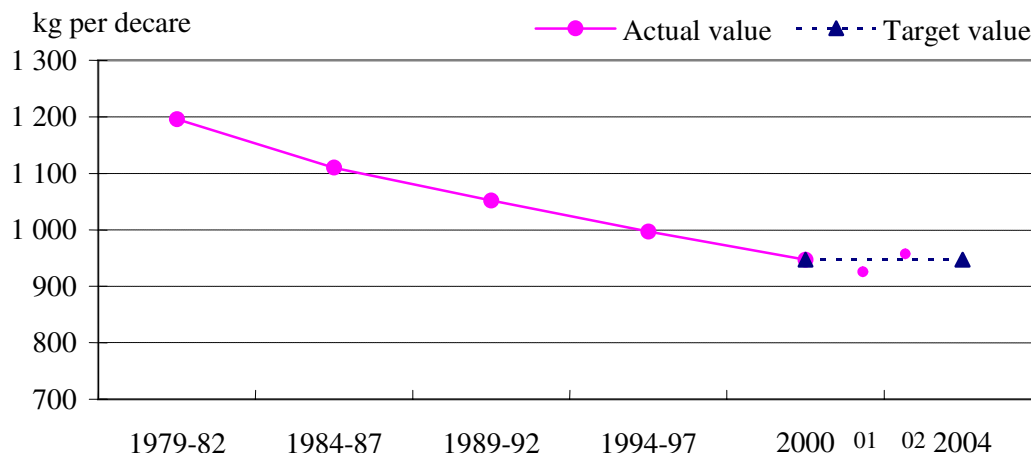
Results of the 2003 policy evaluation

Environmental protection measures in crop and livestock production

Three target indicators have been adopted for the policy area “environmental protection measures in crop and livestock production”: 1) maintenance of organic matter use; 2) reduction of chemical fertiliser use; and 3) elimination of inappropriate treatment of livestock manure. For each year, the actual values of indicators are compared with the target values, taking trends (or 2000 initial values) as bases and the achievement rates are calculated. The following are the 2003 evaluation results of the three target indicators.

- 1) Organic matter use amounted to 947 kg per decare (9.47 tonnes/ha) in 2000 and 953 kg per decare (9.53 tonnes/ha) in 2002 (Figure 2). The 2003 value is not yet available. This resulted in an “A” ranking.

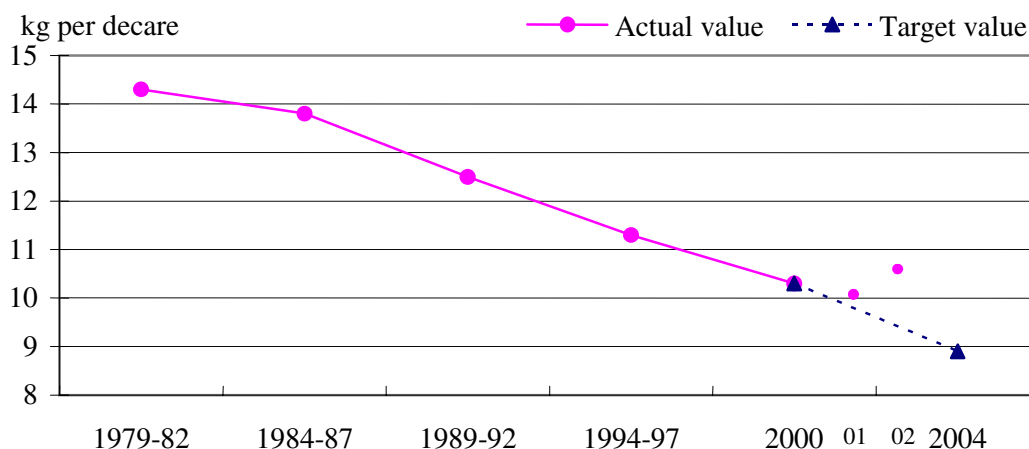
Figure 2. Organic matter use



Source: MAFF (2004c).

