A

Document of the
International Fund for Agricultural Development

The Adoption of Organic Agriculture Among Small Farmers in Latin America and the Caribbean
Thematic Evaluation

April 2003
Report No. 1337

The Office of Evaluation of IFAD is grateful to the members of the Scientific Steering Committee that reviewed earlier drafts of the main report: Roland Bunch (Coordinator, Association of Consultants for a Sustainable Ecological and People-Centered Agriculture, Honduras), Alain de Janvry (Professor, University of California at Berkeley, USA), John Humphrey (Professor, Institute of Development Studies, University of Sussex, UK), Judith Tendler (Professor, Massachusetts Institute of Technology, USA).

The members of the Core Learning Partnership that contributed to the evaluation learning process within IFAD were: Edward Heinemann, Regional Economist, Eastern and Southern Africa Division (PF); Raúl Hopkins, Regional Economist, Latin America and the Caribbean Division (PL); Mylene Kherallah, Regional Economist, Near East and North Africa Division, (PN); David Kingsbury, Regional Economist, West and Central Africa Division (PA); Douglas Wholey, Technical Adviser, Technical Advisory Division (PT); Octavio Damiani, Mission Leader, Office of Evaluation (OE); Paolo Silveri, Evaluation Officer (OE); and Fabrizio Felloni, Associate Evaluation Officer, (OE).

We are also grateful to Julio A. Berdegué (Farming Systems Research Methodology Network, Chile), Mario Castejón (FAO and Regional Unit for Technical Assistance, Costa Rica), María Elena Martinez-Torres (Autonomous University of Chiapas, Mexico), Louise Clark and Laura De Tomasi (Independent Researchers), for their substantial contributions to this study.

The lead consultant for this report was Octavio Damiani; the lead evaluator for this evaluation was Paolo Silveri.

Photo on cover page:
A technician from the Mexican Coffee Institute inspects young coffee trees in the State of Oaxaca, Mexico.
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Docsopen #: 301078

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Table of Contents

Acronyms iii
Maps v
Agreement at Completion Point ix
Executive Summary xxiii

I. INTRODUCTION 1

II. GENERAL CHARACTERISTICS OF ORGANIC AGRICULTURE 7
A. Origins and Definitions 7
B. The Importance of Organic Certification 7
C. Market Trends and Prospects 9

III. ARE SMALL FARMERS DOMINATING ORGANIC PRODUCTION? 10

IV. THE IMPACTS OF ORGANIC AGRICULTURE ON SMALL FARMERS 11
A. Effects on Yields 12
B. Effects on Product Prices 14
C. Changes in the Cost of Production 15
D. Effects on Net Revenues 17
E. Effects on the Natural Environment 18
F. Effects on the Health of Farmers and Their Families 19
G. Effects on Women 20

V. THE MAIN PROBLEMS FACED BY SMALL ORGANIC PRODUCERS 21
A. Financing the Shift to Organic Production 21
B. Adopting Organic Methods of Production 25
C. Marketing Organic Products 33

VI. THE ROLE OF GOVERNMENT POLICIES AND PROGRAMMES 36
A. Policies and Institutions Specific to Organic Agriculture 36
B. The Influence of Broader Agricultural Policies and Programmes 38
C. The Role of Local Governments 44
D. NGOs and Organic Agriculture 44

VII. CONCLUSIONS AND INSIGHTS 46
A. On the Impacts of Organic Production on Small Farmers 47
B. On the Constraints Faced by Small Organic Producers 48

List of Tables

1. Main characteristics of the case studies 6
2. Area under organic farming and the participation of small farmers, LAC 11
3. Comparison between the yields of organic and conventionally grown crops 13
4. Prices received by farmers for organic and conventional products 14
5. Comparison of the production costs of organic and conventional crops 16

6. Production costs for selected organic and conventional crops, Las Pilas, El Salvador 17
7. Comparison of revenues from organic and conventional crops, 2001 17

List of Boxes

1. Mexico: Organic coffee in Chiapas and organic honey in the Yucatan Peninsula 3
2. Costa Rica: The organic production of cacao and bananas in Talamanca 4
3. Guatemala: Organic coffee producer associations in Huehuetenango, Guatemala 4
4. Argentina: Organic sugar production in the San Javier region, province of Misiones 5
5. El Salvador: Fresh organic vegetables in Las Pilas 5
6. The Dominican Republic: The organic production of bananas in the province of Azua 5
7. Innovative extension methods and organic agriculture: The case of the Cuchumatanes Project in Guatemala 31
8. Government policies towards organic agriculture in Argentina 39
9. Government policies towards organic agriculture in Costa Rica 41
10. Rural development programmes and small organic producer associations in Mexico 43
11. NGOs and organic agriculture: MAPO 46

Appendices

1. Report of the workshop on the thematic evaluation (Rome, September 2002) 53

2. References 79

***Case Studies**

Case Study 1 Small Farmers and Organic Agriculture in Argentina: General Trends and the Case of Sugar-Cane Growers in San Javier, Misiones
Case Study 2 Organic Agriculture in Costa Rica: The Case of the Talamanca Small Farmers Association
Case Study 3 Small Farmers and Organic-Banana Production in the Dominican Republic
Case Study 4 Organic Agriculture in El Salvador: The Case of Fresh Vegetables in Las Pilas
Case Study 5 Organic Agriculture in Guatemala: A Study of Coffee Producer Associations in the Cuchumatanes Highlands
Case Study 6 Organic Agriculture in Mexico: Case Studies of Small Farmer Associations in Chiapas and the Yucatan Peninsula

***** Case Studies are available from IFAD's Office of Evaluation (**evaluation@ifad.org**).

ACRONYMS

ADIPCO	Cocolá Production Development Association (Guatemala)
Agexpront	Non-traditional Product Exporters Association (Guatemala)
APPTA	Talamanca Small Farmers Association (Costa Rica)
EU	European Union
IFAI	Institute for the Promotion of Agriculture and Industry (Argentina)
IFOAM	International Federation of Organic Agriculture Movements
INI	National Indigenist Institute (Mexico)
ISMAM	Indígenas de la Sierra Madre de Montozintla San Isidro Labrador (Mexico)
LAC	Latin America and the Caribbean Region
MAPO	Argentine Movement for Organic Production
NGO	Non-Governmental Organization
OE	Office of Evaluation
SAGPYA	Secretariat of Agriculture, Livestock, Fisheries and Food (Argentina)

LOCATION OF CASE STUDIES AND RELATED ORGANIC PRODUCTS

Source: IFAD/OE

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LOCATION OF CASE STUDIES AND RELATED ORGANIC PRODUCTS

Source: IFAD/OE

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THE ADOPTION OF ORGANIC AGRICULTURE AMONG SMALL FARMERS IN LATIN AMERICA AND THE CARIBBEAN

AGREEMENT AT COMPLETION POINT[1]

I. INTRODUCTION

1. Where appropriate, organic agriculture is an alternative for the diversification of production, and hence for the diversification of income sources, among small poor farmers – one of the main target groups of IFAD projects. This document provides practical lessons and recommendations for determining under which conditions organic agriculture could become a feasible project alternative; highlighting issues that must be considered at design and implementation stages.

II. EVALUATION PROCESS AND METHODOLOGY

2. These lessons originate from a thematic study by the Office of Evaluation (OE) conducted from the beginning of 2001 to mid-2002. The study was requested by the Latin America and the Caribbean Division (PL), and was based on the fact that many IFAD-supported projects in Latin America and the Caribbean (LAC) are already promoting organic agriculture. OE approved this proposal in 2000 as highly relevant for LAC and, potentially, for other regions. An approach paper was drafted before year-end and a core learning partnership (CLP) created, including all IFAD regional economists and the technical advisor for agriculture. Given the innovative nature of the study, an advisory committee external to IFAD was created to review drafts of the evaluation and advise the CLP on possible improvements.

3. The study analyzed seven cases in which small-farmer groups had been successful in adopting organic technologies and marketing their products. The cases were located in six countries (Argentina, Costa Rica, the Dominican Republic, El Salvador, Guatemala and Mexico) with different policies towards organic agriculture and various degrees of development of the institutions dealing with it. The study included diverse products (coffee, banana, cacao, vegetables, sugar cane and honey) that posed different technical and marketing problems for small producers. Three cases consisted of farmer organizations working with IFAD projects and four involved indigenous communities. Six of the cases dealt with organic products sold mainly in foreign markets (mostly in the European Union and the United States), while one (El Salvador) included products sold in the domestic market. In total, the study covered 14 farmer groups comprising more than 5 100 small farmers with about 2 hectares (ha) each, who cultivated a total of more than 9 000 ha.

4. A draft of the main report was reviewed by a technical committee of specialists in rural development, rural poverty and organic agriculture, and by the CLP. External specialists also reviewed and provided feedback on individual country reports. All feedback was incorporated into later versions of the main and country reports. A workshop on Organic Agriculture in Latin America, organized jointly by OE and PL, was held in Rome on 11-12 September 2002. It included participants from IFAD, other international organizations working with rural poverty and with organic agriculture, and representatives of non-governmental organizations (NGOs), producers, buyers and distributors of organic products. The discussions served to validate the findings of the thematic study and provided

[1] The members of the Core Learning Partnership that contributed to the evaluation learning process within IFAD were: Edward Heinemann, Regional Economist, Eastern and Southern Africa Division (PF), Programme Management Department (PMD); Raúl Hopkins, Regional Economist, Latin America and the Caribbean Division (PL); Mylene Kherallah, Regional Economist, Near East and North Africa Division, (PN); David Kingsbury, Regional Economist, West and Central Africa Division (PA); Douglas Wholey, Technical Adviser, Technical Advisory Division (PT); Octavio Damiani, Mission Leader, Office of Evaluation (OE); Paolo Silveri, Evaluation Officer (OE); and Fabrizio Felloni, Associate Evaluation Officer, (OE).

additional feedback. Finally, the lessons drew on interviews carried out after the workshop with members of the CLP, who provided their views on the study's findings and on constraints and problems that might be specific to the various regional contexts in which IFAD operates.

III. THE CONCEPT OF ORGANIC AGRICULTURE

5. The definition of organic agriculture is a matter of debate in itself. However, all definitions agree that it implies the application of agronomic, biological and mechanical methods of production in place of the use of synthetic chemical inputs. Most definitions also incorporate the use of several techniques not exclusive to organic agriculture, as they may be applied in conventional and low-input production systems as well. These include, in particular, "better land husbandry" techniques such as soil-conservation measures, crop rotation and the use of green manure, instead of slashing and burning.

6. An important differentiation involves 'certified' vs. 'non-certified' organic agriculture. A high proportion of small farmers in LAC countries do not use chemical inputs, and in that sense they are already producing organically. However, there has been an increasing trend in both the industrialized world and developing nations to develop laws and regulations that protect the use of the term 'organic' and equivalents such as 'biological' and 'natural'. According to these laws and regulations, products require certification by specialized agencies in order to be sold as organic, biological or natural. Certification relates to consumer demand for a standardized definition of how an organic product has been produced, thus avoiding misleading claims. The practical result is that producers who do not obtain certification are not likely to obtain premium prices for their products, even if they meet all other requirements of production technology.

IV. CONCLUSIONS AND RECOMMENDATIONS OF THE EVALUATION

7. The study and workshop generated conclusions and recommendations on the feasibility of organic agriculture as an alternative in projects targeting small farmers and on the handling of the constraints and problems that may appear when promoting organic agriculture. These conclusions and recommendations are mainly applicable in the LAC context, and their generalization to other regions may require similar thematic evaluations. Such studies could pay particular attention to location-specific issues such as soil characteristics, dominant land-tenure and production systems and government policies. The main conclusions, recommendations and lessons are synthesized in the following paragraphs.

A. Potential and Risks of Organic Agriculture in Rural Development Projects

8. The study compared the impact of shifting agriculture and organic production on small-farmer production and incomes. The results suggest that organic agriculture may be an attractive alternative for diversifying the production of small farmers. While the case studies showed evolution of different production costs, yields and product prices among small farmers that converted to organic agriculture, all obtained higher net revenues than with their previous practices.

9. In all case studies, farmers were able to receive higher prices for certified organic products than if they had sold the same products in conventional markets. The premium received by farmers over the price of conventional products varied greatly, going from a minimum of 22.2% paid to banana producers in the Dominican Republic in 2002 to 150% paid to cacao producers in Costa Rica in 2001.

10. The evolution of production costs was related to the characteristics of each previous production system. Farmers who had applied systems approximating organic practices (coffee in Mexico and Guatemala, cacao and banana in Costa Rica, banana in the Dominican Republic, honey in Mexico) experienced an increase in production costs because of the introduction of labour-intensive technologies. Small farmers used mainly family labour to cover the higher demand. In addition,

farmers also faced new costs related to certification. In contrast, those farmers who applied chemical inputs before shifting to organic methods (sugar cane in Argentina, vegetables in El Salvador) experienced a decrease in total production costs, because greatly reduced expenditures for chemical inputs outweighed the higher labour costs associated with organic production.

11. Those farmers whose previous systems had approximated the organic one experienced a rapid increase in yields when shifting to organic methods. In contrast, those who had previously applied chemical inputs obtained lower yields during the first years of adoption. Some cases experienced no significant changes in yields (honey in Mexico, banana in the Dominican Republic). All who adopted organic production obtained higher prices for their products than nearby conventional producers. While higher prices are partly explained by the organic nature of the products, the type of relationship that farmers established with buyers also played a key role in price margins, with higher prices being obtained when farmer organizations engaged in long-term relationships with buyers. Specialists participating in the Rome workshop stressed that organic agriculture may lead to more stable prices for small farmers – an effect also identified in one of the case studies (vegetables in El Salvador).

12. The sustainability of these effects depends on many factors, including the capacity to maintain similar or higher yields and the future evolution of prices. Yield capacity depends partly on the application of organic fertilizers in qualities and quantities that compensate for nutrients extracted by crops. The workshop discussions stressed that while organic-product markets are presently growing rapidly, premium prices may decline in the future.

13. Interestingly, small farmers dominated organic production in all the countries in which case studies were carried out – and in most of the other LAC countries – and smallholders accounted for most of the area under organic farming, with the exception of Argentina. Such a dominant presence suggests that small farmers may have some comparative advantages in organic production. First, most small farmers in LAC already produce more or less organically, using few or no chemical inputs, and frequently grow crops in the forests and with other species. Thus they find it relatively easy to convert to organic production, introducing only marginal improvements in the technologies they already apply. In addition, they are likely to experience a lower incidence of pests and diseases when they switch to certified production. In contrast, larger, more-capitalized farmers, who produce with technologies based on chemical inputs, often face greater difficulties when shifting to organic production. They need to learn quite different technologies, and their crops are initially more vulnerable to pests and disease. Another important factor is that the technologies of organic production are labour intensive and require little investment, thus using the production factor most available to small farmers. Finally, organic agriculture makes small farmers less dependent on chemical inputs that have to be purchased, which are priced higher for small farmers because of increased transportation costs in rural areas and higher unit costs for small volumes.

14. The study showed that organic production was associated with positive effects on the health of producers and workers and on the environment. It also collected anecdotal evidence of past problems associated with chemical inputs (sugar cane in Argentina and vegetables in El Salvador). Organic producers stated that their concern for the potential health effects of chemical inputs had been an important factor in their conversion to organic methods. In addition, organic producers often used environmentally friendly technologies – sometimes even before certifying their plantations as organic – cultivating their crops under the shade of native trees and using few or no chemical inputs. Organic agriculture is also advantageous to small farmers because it uses their traditional knowledge of the natural environment and of the relationships between crops or animals and the environment, and is thus more understandable.

15. Finally, workshop discussions pointed out that organic agriculture provides advantages to the wider community as well, promoting erosion control, soil fertility and cover, biodiversity (especially forest cover) and a reduction in the use of potentially toxic chemicals.

B. Strategic Issues

(a) Introducing organic agriculture through a gradual approach

16. If IFAD-supported projects were to include organic agriculture, it would be desirable to do this gradually, at least during the first few years. This would enable a correct conversion to organic production, while learning from the practice of implementation. A rapid, superficial shift could lead to failure, thus jeopardizing the possibility of continuing with organic agriculture, even where this mode of production would have proven to be the most cost-effective had the shift been properly effected.

(b) Generating knowledge to move forward in other regions

17. The lessons of the thematic study are valid for the LAC region, and many can be generalized and applied to other regions where conditions are similar. However, regions have great differences in land-tenure and production systems, availability of family labour and the characteristics of natural resources. Thus, should IFAD opt for supporting organic production, it should first undertake similar thematic studies in other regions. Such studies would clarify the possibilities of organic agriculture in those regions, specific problems and constraints that organic agriculture could face, and possible solutions.

C. Operational Issues

18. The study and workshop generated relevant lessons on the inclusion of organic agriculture in IFAD projects. A list of issues follows that should be carefully considered in every project including organic agriculture.

(a) Identifying those most likely to adopt organic agriculture

19. It is possible that not all small farmers will possess the conditions to convert successfully to organic production. Projects should focus on those likely to succeed and eventually incorporate other farmers. The most important factors in the capacity of small farmers to shift to organic production are the following:

- **Farmer motivation**. The feasibility of organic agriculture will be much greater if farmers are highly motivated, particularly by health or environmental concerns, or motivation other than the economic advantages.

- **Soil characteristics**. The existence of fertile soils will make it easier for farmers to practice organic agriculture, because it will be easier and probably less costly to maintain fertility with available organic technologies.

- **Previously applied systems of production and technologies**. Farmers using production systems approximating organic ones (i.e. reduced use of chemical inputs) will find it easier to meet the requirements of organic certification, as they will need to make only marginal changes in their production technologies and their yields are not likely to drop.

- **Land tenure** . Those who have more stable, secure land tenure will have much greater incentive to make the required investments in land-conservation measures, such as reduction of burning before plantation, introduction of crop-rotation methods and soil-conservation measures, and the conservation of natural forests.

- **Availability of family labour**. Those who have more family labour available will find it easier to face the higher demand for labour associated with organic methods of production.

(b) Comparing organic agriculture to other options

20. Since the target population of a project may include various groups with different characteristics, projects may apply different strategies to these groups. Thus organic agriculture should not be considered as a unique alternative, but as one of the alternatives in a menu of possible options, many of which could be part of a particular project. Organic agriculture should not be considered in opposition to conventional agriculture or other low-input production systems. Certified organic agriculture may be most appropriate for some small farmers, while other kinds of low-input technologies may be more appropriate for others.

(c) Dealing with potential technological problems

21. The study showed that small farmers usually found organic technologies relatively easy to apply. However, projects may face the following significant problems:

- **Obtaining products of good quality**. Buyers of organic products from industrialized countries are becoming increasingly more demanding in terms of quality – a trend that is likely to continue. Because small farmers in some cases had problems obtaining products that met increasing quality standards (e.g. banana in the Dominican Republic and vegetables in El Salvador), medium-sized and larger organic producers were gaining more space in the market. Projects need to include interventions that focus on obtaining products of high quality.

- **Monitoring compliance with organic methods of production**. The case studies demonstrated that fraud might constitute a **serious** problem faced by small-farmer organizations producing organic products. In fact, one or a few organization members might be tempted to obtain premium prices without complying fully with organic methods of production. In this way, the whole organization could lose access to a particular market, thus making the whole organization forfeit income and the trust of buyers. Projects should pay great attention to helping organizations establish mechanisms to control compliance with organic methods of production and to penalize producers not in compliance.

- **Dealing with an insufficient supply of technologies and of professionals specialized in organic technologies**. The incorporation of organic production issues into research and education agendas is crucial to generating a supply of technologies appropriate to local conditions – and of professionals with adequate training to participate in projects. Thus it is essential to determine if these programmes exist in a particular country, if there is availability of technologies appropriate to local conditions, and if there is a sufficient supply of professionals for a given project. If they have not yet been developed, corrective measures should be included, such as support to the research and training programmes of national institutions.

22. As documented by the case studies, organic production techniques must ensure that adequate supplies of organic fertilizers compensate for extraction of nutrients by crops. Otherwise, organic production could go well for a few years, but still be unsustainable in the medium to long term. The provision of adequate fertilization is especially relevant in regions with poor soils. In addition, the application of adequate quantities of organic fertilizers of the required quality may face several constraints, including their scarcity in the region, high cost or alternative uses, i.e. as fuel for household cooking. These potential problems should be identified to determine the feasibility of organic agriculture, and corrective measures implemented if possible.

(d) Promoting farmer organizations

23. The thematic study concluded that farmer organizations played a key role in the incorporation of small farmers into organic production:

- They made it possible to take advantage of economies of scale through collective marketing, managing volumes that were of interest to foreign buyers. In addition, buyers were eager to deal with associations, because it was easier and more economical to negotiate and implement contracts with one or a few associations than with many individual small farmers.

- They were able to train many small farmers in the basics of organic production and to promote the adoption of new technologies.

- They also organized monitoring systems to control members' compliance with organic methods of production and to penalize those that did not comply. When a monitoring system worked well, it served to decrease the costs of certification significantly for individual association members, because the certification agency did not have to carry out inspections of all association members, but only of a sample.

- Finally, they were able to attract the help of government agencies and/or NGOs, for themselves and their members, in adopting the necessary changes to begin organic production.

24. Based on this evidence, programmes and projects that promote the adoption of organic crops among small farmers should include interventions to strongly support farmer organizations. This is far from an easy task, because organic production will place great organizational demands on farmer associations: (i) organic agricultural products in developing countries are often sold in foreign markets, so the organization will have to deal with more-demanding foreign buyers in terms of both quality and the timing of deliveries; exporting is also more demanding in logistics and coordination; and (ii) certification of production will require expensive inspections and certification costs (particularly during the transitional period), set-up and operation of a monitoring system, and promotion of participation at the grass-roots level in order to avoid fraud. Thus projects aiming to support organic agriculture should target groups of small farmers that have reasonable prospects of succeeding in their collective action.

25. In addition, specific measures should be included to help farmer organizations develop effective monitoring systems. These systems will mainly require: (i) strengthening managerial and organizational skills through training and the provision of relevant technical assistance; (ii) some material resources (a computer and software to organize information and the vehicles needed to carry out inspections); and (iii) intensive initial training of organization members in the basics of organic production and the risks to all members of non-compliance even by isolated farmers.

(e) Dealing with the marketing of organic production

26. Some advantages of organic-product markets are fast growth, higher prices and buyers interested in the welfare of producers. At the same time, it is difficult to say whether this market will always be a niche market or will succeed in growing into a mass market.

27. In any case, projects cannot assume that markets are easily available and accessible or that farmer organizations can rely on 'spot' markets of one-time transactions. The thematic study concluded that marketing of organic products through farmer organizations that established direct contacts with buyers was key to obtaining better prices. Long-term contracts were preferable, because they provided a safe market and more stable prices. Access to the fair-trade market substantially increased the final price and further reduced price instability. Thus projects should include measures

to improve the capacity of organizations to deal with markets and negotiate long-term agreements with buyers.

28. Contract farming schemes facilitated the marketing of small-farmer production and brought access to extension services and occasionally credit, but they also had some disadvantages. Small farmers had a relatively weak position in negotiations with these processing and marketing firms, because they had limited information and poor organization. In the end, they received relatively low prices and accepted undesirable contract terms. In addition, out-grower schemes may have severe limitations, including the high cost of monitoring small farmers and difficulty in realizing the benefits of investment in out-grower schemes due to diversion of output to other buyers offering higher prices than those of the contracts. Thus large buyers may play an important role in promoting organic production more through providing demand and channelling knowledge to producers and producer associations than through the promotion of out-grower schemes. Projects might still promote contract farming, but in this case they should incorporate legal advice on the negotiation of better contracts.

29. Although most of the cases in the study included products for export, local markets would have great advantages for small farmers in terms of access and more flexibility regarding quality and volume requirements. However, local organic markets in Latin American countries are very limited and often lack regulation. In any case, projects need to take the current constraints of local markets into account. Organic agriculture for the domestic market can be promoted when good possibilities exist for sales to supermarkets and food chains.

(f) Preventing financial constraints

30. Surprisingly, in all the cases, organic production developed in spite of limited availability of formal sources of on-farm credit. This related not only to small farmers' difficulties in accessing formal credit, but also to the fact that financial institutions in most countries did not recognize the difference between organic and conventional agriculture. Thus they could provide credit to a particular crop, but not to the organic version, which had specific characteristics and financial needs. While small farmers that shifted to organic production did not have to make significant on-farm investments – mainly because their previously dominant production was close to the organic model – they still required some financial support. The most important investment was the introduction of soil-conservation measures, and while small farmers mainly used family labour, they usually needed to hire some wage labour to implement these measures. In addition, organic producers faced higher production costs related to the implementation of new manual tasks and to certification.

31. The transitional period – the first two or three years after farmers start to produce organically – is the most difficult in terms of financial needs. During this period, farmers must carry out soil-conservation measures and pay for certification costs without yet being able to obtain certification. As a result, they usually do not receive premium prices and would thus benefit greatly from the availability of short-term credit for hiring the wage labour needed. This type of credit is especially needed by women producers, who usually lack family labour and have fewer resources to pay for wage labour. In addition, projects could provide grants for investment in soil-conservation measures and for certification costs during this period. Grants would need particularly careful management to avoid potential distortions of local markets and paternalistic attitudes on the part of both project beneficiaries and staff.

32. The most important off-farm investments required by organic production included packing and storage facilities for products such as coffee, cacao, banana and vegetables. Because these investments were too costly for individual small farmers, they were usually carried out by farmer associations or marketing firms. When farmer associations functioned well, these investments allowed them to capture a substantially higher portion of the final price of organic products. Thus projects should make financial resources available to support investment in packing and storage facilities of

farmer associations that are well organized and have good prospects for success. In addition, funding should be secured for purchase by the association of the organic production of members.

(g) Promoting policy change

33. Small organic producers and their organizations often benefited from government programmes and agencies, receiving public funding and technical assistance to implement the changes needed to convert to organic production. However, almost none of these agencies and programmes specifically targeted organic production. Government policies and institutions dealing specifically with organic agriculture played a marginal role both in the emergence of organic products in the countries in this study and in the success of small organic producers of the case studies in particular. While this evidence may lead one to think that specific policies and institutions may not be necessary, it is important to support their development, because importing countries (mainly of the European Union) are increasingly requiring them in order to ensure that organic products are produced and certified according to common standards. In addition, national laws and regulations make possible the lowering of certification costs faced by small farmers, as they lead to the establishment of nationally based certification firms. The experience of the countries most advanced in developing specific policies and institutions suggests that a government programme dealing with organic agriculture may be both inexpensive and effective.

34. Macroeconomic, agricultural and trade policies are also important to the development of organic agriculture among small farmers. These policies are frequently biased towards mechanization and the use of chemicals, for example through subsidies and low tariffs on imports of agricultural machinery and chemical inputs. The promotion of organic agriculture in a project requires understanding the policy context and ensuring that it does not pose substantial barriers to the success of the initiative. If such is the case, actions to encourage changes in these policies should be undertaken before including organic agriculture.

(h) Concentrating on the transitional period

35. As mentioned previously, the transitional period is the most crucial for all organic farmers; all of the problems and constraints mentioned above are then likely to be the most acute. Non-economic problems can include the need for major attitudinal changes towards the environment, product quality, organization and participation. Every project introducing organic agriculture will need to determine the likely problems in the transitional period for the specific products to be produced and to implement measures to correct them. Each project will need to concentrate its training and technical assistance efforts in that period.

V. CONCLUSIONS AND RECOMMENDATIONS OF THE 'VALIDATION' WORKSHOP

36. The workshop on Organic Agriculture in Latin America, organized jointly by OE and PL, presented and discussed the findings of the thematic study in order to derive conclusions and implications for future IFAD initiatives. The study and workshop were the first step for IFAD in discussing future opportunities involving organic agriculture. The second will be a regional workshop in Costa Rica, to be held in 2003.

37. In order to ensure an open and relevant discussion on the main issues raised by the study, OE invited representatives of: (i) donors and international organizations; (ii) research institutions; (iii) private companies; (iv) certification agencies; (v) NGOs; (vi) field project managers; and (vii) cooperatives of organic producers from Latin America. The workshop was opened by the President of IFAD, followed by the Assistant President of the Programme Management Department and the Director of the Office of Evaluation.

38. The workshop's organizers first established a working definition of organic agriculture, with the purpose of avoiding long and sometimes divisive discussions over a precise definition. The definition chosen, which follows, derives from that of the International Federation of Organic Agriculture Movements **(**IFOAM).

39. The term 'organic agriculture' refers to a farming system employing management practices that seek to nurture ecosystems capable of achieving sustainable productivity and providing weed, pest and disease control. This is done through a diverse mix of: mutually dependent life forms, recycling of plant and animal residues, crop selection and rotation, water management, tillage and cultivation. Soil fertility is maintained and enhanced by a system that optimizes soil biological activity and conserves soil resources. The use of chemicals is strictly limited to tolerance levels established by IFOAM. Organic livestock husbandry is achieved by a combination of good-quality, organically grown fodder; appropriate stocking rates; livestock husbandry systems appropriate to behavioural needs; and animal management practices that minimize stress and seek to promote animal health and welfare, prevent disease and avoid the use of chemical allopathic veterinary drugs (including antibiotics). Thus, according to this definition, we can speak of small farmers using organic agriculture, with few or no chemical inputs, whether or not it has yet been officially certified as such.

40. The following brief resume of the conclusions of the workshop is organized according to the questions dealt with in the working groups. The first three questions regard the nature and viability of organic agriculture in general and were discussed by all the working groups, while the following five questions have to do with specific aspects of organic agriculture, which were discussed by individual groups dedicated to those specific topics.

A. What are the advantages and disadvantages of organic agriculture for small farmers in developing countries?

41. A major advantage of organic agriculture for small farmers is the higher and generally more stable prices that this specialized market offers. Among the many benefits brought about by higher incomes are higher standards of living and increased food security.

42. Organic agriculture is also advantageous to small farmers because it uses their traditional knowledge of the natural environment and of the unique relationships between various crops or animals and the environment. It is thus somewhat easier for small farmers to understand. At the same time, it avoids chemical inputs, which for small farmers are generally higher priced (because of increased transportation costs in rural areas and higher unit costs brought about by lower volumes), and to which they have not become as dependent as large-scale conventional farmers often have. Furthermore, the health factor of not having to handle harmful chemicals is particularly important to small farmers.

43. There was a fair amount of discussion as to whether or not organic agriculture was a lower-cost technology, and whether or not it promoted biodiversity. The most accurate conclusion in each case is that impact will probably vary depending on the particular situation in which it is applied. For instance, in the case of farmers who diversified the shade plants of their coffee in order to meet the criteria of organic coffee, biodiversity was enhanced, whereas in most cases of organic sugar producers in Argentina, biodiversity decreased. Production costs may increase with the adoption of organic agriculture if major soil-conservation works are required and if, for instance, farmers must do more mechanical weed control. However, in other cases, the use of cover crops to control weeds and natural methods of controlling pests obviate the use of expensive pesticides, hence reducing production costs.

44. Organic agriculture provides advantages to the wider community as well. To the extent that it promotes more erosion control, soil fertility and cover, biodiversity (especially forest cover) and a reduction in the use of toxic chemicals over conventional or traditional agriculture, it provides

downstream communities with a cleaner, healthier and more-abundant water supply and neighbouring communities with all the advantages of a healthier, less-polluted environment.

45. The disadvantages or constraints inherent in small-farmer adoption of organic agriculture were seen to include: the limited amount of truly scientific research on organic technologies, especially under small-scale farming conditions; the often difficult access to needed plant material, animal breeds and plant-protection inputs; lessened ability to react to unforeseen external factors, such as the sudden arrival of new pests or diseases; the high cost of certification; the difficulty small farmers have in negotiating contracts with buyers; inaccessibility of organic markets to most small farmers; and the bias of most nations' legal structures in favour of conventional agriculture.

46. Particularly difficult hurdles are the need for well-functioning, fairly complex farmer organizations; the major costs often involved in making the transition to organic agriculture (without correspondingly increased product prices), and the need for organizations to maintain strict adhesion to organic standards with regard to both production procedures and quality control of the product.

47. Some concern was also voiced about the perceived difficulty organic agriculture may have in sustaining soil-fertility and nutrient levels. Nevertheless, with the use of purchased organic matter, organic nutrient sprays and green manure/cover crops – in addition to more-traditional techniques such as crop residues and compost – this problem no longer exists in the vast majority of cases.

48. Finally, whereas organic-product markets were seen as having more profitable and stable prices, they were also thought to be more vulnerable due to their smaller size and dependence on specific contracts or relationships with a limited number of buyers.

49. In balance, the consensus was that organic agriculture could definitely be advantageous for small farmers, albeit under a number of conditions.

B. Under what conditions and for what kinds of small farmers is organic production a feasible alternative?

50. The feasibility of organic agriculture will first of all be greatly enhanced if the farmers themselves are highly motivated, especially if the desire is motivated by health or environmental concerns, or by an important motivation other than the economic advantages involved.

51. Other factors contributing to the appropriateness and feasibility of organic agriculture include the existence of fertile soils, a land-tenure system that ensures at least long-term usufruct rights over a minimum area of land, links to markets, functioning farmer organizations, agricultural practices that do not depend on chemical inputs, and a high level of entrepreneurial ability among farmers. The absence of conditions that exclude organic agriculture, such as the nearby presence of genetically modified crops, will, of course, be essential.

52. Access to additional labour will be an advantage in those cases in which organic agriculture actually increases the labour requirements of farming systems.

53. It is particularly interesting that many of the conditions that favour the adoption of organic agriculture may pertain *primarily* to small farmers. That is, organic agriculture may, at least in some cases and in marked contrast to conventional agriculture, provide a comparative advantage to small, poorer farmers over larger-scale producers. Among these advantages, organic agriculture is easier to adopt for those who: (i) have not used large amounts of chemical inputs in the past, (ii) have an intimate knowledge of the local ecology, and (iii) have a surplus of inexpensive labour available within the extended family or village.

C. What institutional actors might cooperate in solving major problems related to organic agriculture?

54. One of the working groups analysed this issue and reported that the list of possible institutional collaborators is long and varied. Such a list includes institutions of technical cooperation; government, NGO and private agricultural research; extension services (again, of all three kinds); marketers (commercial and NGO); certification and inspection bodies; importers and exporters; donors; retailers; various agencies of local and national governments; farmer organizations and associations of various kinds; academic institutions, etc.

55. The rule of thumb here would be to look for quality of work and knowledge of the field, rather than limit one's vision to any specific institution. A number of 'nodes' or levels in the value chain should be considered and involved by each actor along this chain.

D. What can be expected regarding the general impact of organic production?

56. Economically, impact will vary according to the previous farming systems used. For instance, high-external-input systems will generally suffer a major transitional period of reduced yields, complicated by no increase in the per-unit price, although over the long term there should be gradually increasing yields with higher prices. Low-external-input systems, however, will usually enjoy increased yields from the first year of conversion, thereby greatly buffering the fact that prices will not increase until later.

57. In other respects, impact will vary greatly depending on local conditions. Projects should capitalize on local community structures and farmer organizations, listen to local people during project design, and implement innovative initiatives with caution. Grants for technical assistance and the establishment of internal quality-control and compliance systems would be particularly helpful.

58. Opinions varied widely as to the value and dangers of subsidizing farmer operations during the transitional period. Some people felt that such subsidization was almost a necessary condition of programme success, while others felt the negative consequences – distortion of local markets, the decreased number of farmers who could thereby participate in such programmes, and the paternalistic attitudes caused by such subsidies – made them a programme feature to be avoided at almost any cost.

E. What major problems occur during the transition to organic production?

59. Most of the economic problems of organic-agriculture adoption have already been listed under general disadvantages. However, it is important to emphasize here that economic problems of small farmers, especially those with fairly high yields and/or heavy use of agrochemicals, will be particularly acute during the transitional period because of the triple blow of a reduction in yields precisely when certification costs are highest and in the absence of an offsetting increase in produce prices.

60. Non-economic problems occurring during the transition to organic production include the need to make major attitudinal changes regarding the environment, product quality and even independence of decision-making, and the need to organize and participate actively in that organization.

61. IFAD's role in overcoming the problems of transition could include providing financial support for certification, facilitating the establishment of farmer organizations, supporting the enforcement of already existing land-tenure legislation; and lobbying to reduce protectionism and the subsidization of agriculture in developed countries.

62. Through and together with the private sector, IFAD could promote the formation of local organic markets (for instance in hotels); help negotiate and establish long-term contracts with developed-nation buyers; create and/or disseminate information on successful experiences to date; and support the creation of laboratories, seed banks, etc. and of infrastructure for storage and transportation.

F. What problems are connected with the certification process and how can they best be handled?

63. One of the main problems of certification is that the bulk of the work and expense come precisely during the transitional period when farmers are least able to deal with it. In addition, the cost of the service can run as high as a small farmer's average net income for an entire year, especially when done by foreign certifiers.

64. The process of certification is further complicated by a variety of requirements. For instance, some nations within the EU have one list of requirements, the EU as a whole has another, and IFOAM yet another. This unnecessary complexity increases both costs for and confusion among farmers.

65. If skilled, farmer associations can play a major role in making certification a much less painful process for individual farmers. These associations can organize internal control and sanction systems and train farmers to understand their necessity. They can organize and manage extension systems that provide farmers with technical know-how and support them in developing and spreading useful innovations. They can also build and strengthen social relationships, both among farmer members and between farmers and other organizations nationally and overseas.

G. What are the advantages, disadvantages and prospects for the future of organic-product markets?

66. The advantages of present organic-product markets are their amazingly fast growth (15-30% per year), higher prices, buyers interested in the welfare of the producers, and the availability in some cases of better market analyses and special financial resources.

67. Difficulties encountered are a lack of market knowledge in some cases, inadequate partnerships with buyers, small farmers' difficulty in establishing and nurturing international contacts, and volume or quality requirements that restrict or eliminate small-farmer involvement in certain markets. Some of these problems can be solved through the establishment of trade shows, use of the Internet, and learning to establish market linkages and maintain partnerships.

68. In terms of the organic market's future, it is difficult to say whether this market will always be a niche market or will succeed in growing into a mass market in its own right. In any case, one prediction that *can* be made is that there will probably be a declining premium (i.e. a lower price differential between organic and conventional produce). The market may also grow to include many more non-food items.

69. A major point of discussion and, to some extent, disagreement, was the issue of the extent to which programmes should focus primarily on export markets. Local markets would have major advantages over export markets for small farmers. Among these would be lower volume requirements, easier nurturing of relationships with buyers, more flexibility, and probably a wider assortment of products that could be sold. However, local organic markets are almost non-existent, and where they do exist, often have problems of lack of regulation. Nevertheless, there was some feeling that such markets should be actively encouraged, not only because of their inherent value, but also because they can serve as a training ground to develop skills that can then be used to establish and maintain international markets.

70. Contract farming can be another avenue through which farmers can gradually prepare themselves to work in international markets. Nevertheless, farmers need to avoid becoming dependent on such relationships and should be made aware that they can establish either contracts with fixed prices or with a floor price plus premium.

71. Brokers can play an important role in the establishment and maintenance of organic marketing channels. They can help make sure that supply chains are efficient and that farmers are able to negotiate competitive terms.

H. What could be the role of public institutions?

72. The state has many potential roles. Among them are: establishment of policies that favour diversification, better coordination of public-sector agencies, improved enforcement of commercial contracts, reduction of market distortions (especially those caused by their own subsidies for chemical inputs and large-scale irrigation schemes) and simplification or abrogation of laws that hinder the establishment or management of farmer organizations.

73. Other roles could be assumed. Public institutions might provide funding for organic-agriculture research and extension and contribute to costs associated with the transitional period. They might also establish policies that would reward or punish positive or negative externalities in agriculture. Nevertheless, most Latin American governments have neither the administrative capacity nor the resources to do much more than they are presently doing.

74. Importing countries should definitely work to harmonize organic certification standards and reduce subsidies to their own farmers. They might also promote consumer awareness and help developing-country farmers establish linkages in order to take advantage of new market opportunities.

75. International agencies, NGOs and other organizations might support developing-nation governments in creating enabling environments for organic agriculture, building capacity among farmers, providing infrastructure and financing farmer organizations in carrying out some of the tasks enumerated above. They could also help reduce bank transaction costs (by assuming some of the risks and administrative costs) and provide supporting mechanisms for the regional integration of organic-agriculture efforts, such as the sharing of research results, farmer training and establishment of uniform regional standards.

General Conclusion of the Workshop

76. The general conclusion, as evidenced by many statements made during the day and a half of discussions, is that organic agriculture can be of major value to the poorer farmers of Latin America, but that it is a complicated process in which technical support, farmer organization, marketing concerns, quality and compliance control, and other factors all have to be managed, and often all at once. Thus efforts should be concentrated where absolutely the largest possible number of necessary and contributing factors for success are in place.

VI. NEXT STEPS

77. **Agreement at completion point**. After the September workshop, OE had meetings with all members of the core learning partnership concerning the main lessons learned as they apply to IFAD's concrete planning and decision-making processes. The first step will be finalization of an agreement at completion point, merging the results of the study with the outcome of the workshop. As the two sets of main conclusions do not differ substantially, the agreement should be finalized in the coming weeks.

78. **Regional workshop on organic agriculture in Central America**. The regional division for IFAD operations in Latin America and the Caribbean is organizing a regional workshop in San José de Costa Rica in April 2003 to discuss and disseminate the results of the thematic study and the Rome workshop. This second workshop is being organized in close cooperation with the Central American Regional Unit for Technical Assistance (a joint programme of governments and international cooperation agencies for sustainable rural development in Central America) and the Tropical Agricultural Research and Higher Education Center.

79. The workshop's main objectives are to: (i) identify the role of organic production for rural development and poverty reduction in the region; (ii) validate and adjust ('regionalize') the conclusions and recommendations of the Rome workshop to specific regional requirements; (iii) strengthen the linkage of IFAD projects with other regional actors in organic agriculture so as to share research-and-development experience and avoid duplication; and (iv) identify and prioritize possible future activities in organic agriculture, to be implemented in the region with the aid of IFAD project staff.

80. **Thematic evaluations of organic agriculture in other regions**. Following OE's proposal to carry out similar studies in other IFAD regions with an interest and/or potential in organic agriculture, both the Asia and the Pacific and Near East and North Africa regions have included a study in their proposals for evaluation work in 2003. In addition to supporting the two regions in the analysis of opportunities and challenges related to organic agriculture in their projects, replication of this thematic evaluation in these regions will give the Fund a concrete opportunity to elaborate a corporate position vis-à-vis the adoption of organic agriculture in its projects.

THE ADOPTION OF ORGANIC AGRICULTURE AMONG SMALL FARMERS IN LATIN AMERICA AND THE CARIBBEAN

EXECUTIVE SUMMARY

A. Introduction

1. This study focuses on organic agriculture as a possible alternative for the diversification of production among small farmers. Organic production mainly involves the application of agronomic, biological and mechanical methods instead of chemical synthetic inputs. Most definitions also incorporate reference to the use of several techniques that are not exclusive to organic agriculture, since they may be applied in conventional and low-input production systems as well, in particular 'better land husbandry' techniques such as soil-conservation measures, crop rotation and the use of green manure and of mechanical methods instead of the slash-and-burn technique. An important differentiation involves 'certified' vis-à-vis 'non-certified' organic agriculture. Although a high proportion of small farmers in the countries of Latin America do not use chemical inputs (and in that sense they are already producing organically), there has been an increasing trend in both the industrialized world and developing nations to pass laws and regulations that require products to be certified by specialized agencies before they can be sold as 'organic', 'biological', or 'natural'.

2. The main issues analysed are the following: (a) the impacts of a shift to organic production on the different types of production, on incomes and on the quality of the lives of small farmers; (b) the main technology problems faced by small farmers and the costs involved in the transition to organic production; (c) the main problems related to the certification of organic products and the ways small farmers are able to deal with these problems; (d) the role of exports and domestic markets and the relevance of contract arrangements between farmers and buyers and (e) the role of government policies and agencies and of non-governmental organizations (NGOs) and donors in helping small farmers to produce organically.

3. These issues have been analysed through a set of case studies of small-farmer groups that have been successful in adopting organic technologies and in marketing their organic products. The cases are located in countries of the Latin America and the Caribbean (LAC) region with different policies towards organic agriculture and various degrees of development in the institutions dealing with organic agriculture. In addition, they involve different agricultural products that have specific characteristics and pose different challenges and problems for organic producers. The cases include the following: (a) coffee production in the state of Chiapas in Mexico and honey production in the Yucatan Peninsula in Mexico; (b) cacao and banana production in Talamanca county, province of Limón, Costa Rica; (c) coffee production in the department of Huehuetenango, Guatemala; (d) sugar production in the San Javier region, province of Misiones, Argentina; (e) the production of fresh vegetables in the Las Pilas region, department of Chalatenango, El Salvador, and (f) banana production in the province of Azua, the Dominican Republic. The study has covered a total of 12 farmer organizations that comprise about 5 150 farmers and close to 9 800 ha of organic crops. All the cases, except for that in El Salvador, involve organic products for export, while the organic vegetables produced in El Salvador are sold in the domestic market (supermarket chains in the capital, San Salvador). Three of the cases (in El Salvador, Guatemala and Mexico) involve farmer organizations that have been supported through IFAD projects. Eight of the twelve organizations represent indigenous communities.

4. The findings of the study provide interesting and useful lessons for projects. The main conclusions and lessons for projects and policies aiming to promote changes in the agricultural production of small farmers are outlined below.

B. On the Impacts of Organic Production on Small Farmers

5. The shift to organic production had positive impacts on the incomes of small farmers in all the case studies. While the case studies show different situations in terms of how production costs, yields and product prices evolved among small farmers who shifted to organic agriculture, in all cases organic producers obtained higher net revenues relative to their previous situation. The sustainability of these effects depends on many factors, including the capacity to maintain similar or higher yields (which depend partly on using organic fertilizers to compensate for the nutrients extracted by the crops) and the future evolution of the prices of organic products.

6. The evolution of production costs is related to the characteristics of the previous production system. Farmers who used to apply conventional production systems and technologies closer to those employed in organic production (coffee in Guatemala and Mexico, cacao and bananas in Costa Rica, bananas in the Dominican Republic, honey in Mexico) experienced an increase in production costs because they had to introduce improvements in the technologies of production. Most of these technologies were labour intensive, and small farmers used mainly family labour to deal with the higher demand for labour. In addition, farmers also faced new costs related to the certification of production as organic. In contrast, those farmers who used to apply chemical inputs before shifting to organic methods of production (sugar cane in Argentina, vegetables in El Salvador) experienced a decrease in the total production costs, even though they experienced higher labour costs.

7. Those farmers who used to produce under systems of production closer to the organic system experienced a rapid increase in yields after shifting to organic methods of production. In contrast, those who used to apply chemical inputs obtained lower yields during the first years after the shift. Farmers in some cases (bananas in the Dominican Republic, honey in Mexico) experienced no significant changes in yields. Meanwhile, all the farmers who shifted to organic obtained prices for their products that were higher than those obtained by similar conventional producers located close by. While the higher prices can be explained by the organic nature of the products, the type of relationship that farmers established with buyers also played a key role in the price margins. Thus, higher prices were gained when farmer organizations succeeded in developing long-term relationships with buyers.

8. Interestingly, small farmers dominated organic production in all the countries in which the case studies were located. In fact, most organic producers in these countries – and in most of the other countries in Latin American – were small farmers, and small farmers accounted for most of the areas under organic farming everywhere except in Argentina. Such a dominant share in organic farming suggests that small farmers may have some comparative advantage in organic production. First, most small farmers in LAC already produce more or less 'organically', using few or no chemical inputs and frequently grow crops under the forest and mixed with other species. Thus, they find the shift to organic production relatively easy, because they have to introduce only marginal improvements to the technologies they already apply. In addition, they are not likely to experience a higher incidence of pests and disease when they produce organically. In contrast, larger and more well capitalized farmers who produce with technologies based on chemical inputs often face more difficulties when they shift to organic production because they need to learn technologies that are quite different, and their crops are initially more affected by pests and disease. Finally, the technologies of organic production require little investment and are labour intensive. They thus rely on factors of production that are most available to small farmers.

9. The organic models of production have also been associated with positive effects on the health of producers and workers and on the environment. This statement, however, is based on qualitative evidence, as no measurements have been obtained to support it precisely, and only limited research has been carried out in all the countries included in the study. Most organic producers have argued that their concerns about the potential effects of chemical inputs on health have been an important factor in their shift to organic methods of production. In addition, organic producers have usually used environmentally friendly technologies – sometimes even before certifying their plantations as organic

– by cultivating their crops under the shade of native trees and using few or no chemical inputs. The few studies identified have found that these systems have helped preserve natural forests and biodiversity, being characterized by a high number of species of trees and birds. Organic production has led to the introduction of additional improvements, such as soil-conservation measures that are absent among conventional producers, thus improving the conservation of soils. These findings suggest that efforts should be carried out to obtain deserved payments for the relevant small farmers for the environmental services that are involved in these production systems.

10. Not all small farmers faced the same conditions in successfully making the shift to organic production. Their possibilities to succeed in organic production were strongly influenced by some characteristics of small farmers, including, mainly, the technologies and production systems previously applied, land tenure and household features. Those who already produced more or less organically found it easier and less costly to meet the certification requirements, having to make only marginal changes in their technologies of production. In addition, their yields did not fall, as did those of farmers who had been using chemical inputs intensively. Those who had more family labour available faced lower costs as regards labour-intensive organic methods of production. Those who had stable land tenure were able to carry out investments in land-conservation measures. In contrast, farmers who were already using chemical inputs more or less intensively, who had little family labour available – a frequent situation among women farmers – and who were experiencing unstable land tenure found it very difficult to succeed in organic production. The switchover of these poorer farmers to organic production would require specific measures to support more heavily the transition period and to solve problems of land tenure.

11. Organic production may be an interesting alternative for projects aimed at small farmers. However, it should not be viewed as a unique alternative, but one of several possible ways to improve the production and incomes of small farmers. Also, it should not be viewed as a solution for coffee producers who have been suffering through the coffee crisis of the last few years. Several specialists have stressed that the price margins paid for organic products are likely to decrease in the future, as supply increases and new consumers come in who are less willing to pay higher price margins. If policies and projects cause organic agriculture to expand too quickly, the new organic producers might be hurt by falling prices. Thus, projects should promote organic production as one of the alternatives in a menu of possible options, concentrating on those that offer the most appropriate conditions to succeed, as explained above.

C. On the Constraints Faced by Small Organic Producers

i) Land tenure

12. Most successful organic producers own their land, and small farmers with unstable land tenure seem to have been unable to produce organic products. The main reason for the exclusion of these small tenants relates to the need to implement land-conservation measures, the most important investment required when shifting to organic production. First, the returns to land-conservation measures are obtained in the medium and long run, so farmers have not been willing to implement them when they have not known how long they would stay on the land. Second, tenants who are renting the land need the landowners' permission to carry out the land-conservation measures, a permission that has usually been denied due to the landowners' fear that they would face more difficulties in evicting tenants in the future if they carried out improvements in the land. Thus, projects that promote organic agriculture among small farmers should initially concentrate on those who have stable forms of land tenure, preferably property. In addition, they should promote long-term rental contracts among small producers renting the land and provisions to compensate them upon the termination of the contract for the residual value of investments made in improving the land. They should also target landowners through promotional activities to convince them of the importance of land-conservation measures and to obtain their support before promoting organic agriculture among small renters.

ii) Technology issues

13. The most successful organic producers have been those who were already applying a production system characterized by technologies not based on chemical inputs, a frequent situation among small farmers who do not have the resources to pay for expensive inputs. These production systems are frequently seen in a negative way because of the low productivity of the crops compared with the single-crop production system. However, they have some great advantages: (a) they can be certified as organic with little change or no change at all in production practices, turning them into viable economic alternatives; (b) they may have positive effects on the conservation of the environment; (c) the efforts in training and technical assistance are likely to be significantly lower and (d) the transitional period is likely to be shorter and less expensive, as farmers will probably not experience the fall in yields that usually characterizes the suspension in the use of chemical inputs in input-intensive production systems. Thus, projects aiming to promote organic agriculture among small farmers should concentrate on those producers who are already producing more or less organically.

14. While small farmers have found organic technologies relatively easy, extension services have had an important role in solving specific technical problems. First, exporters and marketing firms recognize that the buyers of organic products in industrialized countries are becoming increasingly more demanding in terms of quality. Small organic producers in some of the cases have experience quality problems that may jeopardize their future access to foreign markets, because some large firms (including transnational corporations) have established their own plantations. Second, groups of small farmers could be hurt significantly if only one group member or a few group members do not comply the organic methods of production, losing money and the trust of buyers. Therefore, extension services for small organic producers should concentrate on improving the quality of production and on controlling compliance with organic methods of production.

15. While universities and training institutions for agricultural specialists in most LAC countries have been incorporating organic agriculture in their programmes since the mid-nineties, extension services have usually faced problems in finding professionals trained in organic agriculture, with the exception of coffee, in which a substantial number of professionals have obtained on-the-job training. Thus, the incorporation of issues related to organic production by research and education programmes of universities and training institutions is key in generating a supply of professionals with the adequate training. Thus, it is essential to support these programmes if they have not been developed yet and where the insufficient supply of professionals may become a serious constraint on the success of projects involving organic agriculture.

iii) The financing of organic production

16. Surprisingly, organic production in all the cases studied has developed in spite of the limited availability of formal sources of on-farm credit. This has related not only to the difficulties faced by small farmers in gaining access to formal credit, but also to the fact that the financial institutions in most countries do not recognize the differences between organic and conventional agriculture. Thus, they might provide credit for a crop such as 'coffee', but not to 'organic coffee', which has exhibits specific characteristics and financial needs.

17. Shifting to organic production has not required significant on-farm investments, mainly because the previously dominant production has been similar to organic production. However, farmers may still require some financial support. The most important investments that farmers have faced when shifting to organic production have been the introduction of soil-conservation measures. While small farmers use family labour, they have usually needed to hire some wage labour to implement these soil-conservation measures. In addition, organic producers have faced higher production costs – especially labour – and certification costs.

18. The transitional period – the first two or three years after farmers start to produce organically – has been the most difficult period for organic producers in terms of financial needs. During this

period, farmers have had to carry out soil-conservation measures and pay for certification costs without being able to obtain premium prices. Thus, small farmers will benefit greatly from the availability of short-term credit for hiring the necessary wage labour. This type of credit will be especially necessary for women producers, who are frequently alone and have fewer resources of their own to pay for wage labour. In addition, projects could provide temporary and partial subsidies for these investments in soil-conservation measures and for covering certification costs during the transitional period.

19. The most important off-farm investments required by organic production are similar to the ones required by conventional production, including packing and storage facilities for products such as coffee, cacao, vegetables and bananas. Because these investments are too large for a single small farmer, they have usually been carried out by farmer associations or marketing firms. When farmer associations have worked well, these investments have allowed them to capture a substantially higher portion of the final price of the organic products. Thus, projects should make available financial resources to support investments in packing and storage facilities for farmer associations that are well organized and have prospects of success. In addition, funding should be secured so that the associations can purchase the organic production from their members.

D. On the Strengthening of Farmer Associations

20. Producer associations have played a major role in the incorporation of small farmers in organic production for several reasons:

(a) They have made it possible to take advantage of economies of scale in marketing the products of their members collectively and in managing volumes that have lured foreign buyers to negotiate with them. Buyers have been eager to negotiate with the associations because they have found it easier and cheaper to negotiate and implement contracts with one or a few associations rather than with a large number of individual small farmers.

(b) They have been able to train a large number of small farmers in the basics of organic production and in promoting among them the adoption of new technologies of organic production.

(c) They have been able to organize a monitoring system to control their members' compliance with organic methods of production. When a monitoring system has worked well, it has served to decrease significantly the costs of certification for the individual association members, as the certification agency has not had to carry out inspections among all association members, but only among a sample of them.

(d) They have been able to attract government agencies and NGOs to help them and their members adopt the necessary changes to adopt organic production.

21. Based on this evidence, programmes and projects that promote the adoption of organic crops among small farmers should strongly support farmer organizations. This is far from an easy job, as organic production will pose great organizational demands on farmer associations: (a) organic agricultural products in developing countries are often sold in foreign markets; so the organization will have to deal with foreign buyers who are demanding in terms of quality and the timing of deliveries; exporting is also much more demanding in terms of logistics and coordination and (b) the certification of production will require expensive inspections, as well as certification costs (specially during the transitional period), the establishment and running of a monitoring system and the promotion of participation at the grass-roots level in order to avoid free riders. Thus, projects working with small farmers that aim to support organic agriculture should target groups of farmers that show good prospects of succeeding in their collective action.