- 2) Chemical fertiliser use represented 10.3 kg per decare (103 kg/ha) in 2000 and 10.52 kg per decare (105.2 kg/ha) in 2002 (Figure 3). The 2003 value is not yet available. This results in an achievement rate of -31% against its trend and a “C” ranking. The negative achievement rate means that the actual indicator value has moved in the opposite direction to the target value (MAFF, 2004c).

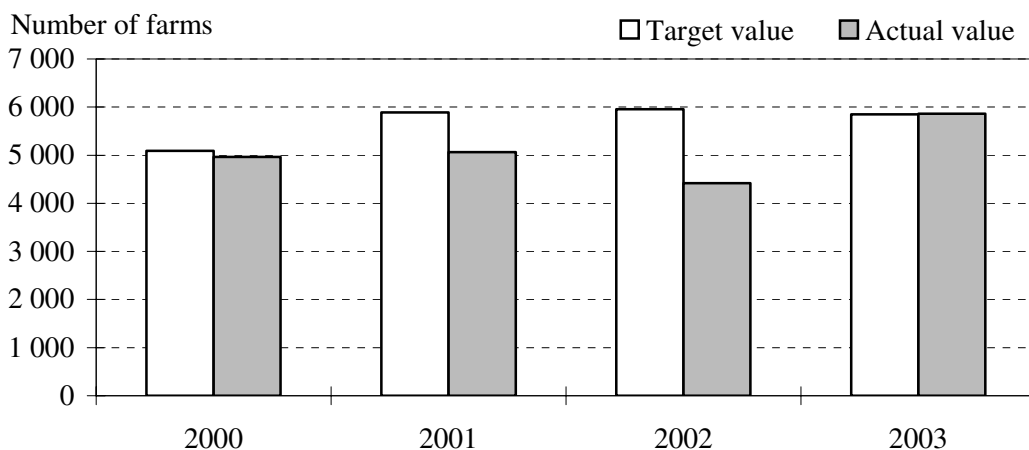
Figure 3. Chemical fertiliser use (nitrogen equivalent)



Source: MAFF (2004c).

- 3) The number of farms that need to be equipped with the treatment facilities of livestock manure was estimated at 5 847 for the year 2003, and the actual number was 5 863; the achievement rate for the year was 100 % and 89 % for the 2000-2003 period, resulting in a “B” ranking (Figure 4).

Figure 4. The number of livestock farms equipped with treatment facilities



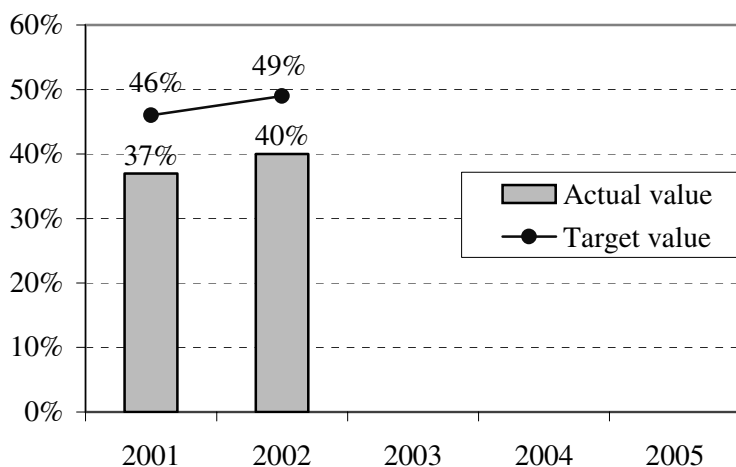
Source: MAFF (2004c).