22. Projects working with small producers should focus on strengthening associations that will play a major role in the marketing of production, the dissemination of organic technologies among their members and the monitoring of their members' compliance with organic methods of production. Projects should provide solid support during the transition period for the certification of production, including temporary and partial subsidies to cover certification costs, for intensive training among association members in the characteristics of organic production and the markets and problems of non-compliance, and for the organization of a well-functioning and participatory monitoring system.

23. Organizing an effective monitoring system will require the following: (a) strengthening managerial and organizational skills through training and the provision of technical assistance in these areas; (b) some material resources, mainly a computer and software to organize information and a few vehicles for carrying out inspections and (c) in-depth training for all members during the early stages to help them understand the basics of organic production and the risks for all members of non-compliance even by isolated farmers. The most effective and least costly monitoring systems have not involved a specialized technical department within the farmer association, as has been the case among many farmer associations elsewhere, but the incorporation and active participation of the membership in the system. This participation has given members a strong role at the grass-roots level in controlling any deviation from the organic methods of production and in deciding on penalties.

E. On the Marketing of Production

24. The marketing of organic products through farmer associations that have established direct contacts with buyers has been key in helping small farmers obtain better prices. Long-term contracts have been the better ones because they have provided a safe market and more stable prices. Access to the fair trade market has increased substantially the final price and further reduced price instability.

25. Contract-farming schemes involving processing and marketing firms have facilitated the marketing of the production of small farmers and given them access to extension services and, occasionally, credit, but they have also had some disadvantages. Small farmers have a relatively weak position in negotiations with firms because they have limited information and are poorly organized, so they have ended up receiving relatively low prices and accepting contract terms that are not convenient for them. In addition, outgrower schemes with small farmers may have severe limitations, including the high costs of monitoring the contracts with small farmers and the difficulties in appropriating the benefits of investment in the schemes due to the diversion of output to other buyers who may be paying prices that are higher than the ones agreed in the contracts. Thus, large buyers may play an important role in promoting organic production more in terms of providing demand stimulus and channeling knowledge to producers and producer associations rather than in the promotion of outgrower schemes.

26. The domestic markets for organic products in developing countries show good growth prospects and are likely to be an attractive alternative for small farmers because they are easier and usually less demanding in terms of quality. Thus, projects working with new organic producers might target initially the domestic market, especially when there are good possibilities for selling to supermarkets and food chains.

F. On the Role of Government Policies

27. Small organic producers and their associations have often taken advantage of government programmes and agencies, receiving public funding and technical assistance in implementing the changes necessary to shift to organic production. However, almost none of these agencies, programmes and projects have specifically targeted organic production. Government policies and institutions dealing specifically with organic agriculture have played a marginal role in the emergence of organic products in general and in the success of small organic producers in the case studies in particular. While this evidence suggests that specific policies and institutions may not be necessary, it is important to support their development, if they are not present, for many reasons:

(a) Some new requirements in importing countries – mainly the European Union (EU) – in terms of developing laws and institutions dealing with organic agriculture have emerged in recent years. These laws and institutions are intended to ensure that organic products going into the importing countries are produced and certified according to EU standards.

(b) Appropriate laws and institutions dealing with organic agriculture provide protection to small producers and exporters of organic products in case they encounter problems in foreign markets. In addition, they are essential in international negotiations with governments to open up access to foreign markets.

(c) National laws and regulations may make it possible to decrease the certification costs faced by farmers by leading to the establishment of nationally based certification firms.

(d) The experience of the countries that have made the most progress in developing specific policies and institutions suggests that a government programme dealing with organic agriculture may be both inexpensive and effective. Such a programme does not need a significant budget and numerous staff in order to work well. It requires clear ideas and close coordination with other government agencies and actors in the private sector, so that they can combine efforts and avoid unnecessary duplication.

G. On the Role of NGOs

28. NGOs have played the most influential role in the emergence of organic agriculture, usually by promoting alternative models of production among indigenous farmers that are based on the use of local resources rather than on the purchase of external inputs. They have also played a major role in supporting small farmer associations in the adoption of organic methods of production and in selling organic products. Many of them have had close contacts with organic and fair-trade movements and have had sufficient know-how to help governments draft regulations and in negotiations with foreign governments. Selected NGOs with know-how and experience in organic production should be considered preferential partners for projects.

THE ADOPTION OF ORGANIC AGRICULTURE AMONG SMALL FARMERS IN LATIN AMERICA AND THE CARIBBEAN

I. INTRODUCTION

1. Organic agriculture has attracted great interest in recent years in Latin America and the Caribbean region (LAC). Attracted by the rapid growth in the demand for organic agricultural products in industrialized countries, governments in many countries have viewed organic agriculture as a potential source for the diversification of agricultural exports. This interest led to the creation during the nineties of new laws, regulations and specialized agencies to deal with organic agriculture. Coincidentally, many non-governmental organizations (NGOs) and some international agencies working with poverty-reduction projects have viewed organic agriculture as a promising alternative for small farmers, so they have been introducing actions in their projects to promote the adoption of organic methods of production. Relevant issues such as the impact of organic agriculture on the production, income and the quality of the lives of small farmers have been at the centre of discussions in several workshops organized lately in the LAC region.

2. Many analysts have viewed the growth in the demand for organic agricultural products as an opportunity for small farmers. Small farmers in LAC have traditionally focused on subsistence crops (mainly corn and beans), the prices of which have often declined. For this reason, most governments and international organizations have long been making efforts to promote the diversification of the production of small farmers, and they have viewed organic agriculture as one of the interesting alternatives for diversification. In contrast, critics of organic agriculture have raised doubts about the growth potential of the international market for organic products and even of the capacity of small farmers to be able to meet the quality standards required to succeed in the international market.

3. Partly because the development of organic farming is recent, very limited relevant research has been carried out in LAC. Thus, governments, NGOs and donors working with small farmers do not have enough information about the feasibility of organic production for small farmers and about the main problems that small farmers face when adopting organic products. This study aims at improving the understanding of what is involved in the adoption of organic agriculture among small farmers in LAC in order to reveal lessons useful for the design and implementation of policies and projects dealing with small farmers and organic farming. The main issues and questions addressed here are the following:

(a) *The impacts of organic production on small farmers.* What are the impacts of the shift to organic production on the income and the quality of the lives of small farmers? What are the effects on the costs of production, on yields and on product prices for the different types of products? Under what conditions and for what types of small farmers can organic production be an economically and feasible alternative? What influence is exercised on the feasibility of organic production by the characteristics of small farmers in terms of land tenure, household features and previously applied technologies and production systems?

(b) *Problems in the transition to organic farming.* What are the main problems faced by small farmers in shifting to organic production? What are the costs involved in the transition to organic production? What is the role of services such as credit, agricultural research and extension in solving the main problems faced by small organic producers?

(c) *Management of the certification process*. What are the main problems related to the certification of organic production? How can small farmers deal with the requirements and costs of certification?

(d) *Marketing of organic products.* How have small farmers been able to sell their organic products? What has been the role of exports and of domestic markets? What may be the role of contract farming in the marketing of organic production?

(e) *The role of institutions.* What is the role of government policies in the successful adoption of organic agriculture among small farmers? What is the role that government agencies, NGOs and donors can play in helping small farmers solve these problems?

4. These issues and questions are analysed through a set of case studies of small farmer groups that have been successful in adopting organic technologies and in marketing their organic products. The cases are located in countries of the LAC region that have different policies towards organic agriculture and exhibit various degrees of development in the institutions dealing with organic agriculture. In addition, they involve different agricultural products with specific characteristics and different challenges and problems for organic producers. The cases include the following (see Boxes 1 to 6 and Table 1): (a) coffee production in the state of Chiapas in Mexico and honey production in the Yucatan Peninsula in Mexico; (b) cacao and banana production in Talamanca county, province of Limón, Costa Rica; (c) coffee production in the department of Huehuetenango, Guatemala; (d) sugar production in the San Javier region, province of Misiones, Argentina; (e) the production of fresh vegetables in the Las Pilas region, department of Chalatenango, El Salvador and (f) banana production in the province of Azua, the Dominican Republic.[2]

5. The report is organized as follows. The second section focuses on the general characteristics of organic production. The third section concentrates on the participation of small farmers in organic agriculture in the countries included in the study. The fourth section analyses the effects of organic agriculture on the production, the incomes and the quality of the lives of small farmers, including the effect on the costs of production, product prices, yields and net revenues, as well as other important variables such as the health of farmers and workers. The fifth section examines how small farmers have solved problems relating to the financing of production, technology and marketing. The sixth section surveys the influence of government policies and the role of NGOs in the development of organic agriculture. The seventh section offers conclusions and lessons for project design and implementation.

[2] The core arguments in this paper have emerged from field research carried out in Argentina, Costa Rica, the Dominican Republic, El Salvador, Guatemala and Mexico between May 2001 and March 2002. Field work for each of the cases lasted an average of three weeks, and it included the review of published statistics and materials and interviews with the main actors involved in organic agriculture: organic producers, managers of firms marketing organic products, leaders of organic producer associations, managers and technicians working for NGOs and technicians and policy-makers in government agencies at the national and subnational levels. A total of 238 persons were interviewed in the six countries, of whom 84 were farmers. The interviews were open ended and usually lasted about two hours, being based on an outline of questions that depended on the specific informant. Many of the interviews among farmers involved field visits to crop and post-harvest facilities. Individual papers have been prepared for all the cases. See Damiani (2001a, 2001b, 2001c, 2002a and 2002b) and Serrano (2002).

Box 1. Mexico: Organic coffee in Chiapas and organic honey in the Yucatan Peninsula

The case of ISMAM in Chiapas

Indígenas de la Sierra Madre de Montozintla San Isidro Labrador (ISMAM) is one of the most well known and successful associations of indigenous producers in Mexico. Located in the southern state of Chiapas, it was created in 1988 with the support of the Catholic Church to sell collectively its members' production of coffee and to promote low-input technologies appropriate to the conditions of small farmers. From an initial membership of 200, ISMAM had grown to 1300 members by 2001, with an additional 200 farmers in the process of becoming members. ISMAM started its efforts to produce organic coffee in the late eighties, obtaining certification in 1993. By 2001, the total cultivated area producing ISMAM organic certified coffee was 5 000 ha, which represented an average of 3.8 ha per farmer. The organization exports about 65 000 quintals of coffee (close to 2 900 t) per year to several countries, including Argentina, Austria, France, Germany, Italy, Japan, the Netherlands, Spain and the United States. ISMAM has received several awards in recognition of the high quality of the coffee, including the National Exporters Award in 1995 and the International Award for the Best Trade Mark from the International Trade Association in 1998. ISMAM has its own toasting and packing facilities in Tapachula (the capital of Chiapas). In addition, it provides its members with technical assistance, training and credit and has started a programme to promote diversification in the output of its members, introducing organic honey (certified since 1996), vegetables and husbandry.

Three associations of organic honey producers in the Yucatan Peninsula

The Honey Producers Association of Calakmul in the state of Campeche and the Kabi Jabin and Chilan Kabo'ob Associations in the state of Quintana Roo are three associations of honey producers that were created between 1993 and 1996. They comprise altogether 349 indigenous families who produce honey as a complement to subsistence crops. These associations have several features in common: (a) they are located in a region characterized by extensive natural forests, which offer a great potential for the production of organic honey; (b) they have been working with the National Indigenist Institute (INI) – a federal government agency created in 1948 to design and implement programmes supporting indigenous communities in Mexico – and have been supported by an IFAD project (the Development Project of the Mayan Communities of the Yucatan Peninsula) which is implemented by that agency and (c) they were created to market collectively the honey of their members. While they share these common characteristics, the three associations have carried out different strategies, face different problems and are at present in different situations. Kabi Jabin is in the final stage of the transition towards organic certification, which it expects to obtain during 2002; Calakmul only recently initiated efforts to produce organically, and Chilan Kabo'ob obtained the certification in 1995, but it faced several problems that resulted in the loss of certification in 1998, so it has been working to recover certification.

Box 2. Costa Rica: The organic production of cacao and bananas in Talamanca

Located in Talamanca county (province of Limón) in the south-east of the country, the Talamanca Small Farmers Association (APPTA) is a well-known success story. It has become the largest association of organic small producers in the country and one of the largest in Central America. It was created in 1987 and had 1 500 members by 2000, most of whom are indigenous farmers (Bribri and Cabécar) living and producing in an indigenous reservation. These farmers have been growing cacao since the forties, but in the late seventies moniliasis, a disease caused by Moniliophtora roreri sp., decimated the crops. As a result of this disease and falling world prices, the farmers lost their main and often only source of income. Many farmers slashed and burned the cacao-producing areas to grow subsistence crops (corn, beans and rice) or guinea, while others maintained the cacao plantations but without harvesting. Thus, by the early nineties, most farmers were basically living from subsistence crops and poultry and selling a very small proportion of their production on the market.

APPTA was successful in promoting a revival of cacao production. With the help of the ANAI Association, an NGO of US origin that has been working with indigenous communities in Talamanca since the early eighties, APPTA established contacts with buyers of organic cacao in the United States and in the early nineties was able to have a significant area of cacao certified by a US certification agency, Organic Crop Improvement Association, and to start exporting to the US. This allowed the members of APPTA to recover an important source of cash income. After this initial success, APPTA carried out efforts to sell other products that were grown by its members under the rainforest and often mixed with cacao, but which were used for household consumption only. As a result of these efforts, APPTA obtained the organic certification for the production by its members of bananas, and it started selling bananas to foreign firms based in Costa Rica that were producing baby food (organic puree of banana) and exporting it to Europe and the United States. By 2000, more than 1 000 members of APPTA had obtained certification as organic producers of cacao and bananas on 2 000 ha. APPTA exported annually 210 t of organic cacao, of which 160 t (76%) were sent to the US and 50 t (24%) to Europe, and it sold 1 300 t of organic bananas for the production of baby food. In addition, APPTA negotiated with a supermarket chain in San José, the capital of Costa Rica, to sell organic fruits and vegetables and started a programme to promote the cultivation of fruits and vegetables on cacao plantations. Finally, the organization initiated efforts with government agencies to produce organic bananas to sell fresh on the international market.

Box 3. Guatemala: Organic coffee producer associations in Huehuetenango, Guatemala

The case studies in Guatemala involved three associations of organic coffee producers in the department of Huehuetenango in the northeast of the country: the Cocolá Production Development Association (ADIPCO), the Chojzunil Agricultural Cooperative and the San José Quixabaj Agricultural Cooperative. By 2001, these farmer associations comprised altogether 370 members of Kanjobal ethnicity who cultivated 322 ha of certified organic coffee, from which they obtained 6 230 quintals (equivalent to 140 t) of coffee. They obtained their organic certification between 1998 and 1999, and they received support from the Cuchumatanes Highlands Rural Development Project, a project funded by IFAD that was implemented by the Ministry of Agriculture, Livestock and Food between 1994 and 2000.

Box 4. Argentina: Organic sugar production in the San Javier region, province of Misiones

The San Javier region, located in the province of Misiones in Argentina's north-east, has a high proportion of the small organic producers in the country. As of 2001, 600 small farmers in San Javier cultivated about 1 500 ha of certified organic sugar cane. Most of these farmers had a Central European ethnic origin (Germans, Poles, Russians, Ukrainians and others), with some proportion of migrants from Brazil. These small farmers represented 37% of the total producers with organic certification in Argentina.

The case of San Javier is characterized by the active role of the local (provincial) government of Misiones. A development agency of the Misiones government, the Institute for the Promotion of Agriculture and Industry (IFAI), managed the sugar-cane processing facilities beginning in 1996 after a private firm that had owned it went bankrupt, mainly because of the competition from imports from neighbouring countries. IFAI started to promote the conversion to organic production in 1997 as part of an effort to recover the mill and transfer it back to private producers. The production of organic sugar cane made it possible to maintain the mill and the crop output. By 2000, IFAI was helping produce 3 450 t of organic sugar, most of which was being exported to European countries. In addition, IFAI provided extension services for farmers.

Box 5. El Salvador: Fresh organic vegetables in Las Pilas

The case studies in El Salvador involved three farmer associations in the Las Pilas region in the highlands of the department of Chalatenango, which is in the north-west of the country and is the most important producer of fresh vegetables. Organic vegetables in Las Pilas are being grown on 36 ha by three farmer groups with a total of 52 members: (a) the Los Planes Cooperative, which includes 32 small farmers who are cultivating 26 ha of vegetables and obtained the organic certification in 1993 and (b) two farmer groups in Las Pilas and Los Planes (named "Las Alturas" and "El Pital"), with 20 members in total who were in the process of obtaining certification for 10 ha of vegetables. The farmers in all three associations used to cultivate cabbages and tomatoes employing conventional technologies and sell them through middlemen in the wholesale fruit and vegetable market in San Salvador, the capital. The shift to organic production was accompanied by the introduction of a wide range of vegetables, the planning of cultivation in order to sell year round and the marketing directly by the associations to supermarkets, restaurants and hotels in San Salvador. All three associations received support from Prochalate, a rural development project funded by IFAD and implemented by the Ministry of Agriculture and Livestock. Organic production in Las Pilas has represented a case of successful competition against imports, mainly because of product quality and product differentiation, as the domestic production of fresh vegetables in El Salvador only supplied an estimated 20% of the country's total consumption, with 80% being imported, mainly from Guatemala and Honduras. In addition, while the area involved in the production of organic vegetables is relatively small (36 ha), the three associations accounted for almost all of the organic vegetable production in El Salvador.

Box 6. The Dominican Republic: The organic production of bananas in the province of Azua

The Dominican Republic has been the main world producer of organic bananas, accounting for about 60% of world exports. Most producers are small farmers located in the province of Azua in the southern region of the country. These producers – a total of about 1 000, about 30% of whom are part of three farmer associations – received land in the eighties through a land reform programme implemented by the Government on lands that had been owned until the early sixties by the Grenada Fruit Company, an affiliate of the United Fruit Corporation. Large production and marketing firms located in the region played a key role in the organization of production, cultivating their own plantations and signing contracts with farmers, purchasing and exporting the production and providing farmers with technical assistance and credit.

Table 1. Main characteristics of the case studies

Case Studies	Location	Main Organic Products/Tasks of Farmer Associations	Members/Area	Main Markets	Main Supporting Agencies
Costa Rica					
APPTA	Talamanca county, province of Limón	Cacao, banana. Marketing, extension, training	1 500 farmers. 2 000 ha of cacao and banana	Exports to organic and fair trade markets	NGOs
Mexico					
ISMAM	Soconusco region, state of Chiapas	Coffee. Marketing, technical assistance, training, credit	1 300 farmers. 5 000 ha of coffee	Exports to organic and fair trade markets	Catholic Church, Federal Government programmes and agencies
Calakmul	Municipality of Xpujil, state of Campeche	Honey. Marketing, extension, credit administration	128 producers	Exports to conventional markets	Federal Government agencies, IFAD project
Kabi Jabin	Municipality of Othon P. Blanco, state of Quintana Roo	Honey. Marketing, extension, training	65 producers	Exports to fair trade and organic markets	NGOs, Federal Government agencies, IFAD project
Chilan Kabo'ob	Municipality of Francisco Carrillo Puerto, state of Quintana Roo	Honey. Marketing, extension, training, credit administration	156 producers	Exports to fair trade and conventional markets	Federal Government agencies, IFAD project
Guatemala					
ADIPCO	Municipality of Santa Eulalia, department of Huehuetenango	Coffee. Marketing, extension, training, credit administration	166 farmers. 153 ha of coffee	Exports through a private marketing firm	IFAD project
Chojzunil	Municipality of Santa Eulalia, department of Huehuetenango	Coffee. Marketing, extension, training, credit administration	49 farmers. 66 ha of coffee	Exports through a private marketing firm	IFAD project
Quixabaj	Municipalities of San Pedro Soloma and Santa Eulalia, department of Huehuetenango	Coffee. Marketing, extension, training, credit administration	155 farmers. 103 ha of coffee	Exports through a private marketing firm	IFAD project
Argentina					
San Javier	San Javier region, province of Misiones	Sugar cane. No farmer associations. Government-managed mill processes sugar cane and organizes production and marketing	600 farmers. 1 500 ha of sugar cane	Exports directly to organic markets in Europe and the US	Local government agency
El Salvador					
Los Planes	Las Pilas region, department of Chalantenango	Fresh vegetables. Packing and marketing of production	32 farmers. 26 ha of vegetables	Sells to supermarkets and hotel chains in San Salvador	NGO, IFAD project
Las Alturas, El Pital	Las Pilas region, department of Chalatenango	Fresh vegetables. Packing, marketing	20 farmers. 10 ha of vegetables	Sells to supermarkets and hotel chains in San Salvador	IFAD project
Dominican Republic	Province of Azua	Banana. Farmer associations do packing, negotiate contracts with marketing firms. Marketing firms provide extension, credit, organize monitoring systems, market production	1 000 farmers. 900 ha of bananas	Exports to organic and fair trade markets	Marketing firms

Source: Based on information provided by leaders and technicians in the farmer associations.

II. GENERAL CHARACTERISTICS OF ORGANIC AGRICULTURE

A. Origins and Definitions

6. The origins of organic agriculture can be traced to the twenties, though it only became popular worldwide during the nineties.[3] Organic agriculture employs cultural and biological practices to control pests, the use of crop rotation to maintain soil fertility and the application of animal and green manure instead of chemical fertilizers, virtually prohibiting synthetic chemicals in crop production and antibiotics or hormones in livestock production.[4] Thus, consumers in industrialized countries have viewed organic products as having better nutrition value and helping to preserve the natural environment.

7. Organic farming is frequently viewed as part of a transition towards a more sustainable agriculture, though organic farming and sustainable agriculture should not be considered synonymous. In fact, while there is a marked separation between organic (certified) and conventional producers, organic agriculture is not the only alternative to production systems based on the intensive use of chemical inputs. Other production systems are also more 'respectful' of the natural environment, while different from the organic-production system. For example, a sustainable agriculture that does not eliminate chemical inputs completely might use low quantities of these inputs and apply techniques such as integrated pest management, integrated nutrients management and integrated herbs management. Some production systems also combine the use of biological and chemical means of fertilization and pest and disease control, such as integrated pest management and intercrop planting. These systems represent a compromise between conventional and organic agriculture, and their products may become in the future great competitors of the organic product.[5]

B. The Importance of Organic Certification

8. One of the main differences between organic agriculture and other types of sustainable agriculture is the existence of production norms and certification procedures. Organic certification is intended to provide consumers with an assurance that certain standards have been met in the production process. Thus, it is a guarantee of the production process rather than of the product itself. In addition, organic certification attempts to provide standards on the meaning of organic production, thereby avoiding the coexistence of diverse and confusing interpretations. In practice, obtaining organic certification has become an essential procedure if an organic producer wishes to be able to sell products as organic. First, consumers tend not to trust claims that products are 'organic' if the products have not been certified. Second, most laws and regulations on organic agriculture elsewhere prohibit the use of terms such as 'organic' or 'natural' for products that have not been certified. Thus, a product that has not been certified will have to be sold as conventional, even if it has been produced according to all the specifications of organic production.

9. Norms and certification procedures were first created by private associations at national or regional levels in industrialized countries. They served to give the members of these associations the right to sell their products using the organic brands and the warranties of the respective associations. As organic agriculture became more widespread, many countries defined their own standards and created laws and regulations for the production and processing of organic products. The countries of the European Community endorsed a common organic standard in the early nineties, which is detailed

[3] According to Willer and Yussefi (2001), organic agriculture emerged in Europe in 1924 when Rudolf Steiner held his course on biodynamic agriculture. In the thirties and forties, organic agriculture was developed in Switzerland by Hans Müller, in Britain by Lady Eve Balfour and Albert Howard and in Japan by Masanobu Fukuoka. Numerous farms started to convert to organic farming beginning in the sixties.

[4] According to the Codex Alimentarus, "Organic agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological and mechanical methods, as opposed to using synthetic materials, to fulfill any specific function within the system." See FAO/ITC/CTA (2001), Chapter 1.

[5] For a discussion on these issues, see ITC (1999), Chapter 1, and Young (1998).

in Regulation EEC 2092/91. More recently, Canada, Japan and the United States have also adopted organic standards and regulations. In 1999, the Committee on Food Labelling of the FAO/WHO Codex Alimentarus adopted guidelines for the production, processing, labelling and marketing of organically produced foods.[6] In all these cases, product certification became one of the major issues.

10. Most of these standards derive from the guidelines originally established by the International Federation of Organic Agriculture Movements (IFOAM), so they are more or less similar. Certification focuses on the materials and processes that the producers have used in the production of specific crops or animals. Organic production must be based on natural inputs, as certification prohibits the use of synthetic inputs. In general, certification standards also include the mandatory use of methods that contribute to maintaining or enhancing soil fertility.

11. The organic certification is provided by specialized agencies. Most certification agencies are based in industrialized countries. Although the cost of using the different certification agencies varies substantially, producers have few possibilities of going to cheaper agencies because buyers usually show a marked preference among certification agencies. The choice of buyers is based not on the cost, but mainly on the trust that the consumers have in the agency logo, thus giving the product better visibility. The choice is sometimes limited by importing-country regulations. For example, all organic products imported in Switzerland must be certified by Swiss Organics. Because the certification by foreign entities is usually expensive, many international certification agencies, such as the Organic Crop Improvement Association, Ecocert and BCS ÖKO, have established local branches in developing countries and carry out local inspections in order to reduce costs. While local certification agencies have emerged in the last few years, they tend to develop partnerships with international certification agencies, with the local bodies carrying out inspections and the international agencies providing the certification mark.

12. The certification process starts with an application by a producer or a group of producers to a certification firm. The certification firm usually sends an inspector, who visits the production sites and determines if the production process meets 'organic' standards. The inspectors do this based on interviews with the producers, field visits to the croplands involved, reviews of the organic fertilizers and other inputs used and laboratory tests of samples of the soils, water and agricultural products. Some of the main requirements that must be met in order to obtain certification are the following: (a) the land under organic production must not have been used for conventional agriculture relying on chemical or synthetic inputs for a minimum time period (usually three years); (b) conventionally grown crops must be a minimum distance from the organic crops, and a forested area may be required as a barrier between the organically and the conventionally grown crops; (c) the inputs used in the production process must be organic, and no chemical or synthetic inputs are permitted; (d) soil-conservation measures must be applied and (e) small farmer cooperatives and other forms of associations must demonstrate that they are able to organize their own supervision system to ensure that organic standards are met by all members. Once the organic certification has been approved, it is valid for a one-year period, during which inspectors visit the sites usually twice without notice.

13. The cost of certification depends on several factors, among which are the following. (a) The availability of certification firms in the country. If a certification firm is not present in a country and inspectors must come from abroad, then the certification costs will be substantially higher. (b) The location and dispersion of farms, since an inspector will need more time to visit farms which are far away or which are more dispersed one from another or which are accessible only over bad roads. (c) The capacity of a farmer organization to establish its own controls. As explained later, certification firms that undertake inspections among producers in farmer organizations often do not visit all association members, but only a sampling of them, which leads to lower certification costs. The size of the sample depends on the capacity of the farmer association to organize a monitoring system that controls compliance with the organic standards of production.

[6] See FAO/ITC/CTA (2001), Chapter 1, pages 10-16.

C. Market Trends and Prospects

14. The growing interest in organic agriculture in LAC has not been so much related to environmental or consumer-health concerns, but to the dramatic growth in the demand for organic products, especially in the European Union (EU), Japan and the United States. Consumers in these countries have become more concerned about the effects of different types of food on health, the potential risks of exposure to pesticide residues in foods, and the effects of different production systems on the environment.

15. Some rural-development specialists are skeptical about organic production as an alternative for small farmers, arguing that the market may become a constraint in the future, leading to a decline in prices. Recent market studies show that the demand for organic products has been growing at rates that are unusual for other food products and that this trend is likely to continue in the medium term. Overall retail sales of organic products were estimated at USD 19.7 billion worldwide in 2000, reaching more than USD 8 billion in the countries of the EU, about USD 4.2 billion in the US and USD 1.2 billion in Japan.[7] Although the relative share of organic products is still low, sales have grown more than 20% annually in major markets over the past 15 years. A study by the International Trade Centre estimates that growth rates in the annual sales of organic products will range from 5 to 40% over the medium term, depending on the market, and it is expected to reach more than 10% annually for the next few years in most industrialized countries.[8] FAO also anticipates the market for organic products to grow quickly, predicting a yearly growth rate of 20% in countries such as Japan and Singapore. Organic food sales could jump from 1% up to 10% of total retail food sales in major markets during the next few years.