Within this policy area, the issues specifically relating to crop production that need to be addressed are as follows: i) introduction and extension of sustainable farm management with a reduction in the use of fertilisers and pesticides and soil management with organic matter use, ii) co-operation with distributors and consumers, and iii) increase of availability of slow-effect fertilisers and development of effective fertilising materials (MAFF, 2004c). While it is not specified in the policy evaluation, a more exhaustive list of policy measures may include regulatory measures, economic measures, information provision and voluntary measures, as follows: a) reform of stakeholders' consciousness (producers, distributors and consumers), b) information dissemination of good practices, c) labelling and certification standards for consumers' recognition, d) development of technologies for environmental impact reduction, e) demonstration of technologies with financial support for machines and facilities, f) financial support (tax concessions, low interest rates for financing) for adaptation of new technologies, and g) enforcement of environment regulation. It may be appropriate to assume that the results of policy evaluation show the outcome of such a policy mix.

Promotion of biomass use

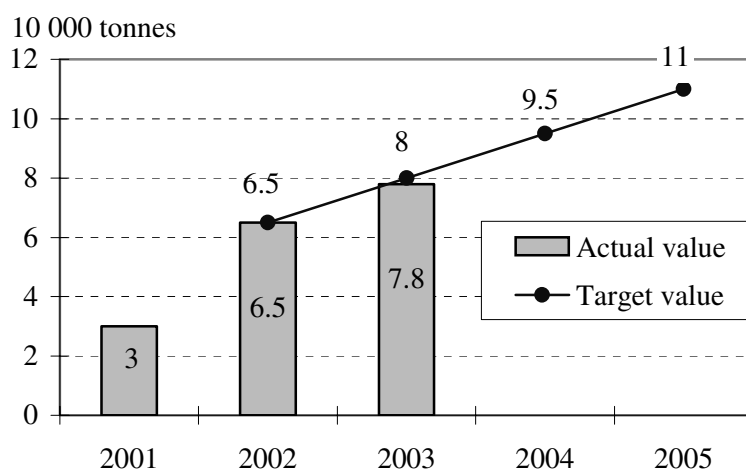
For the policy area “promotion of biomass use”, an indicator target of 80% of waste-biomass use by 2010 has been established. Waste-biomass includes sewage sludge and waste paper, which MAFF is not in charge of, and those for which annual statistics is not available, such as livestock manure and food waste. Therefore, alternative indicators are adopted, including the reuse rate of food resources by food related industry (Figure 5) and the use of wood waste as a fuel source in the relevant facilities (Figure 6). The achievement rates for these indicators are 82% and 87% respectively, obtaining a “B” ranking (MAFF, 2004c).

Figure 5. The re-use rate of food resources by food-related industry



Source: MAFF (2004c).

Figure 6. The use of wood waste as a fuel source



Source: MAFF (2004c).

Framework of policy evaluation for each policy measure

In addition to the policy evaluation for each policy area, a framework of policy evaluation for each policy measure is provided. Target values to be obtained by the end of 2004 fiscal year are indicated for the agri-environmental measures. However, specific results have not yet been obtained. For example, in the framework, the policy measure entitled “programme of resource re-cycling and cooperation between crop and livestock production” is specified with the main target “enhancement of natural resource recycling function”, for which four sub-targets and their respective indicators and values are established (Table 1).

Table 1. Target indicators for the programme of resource re-cycling and co-operation between crop and livestock production

Sub-target	Target indicator	Target value by end of FY 2004
Promotion of sustainable agriculture	Number of farms with sustainable agriculture	60% increase
Promotion of soil management	Improve rate of infertile soil	20% increase
Establishment of resource-re-cycling livestock production	Increase rate of livestock manure use for crop production	Annual increase of 200 000 tonnes
Promotion of feeding use of organic resources	Feed produce from organic resources	40 000 tonnes in 5 years

Source: MAFF (2004b).