16. There are indications pointing to a significant growth in the demand for organic products. First, consumers are becoming increasingly aware of health and environmental issues. Second, major retail firms have been carrying out the aggressive marketing and promotion of organic products. Third, important transnational firms such as Danone, Lufthansa, McDonalds, Swiss Air and Varig have entered into the organic market, offering organic products to their customers. Fourth, packaging innovations by food manufacturers and supportive government policies have been contributing to an increase in the demand in many countries.[9]

17. Studies stress that organic producers in developing countries will have strong market opportunities in most major markets. Although a high proportion of the organic products in industrialized countries are supplied by domestic farmers and the areas under organic production in these countries have been expanding significantly, producers in developing countries will be supplying products not produced in Europe or North America, such as coffee, tea, cocoa, spices, tropical fruits, vegetables and citrus fruits. In addition, studies show that the demand for organic products in most industrialized nations has been growing more rapidly than the local supply. Thus, there are also very good prospects for developing-country producers of the foods that are produced in the industrialized nations themselves. However, these prospects will depend on how quickly the supply of organic products increases. The same studies mentioned earlier argue that the price margins paid for organic products are likely to decrease in the future, as supply increases and new consumers come in who are less willing to pay very high price margins.

18. Most organic production in LAC countries has been oriented towards exports. However, the domestic market has also been growing in many countries, especially in the larger cities, among the portions of the population with higher incomes and for products that are more perishable (fresh vegetables and some fruits). In most cases, NGOs have played an important role in providing

[7] The main consumers of organic foods and beverages in the EU are France (USD 1.3 billion), Germany (USD 2.5 billion), Italy (USD 1.1 billion), the Netherlands (USD 600 million), Switzerland (USD 700 million) and the UK (USD 900 million). See Willer and Yussefi (2001), based on information from ITC (1999) and the SÖL survey.

[8] The International Trade Centre is a United Nations centre focusing on technical cooperation among developing countries in order to promote trade. It was created in 1964. Detailed figures on the international market for organic products are available in ITC (1999).

[9] See ITC (1999).

technical assistance to farmers, by, for example, frequently creating neighbourhood fairs where organic producers can sell their products directly to consumers.

19. The growing demand for organic products has resulted in a significant expansion in the area under organic production in both developing and industrialized countries. About 15.8 million ha are managed organically worldwide in more than 100 countries, including a significant number of developing countries. The most important areas are located in Australia (7.6 million ha), Argentina (3 million ha), Italy (0.96 million ha) and the United States (0.9 million ha), with Oceania accounting for almost 50% of the world's organic land, Europe 24% and Latin America 20%. By 2001, organic production accounted for over 8.4% of the agricultural land in Austria, 7.9% in Switzerland, 6.8% in Finland and 6.5% in Italy, compared to less than 2% in all these countries in 1990.[10] In Latin America, the area used for certified organic production in Argentina – the country with the largest area under organic production in the region – grew from 5 000 ha in 1992 to 116 000 ha in 1995 and 3 million ha in 2000, while in Mexico – the second largest – the area used for organic crops grew from 23 300 ha in 1996 to 102 800 ha in 2000.

III. ARE SMALL FARMERS DOMINATING ORGANIC PRODUCTION?

20. As mentioned above, while the domestic market for organic products has been growing in many LAC countries, especially for fresh vegetables, most organic production has been oriented towards exports. Many of the most important exports of organic products are commodities that are among the traditional exports of these countries, such as meat and grains in Argentina, coffee in Costa Rica, El Salvador, Guatemala, Mexico and others, bananas in the Dominican Republic, sugar in Argentina, Brazil and Paraguay and cacao in Costa Rica, the Dominican Republic and Panama. For this reason, it is possible to look at organic agriculture through the perspective of the literature on export crops.

21. Many analysts have offered critical views of the distributional impacts of agro-export strategies in general, arguing that small farmers have often been excluded from the production of export products. De Janvry (1981) argued that agro-export booms contributed to reinforcing the dualistic agrarian structure that characterized Latin American societies. Williams (1986) showed that the cattle boom in Central America during the sixties and seventies displaced tens of thousands of peasants from land previously farmed without official titles. Analysing the non-traditional agricultural-export sector in countries such as Chile and Costa Rica, Barham et al. (1992) argued that the leading actors were predominantly foreign firms or large entrepreneurs and that small farmers faced enormous problems in cultivating non-traditional export crops. Barham, Carter and Sigelko (1994) showed that, while the agro-export boom that took place in the highlands of Guatemala favoured smaller rather than larger units, it led to a differentiation within the peasantry and the longer term market dynamics were unfavourable for small farmers. Analysing the production of fresh vegetables for export to the UK in sub-Saharan Africa, Dolan, Humphrey and Harris-Pascal (1999) found that small producers were facing great problems in participating in export markets because they were unable to meet the quality standards required by importers (mainly supermarkets). Other authors have found that the effects of agricultural-export booms on rural poverty may depend on the specific characteristics of the crops and on the government policies that affect the microeconomics of the specific crops involved.[11] It is interesting to note that several authors have attributed the exclusionary patterns not on the characteristics of non-traditional crops, but on policies that subsidize capital for the rich and depressed prices for labour-intensive goods.[12]

22. Surprisingly, and in contrast to what has characterized other export crops, small farmers have dominated organic production – for both export and domestic markets – in all the countries included in this study, with the exception of Argentina (see Table 2). Small farmers represent 64% of the all the organic producers in Argentina, accounting for less than 5% of the certified areas and concentrated basically in four farmer groups with a total of about 800 farmers. In Mexico, most organic producers

[10] See Willer and Yussefi (2001).
[11] See Carter and Mesbah (1993) and Carter, Barham and Mesbah (1996).
[12] See De Janvry and Sadoulet (1993).

are small farmers with less than 30 ha, though the share of medium-size and large producers has been increasing substantially since the mid-nineties. By 2000, small farmers represented 98.6% of all organic producers, accounting for 84.2% of the area under organic production and generating 68.8% of the exports of organic products. Most of these small producers were of indigenous ethnicity, including, among many others, Maya, Mame, Mixteca, Tojolabal and Totonaca. About 173 small farmer associations are involved in organic agriculture, accounting for a high proportion of the area under organic cultivation and of the production of organic coffee, corn, beans and vanilla. In Costa Rica, smallholder farmers also dominate the production of organic crops, being the only producers of bananas and cacao, the most important certified crops, with close to 64% of the areas under certified organic production in the country. Small farmers also dominate the production of organic coffee and have a significant presence in blackberries and vegetables. In Guatemala, small farmers account for most of the 5 000 producers of organic products, concentrating on coffee, cardamom and spices, while larger farmers and firms (about 30) have concentrated on the cultivation of sesame and vegetables. In El Salvador, small farmers dominate the production of coffee – which accounted for 55% of the close to 3 800 ha of organically grown crops – and vegetables. In the Dominican Republic, small farmers represent close to 99% of all organic producers, accounting for a large proportion of the area used for organic cacao, sugar cane and coffee and are also important in banana production, while large farmers and firms are dominant in coconut, pineapple and mango.

Table 2. Area under organic farming and the participation of small farmers, LAC

	Mexico	Costa Rica	Guatemala	El Salvador*	Argentina	Dominican Republic
Area under organic farming (ha)	102 800	7 000	14 700	4 900	3 000 000	44 800
–Certified	71 500	3 500	9 000	3 800	2 684 200	43 800
–In transition	31 300	3 500	5 700	1 100	315 800	1 000
Organic area/total agricultural area (%)	0.1	0.2	0.3	0.3	1.8	1.0
Organic producers, total	33 600	1 700	5 000	n/a	1 632	16 200
Small organic producers, total	33 130	1 600	4 950	n/a	1 050	16 068
Small producers/organic producers	98.6	94.1	99.0	n/a	64.3	99.2
Organic area of small farmers/total organic area	84.2	53.3	59.7	n/a	5.0	80.0

Source: The total agricultural area is based on FAO estimates, including arable land, permanent crops and permanent pastures. The estimates of areas under organic production and of the number of organic farmers come mainly from Gómez Cruz, Schwentesius and Gómez Tovar (2001) and Gómez Tovar, Gómez Cruz and Schwentesius (2000), for Mexico; SENASA (2001), for Argentina; IICA (2001) and Agricultural Sector, Planning Executive Secretariat, for Costa Rica; the Bank of Guatemala and the Non-traditional Product Exporters Association, for Guatemala; CLUSA and Ucraprobex, for El Salvador, and BCS ÖKO Garantía, Conacado and banana-exporting firms, for the Dominican Republic.

* No reliable data could be found for El Salvador.

23. As will be seen later, the high relative share of small farmers in agricultural production reflects their competitive advantage in the production of organic crops and the support of projects, government agencies and NGOs. The next section analyses the costs and benefits for small farmers of the adoption of organic methods of production.

IV. THE IMPACTS OF ORGANIC AGRICULTURE ON SMALL FARMERS

24. The high relative share of small farmers in organic agriculture suggests that small farmers may have competitive advantages in organic farming and that small farmers may be adopting organic farming because it brings them higher net revenues than do conventional crops. First, the technologies of organic production may reduce production costs. They substitute labour and organic inputs for chemical inputs that are often more expensive and may require expensive credit that is often difficult for small farmers to obtain. Second, because consumers pay premium prices for organic products, small organic producers may also obtain higher prices for their products. Third, organic production is likely to reduce the health risks that farmers face whenever they handle the chemical inputs used in conventional agriculture. Fourth, relative to conventional systems, organic-production systems may offer farmers a wider range of management alternatives that are more flexible and adaptable to the local biophysical conditions.[13] Fifth, because it includes the application of soil-conservation measures

[13] See Altieri (1995).

and the control of pests and diseases through manual and biological methods, organic production may reduce contamination and the deterioration of natural resources, making production more sustainable.

25. In contrast, some policy-makers, public officials and agricultural researchers who were interviewed were skeptical about the benefits of organic production. Some of them argued that the shift to organic technologies might lead to a fall in yields that would not be compensated by the higher prices of organic products. Some argued that there had been insufficient studies on the effects of organic inputs on the health of consumers and workers, which they argue could in some cases be negative.

26. This section analyses the impacts of organic agriculture on the production, incomes and the quality of the lives of small farmers in the case studies, comparing the production costs, yields, prices and net revenues of organic and conventional producers having similar characteristics. The comparison is based on information collected from a random sample of organic and conventional producers relevant for each of the products. These producers were interviewed in an open-ended fashion following an outline of questions, and most cases included field visits to the croplands. The analysis is based on a comparison of the average yields and production costs faced by the same set of producers before and after the adoption of organic methods of production, as well as a comparison between organic producers and similar conventional producers in the same region. The price comparison is based on the prices obtained by the organic producers and the conventional producers and, where possible, by the same organic producers when they have had to sell some of their output of identical quality on the conventional market.

27. The methodology has some weaknesses that should be taken into account in any evaluation of the results of the study, as they may generate some biases. First, factors other than the shift to organics may have also influenced the evolution of yields and production costs. For example, the sample of organic producers includes those producers who have made a successful shift to organics, while it excludes those producers who have tried and failed to make the shift. Also, it may include early adopters who may also be better entrepreneurs. Thus, the relative gains in yields may be due partly to better entrepreneurship and not to organics. Second, in the cases, the time period involved since the adoption of organic methods of production varied significantly. While producers in the case studies in Costa Rica, the Dominican Republic and Mexico undertook the transition to organic production in the late eighties or early nineties, those in Argentina, El Salvador and Guatemala only started in the mid-nineties. This is important because, though it is difficult to determine the precise number of years necessary to reach a new equilibrium, most specialists stress that yields often tend to show a sustained increase only several years after the shift to organic production. Thus, some of the farmers in the cases – especially in Argentina, where yields have fallen, El Salvador and Guatemala – may still be far from the equilibrium and may yet show yields in the next few years that are higher than the yields they have obtained up to now.

A. Effects on Yields

28. The evolution of yields among producers after the shift to organic production shows three different patterns (see a synthesis of the results in Table 3):

(a) *Rapid increase in yields.* Small coffee producers in Guatemala and Mexico experienced a rapid increase in yields when they shifted to organic production. These small producers were already producing more or less 'organically', as their 'conventional' technologies of production were based on reliance on labour and little or no reliance on chemical inputs. While they used to obtain significantly lower yields than did conventional large producers, they had reached an 'equilibrium' that was based on a certain acceptable level of pests, disease and weeds. However, the farmers were unable to sell their products as organic because international norms and recent domestic regulations require that producers obtain organic certification from a recognized certification agency. Without the certification, their products could only be sold as conventional even though most of the requirements for organic production had been met. Obtaining the organic certification often meant introducing small adjustments and some new practices that represented improvements on previous technologies, such as better regulation of the shade, the

application of organic fertilizers, better manual control of pests and diseases and the implementation of soil-conservation measures. In the case of Mexico, organic producers obtained yields that were 50% higher for a period of eight to ten years. In Guatemala, the farmers increased their yields by between 38% and 67% in only five years. New organic coffee plantations were reaching yields that were more than double the average yields achieved by organic farmers five years earlier.

(b) *Fall in yields*. In contrast to small coffee producers in Guatemala and Mexico, small producers of organic sugar cane in Argentina experienced a fall in yields. Most of them had been using small quantities of herbicides and fertilizers before the shift to organic production. Pesticides or other chemicals were not used because sugar cane was not affected by pests or diseases. These farmers suffered a 30% drop in productivity, from 60 t of sugar cane per ha to about 45 t per ha. Since this drop occurred during the first four years after the shift to organic farming, it may be too early to determine the long-term effects on productivity. The same happened with most medium-size and large producers of organic coffee in Guatemala and Mexico. These producers used to obtain high yields by applying chemical inputs to control pests, diseases and weeds and to maintain soil fertility. When they shifted to organic production, they broke an equilibrium that had long been based on the use of chemical inputs and experienced during the first year pests, diseases and weeds that they had difficulty controlling with organic inputs and manual methods. After two or three years, the producers began to obtain greater yields, but they had still not been able to obtain the yields they had obtained using conventional technologies.

(c) *No significant change in yields*. Honey producers in Mexico and banana producers in the Dominican Republic did not experience variations in their yields, though their situation differed in many ways. The honey producers had been applying similar technologies before they began producing organically. The main change involved moving their apiaries to forests far from homes and other crops so that the apiaries would not be contaminated by chemical inputs. Meanwhile, the banana producers improved their production technologies when they shifted to organic agriculture, but they may not have applied enough organic fertilizers to compensate for the extraction of nutrients by their crops.

29. Finally, cacao and banana producers in Costa Rica and vegetable producers in El Salvador represent special cases. Organic producers of cacao and bananas had previously abandoned their crops, and the certification of their production as organic allowed them to obtain prices that made it possible for them to restart managing their plantations and harvesting. Their production systems, which relied on cacao and banana trees in a forested environment that contrasted with the monocrop commercial plantations, gave them low yields, but allowed them to have a viable output. In the case of El Salvador, organic production meant the introduction of a whole new set of crops that had not previously been grown by small farmers using traditional technologies.

Table 3. Comparison between the yields of organic and conventionally grown crops
(ton per ha)

	Previous Conventional Production	**Average Yields : Organic Producers**	**Average Yields : Organic Producers Pre-Transition**	**Average Yields : Conventional Producers** a/	**Change**
Sugar cane (Argentina)	sugar cane	45 b/	60	60	–25%
Coffee (Mexico) quintals per ha	Coffee	15	10	10 c/	50%
Coffee (Guatemala) quintals per ha	Coffee	16	13	13	23.1%
Bananas (Dominican Republic) t per ha	Bananas	14	14	14 d/	0%
Cacao + bananas (Costa Rica) t per ha	Traditional crops	0.172 (cacao) 12.6 (bananas)	n/a	n/a	n/a

Source: Based on information provided by farmers. See Damiani (2001a, 2001b, 2001c, 2002a and 2002b) and Serrano (2002).

a/ Yields of small conventional producers in the same region. b/ The yields are lower than those obtained with conventional technologies because the shift to organic production is too recent. Yields are likely to expand in coming years. c/ Variations in coffee yields ranged from 10 quintals/ha among small producers with low-input technology to 50 quintals/ha among large producers with high-input technology. d/ Commercial firms obtained up to 26 t of bananas per ha.

B. Effects on Product Prices

30. Farmers in all the case studies were able to receive higher prices for their certified organic products than they would have received had they sold products on the conventional market. The extra price received by farmers varied greatly, from a minimum of 22.2% paid to banana producers in the Dominican Republic in 2002 to 150% paid to cacao producers in Costa Rica in 2001 (see a synthesis of the results in Table 4). The price for all organic products as a proportion of the price of conventional products usually varied each year. The reason was that the prices charged for organic products were not only higher, but also quite constant compared to the prices of conventional products, which also varied greatly. In addition, there were significant price variations within each particular product, depending on the commercial connections of farmers or farmer associations and the extent to which buyers respected them as producers of high-quality goods. Finally, the prices paid to farmers also depended on the operating costs of the farmer associations.

31. The production of organic vegetables in El Salvador and organic honey in the Yucatan Peninsula differed from production of the other crops (coffee, cacao, bananas and sugar cane) because organic producers obtained better prices than did conventional ones, even though many of the organic producers were still in the process of obtaining organic certification. In El Salvador, two of the groups of vegetable producers in Las Pilas were still in the transition towards certification. However, the supermarkets that purchased their production recognized the high quality of the products, and some even labeled the products as 'organic'. While buyers were not paying any more for the products, the farmers had negotiated successfully to receive a constant price throughout the year, despite the great seasonal variations in the prices for the conventionally produced vegetables sold in the main wholesale market of San Salvador, the capital. In Mexico, honey producers in two of the associations (Kabi Jabin and Chilan Kabo'ob) also received better prices, but not because they had organic products, but because they were selling part of their output in the fair trade market, obtaining close to USD 2 000 per t, compared to the USD 1 100 per t paid in the conventional market. Based on these better prices, Kabi Jabin paid its members USD 0.84 per kg of honey, 13.5% higher than the USD 0.74 per kg paid for conventional honey in the region. Other organic honey producers in Mexico exported their output at prices between USD 1 500 and USD 1 600 per t (free-on-board in Veracruz harbour), about 45% higher than the USD 1 100 per t paid for conventionally produced honey.

32. Finally, organic products showed two additional advantages in terms of price. First, because the price for organic products varied significantly less than did the price for conventional products, organic producers suffered less from the price variations that characterized the market for some products, especially coffee. Second, the organic producers of some crops found it easier to get into the fair trade market than did other organic farmers. According to the interviews carried out with European buyers and fair-trade-market specialists, consumers in the fair trade market have become increasingly more demanding for better quality over the last few years, and a high proportion prefer organic rather than conventional products.

Table 4. Prices received by farmers for organic and conventional products
(in USD)

Crop	**Organic***	**Conventional**	**Price Comparison** (%)
Sugar cane (Argentina), t, year 2000	21	12	75.0
Cacao (Costa Rica), kg	1.0	0.40	175.0
Coffee (Mexico), quintal			
– Year 2000	89	61	45.9
– Year 2001	68	42	61.9
Coffee (Guatemala), quintal, year 2001	54	45	20.0
Bananas (Dominican Republic), 18 kg box, year 2001	5.50	4.50	22.2
Vegetables (El Salvador)	constant prices throughout the year	seasonal variations	–

Source: Based on information provided by farmers. See Damiani (2001a, 2001b, 2001c, 2002a, 2002b) and Serrano (2002).

* In the case of Mexico, the average price of organic coffee also includes a premium for the portion sold on the fair trade market.

C. Changes in the Cost of Production

33. Organic production usually involves lower outlays for chemical inputs and higher labour costs than conventional production. The increased labour costs are due to the following:

(a) The implementation of soil-conservation measures, such as the construction and upkeep of terraces and live barriers, which most farmers had never applied, except in the case of sugar-cane farmers in Argentina.

(b) The implementation of new management practices, such as the introduction and care of new species of shade trees for cacao, coffee and bananas (in Costa Rica).

(c) The control of weeds, pests and diseases through the use of manual practices rather than chemical inputs. Sugar-cane growers in Argentina and vegetable producers in El Salvador spent substantial amounts of effort on the manual control of weeds, while cacao producers in Costa Rica had to control moniliasis manually, and coffee producers in Guatemala and Mexico had to control brocca manually.

(d) Fertilization with organic fertilizers. Organic producers had to use organic fertilizers, especially in the Dominican Republic and El Salvador, where they were cultivating bananas and vegetables as single crops and these crops extracted high amounts of nutrients from the soil. In contrast, most producers of organic cacao in Costa Rica and organic coffee in Guatemala and Mexico did not use organic fertilizers. Because they cultivated cacao and coffee in the forest, the soil was usually covered by leaves that served to compensate partially for the nutrients extracted by the crops. However, these farmers may eventually also need to apply organic fertilizers in order to maintain soil fertility.

(e) In Guatemala and Mexico, higher harvest costs due to the rise in the yields of coffee. In Argentina, the yields of organic sugar cane were lower than the yields of conventionally grown sugar cane, but harvesting took approximately 50% more time because harvesters had to cut all the leaves so that the impurities in the leaves would not contaminate the sugar. In the conventional system, this is accomplished in a superficial way. Not carrying out this task correctly can favour the growth of fungus in the sugar cane, affecting negatively the quality of the sugar. At the San Javier mill in 1999, the mill workers and producers learned the importance of avoiding high levels of fungus when the first export contract of organic sugar to the US was cancelled because the buyer (Florida Crystal) rejected the product, which contained more than the maximum amount of fungus allowed.

34. The combined effects of the increased labour costs and savings in chemical inputs varied among the cases (see Table 5):

(a) Organic producers of coffee in Guatemala and Mexico, honey in Mexico, vegetables in El Salvador and bananas in the Dominican Republic faced production costs that were higher than those encountered in their previous conventional production. Most coffee and honey producers had used few or no chemical inputs before undertaking organic production. Thus, the shift to organic production implied increased labour costs, but no savings because of the reduced use of chemical inputs. Coffee producers in Mexico increased their cost of production by 50.4% when they shifted to organic production. However, only 40.4% of the cost increase is accounted for by the labour required for the manual control of pests, diseases and weeds, while 49.6% of the total increase is accounted for by the higher cost of harvesting, on-farm processing and transportation, all due to the higher yields of organic coffee. The cost of certification represented 10% of the total increase in costs. In Guatemala, coffee producers at ADIPCO, Quixabaj and Chojzunil also faced higher production costs compared to their previous costs due to the increased labour costs of soil-conservation measures and the harvesting of greater volumes because their yields also increased substantially. Meanwhile, producers of organic honey in Mexico did not have to apply entirely new technologies, although most of them had to move their apiaries to forests, at least 3 km from the houses, roads and crops near which they

had been and which could have contaminated them with chemical residues. This meant that more labour was needed to care for the apiaries during the production cycle, as travel to the forests was usually difficult, requiring an average of one or two hours simply to reach the apiaries, especially during the rainy season. Finally, organic farmers in El Salvador also faced higher labour costs not only for the implementation of the new tasks required by organic production, such as soil-conservation measures, the manual control of weeds, and fertilization. Producers shifted from the seasonal production of cabbage and tomato to the production of a whole range of new organic crops all year round. Thus, organic production required permanent rather than seasonal labour. While it has not been possible to compare the production costs for organic crops and the previous costs for conventional technologies, a comparison between organic and conventional producers of the same crops in the region shows that organic farmers faced lower production costs (see Table 6).

(b) In contrast to the other organic producers, sugar-cane growers in Argentina faced lower production costs (USD 507 per ha) than they had in conventional production (USD 562 per ha). While the organic system generated higher harvesting costs, the conventional system showed higher input costs (herbicides and fertilizers) and transportation costs (due to higher productivity).

Table 5. Comparison of the production costs of organic and conventional crops
(in USD/ha)

Crop	Organic Production	Conventional Production
Sugar cane (Argentina)		
–Production cost	490	562
–Labour cost	238	154
–Labour cost/total production cost (%)	48.6	27.4
Coffee (Mexico)		
–Production cost	680	452
–Labour cost	522	360
–Labour cost/total production cost (%)	76.8	79.6
Coffee (Guatemala)		
–Production cost	671	500
–Labour cost	573	410
–Labour cost/total production cost (%)	85.4	82.0
Cacao + bananas + trees (Costa Rica)		
–Production cost	502	n/a
–Labour cost	502	n/a
–Labour cost/total production cost (%)	100.0	n/a
Bananas (Dominican Republic)		
–Production cost	2 560	2 370
–Labour cost	1 826	1 218
–Labour cost/total production cost (%)	71.3	51.4
Honey (Mexico)*		
–Production cost	0.25	0.24
–Labour cost	0.096	0.084
–Labour cost/total production cost (%)	38.4	35.0

Source: Based on information provided by farmers. See Damiani (2001a, 2001b, 2001c, 2002a, 2002b) and Serrano (2002).

* The cost of the production of honey is calculated per kg.

Table 6. Production costs for selected organic and conventional crops, Las Pilas, El Salvador

Crop	Organic*	Conventional*
Broccoli	5.5	5.7
Coriander	12.6	14.0
Lettuce	11.5	12.7
Sweet onions	14.9	15.7
Green beans	2.2	11.7

Source: Based on information from Prochalate (1998), CENTA (1999) and Technoserve.

* USD per 10 m^2.

D. Effects on Net Revenues

35. On balance, the higher production costs on the one hand and the higher yields and prices on the other hand meant that organic farmers were generally able to obtain higher net revenues (see Table 7). In the cases of sugar cane in Argentina, cacao in Costa Rica and bananas in the Dominican Republic, crops that had not been very competitive when produced through conventional methods became quite competitive when produced through the organic system. In the case of coffee, the organic-production system was also key in making crops more competitive. Because the international prices of organically grown coffee have varied significantly less than the prices of conventional coffee, organic producers have suffered less than conventional producers from price variations. In El Salvador, farmers who started to produce organically introduced about six new crops, while they continued to grow cabbages, tomatoes and corn conventionally. Thus, they were producing six additional crops and therefore faced fewer risks due to climate and market variations. In addition, the organic vegetables were produced year round, in contrast to conventional cabbages, tomatoes, potatoes and corn, which were highly seasonal.

Table 7. Comparison of revenues from organic and conventional crops, 2001

Crop	Product Price (USD/unit)	Yield	Gross Revenue (USD/ha)	Cost (USD/ha) a/	Net Revenue (USD/ha)
Sugar (Argentina)					
–Organic	21/t	45 t/ha	945	568	367
–Conventional	12/t	60 t/ha	720	562	168
Coffee (Mexico)					
–Organic	68/qq	15 qq/ha	1 020	680	340
–Conventional	42/qq	10 qq/ha	420	452	–30
Coffee (Guatemala)					
–Organic	54/qq	16 qq/ha	864	671	193
–Conventional	45/qq	13 qq/ha	585	500	85
Cacao + bananas (Costa Rica)					
–Cacao	1.00/kg	172 kg/ha	172	502 b/	678 b/
–Bananas	80/t	12.60 t/ha	1 008		
Bananas (Dominican Republic)					
–Organic	5.50/box c/	14 t/ha	4 277	2 560	1 717
–Conventional	4.50/box	14 t/ha	3 500	2 370	1 130
Honey (Mexico)					
–Organic (transition)	0.84/kg	32 kg/apiary	26.90/apiary	0.25/kg	18.90/apiary
–Conventional	0.74/kg	32 kg/apiary	23.70/apiary	0.24/kg	16.00/apiary

Source: Based on information provided by farmers. See Damiani (2001a, 2001b, 2001c, 2002a and 2002b) and Serrano (2002).

a/ Includes certification costs. Costs for honey are calculated per kg. b/ Costs and net revenues correspond to the production system that combined cacao and banana. c/ Each box weighs 18 kg.

E. Effects on the Natural Environment

36. One of the main constraints on any analyse of the effects of organic production on the natural environment is the fact that very limited research has been carried out on this subject. The analysis here is therefore based mainly on the few studies that are available and on qualitative evidence.

37. The most substantial research has been carried out in Costa Rica, where several studies have evaluated the production systems dominant among organic producers in Talamanca, which combine cacao and banana with fruits and tubers in the rainforest. These studies have found that the thick ground cover and the incorporation of the product residues of cacao into the system lead to a minimum amount of erosion and leaching relative to monoculture-production systems.[14] In addition, the studies have found that, although the agroforestry systems are not as ecologically diverse as the natural forests, they are much more diverse than fields bearing single crops. Guiracocha (2000) found that, while the natural forests in Talamanca had 85 species of trees and palms, the shaded cacao fields had about 35 species, while the shaded banana fields had 14 species, and the single banana or guinea had none. The number of animal species in the natural forests was 51, while it was 25 in shaded cacao, and 9 in shaded banana. No substantial differences were found in the number of mammals in the three systems. Parrish et al. (1999) also found no significant differences between the number of species of birds in the shaded cacao fields of Talamanca (131 species) and in the natural forest (130 species). A large number of these species (44 in the natural forest and 34 in shaded cacao) were protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora or were endangered according to classifications of the World Conservation Union.[15] Analysing the production systems of APPTA farmers in Talamanca, Parrish et al. (1999) also concluded that the management of shaded cacao led to a lower incidence of pests and diseases and a higher level of natural reproduction as a direct result of the greater ecological diversity.