Conclusion

This paper provides an overview of policy evaluation methodology applied to policies in MAFF, as well as specific examples of evaluation results for two policy areas “environmental protection measures in crop and livestock production” and “promotion of biomass use.” For each policy area, target indicators and their values are set by MAFF, and each target indicator relates to various specific policy measures. For example, for the policy area “environment protection measures in crop production”, two target indicators of “maintenance of organic matter use” and “reduction of chemical fertiliser use” have been adopted. The target indicators also cover the outcome of various policy measures including regulatory measures, economic measures, information provision and voluntary measures. Indicators used in the policy evaluation have been applied on a national level, and mainly relate to environmental effectiveness, effects of stakeholders’ action and its extension.

A framework of the evaluation of policy measures has been established but specific results have not yet been obtained. Even if some results were shown for these indicators, the effects of related policy measures could not be separated from each other. The policy evaluation process is expected to be improved with more appropriate indicators and/or better methodology, based upon future experiences.

BIBLIOGRAPHY

- MAFF [Ministry of Agriculture, Forestry and Fisheries of Japan] (2004a), *Main points of the results of MAFF policy evaluation in 2003* (only in Japanese), MAFF, Tokyo, www.maff.go.jp/soshiki/kambou/kikaku/hyoka/15/15seikekka.htm
- MAFF (2004b), *The results of policy evaluation for policy measures in 2003* (available in Japanese only), MAFF, Tokyo, www.maff.go.jp/soshiki/kambou/kikaku/hyoka/15/15seikekka.htm.
- MAFF (2004c), *The results of policy evaluation for policy areas in 2003* (available in Japanese only), MAFF, Tokyo, www.maff.go.jp/soshiki/kambou/kikaku/hyoka/15/15seikekka.htm.

TABLE OF CONTENTS

	<i>Page</i>
FOREWORD	3
SUMMARY	9
Summary Annex – One-page Summaries of Country Evaluations	15

Part I EVALUATION DESIGN

Key Issues <i>Markku Lehtonen</i>	37
Chapter 1. Evaluating Agri-environmental Policies in the OECD <i>Darryl Jones, OECD Directorate for Food, Agriculture and Fisheries</i>	39
Chapter 2. Building Accountability Structures into Agri-environmental Policy Development <i>Steve Montague, Performance Management Network Inc. and Erwin Allerdings, Agriculture and Agri-Food Canada</i>	55
Chapter 3. What Constitutes a Good Agri-environmental Policy Evaluation? <i>David Pearce, University College London</i>	71

Part II EVALUATION OF PAYMENTS - MID-TERM EVALUATION OF RURAL DEVELOPMENT PLANS

Key Issues <i>David Ervin, Portland State University</i>	101
Chapter 4. Evaluation of Agri-environmental Measures in Flanders, Belgium <i>Koen Carels and Dirk van Gijsegem, Flemish Agriculture Administration</i>	103
Chapter 5. Evaluation of Agri-environmental Policies Implemented in France from 2000 to 2002 under the CTE Farm Contract Scheme <i>Jean-François Baschet, Ministry of Agriculture, Forestry, Fisheries and Rural Affairs</i>	117
Chapter 6. The Implementation of Organic Farming: The Case of Peloponnese, Greece <i>Konstantinos Kloudas, Nikolaos Michopoulos and Angelos Koutsomichalis, European Enterprise Organisation Group SA; and Elena Kagkou and Amalia Liatou, Ministry of Rural Development and Food</i>	129
Chapter 7. The Evaluation of Agri-environmental Measures: A Survey of Different Methods used by Italian Regions <i>Annalisa Zezza, Istituto di Servizi per il Mercato Agricolo Alimentare</i>	141

Part III
EVALUATION OF PAYMENTS - OTHER

Key Issues

Floor Brouwer, Agricultural Economics Research Institute (LEI)..... 159

Chapter 8. Evaluating Agri-environmental Schemes in England

Geoffrey Radley, Department for Environment, Food and Rural Affairs 161

Chapter 9. Alternative Approaches for Evaluating the Performance of Buffer Strip Policy in Finland

Jussi Lankoski, MTT Agrifood Research Finland 177

Chapter 10. Assessing Long-term Impacts of Agri-environmental Measures in Germany

Bernhard Osterburg, Federal Agricultural Research Centre 187

Chapter 11. Sweden's Experience with Evaluating Agri-environmental Payments

Bo Norell and Martin Sjödaahl, Swedish Board of Agriculture..... 207

Chapter 12. Evaluation of Agri-environmental Measures in Switzerland

Ruth Badertscher, Swiss Federal Office for Agriculture..... 223

**Chapter 13. Conservation Policy and Agriculture in the US:
Valuing the Impacts of the Conservation Reserve Program**

Daniel Hellerstein, United States Department of Agriculture..... 231

Part IV
EVALUATION OF TAXES

Key Issues

Iain Fraser, Imperial College..... 261

Chapter 14. The Use of Green Taxes in Denmark for the Control of the Aquatic Environment

Hans Larsen, Ministry of Taxation..... 263

**Chapter 15. Taxes as a Tool to Reduce Health and Environmental Risk
from Pesticide Use in Norway**

Erlend Spikkerud, Norwegian Food Safety Authority 281

Part V
EVALUATION OF REGULATORY REQUIREMENTS

Key Issues

Davide Viaggi, University of Bologna..... 293

**Chapter 16. The Regulation of Nutrient Losses in Denmark
to Control Aquatic Pollution from Agriculture**

*Søren Kjaer, Ministry of Environment; Pieter Feenstra, Ministry of Agriculture,
Food and Fisheries; Søren Mikkelsen, Danish Institute of Agricultural Sciences;
and Torben Moth Iversen, National Environmental Research Institute 295*

Chapter 17. Has Conservation Compliance Reduced Soil Erosion on US Cropland?

Roger Claassen, United States Department of Agriculture..... 309

Part VI
EVALUATION OF ADVISORY AND INSTITUTIONAL MEASURES

Key Issues

Ingo Heinz, University of Dortmund 325

**Chapter 18. Evaluating Community-based Programmes in Australia:
The Natural Heritage Trust and the National Action Plan for Salinity and Water Quality**

*Mike Lee, Department of Agriculture, Fisheries and Forestry,
and Blair Wood, National Land and Water Resources Audit*..... 327

Chapter 19. The Canadian Shelterbelt Program: Economic Valuation of Benefits

*Suren Kulshreshtha and Edward Knopf, University of Saskatchewan;
and John Kort and Julie Grimard, Agriculture and Agri-Food Canada* 347

Chapter 20. Evaluation of the New Zealand Sustainable Farming Fund: A Work in Progress

Kevin Steel, Ministry of Agriculture and Forestry 363

Part VII
EVALUATION OF POLICY MIXES

Key Issues

John Finn, Teagasc (Irish Agriculture and Food Development Authority) 377

Chapter 21. Evaluation of Agri-environmental Policies in Japan

Yukio Yokoi, Ministry of Agriculture, Forestry and Fisheries 381

Chapter 22. Evaluation of the Dutch Manure and Fertiliser Policy 1998-2002

*Hans van Grinsven, Martha van Eerdt and Jaap Willems,
National Institute for Public Health and the Environment (RIVM);
Francisca Hubeek, Agricultural Economics Research Institute (LEI);
and Erik Mulleneers, Ministry of Agriculture Nature and Food Quality (LNV)*..... 389



From:
Evaluating Agri-environmental Policies
Design, Practice and Results

Access the complete publication at:
<https://doi.org/10.1787/9789264010116-en>

Please cite this chapter as:

Yokoi, Yukio (2006), "Evaluation of Agri-environmental Policies in Japan", in OECD, *Evaluating Agri-environmental Policies: Design, Practice and Results*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264010116-30-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.