38. In addition, several of the practices used in organic production may have generated positive effects on the natural environment in Costa Rica and the other cases. These practices include the following:

(a) *Reduction of the burning of fields before plantation.* Burning fields used to be a common practice among organic producers of sugar cane in Argentina and vegetables in El Salvador before they shifted to organic production. These farmers had to stop using this method in order to be able to obtain certification, making it possible to avoid the negative effects on soil fertility and soil structure.

(b) *Introduction of crop-rotation methods*. Small producers frequently cultivate the same annual crops on the same plots during long periods of time, which leads to impoverishment of the soil and deterioration of the soil structure. The shift to organic crops among sugar-cane producers in Argentina and vegetable producers in El Salvador was accompanied by crop rotation. In contrast to conventional sugar-cane producers in Argentina, who replanted the crop in the same plot, organic growers in San Luis had to rotate the plots where they planted sugar cane because the certification laws in the country forbid replanting in the same plot and require that every grower has a 5-year production plan that includes, among other things, the sequence of crops to be grown in each plot. In El Salvador, organic vegetable producers also rotated crops with different nutrient requirements in every plot. Combined with the application of biological fertilizers and soil-conservation measures, crop rotation is likely to help maintain a better balance of nutrients in the soil and to preserve soil structure.

(c) *Introduction of soil-conservation measures.* Small farmers in several of the cases – even those who cultivated coffee (Guatemala and Mexico) and cacao (Costa Rica) with environmentally friendly technologies – had not been applying appropriate soil-conservation technologies and had experienced soil erosion. Organic production led in all of the case studies

[14] See Guiracocha (2000) and Parrish et al. (1999), pages. 24-25.
[15] See Parrish et al. (1999), pages 24-25.

to the application of soil-conservation measures. Most farmers who were interviewed stressed that they had seen a decrease in erosion and an improvement in soil conditions as a result of soil-conservation measures, and they were convinced that applying the measures was worth the effort because this would permit a more sustainable agriculture in the long run. Soil-conservation measures were even more important among banana producers in the Dominican Republic and vegetable producers in El Salvador, who were relying on much more intensive production systems. In Argentina, some soil-conservation practices had already been common, such as planting perpendicular to the slope to prevent erosion and leaving the leaves behind so as to incorporate their organic content in the soil. However, organic production required a much greater amount of leaves behind, and leaves decompose into organic matter more quickly when agrochemicals are not used than they do when agrochemicals are used.

(d) *Reduction in the use of chemical inputs.* The reduction in the use of chemical inputs is likely to have had positive effects, including lower risk of the contamination of soils, water flows and air, especially in Argentina and the Dominican Republic, where sugar cane and bananas are cultivated in monoculture systems and are therefore more prone to pests and disease. In addition, organic production allowed sugar-cane producers in Argentina to switch from growing sugar cane and tobacco – a crop that required an intensive use of chemical inputs – to sugar cane alone.

(e) *Conservation of natural forests and greater biodiversity*. As in the production of cacao and bananas in Costa Rica, both organic and conventional coffee was grown in Guatemala and Mexico under the shade of trees, making it possible to maintain more biodiversity. In the case of honey production in Mexico, both organic and conventional producers were very conscious of the need to preserve the natural forest because the production of pollen – the basic 'raw material' of honey – was related directly to the diversity of species and the density of the forest.

39. While most authors have found that the effects on the natural environment are positive, it has also been argued that organic crops may involve a net loss of nutrients when the loss of biomass is not compensated by the incorporation of nutrients.[16] Comparing nutrient output through crop harvests and nutrient input through material pruned from trees in the production of organic bananas in Costa Rica, Deugd (2001) concluded that the extraction of nitrogen, phosphorus and magnesium was more or less compensated. However, the potassium balance was negative, with a loss of about 47 kg annually. According to data on soil in the research area (Umaña, 2001), the average level of potassium was considered just within the normal range, so the annual potassium losses may have a negative effect on the sustainability of the organic banana system in the long run. In the case of monoculture systems (sugar cane in Argentina and bananas in the Dominican Republic), the incorporation of nutrients was even more crucial and had substantial implications in terms of higher costs. In the case of sugar cane, a 45-t production (the average yield obtained by organic producers in Argentina) involves a loss of about 23.6 kg of nitrogen, 5.5 kg of phosphorous and 60.9 kg of potassium.[17]

F. Effects on the Health of Farmers and Their Families

40. While little information is available on the past effects of pesticides on the health of producers and rural workers or on the effects of organic production on health, organic production may help avoid the health problems associated with the use of chemical inputs. Their concern about the possible health problems associated with the use of chemical inputs was one of the most important reasons organic farmers gave in response to questions about why they had adopted organic methods of production. In El Salvador, one of the farmers said: ". . . I'm the father of six children, and I was worried that my children and I could become sick because of the pesticides". Similar opinions emerged in most of the interviews carried out among organic farmers in Las Pilas. In Argentina, producers of organic sugar cane used to grow about a half ha of tobacco each as their main cash crop. Several of these farmers had suffered ill-effects from their contact with the agrotoxics employed in the

[16] According to Van den Bosch et al. (2001), 80% of the total gaseous loss of burned biomass corresponds to nitrogen.
[17] Michelle Deugd, personal communication, based on data of the US Department of Agriculture.

production of tobacco, and many were concerned about potential future health problems. The mill estimated that approximately 40 farmers stopped growing tobacco because of the health problems caused by agrotoxic contamination. One of these farmers revealed in the interview that he had stopped growing tobacco due to kidney problems, which he related to the agrotoxics. A report of the certification agency confirmed that a number of producers had made this sort of choice (OIA, 2001). There is anecdotal evidence that the greater incidence of birth malformations in some places is due to the significant application of agrotoxics.

G. Effects on Women

41. Women in Latin American countries have suffered discrimination as a result of various factors, including values, laws and institutions. For this reason, IFAD and other international organizations have been incorporating actions in their projects to strengthen the participation of women. The potential effects of organic agriculture on women have been analysed at the following levels:

42. (a) Ways in which the characteristics of the technologies used in organic production have affected the labour participation of women producers and workers. The technologies of organic production do not require special abilities in which either men or women are especially skillful or through which, because of cultural factors, the participation of women could be affected. In this sense, organic technologies of production have provided equal opportunities to women and men to participate as producers and workers. However, some tasks associated with organic production require substantial physical effort, creating some difficulties for the participation of women. While organic production in all crops requires more labour than do conventional technologies, producers who have shifted to organic production have not increased the total amount of labour used at the farm level because they have had difficulty obtaining credit. Instead, most of them have decreased the total cultivated area and used only family labour, both men and women. While the total demand for labour at the farm level has not changed significantly, organic production has been more demanding in some tasks that require a substantial physical effort, especially the implementation of soil-conservation measures. In these tasks, the participation of men has been dominant. Other tasks that require more labour, such as the control of weeds, pests and diseases through manual methods and the harvesting of the higher yields, do not require such significant effort, so there a substantial participation of women has been feasible. Women who do not have a male partner have faced greater problems in producing organically because they have found it more difficult to cover the extra labour demands. Because soil-conservation measures require great effort, women producers have usually had to hire wage labour to carry out some or all of them. However, these producers usually have difficulty obtaining access to credit and thus in hiring the labour necessary to carry out the additional tasks.

43. Organic production has increased the hiring of labour during harvests, because, in most cases, the yields have been higher. Because the highest demand for women's labour for crops like coffee, cacao, bananas and vegetables is during the harvest, women wage workers have benefited the most from organic production. In addition, the production of organic vegetables in El Salvador has also required wage labour in the packing facilities, a task in which women account for close to 100% of the workers.

44. (b) Ways in which the technologies of organic production affect the labour standards for women workers. Women have usually not carried out the new tasks that have had to be introduced in organic production and that require substantial physical effort. Organic-production technologies do have positive effects on the health of both men and women (producers and wage workers) because they imply the use of manual methods and, occasionally, naturally produced inputs in place of chemical inputs.

45. The combination of these factors has led to varying degrees in the effect of organic agriculture on women. In Argentina, almost all of the producers and workers of sugar cane, both conventional and organic, have been men, which is explained mainly by the great effort required in the production of sugar cane. In Guatemala and Mexico, the production of coffee has involved a substantial participation of women, especially during harvests, but there have been no significant differences in women's participation in conventional or organic production. In Costa Rica, women participate in the

production of cacao, especially during harvesting. Because cacao plantations had been abandoned due to the attack of moniliasis, organic production made it possible to start selling cacao again, thereby creating new income opportunities for both men and women. In El Salvador, women have participated mainly in the harvesting and packing of vegetables, and more women's labour has also been required because organic production has led to the introduction of several new crops that are more intensive in the use of labour.

V. THE MAIN PROBLEMS FACED BY SMALL ORGANIC PRODUCERS

A. Financing the Shift to Organic Production

46. Small farmers usually have problems introducing new crops and technologies because they frequently require credit to cover investments, such as irrigation, and to purchase inputs such as fertilizers and pesticides. For this reason, IFAD projects usually include a component that aims at improving the access of small farmers to credit, for example, by providing funds for credit or for a guarantee scheme. While the role of credit has been important in making possible the introduction of new crops and improving agricultural production, credit components have often faced several problems, and default rates have been high. Thus, it is important to understand the investments and working capital costs involved in organic production and the ways small farmers have able to cover them. In addition, organic production may involve off-farm costs related, among other factors, to the processing and packing of agricultural output. The first section below covers on-farm costs, while the second section concentrates on off-farm costs.

47. The evidence shows that the most important period in the shift to organic production was the transitional period, that is, the first three years after farmers start to produce organically. During that period, farmers have to produce organically without being able to obtain the certification. In other words, they face certification costs, make some investments (mainly in soil-conservation measures and sometimes in new equipment), encounter higher labour costs and sometimes obtain lower yields, but are unable to obtain a price margin for their production. These costs faced by farmers during the transitional period can be viewed as an investment that will yield returns after the transitional period.

1. On-farm costs

New investments

48. Shifting to certified organic production required relatively low investments from small farmers in most of the cases. In fact, many of the small organic producers used to produce the same product – cultivating coffee, cacao, or sugar cane, or producing honey – with traditional technologies that were similar to the organic methods of production, that is, using few or no chemical inputs and controlling weeds, pests and disease through labour-intensive technologies. Thus, these farmers used to produce more or less organically, but sold their products on the conventional market. These traditional production systems were partly due to a history of difficulties among the farmers in gaining access to extension services and financial institutions. In the case of organic cacao producers in Costa Rica, farmers had also experienced problems with moniliasis, a pest that decimated their crops and led them to abandon the crops.

49. The investments required for organic production can be divided into two categories:

50. (a) *Land-conservation measures*. Most farmers who started to grow organic crops used to grow their crops without applying any conservation measures to prevent erosion. Such conservation measures only provide returns after several years. All farmers interviewed stressed that soil-conservation measures were quite costly in terms of labour and represented the most important investment involved in the shift to organic production. Soil-conservation measures required significant physical effort and time and occasionally the hiring of wage labour, so it was important for the farmers to have funds available to hire labour. The largest amount of effort was concentrated in the first year or two of the transitional period, when farmers had to build terraces and undertake other measures. These innovations need to be maintained properly during subsequent years.

51. The interviews carried out with farmers in all the cases showed that the farmers had to have their lands under stable forms of tenure in order to carry out the necessary investments in land-conservation measures. Because the returns from these investments can be obtained only after several years, farmers with unstable forms of land tenure were not willing to carry out them. For example, one of the organic farmers stressed that "it would have been impossible for me to cultivate organic vegetables if I had not been the owner of the land. Anyone can rent a piece of land to cultivate cabbages or tomatoes with fertilizers and pesticides just for one year, but one has to wait for [many] years before seeing the fruit of undertaking organic crops. You work a lot with not much return the first year, but the soil gets better year after year because of the organic fertilizers and the soil rotation, and the productivity keeps growing. You cannot make all this effort one year and then leave others to obtain the gains of your effort." This statement is representative of the opinion of most of the organic producers who were interviewed. In addition, some tenants who were renting the land wanted to undertake organic production, but they could not do so because they needed the permission of the owners to carry out land-conservation measures, a permission the owners usually denied due to their fear that they would not be able to evict the tenants in the future.

52. (b) *New equipment and materials used in the process of production*. Organic producers of honey in Mexico had to make some investments in new equipment and materials, mainly honey extractors and stainless steel knives to replace the ones commonly used, which were subject to oxidation. While these requirements initially applied to organic producers, there is a trend in the international market to demand the use of stainless steel equipment in all honey production, both organic and conventional.

Production costs

53. Organic production usually led to lower costs in chemical inputs and higher costs in labour relative to conventional production, resulting in higher production costs per ha than the conventionally grown crops (with the exception of sugar cane in Argentina). The change in production costs related to labour, inputs and certification.

54. (a) *Labour costs*. Labour costs increased because: (i) organic producers had to introduce several new tasks, some of them specific to organic agriculture – such as soil-conservation measures, management practices, including the planting of new species of shade trees, and the manual control of weeds, pests and diseases – and some of them required in order to obtain a product of higher quality (vegetable production for supermarkets in El Salvador, sugar cane in Argentina); (ii) they frequently had higher harvesting costs because of the higher yields and (iii) vegetable producers in El Salvador introduced new crops that demanded labour all year round, in contrast to their conventional crops, which were grown during the rainy season.

55. (b) *Inputs*. Some crops (especially bananas in the Dominican Republic) also required the purchase of significant amounts of organic fertilizers and other biological inputs to control pests and disease. These crops demanded substantial amounts of labour because of all the work needed to achieve a good-quality product year round. The extra tasks included soil-conservation measures, planting, harvesting, weeding, and the preparation and application of all kinds of organic inputs. Finally, producers of organic honey in Mexico had to spend more time on their apiaries because they had to move them to the forests, at least 3 km away, where the apiaries would not be in contact with chemical inputs due to the presence of crops, houses, or roads.

56. Surprisingly, in all the cases, organic production expanded in spite of the limited availability of formal sources of on-farm credit. Although organic agriculture had been developing significantly, financial institutions were slow in recognizing this, just as they were slow in recognizing the differences between organic and conventional crops in terms of production costs, yields and prices. The National Rural Credit Bank in Mexico was the only financial institution that treated organic and conventional crops (mainly coffee) separately, using specific information about the costs of production for each in order to provide credit for farmers. However, financial institutions in most of the other countries are now beginning to treat organic and conventional crops differently.

57. Because the technologies of organic production were mostly labour intensive, farmers implemented them using mainly family labour. In the case of coffee, the fact that a high proportion of the labour costs arose during harvesting made it easier to cover them because farmer associations usually provided farmers with some payments in advance. In the case of bananas, farmers were selling their output every week to marketing firms, so they were able to cover all production costs using their revenues. However, they occasionally had to hire seasonal wage labour for some specific tasks, mainly harvesting. Most small farmers relied on wage labour during the harvest when they were conventional producers. Because many of them obtained higher yields after they had shifted to organic production, they had to hire even more wage labour. In most cases, labour became a constraint on any increase in the area under cultivation. As a result, most farmers who started growing organic vegetables had to reduce their total cultivated area.

58. In Argentina, the mill that processed organic sugar cane in San Javier tried to solve this problem by negotiating credit for farmers. The mill wanted to promote an expansion of the cultivated area so as to increase the use of the available productive capacity. It negotiated with the Rural Development Project for the North-eastern Provinces ("Prodernea"), a rural development programme funded by FIDA, to offer credit to plant an additional 500 ha of sugar cane. The credit offered farmers USD 200 per planted ha (about 40% of the total cost of USD 500 per ha). The credit was to be provided 50% before plantation and 50% after verification that planting had occurred and was to be repaid over five years (only the interest during the first year) at an 8% interest rate. During 2001, farmers took out credit for only 150 ha of the 500 ha that were available, partly because many farmers were excluded because they had unpaid debts, partly because farmers disliked the 'solidarity group' approach required by Prodernea, and partly because many farmers felt uncertain about the future of the mill.

Certification costs

59. Certification is one of the most important cost-items faced by organic farmers, especially during the transitional period, when farmers have to cover the certification costs although they have not yet obtained the certification. The certification cost varies significantly depending on the country and the certification firm, but it generally includes a fixed cost and a variable cost. In most cases, the costs include payment for inspection – calculated on the basis of the daily fees and the travel and living expenses of the inspectors – and the certification fees. They vary depending on whether the inspectors are based in the country (from a minimum of USD 100 per day in Costa Rica to a maximum of USD 300 to 400 per day in Argentina) or abroad (which involves substantially higher costs). Farmers in Argentina also paid a subscription fee to the certification agency (from USD 100 to 500), and many of the certification firms in all the cases also charged an additional variable fee calculated on the basis of the value of the output (usually between 0.5% and 1% of the gross value). In Guatemala, the three associations for organic coffee producers paid a total of USD 5 965 annually to cover certification costs in 2001, an average of USD 0.96 per quintal of coffee, which represented 1.5% of the price of USD 65 that they received for the coffee, USD 18.50 per ha and USD 16.10 per farmer. In Mexico, ISMAM paid about USD 42 000 in 2001, which represented an average of USD 0.65 per quintal of coffee (1% of the price of organic coffee), USD 2.40 per ha and USD 9.20 per farmer. In Costa Rica, APPTA paid about USD 16 000, an average of USD 66.70 per t of cacao, which represented 4% of the price of USD 1 650 per t obtained by APPTA, USD 10.70 per farmer and USD 8 per ha. The costs were substantially higher in Argentina, reaching USD 76 700 annually paid out by the sugar-cane mill for all the farmers, an average of USD 22.20 per t, which represented 4.4% of the price obtained by the mill for organic sugar cane, USD 51 per ha and USD 96 per farmer.

60. Farmers covered certification costs mainly in the following ways:

(a) NGOs helped farmers cover the cost of certification for one of the associations of vegetable producers in El Salvador, while rural development projects financed by IFAD covered part or all of the certification costs of vegetable producers in El Salvador and honey producers in Mexico. An IFAD project also subsidized the certification cost for coffee producers in Guatemala, jointly with the Non-Traditional Product Exporters Association (Agexpront) of Guatemala and Proarca-Capas (a project financed by US Agency for International

Development). In all the cases, farmer associations received subsidies to cover fully certification costs over a certain time period (usually during the transitional period) and later started to pay themselves increasing shares of the certification costs. Subsidies to cover certification costs were extremely helpful especially because the farmers themselves had difficulty understanding why they had to pay for certification even though they had to wait three years to obtain the certification. Farmer associations usually transferred the cost of certification to the farmers as part of the associations' operating expenses, which was deducted from the product prices paid to the farmers. The associations sometimes negotiated with foreign buyers so that these buyers would pay for the certification, and sometimes they paid for it directly. In addition, projects and NGOs helped by providing intensive training so that farmers could understand the potential advantages of certification, as well as the risks, including the risks if farmers did not properly apply the organic methods of production.

(b) Marketing or processing firms covered the certification costs for sugar-cane producers in Argentina and banana producers in the Dominican Republic during the transitional period and beyond. Farmers signed contracts with the firms, agreeing to sell their output to them at an agreed price, while the firms paid for the certification and provided technical assistance to the farmers. These agreements made the transition easier for the farmers, but they made it difficult for the farmers to sell to other buyers after the expiration of the agreements, as the marketing firms were the nominal 'owners' of the organic certification. Sugar-cane growers in Argentina did not have other potential buyers in the San Luis region, but banana producers did have the possibility of selling to other buyers. However, producers of organic bananas who decided to sell to other buyers had to become recertified as if they had never been organic producers. They thus had to complete another transitional period of three years.

2. Off-farm costs

Organization of a monitoring system

61. The most important costs that small farmers who shifted to organic production had to face revolved around the organization of a monitoring system. The monitoring system was required by the certification agencies as part of the certification process, except in Argentina, where certification agencies themselves inspected all the members of farmer associations. Farmer associations in Costa Rica, El Salvador, Guatemala and Mexico all organized their own monitoring systems, while marketing and processing firms organized the system in Argentina and the Dominican Republic. The monitoring system involved substantial costs, usually the purchase of a computer and software to process the information on every association member and the hiring of a full-time information manager and two permanent inspectors to carry out inspections among farmers over and above the two inspections by the certification agencies (usually one each year). In addition, the experience of all associations showed that the establishment of a successful monitoring system had to be accompanied by intensive training so that the association members would understand the problems they might encounter if they did not properly apply the organic methods of production. These training activities imposed extra costs.

62. While the monitoring system represented a significant cost for farmer associations, it also had some advantages: (a) the monitoring systems of farmer associations in El Salvador, Guatemala and Mexico and of marketing firms in the Dominican Republic also functioned as part of the extension services provided to farmers and (b) the monitoring systems in the Dominican Republic and Mexico (Chiapas) also carried out estimations of future yields and of harvest production, information that was crucial in negotiating contracts in advance with foreign buyers.

Processing and packing facilities

63. The marketing of most of the organic products (coffee, cacao, vegetables and so on) required facilities where the products could be classified, partially processed and packed before being sent to buyers. In contrast to the on-farm investments, the off-farm investments were too high to be covered by individual small farmers. In addition, individual small farmers could not produce sufficient output

to keep the facilities working at full capacity. Cacao producers in Costa Rica, vegetable producers in El Salvador and coffee producers in Guatemala and Mexico constructed processing or packing facilities. These facilities also had to be certified by certification firms, which meant that they had to apply organic methods, by, for example, not processing conventionally produced products and not packing both organic and conventional crops. Associations of organic producers of honey in Mexico had to purchase new equipment and materials made of stainless steel to replace the ones commonly used, which were subject to oxidation. However, it should be recalled that associations of farmers who are producing conventionally also must make similar investments.

64. Farmer associations often build facilities with the support of NGOs and government projects (some of which are funded by IFAD). In Mexico, a government agency that used to participate in the marketing of coffee transferred its processing facilities in the city of Tapachula to ISMAM, which later expanded the facilities with the help of credit supplied through government programmes. In El Salvador, two NGOs (CLUSA and Technoserve, a non-profit organization of US origin) used funds provided by the Agency for International Development and the Prochalate project, respectively, to give organic producers a mix of grants and loans for the construction of collective packing facilities and for transportation. CLUSA also helped one of the cooperatives to obtain grant funds from the Inter-American Foundation to build packing and storage facilities.

Capital for the purchase of the output of members

65. One of the main factors in the success of organic producer associations was the availability of funds to purchase the output of members. This is a problem area for associations of conventional or organic farmers. If an association does not have the capacity to pay farmers soon after it has received the product, the farmers might sell to other buyers who can pay sooner, even if they have to sell on the conventional market at a lower price. In Argentina, many growers of organic sugar cane had to work as wage workers because the mill only paid for only part of the product on time (only enough to cover the transportation and harvesting costs), while paying for the rest four to six months later. This strategy had negative consequences on production, because farmers who were working as wage workers found little time to do the weeding that needs to be done during this period.

66. In some of the cases (cacao in Costa Rica, coffee in Chiapas), the farmer associations had built links with foreign buyers several years previously and were well organized and respected. Thus, they were able to negotiate with buyers to receive funds in advance as a part of the sales contracts, and they used the funds to pay farmers for the product. In addition, some of the associations obtained funding from government programmes (sugar cane in Argentina, coffee and honey in Mexico) or from projects implemented by government agencies (vegetables in El Salvador, coffee in Guatemala).

B. Adopting Organic Methods of Production

1. Values versus profits

67. An interesting and important issue in organic agriculture revolves around the factors that influence the adoption of organic-production technologies among small farmers. Many advocates of organic agriculture have emphasized that the values behind the concern over the environment are key in explaining the adoption of organic methods of production. In contrast, analysts relying on a more conventional microeconomic framework argue that farmers will adopt organic technologies if the returns are higher than those obtained using conventional technologies. Other analysts have emphasized institutional factors, such as farmer access to technical assistance and the influence of land tenure. Analysing the choice of farmers among agricultural technologies and the motivation of farmers in adopting sustainable production techniques in the Brazil, Spain and the UK, Young (1998) found that attitudes towards the sustainability of conventional practices and concerns about environmental issues strongly influenced the probability of adoption in Spain and the UK. In contrast, none of these more 'ideological' characteristics had any significant effect in Brazil.

68. The interviews that were carried out in all the case studies showed that the attitudes of farmers towards organic production corresponded with those that Young found in Brazil. The expectation of

higher returns was the main driving force that led small farmers to shift to organic agriculture. In Argentina and Costa Rica, organic farming represented the only way that sugar-cane growers and cacao producers could continue growing these crops. Banana producers in the Dominican Republic, coffee producers in Guatemala and Mexico and honey producers in Mexico had a viable alternative in conventional production, but they obtained higher returns through organic production, especially for coffee, since the prices for the conventional product had recently fallen significantly more than the prices for organic coffee. In El Salvador, producers of organic vegetables underwent a more complex process in the introduction of new crops, technologies and systems of production. All the farmers who had started to grow vegetables organically also continued to grow the crops that they had previously grown (cabbages, tomatoes and potatoes) and to use the same conventional technologies (that is, chemical inputs) to produce them.

69. The fact that small farmers in all the cases considered the higher revenues as a major factor in the shift to organic methods of production does not mean that other factors were not important in the decision. A large proportion of the farmers who were interviewed argued that organic production addressed their concerns about the potential negative effects of chemical inputs on the health of their children and themselves. Many farmers stressed that they had had health problems related to the use of pesticides. For example, sugar-cane growers in Argentina stopped growing tobacco, a crop that requires intensive use of chemical inputs and had caused health problems among several farmers in the region. Thus, health concerns were influential in convincing the farmers to shift to organic methods of production.

2. Easy versus difficult technologies

70. One of the factors that may influence the adoption of new technologies by small farmers relates to the complexity of the technologies. If new technologies are difficult to adopt, farmers may resist applying them and may continue using ones they already know. The interviews carried out among small organic producers show that they found it relatively easy to shift to organic production. Farmers found organic technologies easier than conventional technologies for the following reasons:

(a) Farmers knew how to apply most of the chemical inputs, but had difficulty understanding how they work. In contrast, farmers often found it easy to understand how technologies in the organic-production system work. This has even led to the active participation of farmers in experiments on new organic technologies.

(b) Small farmers in several of the cases used to produce conventionally with technologies that were similar to those employed in organic production, with little or no application of chemical inputs. Thus, they had to introduce few changes in production technologies and had to carry out relatively small investments when they started to produce organically. Producers of coffee in Guatemala and Mexico often needed only to introduce new soil-conservation measures, improve the manual control of pests, weeds and diseases and introduce new shade trees. Sugar cane in Argentina was considered a rustic crop that was characterized, in the San Javier region, by the absence of pests, and the most commonly used varieties resisted or tolerated the typical diseases to which the crop is prone. This virtually eliminated the need for pesticides even in conventional production.[18] Growers of organic bananas in the Dominican Republic had to introduce organic fertilizers and improve the manual control of pests and disease, while organic sugar-cane growers in Argentina had to improve the rotation with other crops.

71. The case in which producers found the shift to organic production more difficult was in vegetable production in El Salvador. Farmers used to cultivate cabbages and tomatoes with conventional technologies, growing them in the rainy season and applying chemical inputs. Shifting to organic production implied the introduction of a wide variety of other crops, such as lettuces and radishes, in order to supply supermarkets in San Salvador, the capital. In addition, in contrast to the cabbages and tomatoes, the organic vegetables were cultivated all year round. Thus, farmers had to

[18] See Serrano (2002).

learn how to cultivate the new crops and how to coordinate planting so as not to concentrate the harvests at one particular point in time.

72. The fact that small farmers found organic technologies relatively easy does not mean that they did not face some important technology problems. The most significant had to do with the need to obtain a product of good quality. Exporters and marketing firms have learned that buyers of organic products have become increasingly more demanding in terms of quality. According to them, this reflects the evolution of consumer tastes in Europe and the United States. Until the early nineties, the supply of organic products was limited, so consumers did not worry so much about quality, recognizing that organic products would not look so nice as those produced through conventional methods. However, the increase in the number of consumers of organic products has been accompanied by an increase in the supply of organic products from both developing and industrialized nations. In part because consumers have more choices, they have become more demanding in terms of quality, especially for fresh vegetables and fruits. This trend has not yet created significant problems for small farmers, but it could eventually do so. For example, SAVID, the largest firm marketing and exporting organic bananas in the Dominican Republic, has been substantially increasing the size of its own areas of banana production in order to reduce the quantity of bananas that it purchases from small farmers. It first attempted to raise the quality of the output of small farmers over the previous five years, providing extension services as a part of the contracts it signed with farmers. However, the results were disappointing, partly because of adverse climate conditions, but also because of the alleged resistance of the farmers to change.

73. In view of these problems, the extension services provided to small organic producers are crucial mainly for two tasks: (i) because they can help improve the quality of the product and (ii) because they help monitor compliance with the proper application of organic methods of production (see subsection 5 below).

3. The supply of appropriate organic technologies

74. One of the potential problems that small farmers may face in producing organically is the limited supply of technologies that are effective in solving technical problems like the control of weeds, pests and disease and that are appropriate in terms of the particular characteristics of the farmers, such as their limited access to credit. Thus, it is important to analyse organic technologies as regards their development and the incorporation of organic agriculture into the research agendas of agricultural research agencies.

75. The analysis of public and private-sector agricultural research agencies in the case studies shows that these agencies have made little progress in incorporating organic agriculture into their research agendas. This relates partly to the difficulties that agricultural research agencies in Latin American countries have experienced because of budget cuts and public-sector reforms implemented during the nineties. In addition, the interviews carried out with researchers at public agricultural research agencies show that a high proportion are not interested in carrying out research projects on organic technologies. Most of them have been trained in conventional methods of production and are sceptical about the possibilities of organic production, rising questions about potential technological and marketing problems rather than being open to the possibility of incorporating new areas of research.

76. Most agricultural research agencies, however, are carrying out some work on organic agriculture. In most cases, research on organic agriculture relates much more to the initiative of individual researchers than to more or less structured research programmes that have resulted from the identification of organic agriculture as a priority by the various institutions. In addition, most of the research projects on organic agriculture have been funded through outside sources contacted by individual researchers rather than through institution budgets. For example, the National Centre of Agricultural Technology in El Salvador, a research agency that is part of the Ministry of Agriculture and Livestock, had only one researcher focusing on organic agriculture. The researcher was working on a project to develop and test organic fertilizers that was supported by the Japanese International Cooperation Agency. In Guatemala, the Institute of Agricultural Science and Technology has not

carried out any research project focused on organic agriculture. There are a few relevant research projects involved on integrated pest management and on specific technologies, such as the use of organic manure rather than chemical fertilizers for some crops, but these projects are applicable for both organic and conventional models of production.

77. Argentina and Costa Rica show the most progress in the incorporation of organic agriculture into the research agendas of agricultural research agencies. In Costa Rica, research on organic agriculture started in the late eighties with a project funded by the Japanese International Cooperation Agency and implemented jointly by the University of Costa Rica and the National Learning Institute. This project studied the use of organic fertilizers (*bocashi*) as an input in the production of organic vegetables in the Central region of Costa Rica. The project included the participation of Japanese researchers and volunteer professionals, and it was based at the Fabio Baudrit Experimental Station located in Alajuela. As a result of the project activities, several farmers, firms and researchers at the University of Costa Rica became interested in organic methods of production, and the National Learning Institute started to incorporate organic agriculture in its training courses. In addition, the project was instrumental in promoting the adoption of organic fertilizers by many farmers and firms producing vegetables in the Central region.

78. By the mid-nineties, several institutions had started research projects in areas related to organic agriculture. Costa Rica has a fragmented agricultural research system, which comprises a large number of organizations, including the following: (a) producer associations involved in several crops, including coffee, sugar and bananas, such as the Costa Rica Coffee Institute, which have created research entities to support improvements in the respective crops; (b) several universities, such as the University of Costa Rica and the University of Heredia, which carry out research at their agricultural or technology faculties and (c) governmental organizations, such as the Ministry of Agriculture and Livestock and the Ministry of Science and Technology. Universities have been the most advanced in organic research. Substantially less organic research takes place at producer associations and governmental institutions.

79. The most active university institutions have been EARTH and the University of Costa Rica. EARTH has been carrying out research on its campus, mostly on organic pesticides and fertilizers, generating, among other innovations, most of the organic technologies used for banana production in the Dominican Republic. By 2001, the University of Costa Rica had about 20 researchers who were involved in research and educational activities in organic agriculture and who were part of the university's Organic Agriculture Programme. There are 15 research projects, most of them involved in the development of new pesticides and fertilizers, carried out at the campus in San José and at the Fabio Baudrit Research Station. One of the projects focuses on the organic-production systems for bananas in Talamanca. It is being implemented in collaboration with APPTA (the association of organic producers analysed in the Costa Rican case study). Its objective is to analyse alternative management practices in the organic production of bananas which are to be sold fresh. The project has found that the production systems characteristic of the organic production of bananas among APPTA members in Talamanca may extract more nutrients from the soil than they incorporate into the soil and may therefore not be sustainable in the long term. Thus, the project has attempted to identify materials and practices that incorporate inputs into the soil, especially potassium. Finally, the National Learning Institute has also implemented research activities in organic agriculture. Research has concentrated on determining proper dosages of organic fertilizers, the development of new methods to process plants for medical use and the development of organic pesticides.

80. In Argentina, the National Institute of Agricultural Technology, a decentralized agricultural research agency of the Secretariat of Agriculture that was created in 1956, conducted research, developed new technologies and provided training in organic production. However, these efforts were constrained by limited resources. In 1992, a number of researchers from several regional offices of the institute started urging top officials to create a research programme to generate technologies for organic production. They succeeded, and the institute created the National Research Project for the Production of Organic Food. Focused initially on organic meat and milk, the project pulled together

30 researchers part-time from all the research stations of the institute in the country, plus a full-time coordinator.[19]

81. In spite of this progress, there is still a great knowledge vacuum in several areas, even in Argentina and Costa Rica. Some of the most important issues that need further research include the definition of the best dosages of the various organic inputs under different soil and climate conditions, the development of technologies to control several pests and diseases, the development of post-harvest technologies and the incorporation of microeconomic analysis in organic research. In addition, the research on organic agriculture in Argentina has focused mostly on products that are mainly produced by large farmers and firms, including bovine meat, milk and cheese, onions and sunflowers and, more recently, others such as wine and olive oil. No work has been carried out on sugar cane, the main crop cultivated by small organic producers. In Argentina in the mid-nineties, the National Institute of Agricultural Technology established a 200-ha experimental and demonstration unit for organic meat in the research stations at Balcarce and General Villegas (in the Pampean region) to develop and test a technological package for raising organic cattle on medium-sized farms. The institute's organic group has been transferring the knowledge gained in organic production to inspectors at certification agencies and to private agricultural consultants. What has been lacking – and the group is currently pursuing research in this area – is a more aggressive policy to transfer the technology to producers.

82. Surprisingly, while research on organic agriculture has shown only limited development, all the cases are characterized by the absence of significant technical problems. Most of the technologies were brought from other countries by NGOs (in most of the cases) and, occasionally, firms (bananas in the Dominican Republic). Farmers were able to control the most common weeds, pests and diseases in every crop with technologies based on labour and the use of organic inputs. Nevertheless, technical problems might occur in the long run if nutrient balances are not recovered, especially in the organic production associated with monocrop systems.

4. The access of small farmers to extension services

83. Small farmers often have difficulties introducing new technologies because they do not have access to technical assistance of good quality. Because they have limited or no capacity to pay for technical assistance, they have to rely on public extension services that are often underfunded and provide services of low quality. Thus, it is important to understand how small organic producers in the different case studies were able to learn about new organic technologies and the types of technical assistance they received.

84. The public extension services in all the countries in the case studies had some characteristics in common. First, they had limited capacity to carry out their work adequately, having suffered greatly from budget cuts and public reform policies implemented during the nineties. As a result of the reforms, Guatemala closed down its extension services. These services were still functioning in Argentina, Costa Rica, the Dominican Republic, El Salvador and Mexico, but they had limited coverage and often experienced operational problems related to budget constraints. Second, public extension agencies were slow in incorporating organic agriculture into their agendas and work mainly with commercial crops and conventional technologies. However, the interviews carried out among extension workers in all the public extension agencies showed that many of them were interested in organic agriculture, but had few opportunities to access information or participate in training in organic methods of production.

85. Interestingly, public extension services have played only a marginal role in the development of organic agriculture in the various countries in the case studies and, specifically, among the successful groups of small organic producers. Two of the small organic producer associations (cacao in Costa Rica and coffee in Mexico) organized their own extension services. In two other cases, processing firms (sugar cane in Argentina) and marketing firms (bananas in the Dominican Republic) provided

[19] See Serrano (2002).

extension services to small organic producers as a part of contracts agreed with them. Finally, rural development projects provided extension services in the remaining cases (vegetables in El Salvador, coffee in Guatemala, honey in Mexico). All these services were of good quality and relied on extension workers who were specialized in organic agriculture. In some cases, they applied innovative methods that were key in the transfer of organic technologies to small farmers (see Box 7).

86. Although small farmers in all the cases were able to rely on extension services of good quality, the interviews carried out with agricultural professionals, firms and farmers involved with all the extension providers showed that they frequently faced problems when trying to hire technicians trained in organic agriculture. They argued that there was only a limited supply of professionals with sufficient knowledge and ability to provide technical assistance in organic technologies, with the exception of coffee in Guatemala and Mexico, a crop for which there are a substantial number of professionals working in organic technologies who have obtained on-the-job training. In all the countries, virtually no agronomist, agricultural specialist, or extension worker in the country had ever studied organic agriculture as a part of his/her career. This means that all those who were working in organic agriculture had participated in training programmes mostly in other countries. Most of them had participated in the same training programmes as farmers and said that they were learning from the farmers rather than teaching the farmers the new organic technologies.

87. Several universities with programmes in agricultural science, agronomy universities and technical schools established courses and specializations in organic agriculture in the late nineties, usually in response to a growing demand from students. In El Salvador, for example, the School of Agricultural Sciences at the University of El Salvador started a two-year master's programme in sustainable agriculture in 2001, and the Matías Delgado University started a one-year diploma in organic agriculture. The University of Chapingo in Mexico and the University of Costa Rica offer other examples of a trend in all the countries.

Box 7. Innovative extension methods and organic agriculture: The case of the Cuchumatanes Project in Guatemala

The Cuchumatanes Highlands Rural Development Project in Guatemala implemented an innovative approach to the provision of extension services that played an important role in the shift of coffee producers to organic production. The project was implemented between 1994 and 2000 by the Ministry of Agriculture, Livestock and Food, and it was funded jointly by IFAD, the Dutch Government and the Government of Guatemala. There were 9 000 beneficiary families in nine municipalities of the department of Huehuetenango. The families had an average yearly income of less than USD 1 600 and a farmed area of less than 3.5 ha. The total projected cost of the project was USD 20.8 million, of which USD 7.5 million (36.1%) were provided by IFAD, USD 6 million (28.8%) by the Dutch Government, USD 3.2 million (15.4%) by the Government of Guatemala and USD 4.1 million (19.7%) by other sources.

The extension services provided through the Cuchumatanes Project were uncommon in two ways. First, government extension services and rural development projects frequently focus on increasing the production and productivity of crops and animal-raising. Thus, assuming there are no market constraints, production increases are expected to be automatically reflected in increased farmer incomes. In contrast, the extension component of the Cuchumatanes Project worked closely with the marketing component, using market information and agreements that emerged from contacts with agro-processing and marketing firms to decide on the crops and technologies that would be promoted through the project. As a result, it was decided that the project should work with three farmer associations in the production of organic coffee. Among other initiatives, the project paid the salary of one technician specialized in organic coffee who worked exclusively for each of the associations and who organized an extension service to provide assistance to association members.

Second, government and private extension services are usually based on technicians with professional or technical training. In contrast, the Cuchumatanes Project provided technical assistance to farmers – not only to organic coffee producers, but to all the beneficiaries – based on the methodology introduced in Guatemala in the sixties by World Neighbours, that is, using intensively trained farmers rather than professionals. These farmers were selected by their own communities based on selection criteria established by the project that included their capacity and background as good farmers, their leadership and capacity to win others over, an innovative attitude and their commitment to the responsibilities to be assumed. This methodology worked well because this type of extension workers were able to establish a closer, better relationship with farmers than were professionals and could address problems in the farmers' own dialects and words, which is essential in extension work, as the communities spoke several different dialects.

After the selection process, farmers went through intensive training provided by the project's training component. Training was based on a programme that included three phases with different content. After this, successful participants – who had to attend courses and carry out activities in their communities – graduated and obtained degrees as 'promoters', a 'credit managers', or and 'extension worker-peasants'. The whole training programme took about four years, as a farmer had to work for two years as a promoter in order to be able to graduate as a credit manager and then had to work for two additional years as a credit manager in order to be able to graduate as an extension worker-peasant. Farmers who graduated carried out specific responsibilities under the supervision of a technician (usually an agronomist) from the project. A total of 98 farmers graduated from the training courses organized by the project. Each credit manager worked with an average of 45 farmers in one community, while extension worker-peasants provided technical assistance to an average of 150 farmers distributed in three communities. An extension worker-peasant received through the project a monthly salary equivalent to USD 165. An example of how the system worked: a team comprised of two credit managers who were about to graduate as extension worker-peasants serviced 300 farmers in five communities and were supervised by two agronomists specialized in agricultural and animal production, respectively.

5. Monitoring the proper application of organic methods

88. Farmer associations have been instrumental in the success of small producers in organic production (see later). One of the major issues for associations of small organic producers revolves around the need to ensure that all association members properly apply organic methods of production. Because visits to every association member would make the certification process too expensive, the international norms that regulate the certification of organic products allow certification firms to carry out inspections among only a sample of farmers (usually about 20%), on condition that the association sets up what is called an "internal control system".[20] This system is intended to control the compliance of all farmers with the proper methods of applying organic technologies. It involves unscheduled visits in addition to the annual visits of the certification agencies and the collection of detailed information about the association and its members. The information the monitoring system needs to collect includes the following:

(a) Information on each member of the association, including name, location, total farm area, area cultivated and location of organic crop/s, area cultivated and location of other crops and technologies applied in their cultivation, total production sold and quality characteristics of products sent to the association.

(b) Information on every activity organized by the producer association and the participants or beneficiaries, such as training sessions, workshops, technical assistance, credit provision, and visits of inspectors to farm fields.

(c) Information on the periodic inspections carried out among all association members throughout the year.

89. The experience of the associations in all the cases shows that the capacity of the associations to organize efficient and reliable monitoring systems has been the key to success as organic producers. A well-functioning monitoring system (for example, APPTA in Talamanca, Costa Rica, and ISMAM in Chiapas, Mexico) must identify easily and quickly those farmers who are not complying with the standards of organic production and penalize them in an exemplary way. Also, a good monitoring system must make it very risky for individual farmers not to comply in such a way that these farmers can be readily discovered and the losses they will suffer because they are no longer able to sell to the association are devastating. In contrast, a monitoring system that does not work well will not be able to identify adequately those farmers who do not comply with the standards of organic production or free riders who seek to obtain the better prices available for organic products without paying the relevant costs. This problem is illustrated by the experience of Chilan Kabo'ob, which was unable to eliminate the use of the chemical inputs that led to the presence of antibiotics in the honey it exported to Europe, thereby losing its certification.

90. The participation of members in the monitoring systems varied from one association to the next. Higher degrees of participation were linked associated to the better monitoring systems. ISMAM and APPTA showed the greatest level of member participation. This participation occurred through local committees that were important in the monitoring process because they received complaints and determined the penalties against those farmers who were not properly applying the organic technologies. In addition, these two best-functioning associations gave intensive training to all their members on the potential negative effects of the use of chemical inputs and the way in which one single farmer who does not properly apply the organic technologies can hurt everyone, causing the association to lose its markets and the farmers to receive substantially lower prices. In both cases, the interviews showed that, because farmers had a good understanding of the potential negative effects on everyone of free riders, most of the farmers were willing to complain about any member who did not properly apply organic methods of production.

[20] Kortbech-Olesen (2000) argues that there is some disagreement on how inspection should be organized with regard to the certification of smallholders, that is, whether random inspection based on a certain percentage of the growers can be accepted, or whether all growers must be inspected. He stresses that increased acceptance of a correct random inspection would greatly facilitate exports from the developing countries.

91. The experience of ISMAM shows that the association had an additional incentive to organize a good monitoring system. The association needed to have a precise estimate of the harvest every year several months in advance in order to be able to negotiate better with foreign buyers. Without a precise estimate, ISMAM might promise to deliver certain volumes and then be unable to meet the promise, which would be unacceptable for buyers. Alternatively, it would have to wait until the harvest to know the volumes available, an option that would offer little time for price negotiations and would make the association lose the business opportunities that might appear well before the harvest. The monitoring system that ISMAM organized served well the purpose of estimating harvests in advance. In fact, ISMAM used five of its own promoters to collect the information necessary to make the estimates. The promoters visited every farmer's plantation during February and March – immediately after floration – and during June and July – when the fruits had started to develop – in order to make individual estimates of the expected yields during the harvest between September and November (in the lowlands closer to the coast) and between December and mid-February (in the highlands).

C. Marketing Organic Products

92. Small farmers often face great difficulty in selling their products because they lack marketing skills and connections, so they depend on middlemen who pay them low prices. Thus, it is important to understand the types of connections that small organic producers have been able to work out with markets and the ways they have developed these connections. The types of links that small organic producers have established with markets can be divided according to the amount of access the farmers have to the free trade market and according to the type of relationship that the farmers have established with buyers:

93. (a) *According to the amount of access to the free trade market.* Organic producers of cacao in Costa Rica, bananas in the Dominican Republic and coffee and honey in Mexico sell part of their organic products in the fair trade market. Prices in the fair trade market are much higher and have shown significantly less variation throughout the years than the prices for either conventional or organic coffee. Therefore, farmer associations that have access to the fair trade market are able to do better than the ones that merely sell in the organic market. This is especially important in the case of coffee, for which the prices have fallen dramatically the last few years. In 2001, the price of 1 quintal of coffee fell below USD 50/quintal in the conventional market, while ISMAM obtained USD 75/quintal in the organic market and USD 145/quintal for organic coffee in the fair trade market (the price of conventional coffee in the fair trade market was about USD 125/quintal). While entering the fair trade market is not easy, the specialists who were interviewed stressed that there has been an increasing overlap between the fair trade and the organic markets, with a trend among fair trade consumers to demand that products also be organic.

94. (b) *According to the type of relationship with buyers.* The experience of the cases shows that the buyers of organic products in both foreign and domestic markets do not want to deal with a large number of individual small farmers, an alternative that would be too costly and time consuming. Thus, they prefer to negotiate with an agent who has organized the small farmers and coordinated the production and deliveries of a reasonable number of producers. The cases show the following types of relationship between small farmers and buyers:

(i) *Contracts with marketing or processing firms*. Sugar-cane producers in Argentina, banana producers in the Dominican Republic, coffee producers in Guatemala and honey producers in Mexico sold their organic products to processing or marketing firms, and these firms were the ones that negotiated contracts and sold the organic products to foreign buyers. In Guatemala and Mexico, the coffee and honey producer associations signed contracts annually with marketing firms when the harvest time was near, agreeing on specific prices for the volumes they had available, prices that included a margin over the prevalent price in the conventional market. In Argentina and the Dominican Republic, the relationship between small farmers and marketing firms was stronger and provided higher benefits to producers because they signed contracts that involved not only marketing, but also the provision of technical assistance and credit to farmers by the marketing firms. In addition,

the processing and marketing firms organized and covered the costs of the monitoring systems necessary to ensure the proper application by farmers of organic methods of production.

(ii) *Marketing directly through farmer associations*. Producers of organic cacao in Costa Rica and of organic coffee in Mexico were able to work out contracts directly with foreign buyers. APPTA signed a seven-year contract with a US buyer in 1994 to sell all the production of organic cacao to the buyer, agreeing on a premium of USD 700 per t over the price of conventional cacao in New York, with a minimum price of USD 1 530. This type of long-term contract provided APPTA not only with safe access to markets and higher prices than those available in the conventional market, but also with more stable prices, a very important factor considering the high price-variability that characterizes many agricultural products. ISMAM signed annual contracts with its buyers in which it agreed to sell specific volumes of organic coffee at a fixed price, but always sold to the same buyers with whom they had established a good relationship over several years. In addition, a high proportion of the organic coffee sold by ISMAM went to the fair trade market, which ensured an even higher price and significantly lower price variability over the years. Finally, vegetable producers in El Salvador also sold their products collectively through their associations in the domestic market, mainly to supermarkets and hotel chains. While the associations did not sign any contracts with the buyers, they were able to build a stable relationship with buyers based on trust, agreeing informally to receive stable prices for the products, rather than accept the usually great price variations throughout the year.

95. The comparison of the various cases shows that the most successful experiences – those whereby farmers were able to sell their products and obtain better prices – were those in which farmer associations were able to work out contracts directly with buyers. Long-term contracts were the better ones because they provided a safe market and stable prices, while the access to the fair trade market increased the final price substantially and further reduced price instability. In contrast, while the relationship with marketing firms facilitated the marketing of the production of small farmers and helped the farmers improve their production technology, it was not always positive for small farmers. Small farmers had a relatively weak position in negotiations with firms because they had limited information and poor organization. In the case of the Dominican Republic, the marketing firms also had additional power because only two firms bought all the organic bananas from small producers. Thus, small producers selling to marketing firms ended up receiving relatively low prices and accepted contract terms that were not advantageous for them. In the case of bananas, for example, marketing firms were not obliged to buy the product from small farmers during certain months of the year, specifically during the summer in the Northern hemisphere (June-August), when the demand for bananas falls substantially due to the supply of other seasonal fruits.

96. In all the cases, NGOs or rural development projects helped small organic producers in an effective way in identifying the opportunities involved in shifting to organic production, in convincing farmers of the advantages of implementing such an important change and in establishing links with buyers. In the case of organic vegetable producers in Las Pilas, El Salvador, a non-profit organization of US origin (Technoserve) working for the IFAD-funded Prochalate project was instrumental in negotiating with supermarkets in San Salvador, the capital. In Guatemala, the marketing component of the IFAD-funded Cuchumatanes project was key in the identification of organic production as an alternative for the three coffee producer associations. This component adopted an effective, though less than common, approach in the rural development projects of IFAD and other institutions. Instead of emphasizing the collection of information about markets and prices, it focused on making contacts with agro-processing and export-marketing firms that could purchase the production from project beneficiaries. The director of the marketing component had experience in the marketing of agricultural products and concentrated on discussions with managers of agro-processing and exporting firms. Several of these contacts led to visits by firm managers among groups of farmers who were assisted by the project and to agreements that created joint-ventures among the project, the farmer groups and the firms.

97. Soon after its creation, ISMAM, in Mexico, realized that organic production could be an attractive alternative. It learned of the possibilities through contacts with foreign buyers of coffee. Through a Catholic priest who had worked with ISMAM producers and who later became the main individual responsible for negotiating with potential buyers, ISMAM established contacts with

European buyers and NGOs. In the subsequent conversations, ISMAM discovered the opportunities in the organic market, which was growing rapidly. Some of the buyers of conventional coffee were also interested in buying organic coffee, so through them ISMAM contacted organic certification agencies, which eventually certified ISMAM production, in 1993. In addition, ISMAM obtained strong support from government agencies and programmes (see more detail in subsection VI. B), which provided the association with funds essential for purchasing coffee from its members, financing the production of its members and carrying out investments to improve the association's processing capacity.

98. The National Indigenist Institute (INI) and Education, Culture and Ecology (EDUCE), an NGO based in the state of Campeche and specializing in work with groups of small honey producers that exported to organic and fair trade markets, played a dominant role in the identification of organic production as an alternative market in two of the cases in Mexico (Calakmul and Kabi Jabin, respectively), while Chilan Kabo'ob played a more direct part in obtaining access to the organic market. In all cases, INI and EDUCE helped create the associations (INI worked with Chilan Kabo'ob and Calakmul, while EDUCE worked with Kabi Jabin) in order to take advantage of economies of scale in marketing. In the case of Kabi Jabin, EDUCE played the main role in identifying the opportunities involved in the production of organic honey, and it provided training to show producers the necessary technologies and convince them that organic production is an attractive alternative. In the case of Calakmul, this same type of work was carried out by INI, which provided the association with technical assistance and training, with the help of IFAD's Yucatan project.

99. For organic coffee, in Guatemala, while the social organization and training component promoted the creation of ADIPCO, Quixabaj and Chojzunil, the marketing component made contacts with Agexpront, an association of exporters of non-traditional products that was very influential in policy-making in Guatemala. Agexpront organized its work into commissions and subcommissions, each of which included representatives of the main exporting firms in Guatemala. The main subcommissions included textiles, fruits and vegetables, and so on. Each subcommission elaborated a yearly programme and usually met every week to carry out activities and to discuss policy issues and new problems that were emerging. In 1991, Agexpront created a subcommission of ecological products, which included producers of coffee and other crops, including fresh vegetables, cardamom and others. The Cuchumatanes Project became part of the commission, where it represented the three farmer groups. By 2001, the subcommission of ecological products comprised 34 producers, including among them the Cuchumatanes Project. As a result of these contacts, the three associations started to participate actively in meetings of this Agexpront subcommission and in workshops and training sessions organized by it, although the Cuchumatanes Project and not the farmer associations themselves were formally members of Agexpront. A direct representation of the farmer groups would have been more appropriate at this point, but the Cuchumatanes Project and the groups argued that the membership costs would then have been significantly higher, and the farmer associations were still able to send representatives to several of the meetings of the subcommission.

100. Through the contacts with Agexpront, the farmer associations were able to learn about the growing international demand for organic products and about the basic requirements and costs of organic certification. In addition, the participation in Agexpront made it possible for them to establish contacts with certification agencies and firms that export organic products. In particular, the project established links with Excagua, a firm based in Guatemala City that exported conventional and organic coffee to European countries. Several medium-size and larger coffee producers had started to produce organic coffee in the late eighties, exporting it through Excagua. Also, it was possible to establish links with Mayacert, a certification agency of organic products that had agreements with recognized foreign certification agencies and was the only certification agency based in Guatemala. Mayacert sent one of its technicians to the Cuchumatanes region to visit farmers and evaluate the possibilities for organic certification. The first visit of Mayacert inspectors had a positive outcome. Farmers in the three associations had produced and sold coffee on the conventional market, but they had a history of not using chemical inputs. Thus, obtaining the organic certification did not appear to be extremely difficult. As a result, farmers decided, with the support of the Cuchumatanes Project, to start the process of obtaining certification.

101. Buyers had the choice of buying organic products from small farmer associations, but also from large firms producing and marketing their own products or from marketing firms that purchased products from small farmers. The relationship with small producers is frequently complicated and costly for marketing firms because it usually involves contract negotiations and guaranteeing that producers properly apply the organic technologies. Thus, the marketing firms usually dealt with groups of producers that were quite well organized and able to implement a monitoring system. The interviews showed that many of the buyers had had problems with producer associations, receiving smaller volumes than agreed, or receiving products after significant delays, or even products of low quality or with traces of forbidden inputs (antibiotics). Thus, the buyers frequently preferred to deal with firms or NGOs, leaving these with the responsibility of organizing the marketing and the delivery of the product produced by the farmer associations.

102. In the case of organic coffee, small farmer associations in Mexico were more dominant in both production and marketing, because only a few firms produced and sold organic coffee. In contrast to honey, the associations of coffee producers were much larger, more well organized and more experienced in dealing with foreign buyers. They had learned how to deal with these buyers directly and the importance of building a relationship based on trust and the compliance with agreements. Thus, they had been able to organize an efficient marketing system, purchasing coffee from farmers in their areas of influence and delivering it to buyers in a timely manner. They had also been able to establish standards of quality to ensure that the exported product met buyer expectations.

103. Because coffee farmer associations in Mexico had access to subsidies from government programmes and NGOs and part of their organic coffee also received higher prices in the fair trade market, farmer associations had significant advantages over large coffee producers. These firms usually faced higher costs, so they had to compensate for their lack of access to the fair trade market by creating a brand-coffee that buyers would recognize as high quality.

VI. THE ROLE OF GOVERNMENT POLICIES AND PROGRAMMES

A. Policies and Institutions Specific to Organic Agriculture

104. Most analysts and the conventional wisdom argue that the lack of specialized government policies and agencies represents one of the main constraints on the emergence and growth of organic agriculture. However and in contrast to the expectations of many, targeted government policies and specialized institutions developed (except in Argentina) only after organic agriculture had reached a significant level of development. In addition, in all the cases, the small farmers who were successful in producing and selling organic products, had achieved their success well before the governments developed rules and regulations and created specialized agencies. NGOs rather than the governments played the main role in the emergence of organic agriculture in most of the countries included in the case studies (see subsection C below).

105. Argentina is the country that has made the most progress in the creation of a legal framework and government agencies to deal with organic agriculture (see Box 8). As a result, it is the first and only Latin American country to obtain third-country status from the EU, which means that the organic standards and certifications in Argentina are considered equivalent to the ones in the EU. Costa Rica was also able to make significant progress and applied for third-country status in the late nineties, though it has not obtained it yet (see Box 9). In contrast, El Salvador and Mexico have no government agency or programme dealing specifically with organic agriculture, and they have limited and mostly outdated legislation concerning organic production. The Dominican Republic and Guatemala recently approved general rules and regulations, but these are incomplete. In the former, several NGOs specialized in organic agriculture, as well as the main farmer organization representing farmer interests, have criticized the regulations, arguing that they have not been established in a participatory manner and that they present several problems. The Dominican Republic created a department within the Secretariat of Agriculture to deal with organic agriculture, but the department focuses only on promotion and training among farmers and is very poorly funded.

106. Although public policies and government agencies have not played a significant role in the development of organic agriculture, it would be wrong to conclude that these institutions are not necessary. Government policies and institutions dealing with organic agriculture have become essential in facilitating and maintaining the access to export markets, mainly in countries of the EU. In fact, the EU has determined that all countries exporting organic products to EU countries must meet standards similar to those in the EU in terms of the development of institutions dealing with organic agriculture. Every country that has acceptable standards would receive the so-called 'third-country status'. Appearing on the EU list of third countries is highly valued by importers, and the absence of this status usually means that the EU importers do not have confidence in the certification criteria and certification agencies of the concerned country.

107. Among other advantages, third-country status means that a country has a solid institutional basis in the case of litigation motivated by allegations by buyers that there has not been compliance with the organic standards of products. In addition, an appropriate institutional framework means that it is possible to work with national certification firms, thus decreasing the cost of certification. One of the disadvantages of the lack of an adequate institutional framework is the fact that a country must depend on foreign agencies for product certification. These firms charge higher fees than do national firms because they usually use inspectors who travel from foreign countries, so they have to pay travel expenses and professional fees similar to those the inspectors charge producers at home. In contrast, nationally based certification firms have significantly lower travel expenses and can pay lower fees to inspectors. While national certification firms started operations in some LAC countries (for example, Guatemala and Mexico) even before these countries developed institutional frameworks, the firms had to create partnerships with European or US certification firms in order to be respected in importing countries. These agreements usually mean that the national certification firm carries out the inspections relying on nationally based inspectors, while the foreign firms provide the certification. This contributes to a decrease in the cost of certification, though most of the producers who were interviewed still considered the certification too expensive.

108. The development of institutions dealing with organic agriculture is in itself positive, but it is important that regulations not be neutral. They can either help or hinder the capacity of small farmers to produce organic crops. In Argentina, for example, the approved norms require that the certification agencies visit each and every organic farmer independently of whether or not the farmer is a member of a farmer association. In the other countries considered in this study, in contrast, the certification agency only needs to carry out inspections among a sample of farmer association members in order to provide the certification for the entire association, while the rest of the members are checked through internal monitoring mechanisms. The norm in Argentina increases both the cost and the complexity of the certification process. According to some of the specialists interviewed, the justification for this norm was the belief that farmers would cheat whenever they could and that internal monitoring mechanisms would not be reliable, and therefore more external control was required. The Argentine legislation was drafted with a view to the opportunity for EU recognition as a third country. Those who drafted it, then, wanted to give the clear assurances that certification was going to be a serious process. Thus, the transaction costs in areas like monitoring increase in an institutional environment with low levels of trust such as the one in Argentina. The negative impact of the certification system adopted by Argentina on poor farmers is that it has marginalized from the organic market most farmers who produce on a small scale.[21]

109. Finally, national institutions may be important in promoting the growth of a national market for organic products. While most organic production in LAC countries is for export, the domestic market has been growing significantly, especially among higher income consumers in larger cities. Because the domestic markets are still not well developed, consumers in LAC are not so willing to pay higher prices for organic products as are those in industrialized countries. Thus, the certification costs are much more difficult to cover among organic producers selling only in the domestic market. In many countries without clear regulations on the requisites for a product sold as 'organic' on the domestic market, small producers have easier market access. However, consumers are never sure if the products

[21] See Serrano (2002) for a more detailed analysis of these problems.

have been produced according to organic standards. In contrast, strict regulations can make it extremely difficult for small organic producers to gain access to the domestic market. For example, the laws in Argentina prohibit the sell of anything as organic, biological, or natural if the product has not been certified, so farmers cannot market their produce as organic even if it has been produced according to the proper standards. Thus, a certification system and laws may discriminate against small farmers by increasing the constraints they must overcome to market their products as organic. In contrast, the absence of such a legal framework can be offset through local or regional systems of certification that are not expensive and are friendlier to small farmers. This allows farmers to enter the organic business world at a slower, easier pace than they would be able to do if they had to start by producing exports. In addition, the Argentine Government has dealt with the problem by passing a resolution in 1994 (IASCAV No. 42/94) that allowed non-profit associations of organic producers to certify the production of their own members if it is sold on the domestic market.[22] This measure resulted from a lobbying effort by one NGO, the Association of Organic Producers of Buenos Aires, which currently certifies the production of its associates. The NGO's certification of its members is substantially cheaper than certification by firms working in foreign markets.

B. The Influence of Broader Agricultural Policies and Programmes

110. Interestingly, while policies targeting organic agriculture have had only a limited influence in the development of organic agriculture, broader government policies, programmes and projects targeting small farmers have been instrumental in the successful incorporation of organic crops among the output of small farmers. The next sections explain the type of interventions that have been important in helping farmers solve the problems they have faced when shifting to organic production.

[22] The previous resolutions were consolidated into the Law on Organic, Biological, Ecological Production (Law 25.127) in September 1999.

Box 8. Government policies towards organic agriculture in Argentina

Argentina stands out as the only Latin American country that has been assigned third-country status by the EU by establishing, in 1992, regulations on organic, ecological and biological production and marketing. These norms (outlined below) were designed in line with existing IFOAM and EU standards, and they apply to products for both export and the domestic market. The role of the national Government includes the registration of qualified certification agencies, the development and implementation of rules for organic production and supervision over the certification process. Initially, the Secretariat of Agriculture, Livestock, Fisheries and Food (SAGPYA) established policies and regulations for organic production, while the Argentine Institute of Vegetable Health and Quality (IASCAV) and the National Service of Animal Health – preexisting agencies responsible for monitoring the health of vegetables and animals, respectively – were in charge of implementing them and supervising their application. Together, they established the National Registry of Certification Firms. Later, the National Service of Animal Health became the only agency in charge of implementing regulations and supervising their application. It was renamed the National Service of Agricultural and Food Health and Quality (SENASA) at that time. SENASA maintains two separate registers: one for products of animal origin and the other for vegetable products. The agency issues the permits to aspiring certification agencies, supervises those agencies which have been authorized through periodic visits to the agency offices and receives reports on the activities undertaken by the agencies. It also visits production and processing units, verifies production lots, supervises the techniques employed and production plans and so on.

Main Legislation on Organic Production in Argentina

Norm	**Date**	**Description**
Resolution SAGPYA #423	3/6/92	Establishes the norms for the production and processing of organic foods.
Resolution SAGPYA #424	3/6/92	Regulates the registry of certification agencies in the National Register of Organic Production Certification Agencies.
Resolution IASCAV#82	3/6/92	Further develops the norms regulating certification agencies.
Resolution IASCAV #62	5/11/92	Creates the Technical Advisory Committee for Organic Production.
Resolution SAGPYA #354	4/6/93	Changes SAGPYA #423 regarding pests and disease management.
Resolution IASCAV #42	6/1/94	Expands IASCAV #82 to include non-profit producer associations that wish to certify the production of their own members for the internal market.
Resolution IASCAV #116	4/3/94	Updates the list of products to undergo pest control.

Box 8. (Continued)

Resolution IASCAV #331
4/8/94
Affects changes to IASCAV#82.

Resolution IASCAV #188
20/10/95
Affects changes to IASCAV#331.

Resolution SENASA #1286
19/11/93
Norms on the production, processing, packing, distribution, identification and quality and health certification of 'ecological' cattle products.

Resolution SENASA #1505
30/12/93
Adds the category 'Ecological Food of Animal Origin' to the Food Products Registry.

Resolution SENASA #068
10/1/94
Creates the National Registry of Certification Entities and the National Registry of Inspectors of Ecological Products of Animal Origin.

National Law No. 25.127
8/4/99
National Law on Organic Production

Source: Serrano (2002), partly based on Fernández (1999).

Besides the passage of regulations and laws, the national Government carried out other initiatives to promote organic production. SENASA supported the inclusion of organic products in the Harmonized Tariff Code in order to clarify the trade in such products (USDA, 2000). In addition, the Project for Export Promotion of Non-Traditional Agricultural Products (PROMEX), a project of SAGPYA, involved participation in international forums on organic production and implemented four market surveys, as well as an ongoing survey on the pricing of organic products. It also financed several export projects among private firms, organized seminars throughout the country on organic production that involved international specialists and helped pay the travel expenses of producers, exporters, technicians, traders and certifiers for conferences and trade fairs on organic agriculture. Along with SAGPYA, the Ministry of Foreign Affairs carried out activities relating to organic production through the Export-Ar Foundation, which involved commercial missions to various expositions, an exhibition of Argentine products at the First Organic World's Fair and the publication of a directory of Argentine organic products. SAGPYA approved a decree (260/2001) creating a national programme for the development of organic production, a comprehensive programme to promote organic products at the domestic level, increase the number of producers dedicated to the activity, open new markets and create well-informed consumers. Unfortunately, the programme existed mostly on paper, since no budget or personnel were assigned to it.

Box 9. Government policies towards organic agriculture in Costa Rica

Costa Rica established its main policy instruments in the area of organic agriculture in the mid-nineties, including a set of laws and the National Organic Agriculture Programme. Among the main laws are the Organic Environment Law (No. 7554), approved in November 1995, and the Organic Agriculture Decree, approved by the Ministry of Agriculture and Livestock in 1997. In addition, several other laws have been approved to regulate various areas related to organic agriculture, such as soil conservation, the use of poultry manure and the registration of producers of organic inputs.

The Organic Environment Law. This umbrella law is important in that it defines certain relevant issues. It provides a definition of organic agriculture. It designates the Ministry of Agriculture and Livestock as the government agency in charge of the drafting and implementation of policies concerning organic agriculture, the creation of norms and procedures, the supervision of certification firms, and the promotion of research and dissemination of organic technologies. It establishes the requirement that organic products must be certified by a national or international certification firm registered in Costa Rica and sets the minimum period of three years for the transition from conventional to organic agriculture. Finally, it creates the National Ecological Agriculture Commission to assist the Ministry of Agriculture and Livestock in matters relating to organic agriculture.

Organic Agriculture Decree (No. 25834). Approved in February 1997, this decree creates a detailed regulatory framework for the production, processing and marketing of organic products. The most important measures, which were augmented in 2000, though not changed in substance, include detailed definitions clarifying the nature of organic agricultural products, among others; a prohibition against the use of terms that could lead to confusion among consumers; the designation of the Ministry of Agriculture and Livestock (through the National Organic Agriculture Programme) as the government organization in charge of supervising the application of regulations and of promoting organic agriculture; the establishment of detailed norms covering the production, processing, marketing, labelling, packing and control of organic products and the obligation of registering, with the Ministry of Agriculture and Livestock, all products labelled organic, and the creation of a list of authorized inputs, including fertilizers and products for the control of pests and disease and for food processing.

Phytosanitary Protection Law (No. 7664) *and Decree* (No. 2691). The former was approved in May 1997, while the latter was approved in May 1998. They establish a complete set of general regulations on phytosanitary issues and include specific provisions relating to organic agriculture that are the responsibility of the Phytosanitary State Service of the Ministry of Agriculture and Livestock.

National Organic Agriculture Programme. The National Organic Agriculture Programme was initiated in 1994 within the Ministry of Agriculture and Livestock. It has the objective of supporting and promoting the development of organic agriculture in Costa Rica. The main instruments of the programme have been the following: (a) the promotion of organic agriculture among producers and consumers; (b) the distribution of information; (c) training; (d) the initiation of studies and the drafting of plans; (e) support for research activities; (f) the promotion of incentives, credit schemes and other supportive initiatives and (g) coordination with various public and private agencies. After a slow start, the programme became more active beginning in the late nineties, when it undertook efforts to coordinate various activities among government and private organizations, universities, producer associations, NGOs and international organizations. In 1999, the programme carried out an analysis of the situation in organic agriculture in Costa Rica and, the following year, prepared an action plan along with representatives of government agencies, NGOs and producer associations. The action plan proposes alliances between government and private agencies in order to generate information, carry out training, research and extension, enhance laws, regulations and institutions dealing with organic agriculture and promote the production, processing and marketing of organic products.

1. Investments in infrastructure

111. Investments in infrastructure have been key in the development of the production of organic coffee in Guatemala and organic vegetables in El Salvador. The two countries experienced persistent armed conflicts that dramatically affected government investments in rural infrastructure, the access to government agencies (for example, extension services) and financial institutions and the marketing of agricultural products. Peace agreements in the early nineties led in both cases to more favourable conditions for agricultural production, facilitating product marketing, access to public and private agencies and services and government investments in rural infrastructure. This had a direct impact on organic producers. In El Salvador, vegetable producers benefited from the reconstruction of access roads to Las Pilas. This reduced the cost of transporting vegetables to San Salvador and also eliminated some of the great loss in product quality that had been a result of the bad roads and travel conditions. The coffee producers in Guatemala benefited from the construction of a road connecting the communities of Cocolá and Chojzunil – where the organic coffee producers of ADIPCO, Quixabaj and Chojzunil are located – with the town of Barillas. Farmers in the three associations had previously transported their coffee to Barillas on animals, a trip that took one day and cost GTQ 30 (about USD 3.80) per quintal. The new road allowed them to use trucks instead of animals, decreasing the trip to four hours at a cost of GTQ 15 (about USD 1.90) per quintal.[23]

2. Rural development programmes and projects

112. Most of the small organic producer associations in the case studies receive several forms of support from government agencies and programmes. While these agencies and programmes do not specifically focus on promoting organic agriculture, they are either flexible enough to support organic farmers in several ways, or they support organic agriculture as a result of the initiative of technical staff. In this way, they have played a major part in the development of several of the small organic production operations.

113. In El Salvador, Guatemala and Mexico (in the Yucatan Peninsula), rural development projects funded by IFAD and implemented by government agencies (the Ministries of Agriculture in El Salvador and Guatemala and INI in Mexico) had the main role in the development of organic production among the small farmer associations under study. These projects supported organic agriculture even though the project design did not include it as a production alternative. The main forms of support included the provision of extension services, subsidies to cover certification costs, and the strengthening of farmer associations, mainly in terms of management capacity, the organization of a monitoring system to control compliance with the standards of organic production, and contacts with markets.

114. In Mexico, the Government implemented several rural development programmes and projects, including the Alliance for the Countryside and Procampo, as a part of national policies in favour of agricultural and rural development. These programmes provided subsidies to both farmer associations and their individual members for investments, inputs, technical assistance, training and research in a great variety of agricultural activities (see Box 10). While they did not target organic producers, they were a significant initiative in favour of farmers who shifted to organic production.

[23] The average interbank exchange rate in September 2001 was USD 1 = GTQ 7.95.

Box 10. Rural development programmes and small organic producer associations in Mexico

Small farmer associations in Mexico received support through rural development programmes and projects that were crucial for their success in the production of organic products. The Alliance for the Countryside – one of the most important federal programmes supporting rural development during the nineties – assisted the associations of organic coffee producers in Chiapas and the associations of organic honey in the Yucatan Peninsula, providing subsidies to the organizations and to individual members for investment, inputs, technical assistance, training and research in a great variety of agricultural activities. The National Fund for the Support of Solidarity Enterprises, a federal initiative undertaken in 1992 to strengthen farmer associations through subsidized credit (zero nominal interest rates) and implemented by the Secretariat of the Economy, provided funds to help ISMAM purchase storage and processing facilities in Tapachula and modernize the processing facilities and funds to furnish credit to ISMAM members for the upkeep of coffee plantations, the expansion of the areas under coffee cultivation and the purchase of inputs. INI, a federal government agency within the Secretariat of Solidarity Development that implemented programmes to support indigenous communities in Mexico, was the most influential entity among organic honey producers in the Yucatan Peninsula. The agency played a major role in the creation of associations that could market products collectively by organizing meetings and training farmers to convince them to create associations, supporting the farmers in the initial stages – by helping them in the organization of meetings to elect association officers and by providing funds and legal advice in the process of obtaining legal status as formal producer associations – and furnishing material support for the operation of the associations. It also offered grants to the associations for the construction of processing and storage facilities, funds for the purchase of the output of association members and training and technical assistance to individual producers in organic methods of production.

115. Though some government programmes and projects provided essential support to small farmers who produced organically, government policies sometimes created obstacles to organic production. Trade liberalization policies that became popular during the nineties in all the countries in the study, such as the elimination of import licenses and the reduction of tariffs for fertilizers, pesticides and herbicides, made it easier and cheaper to import and use these inputs. In Argentina, the overvaluation of the national currency beginning in the early nineties increased the relative price of labour – the most important input among organic producers – and decreased the relative price of chemical inputs, many of which were imported. In some countries, government agencies and programmes dealing with rural poverty distributed free inputs in poor areas. For example, the Ministries of Agriculture in Guatemala and Secretariat of Agriculture in the Dominican Republic distributed free seeds and fertilizers among poor rural communities. In the Dominican Republic, the Dominican Agro-Entrepreneurial Board – the main organization representing the interests of agricultural and agro-processing firms and farmers – and the Dominican Organic Agriculture Association – the main representative of the organic agriculture movement – convinced the Secretariat of Agriculture to differentiate between organic and conventional producers and distributed organic inputs among the former. In Mexico, the Alliance for the Countryside, the most important rural poverty programme, provided subsidies that promoted the use of chemical inputs. The programme frequently supplied inputs that did not comply with the standards for organic production (for example, chemical inputs to honey producers so that they could fight against *varroasis*). In addition, while the Alliance for the Countryside was favourable to financing organic methods of production, it relied heavily on conventional methods of production and supported technologies through specific programmes, such as irrigation, mechanization and greenhouse agriculture, that are often associated with the intensive use of chemical inputs. Because organic certification requires that a minimum distance be maintained between organic crops and conventional crops, the expansion of conventional agriculture created a problem for many organic producers. This problem mainly affected organic honey producers, who are required to keep their apiaries at least 3 km from any crop on which chemical inputs are used. These actions promoted the application of chemical inputs, making it more difficult to introduce organic methods of production.

C. The role of local governments

116. Among the case studies, the experience in Argentina was unique because of the active role played by local governments in the development of organic agriculture. This active role is closely tied to characteristics associated with Argentine's federal system of government and the special division of labour between the federal and the subnational governments (provincial and municipal) regarding the promotion of organic agriculture. While the federal government has provided the regulatory framework, the subnational governments are more active in offering technical and financial support to small farmers who adopt organic methods of production. Although this division of labour makes sense, few subnational governments respond to the needs of poor farmers, and the absence of a more active federal government is thus often not offset by the subnational governments.

117. In organic sugar-cane production, the provincial government of Misiones, through a specialized agency, IFAI, played the dominant role in the shift of conventional farmers to organic production in three ways:

(a) IFAI made the decision to convert the mill (and to subsidize this conversion) from the production of conventional sugar to the production of organic sugar, thus creating the opportunity for farmers to have a secure buyer for organic sugar cane.

(b) IFAI subsidized the cost of organic certification (USD 120 per farmer per year) and was responsible for managing the relationship with the certification agency and for the design and implementation of the monitoring system to check the compliance with organic standards of production.

(c) IFAI provided the basic research and extension activities required for the conversion from conventional to organic sugar cane. The mill's agricultural department put together an ad-hoc technological package for organic sugar cane based on experimentation on seed varieties carried out both before and after the transition to organic production. This department also assisted in the implementation of the basic package of new practices that farmers needed to adopt for organic cultivation.

D. NGOs and Organic Agriculture

118. In all the countries included in the study, NGOs have played a very important role in the development of organic agriculture. The role of NGOs has involved the following:

119. First, they introduced organic agriculture among groups of small farmers and helped these farmers solve certain types of problems. Several of the NGOs had links with the Catholic Church (for example, in Mexico), while others comprised groups of professionals who were concerned about the conservation of natural resources. Many of these people attended meetings organized by IFOAM and ecologist organizations, so they learned about organic agriculture and began to promote it enthusiastically among small farmers.[24] In fact, most of the NGOs were already working with small farmers in an effort to promote alternative models of production which were based on the use of local resources and avoided where possible the purchase of inputs. For example, NGOs in Guatemala helped indigenous communities with traditional crops (such as coffee, corn and cardamom) and some new crops (such as sesame and vegetables) and promoted models of production based on the use of local resources. In Costa Rica, NGOs helped farmer associations and individual farmers in the cultivation of crops in various regions of the country (cacao in Talamanca, coffee in Alajuela and Guanacaste, vegetables in Alajuela) so that they could replace chemical inputs with manual methods and organic inputs in the control of pests and weeds in response to serious attacks of pests and disease or the excessive use of pesticides. Thus, NGOs viewed organic production as an alternative that was

[24] IFOAM is an international umbrella federation of organic agriculture organizations. It has around 750 member organizations and institutions in 104 countries, which are listed in the membership directory (IFOAM, 2000).

compatible with their aims and with existing market opportunities. NGOs helped small organic producers in the following ways:

(a) the promotion of technologies which are based on local inputs and avoid the purchase of chemical inputs, thereby favouring an eventual shift to organic production;

(b) the promotion of the organization of small farmers through the creation and strengthening of farmer associations, which have become key in the marketing of organic products and the establishment of effective monitoring systems;

(c) the establishment of contacts with buyers in both the domestic and foreign markets: in the domestic market, NGOs in several countries (for example, Costa Rica, the Dominican Republic and El Salvador) have helped farmers negotiate with supermarket chains and have opened local fairs specializing in organic products; in foreign markets, several NGOs (for example, in Mexico) have helped farmers enter the fair trade market, which is increasingly demanding organic products, and

(d) action as a mediator between small farmer groups and government agencies; in Argentina, an NGO – the Argentine Movement for Organic Production (MAPO) – convinced the management of the sugar-cane mill in San Javier that organic sugar represented an alternative means to keep the mill working when the conventional sugar business had hit a dead-end; in addition, the NGO made initial contacts with a buyer in the United States who was interested in purchasing the organic sugar.

120. Second, NGOs have played a major part in most countries in the development of specific laws and government agencies dealing with organic agriculture. MAPO in Argentina, the National Association of Organic Agriculture in Costa Rica and the Dominican Organic Agriculture Association all successfully pressured national governments to regulate organic production (see Box 11). In some instances, business organizations also became active in organic production and worked jointly with NGOs in this lobbying role (Agexpront in Guatemala and the Dominican Agro-Entrepreneurial Board).

Box 11. NGOs and organic agriculture: MAPO

MAPO was created in 1995 as an initiative of a broad group of people from NGOs, academia and government, as well as producers, certifiers and business managers, to join forces to lobby for the cause of organic production. Important NGOs such as Eco-Agro and Pro-Tierra combined in MAPO. MAPO is considered an example in Latin America of the potential that a broad coalition can have in organic production. It has been at the forefront of the organic-production movement in Argentina, lobbying for appropriate legislation and government policy and gathering and distributing important information about the development of organic production throughout the world.

MAPO has worked very closely with governmental agencies to enhance the coordination among projects that help further the interests of organic producers in Argentina. (Some of the projects predate MAPO.) Indeed, most of the people within and outside government who, in the early nineties, helped draft the regulations on organic production currently occupy key positions in MAPO. The creation of MAPO was one of the main factors that led to the signing of an agreement, together with Export-Ar and Promex-Sagpya, for the promotion of Argentine organic produce internationally. This agreement precipitated the design of a common strategy in both the public and private sectors for the promotion of Argentine exports, thus helping to optimize investments and avoid the duplication of efforts. An important aspect of the work has been the distribution of information, mainly through discussion and briefings with people in the industry. MAPO was in charge of the organization of the 1998 IFOAM Scientific Conference, which was sponsored by the Ministry of Agricultural Affairs of the province of Buenos Aires and supported by SAGPYA and its decentralized entities. This major event offered evidence of Argentina's importance in the organic sector.

The information and the institutional infrastructure generated by MAPO have all become crucial resources for those actors interested in using organic production as an alternative for improving the lives of the rural poor. The case of San Javier illustrates this very well. Precisely when MAPO was working with authorities of the Secretary of Agriculture on a national programme for organic production, one of MAPO's directors learned of the troubles being experienced by the mill in San Javier with conventional sugar. This director, who also ran a supermarket for organic products in Buenos Aires, had attended international fairs and IFOAM-sponsored events where he had met people from one of the biggest companies commercializing organic sugar in the world, Florida Crystal in the United States. The MAPO director made the contact between the mill and Florida Crystal. Florida Crystal became interested and signed a contract with the mill to buy organic sugar for a very good price over three years. This response convinced IFAI that organic sugar was a viable alternative for the mill.

VII. CONCLUSIONS AND INSIGHTS

121. This paper presents organic agriculture as a possible alternative for the diversification of production among small farmers. It has focused on a set of cases in several countries of LAC involving groups of small farmers that have been successful in producing and marketing organic products. The paper analyses the impacts of the adoption of organic agriculture on the production, incomes and the quality of the lives of small farmers, identifies the main problems that small farmers face when producing organically and discusses ways they have been able to solve these problems.

122. Organic agriculture has expanded steadily in LAC countries since the early nineties. Most of the organic production is for export, although the domestic market has been growing and shows interesting future prospects. In contrast to the situation for most agricultural exports in LAC, which are produced by medium-size and large farmers and firms, small farmers account for a large proportion of the area under organic production and of the farms producing organically. Thus, it may be revealing to learn whether and how organic agriculture has helped improve the production and

income of small farmers and the ways in which the farmers have been able to succeed with these new export products.

123. The findings of the paper provide interesting and useful lessons for projects and policies aiming to promote changes in the agricultural production of small farmers. The main conclusions and lessons are the following.

A. On the Impacts of Organic Production on Small Farmers

124. The shift to organic production led to positive impacts on the incomes of small farmers in all the case studies. While the case studies showed different situations in terms of how production costs, yields and product prices evolved among small farmers who shifted to organic agriculture, in all cases organic producers obtained higher net revenues relative to their previous situation. The sustainability of these effects depends on many factors, including the capacity to maintain similar or higher yields (which depends partly on using organic fertilizers to compensate for the nutrients extracted by the crops) and the future evolution of the prices of organic products.

125. The evolution of production costs has been related to the characteristics of the previous production system. Farmers who used to apply conventional production systems and technologies closer to those in organic production (coffee in Guatemala and Mexico, cacao and bananas in Costa Rica, bananas in the Dominican Republic, honey in Mexico) experienced an increase in production costs because they had to introduce improvements in the technologies of production. Most of these technologies were labour intensive, and small farmers used mainly family labour to cover the higher demand for labour. In addition, farmers also faced new costs related to the certification of production. In contrast, those farmers who used to apply chemical inputs before shifting to organic methods of production (sugar cane in Argentina, vegetables in El Salvador) experienced a decrease in the total production costs, even though they experienced higher labour costs.

126. Those farmers who used to produce under systems of production closer to organic systems experienced a rapid increase in yields after shifting to organic methods of production. In contrast, those who used to apply chemical inputs obtained lower yields during the first years after the shift. Farmers in some cases (bananas in the Dominican Republic, honey in Mexico) experienced no significant changes in yields. Meanwhile, all those who shifted to organic production obtained prices for their products that were higher than those obtained by similar conventional producers located close by. While the higher prices may be explained by the organic nature of the products, the type of relationship that farmers established with buyers also played a key role in the price margins. Thus, higher prices were obtained by farmer organizations which had succeeded in developing long-term relationships with buyers.

127. Interestingly, small farmers dominated organic production in all the countries where the case studies were located. In fact, most organic producers in these countries – and in most of the Latin American countries – were small farmers, and small farmers accounted for most of the area under organic production everywhere except in Argentina. Such a dominant share in organic farming suggests that small farmers may have a comparative advantage in organic production. First, most small farmers in LAC already produce more or less 'organically', using few or no chemical inputs, and frequently grow crops under the forest and mixed with other species. Thus, they find the shift to organic production relatively easy because they have to introduce only marginal improvements to the technologies they already apply. In addition, they are not likely to experience a higher incidence of pests and disease after they start to produce organically. In contrast, larger and more well capitalized farmers who produce employing technologies based on chemical inputs often face more difficulties when shifting to organic production because they need to learn technologies that are quite different, and their crops are initially more affected by pests and disease. Finally, the technologies of organic production require little investment and are labour intensive. They thus rely on the factors of production most available to small farmers.

128. The organic models of production have also been associated with positive effects in terms of the health of producers and workers and in terms of the environment. This statement, however, is based

on qualitative evidence, as no measurements could be obtained to support it precisely, and only limited research has been carried out in the countries covered in the study. Most organic producers argue that their concerns about the potential ill effects of chemical inputs on health were an important factor in their shift to organic methods of production. In addition, organic producers already tended to employ environmentally friendly technologies, sometimes even before their plantations were certified as organic, by cultivating their crops under the shade of native trees and using small amounts of chemical inputs or none at all. The few studies that could be identified have found that these systems have helped preserve the natural forests and biodiversity, since they are characterized by the presence of a high number of species of trees and birds. Organic production has led to the introduction of additional improvements, such as soil-conservation measures that were absent in conventional production, thus enhancing the conservation of soils. These findings suggest that efforts should be undertaken to identify some way to provide the payments the small farmers involved deserve for the environmental benefits of these production systems.

129. Not all small farmers have the same opportunity to make a successful shift to organic production. The possibility of succeeding in organic production will be strongly influenced by the characteristics of the small farmers, including mainly the technologies and production systems previously applied, the nature of land-tenure arrangements and the household features. Those farmers who already produced more or less organically will find it easier and less costly to meet certification requirements as they will have to make only marginal changes in the technologies of production. In addition, their yields are less likely to fall, in contrast to what happens among farmers who previously employed chemical inputs intensively. Those farmers who have more family labour available will face lower costs because organic methods of production are more labour intensive. Those farmers who have stable land tenure will be able to carry out the investments in land-conservation measures. In contrast, farmers who were using chemical inputs more or less intensively, who have little family labour available (a frequent situation among women farmers), or who have unstable land tenure arrangements will find it very difficult to succeed in organic production. The incorporation of these poorer farmers in organic production will require specific measures to support them more heavily during the transition period and in the solution of the problems of land tenure.

130. Organic production may represent an interesting alternative for projects working with small farmers. However, it should not be viewed as a unique alternative, but one of several possible options for improving the production and incomes of small farmers. Also, it should not be viewed as a solution for coffee producers who have been suffering from the coffee crisis of the last few years. Several specialists have stressed that the price margins paid for organic products are likely to decrease in the future, as supply increases and new consumers appear who are less willing to pay high price margins. If policies and projects lead organic agriculture to grow too quickly, the new organic producers could be hurt by falling prices. Thus, projects should promote organic production as one alternative in a menu of possible options and concentrate on those farmers who have the characteristics most likely to help them succeed in organic production.

B. On the Constraints Faced by Small Organic Producers

Land tenure

131. Most successful organic producers have owned their own land, and small farmers with unstable land tenure seem to have been unable to produce organic products. The main reason for the exclusion of these small tenants relates to the need to implement land-conservation measures, the most important investment item required in the shift to organic production. First, the returns to land-conservation measures are obtained in the medium and long run, so farmers have not been willing to implement the measures when they have not known how long they would stay on the land. Second, farmers who rent their land need the permission of the landowners to carry out land-conservation measures, a permission that has usually been denied due to the fear of the landowners that they will face more difficulties in evicting tenants in the future if the tenants have carried out improvements on the land. Thus, projects that promote organic agriculture among small farmers should initially concentrate on those farmers who have stable forms of land tenure, preferably secure property rights. In addition, they should promote long-term rental contracts among small producers who rent land and

plan to compensate the farmers when the rental contracts end for the residual value of the investments made in improving the land. They should also target landowners with promotional activities to convince them of the importance of land-conservation measures and to obtain their support before promoting organic agriculture among small renters.

Technology issues

132. The most successful organic producers have been those who were already applying a production system characterized by technologies not based on chemical inputs, a frequent situation among small farmers who do not have the resources to pay for expensive inputs. These production systems are frequently seen in a negative way for the low productivity of the crops relative to single-crop production systems. However, they have some great advantages: (i) they can be certified as organic with little or no change in production practices and turned into viable economic alternatives; (ii) they may have positive effects on the conservation of the environment; (iii) the efforts in training and technical assistance are likely to be significantly less demanding and (iv) the transitional period is likely to be shorter and less expensive, as farmers will probably not experience the fall in yields that usually characterizes the suspension in the use of chemical inputs in input-intensive production systems. Thus, projects aiming to promote organic agriculture among small farmers should concentrate on those producers who are already producing more or less organically.

133. While small farmers have found organic technologies relatively easy, extension services have had an important role in solving some specific technical problems. First, exporters and marketing firms recognize that the buyers of organic products in industrialized countries are becoming increasingly more demanding in quality. Small organic producers in some of the cases had certain problems in quality that may jeopardize their future access to foreign markets, as large firms (including transnational corporations) have established their own plantations. Second, groups of small farmers could be hurt significantly if just one or a few group members do not comply with the standards of organic production, thereby losing money and the trust of buyers. Therefore, extension services for small organic producers should concentrate on improving the quality of production and on controlling compliance with standards of organic production.

134. While universities and training institutions for agricultural specialists in most LAC countries have been incorporating organic agriculture in their programmes since the mid-nineties, extension services have usually encountered problems in finding professionals trained in organic agriculture, with the exception of coffee production, in which a substantial number of professionals have obtained on-the-job training. Thus, the incorporation of issues related to organic production by research and education programmes of universities and training institutions is important in generating a supply of professionals who have adequate training. It is essential to support these programmes if they have not been developed yet especially where the insufficient supply of professionals may become a serious constraint on the success of projects involved in organic agriculture.

Financing organic production

135. Surprisingly, in all the cases, organic production developed in spite of a limited availability of formal sources of on-farm credit. This relates not only to the difficulties of small farmers in gaining access to formal credit, but also to the fact that financial institutions in most countries have not understood the differences between organic and conventional agriculture. Thus, institutions may provide credit for a crop such as 'coffee', but not to 'organic coffee', which has specific characteristics and financial needs.

136. The shift to organic production does not require significant on-farm investments, mainly because the previously dominant production system was similar to organic production. However, farmers may still require some financial support. The most important investment item that farmers have faced in shifting to organic production have been the application of soil-conservation measures. While small farmers rely on family labour, they usually needed to hire some wage labour to implement these soil-conservation measures. In addition, organic producers have faced higher production costs, especially labour, and certification costs.

137. The transitional period – the first two or three years after a farmer starts to produce organically – is the most difficult period for organic producers in terms of financial needs. During this period, farmers have to carry out soil-conservation measures and pay for certification without being able to obtain premium prices for their output. Thus, small farmers would benefit greatly from access to short-term credit so that they can hire the necessary wage labour. This type of credit will be especially necessary for women producers, who are frequently single and have fewer resources of their own to pay for wage labour. In addition, projects could provide subsidies for these investments in soil-conservation measures and to cover certification costs during the transitional period.

138. The most important off-farm investment items required in organic production are similar to those in conventional production, including packing and storage facilities for products such as coffee, cacao, vegetables and bananas. Because these investments are too costly for individual small farmers, they are usually carried out by farmer associations or marketing firms. When farmer associations function well, these investments allow them to capture a substantially higher portion of the final price of the organic products. Thus, projects should make available financial resources to support investments in packing and storage facilities for farmer associations that are well organized and have prospects of success. In addition, funding should be secured so that the associations can purchase the organic output of their members.

On strengthening farmer associations

139. Producer associations have played a major part in the incorporation of small farmers in organic production for several reasons:

(i) They can readily take advantage of economies of scale in the collective marketing of the products of their members and in managing volumes that attract foreign buyers to negotiate with them. Buyers have been eager to negotiate with associations because they have found it easier and cheaper to negotiate and implement contracts with one or a few associations rather than with a large number of small farmers.

(ii) They are able to train a large number of small farmers in the basics of organic production and to promote among the farmers the adoption of new technologies of organic production.

(iii) They have been able to organize monitoring systems to control the compliance of their members with the standards of organic production. When a monitoring system works well, it serves to decrease significantly the costs of certification for individual association members, as the certification agency does not have to carry out inspections among all association members, but only on a sample of them.

(iv) They are able to attract government agencies and NGOs to help them and their members adopt the changes necessary to undertake organic production.

140. Based on this evidence, programmes and projects that promote the adoption of organic crops among small farmers should strongly support farmer associations. This is far from easy, as organic production pose great organizational demands on farmer associations: (i) the organic agricultural products of developing countries are often sold on foreign markets, so the associations have to deal with foreign buyers who are demanding in terms of quality and in the punctuality of deliveries; exporting is also much more demanding in terms of logistics and coordination and (ii) the certification of production requires expensive inspections and certification costs (especially during the transitional period), the establishment and management of a monitoring system and promotion for participation at the grass-roots level in order to discourage free riders. Thus, projects working with small farmers that aim to support organic agriculture should target groups of farmers that have good prospects of succeeding collectively.

141. Projects working with small producers should focus on strengthening associations that can play a key role in the marketing of production, the dissemination of organic technologies among association members and the monitoring of the compliance of members with the standards of organic production. Projects should strongly support farmer associations during the transition period before certification and may provide temporary and partial subsidies to cover the costs of certification, support the intensive training of association members in the characteristics of organic production and markets and the problems of non-compliance, and the organization of a well-functioning and participatory monitoring system.

142. Organizing an effective monitoring system requires the following: (i) the strengthening of managerial and organizational skills through training and the provision of relevant technical assistance; (ii) material resources, mainly a computer and software to organize information and a few vehicles to carry out inspections and (iii) significant training among all association members in the early stages so as to help them understand the basics of organic production and the risks for all members of non-compliance even by isolated farmers. The most effective and least costly monitoring systems have not required specialized technical departments within the farmer associations (as has been the practice among many farmer associations elsewhere), but have relied on the active participation of the membership. This participation provides a strong role for members at the grass-roots level in checking any deviation from organic methods of production and in determining penalties.

On the marketing of production

143. The marketing of organic products through farmer associations that have established direct contacts with buyers has been essential in helping small farmers obtain better prices. Long-term contracts are better because they provide a safe market and more stable prices. The access to the fair trade market has increased the final price substantially and further reduced price instability.

144. Contract-farming schemes with processing and marketing firms have facilitated the marketing of the output of small farmers and given the farmers access to extension services and occasionally to credit, but they have also had disadvantages. Small farmers have a relatively weak position in negotiations with firms because they have limited information and are poorly organized, so they have ended up receiving relatively low prices and accepted contract terms that have not been convenient for them. In addition, outgrower schemes with small farmers may have severe limitations, including the high costs of monitoring the contracts with small farmers and the difficulties in appropriating the benefits of the investment in the schemes due to the diversion of output to other buyers who may be paying higher prices than the ones agreed in the contracts. Thus, large buyers may play a more important role in promoting organic production by providing demand stimulus and channeling knowledge to producers and producer associations, rather than through outgrower schemes.

145. The domestic markets for organic products in developing countries show good growth potential and are likely to be an attractive alternative for small farmers because they are easier and usually less demanding in quality. Thus, projects working with new organic producers could initially target the domestic market, especially when there are good possibilities of selling to supermarkets and food-store chains.

On the role of government policies

146. Small organic producers and their associations have often taken advantage of government programmes and agencies, receiving public funding and technical assistance to implement the changes necessary to shift to organic production. However, almost none of these agencies, programmes and projects have specifically targeted organic production. Government policies and institutions dealing specifically with organic agriculture have played a marginal part in the emergence of organic products in general and in the success of small organic producers in the case studies in particular. While this evidence suggests that special policies and institutions may not be necessary, it is important to support their development if they do not already exist for many reasons:

(i) Some new requirements in importing countries (mainly the EU) in terms of the development in the exporting countries of laws and institutions dealing with organic agriculture have emerged in recent years. These laws and institutions would reassure the importing countries that organic products are being produced and certified according to the EU standards.

(ii) Appropriate laws and institutions dealing with organic agriculture also provide protection to small producers and exporters of organic products if they should encounter any problems in foreign markets. In addition, they are essential in international negotiations with governments to open access to foreign markets.

(iii) National laws and regulations may make it possible to reduce the certification costs faced by farmers, as they lead to the establishment of nationally based certification firms.

(iv) The experience of the countries that have made the most progress in developing specific policies and institutions suggests that a government programme dealing with organic agriculture may be both inexpensive and effective. Such a programme does not require a significant budget or numerous staff to work well. It requires clear ideas and substantial coordination among other government agencies and actors in the private sector so they can combine their efforts and avoid unnecessary duplication.

On the role of NGOs

147. NGOs have played the most influential role in the emergence of organic agriculture, usually by promoting alternative models of production among indigenous farmers that are based on the use of local resources rather than on the purchase of external inputs. They have also had a major part in supporting small farmer associations in the adoption of organic methods of production and selling organic products. Many of them have had close contacts with the organic and fair trade movements and sufficient expertise to help governments in the drafting of regulations and in negotiations with foreign governments. Selected NGOs with expertise and experience in organic production should be considered preferential partners for projects supporting organic agriculture.

APPENDIX 1

WORKSHOP ON

THE ADOPTION OF ORGANIC PRODUCTION AMONG SMALL FARMERS IN LATIN AMERICA: OPPORTUNITIES AND CHALLENGES

Rome, 11 – 12 September 2002

WORKSHOP REPORT

APPENDIX 1

WORKSHOP ON

THE ADOPTION OF ORGANIC PRODUCTION AMONG SMALL FARMERS IN LATIN AMERICA: OPPORTUNITIES AND CHALLENGES

Table Of Contents

		Page
I.	**INTRODUCTION**	**59**
	A) Rationale for the Workshop	59
	B) Organization of the Workshop	59
II.	**ORGANIC AGRICULTURE TODAY: OPPORTUNITITES AND CHALLENGES – A SERIES OF FOUR PRESENTATIONS**	**60**
	A) Presentation One – Organic Small Farmers: The key to diversity in production and trade (Alberto Pipo Lernoud, Vice President, International Federation of Organic Agriculture Movements - Argentina)	60
	B) Presentation Two – Organic Agriculture: opportunities and challenges (Octavio Damiani, Mission Leader, Office of Evaluation, IFAD)	61
	C) Presentation Three – Markets for Organic Agricultural Products: The case of coffee (Panos Varangis, Senior Economist, Research Development Group, World Bank)	61
	D) Presentation Four – Organic Agriculture Today: Opportunities and Challenges (Carol Wilson, Programme Manager, Latin America Bureau, United States Agency for International Development)	62
	E) Discussion Highlights	63
III.	**REGIONAL EXPERIENCES COMPARED – A SERIES OF FOUR PRESENTATIONS**	**63**
	A) Presentation One – Regional Experiences in Organic Agriculture (Pedro Cussianovich, Regional Specialist in Sustainable Production Systems – Costa Rica)	63
	B) Presentation Two – Organic Agriculture in Bolivia (Oscar Mendieta, Asociación de Organizaciones de Productores Egológicos de Bolivia)	64
	C) Presentation Three – Organic Agriculture in Latin America (Luis Chávez, Regional Director for Latin America, TechnoServe)	64
	D) Presentation Four – The Case of Zai in Burkina Faso (Daniel Kabouré, Agricultural Economist, Institut pour l'Environnement et de Recherches Agricoles – Burkina Faso)	65
	E) Discussion Highlights	66
IV.	**DAY TWO – EXCERPTS OF OPENING STATEMENTS**	**66**
	A) Lennart Båge, President of IFAD	66
	B) Klemens van de Sand, Vice President, Assistant President, Programme Management Department, IFAD	67
V.	**PRESENTATION OF IFAD/OE REPORT ON SMALL FARMERS AND ORGANIC AGRICULTURE: LESSONS LEARNED FROM LATIN AMERICA (Octavio Damiani, Mission Leader, Office of Evaluation, IFAD)**	**68**
	A) Motivations, Objectives and Methodology of the Study	69
	B) Main Findings	69
	C) Lessons and Conclusions	70
	D) Panel Discussion Highlights	71

Page

VI. FINDINGS AND RECOMMENDATIONS OF THE WORKING GROUPS **71**
A) Group 1 – Impact of Organic Production 73
B) Group 2 – Transition to Organic Production 73
C) Group 3 – Managing the Certification Process 74
D) Group 4 – Marketing of Organic Products 74
E) Group 5 – The Role of Institutions 75

VII. WORKSHOP WRAP-UP **76**
A) Highlights of remarks by Paolo Silveri, Evaluation Officer, Office of Evaluation, IFAD; and Raquel Peña-Montenegro, Director, Latin American and the Caribbean Division, IFAD 76

Appendix A. Workshop-List of participants **77**

WORKSHOP ON

THE ADOPTION OF ORGANIC PRODUCTION AMONG SMALL FARMERS IN LATIN AMERICA: OPPORTUNITIES AND CHALLENGES

I. INTRODUCTION

A. Rationale for the Workshop

1. The production of organic agriculture could represent a promising alternative for small farmers in developing countries. The expected medium-term growth rates are very high (from 10-15% to 25-30%), particularly when compared with rates for most other categories of food commodities. More than 130 countries, including at least 65 developing countries, produce certified organic food. Organic agriculture is particularly relevant for small producers since growing organic products is labour-intensive and, if done properly, does not have negative effects on producers or the environment.

2. At the same time, there are a number of constraints that small producers must overcome: lack of technical know-how, scarce storage and processing facilities, inadequate market information, complex certification processes, insufficient financing and supportive government policies. These factors are particularly crucial for IFAD's mandated clientele – the rural poor – as they often lack access to the technical and financial resources needed to take advantage of these new opportunities.

3. In this context, and as part of IFAD's strategic objective to be involved in the promotion of innovative approaches, IFAD's Office of Evaluation (OE), in collaboration with the Latin American and the Caribbean Division (PL), organized a thematic evaluation of organic agriculture by small farmers in six countries in 2001: Argentina, Costa Rica, Dominican Republic, El Salvador, Guatemala and Mexico. The goal of the workshop is to present and discuss the findings of the study and to exchange view and experiences with the broad range of participants, with a focus on determining how the findings can be used meaningfully for future activities, not only of IFAD but also of other development agencies and organizations that are active in the field of rural poverty alleviation. The workshop also seeks to create partnerships during the learning process.

B. Organization of the Workshop

4. The two-day workshop consisted of the following sessions:

- Presentations on opportunities and challenges of organic agriculture by representatives of IFOAM, the World Bank, IFAD and USAID, followed by discussion.

- Presentations on regional experiences by four organic agriculture specialists working in Costa Rica, Bolivia, Latin America and Burkina Faso, followed by discussion.

- Presentation of OE's Report on Small Farmers and Organic Agriculture: Lessons Learned from Latin America, followed by panel discussion with representatives of FAO, IFOAM, CATIE and the World Bank.

- Working group sessions on five thematic areas: the impact of organic production on small farmers; problems in the transition to organic production; management of the certification process; marketing of organic products; and the role of institutions.

- Presentations by the working groups.

5. IFAD's President and Assistant President opened the second day of the workshop. A total of 78 people participated in the workshop (see appendix A, page 77) and included representatives of IFAD and other United Nations agencies, donors, research institutions, private companies, non-governmental organizations, organic producer cooperatives, public and regulatory authorities and field project managers.

II. ORGANIC AGRICULTURE TODAY: OPPORTUNITIES AND CHALLENGES - A SERIES OF FOUR PRESENTATIONS

6. The four presentations were preceded by a presentation by Roland Bunch, Chairman, on the increasing importance of organic agriculture. Four major factors contribute to this growing importance:

a) Globalization. Globalization has the potential to force farmers out of agriculture and into the cities, as has already occurred dramatically in Mexico. The globalization of trade will intensify competition between farmers in developing countries and those in developed countries. At the same time a significant opportunities lies in the ability of small farmers to produce organic agricultural crops for export to developed countries.

b) Environmental pressure. There will mostly likely be increasing pressure from environmentalist groups not to pollute groundwater and rivers. In addition, as small farmers in developing countries move into more marginal areas, there will be more pressure to take better care of the environment and to reverse the process of degradation.

c) Low-input agriculture movement. The low-input agriculture movement, which has many of the same principles and aspirations as the organic agriculture movement, is growing rapidly.

d) Growing markets. The market for organic agriculture products is growing rapidly as well. In may be the fastest growing market in the world for agricultural products. In 1997 the total demand was approximately USD 10 billion; currently it is approaching USD 25 billion.

7. Nevertheless, there are enormous challenges, particularly in working with small farmers who, by definition, have very limited capital and very little training in technical agriculture. The presentations explored these challenges and the different ways that they were addressed.

A. Presentation One – Organic Small Farmers: The key to diversity in production and trade (Alberto Pipo Lernoud, Vice President, International Federation of Organic Agriculture Movements - Argentina)

8. The disadvantages to small producers who are compelled to rely on monoculture are many. Small farmers must rely on commodities. They receive less value for the products and have fewer job opportunities because of mechanization. They also have less decision-making powers over what is being produced, and they often work under very unfair conditions. On the contrary, organic agriculture offers them associations of small farmers and direct contacts with buyers. They have a premium value for their products and more job opportunities because of the hand-labour required. Skills are increased because of the methods required to work organically. Moreover, they are more empowered as they are the ones who carry out operations. Their participation is essential and their working conditions are usually fair.

9. Farmer associations are united in producing high-quality food and in managing natural resources to meet standards. They generate jobs because organic agriculture is also about packing, transport and other components. In carrying out their work, they necessarily organize the community, which in turn strengthens the empowerment of the community, enabling it to plan and create strategies that take the local ecological conditions, culture, religion, language and the like into consideration.

B. Presentation Two – Organic Agriculture: Opportunities and Challenges (Octavio Damiani, Mission Leader, Office of Evaluation, IFAD)

10. *Is organic agriculture a valid alternative for projects working with small poor farmers*?
In exploring this issue, it is important that ideological positions be avoided, namely that organic agriculture is part of the leftist political agenda. Any analysis of the validity of organic agriculture should be based on technical indicators – production, yields, income, prices, etc. In addition, a debate that is based on a dichotomy between organic agriculture and conventional agriculture should be avoided. A more pragmatic approach is required. Moreover, the diversity of situations must be considered, especially in terms of the national policy context (e.g. land tenure) and the heterogeneity of the farmers themselves, as well as such factors as previously applied technologies and distance to markets.

11. *What problems are we likely to face when including organic agriculture in projects*?
Regarding technology, there is likely to be a lack of technology available to solve specific constraints, which must be addressed through partnerships with other institutions at the regional and national levels. There is also likely to be a lack of professionals who are adequately trained in organic agriculture. Therefore, training programmes will have to be created, in partnership with universities or professional training institutions at the regional and national levels. Regarding financing, small organic producers are likely to have greater difficulty in obtaining credit that those who practice conventional agriculture. There is not enough information on the value of organic agriculture to obtain credit. In terms of the market, it is important not to assume that the market is not a problem. Negotiation of medium- and long-term relationships with buyers is key for obtaining better prices and a safe market. Domestic markets need to be promoted.

12. *What challenges may provide opportunities for joint actions with other organizations?*
Farmer associations and organizations are key for small organic producers, not only for the economies of scale in marketing and in providing extension and training, but also in facing the certification costs. Certification agencies can certify all the farmers in one organization by inspecting only a representative sample, which significantly decreases the cost per farmer provided that an internal control system is in place. This is not easy to achieve, and requires organization.

C. Presentation Three – Markets for Organic Agricultural Products: The case of coffee (Panos Varangis, Senior Economist, Research Development Group, World Bank)

13. The marketing of organic products has been characterized by consistently high growth rates. When compared to conventional production and marketing, the incentives for organic production and marketing include: consistently higher prices and less price volatility; consumer interest in quality and process rather than quality and price; less competition. At the same time the organic market has limited access, limited extension support and a longer implementation curve, particularly due to the certification process.

14. The World Bank has managed three organic coffee projects in Latin America. It sought to provide technical assistance to selected producer groups and to assist them with technology, certification and access to markets. The three pillars of the projects: economic sustainability; environmental sustainability; and social sustainability. A number of important lessons have been learned, among them that attention to markets and commercialization is key when promoting the concept of sustainable coffee markets. In addition, markets can pay a significant premium for sustainable coffees because they recognize the high quality of the product. Throughout the process, partnerships are critical, especially between the private sector and the local NGOs and other institutions.

15. The main challenges to be addressed are improving the understanding of certification principles in the field and working toward establishing certification standards that are homogenous and less

costly. In addition, consume awareness of the impact of their purchase – in terms of quality and the environment – needs to be increased. At the policy level, knowledge and incentives for eco-friendly agriculture need to be built into existing frameworks. Governments need assistance in focusing on the different values of sustainable agriculture: effective natural resource management; risk management, especially for the poorest; and food security.

D. Presentation Four – Organic Agriculture Today: Opportunities and Challenges (Carol Wilson, Programme Manager, Latin America Bureau, United States Agency for International Development)

16. There are several statistics that could have a positive impact on organic agriculture. President Bush has announced a USD 5 billion increase for development from 2003 to 2005. At USAID, development assistance will be increasing by 38%, with an increase of 30% for Latin America and the Caribbean. Public/private alliances are key to success and all of our programmes will attempt to link with the private sector.

17. The challenges ahead fall in five broad categories: retail, regulatory, quality, skills and market diversification.

18. **Retail**. The retail challenges are linked to supermarkets – mass merchandisers promoting products. Organic are going to have to compete with the same quality as mass-produced products. Therefore, volume, quality, safety, competitive cost, timing and consistency have to be on par with conventional counterparts, particularly for large retailers who value producers and suppliers who can provide them reliably with large quantities at the lowest possible price throughout the year.

19. **Regulatory**. Regulatory challenges are related to the legal limitations on products that are admissible on a country-by-country basis, particularly those entering the United States market. Food safety is a very important issue, and compliance increases the cost and investment. Therefor, the capacity of the operation to meet these requirements is critical.

20. **Quality**. Increasing quality means there is an increased need for organizational, managerial, information gathering and communication skills, as well as the formation and strengthening of associations, which need to acquire a culture of delivery.

21. **Skills**. Small growers, including most cooperatives, tend to lack the literacy and managerial skills to organize production schedules and post-harvest activities and to enforce product quality requirements. They also have insufficient understanding of the markets for their product and the ability to organize package materials, control transportation logistics and track shipments and arrivals.

22. **Market Diversification**. Most of the fruits and vegetables have to pass through the port of Miami before going to Europe. This means that they have to meet U.S. regulatory requirements. This is a significant constraint to developing a European export industry.

23. In the context of these challenges, a number of questions need to be addressed: How can new technologies be used to meet the requirements of buyers? How can good business practices be integrated into sustainable agriculture? How can certification and verification costs be made affordable? How can we ensure that the chain of custody is not compromised (e.g., port inspections and delays)? How can consumer confidence be maintained? Is it really organic, is it really health?

E. Discussion Highlights

- Regarding conditions and standards of each importing country, the EU has certain regulations, the U.S. has others, Japan has others. We need to work on a common understanding and harmonization of these standards. This would make it easier for small growers to access different markets.

- There are possibilities for promoting non-certified organic agriculture, one in which the all the principles of organic methods of production are adhered to although not certified. This could be enormously helpful to those small farmers who cannot obtain certification because of certain conditions such as insecure land tenure or difficult access to road and markets.

- The domestic markets for organic products in Latin America are very small. But they are increasing and there are significant prospects for growth, especially among those groups with higher incomes. A lot can be done to promote the demand for these products. The domestic market is important because it is easier. It is a first step. In any project, it would be much easier for small farmers to enter the domestic market, gaining experience in markets that are less demanding and where buyers speak the same language. This knowledge could then pave the way for entering export markets.

III. REGIONAL EXPERIENCES COMPARED -- A SERIES OF FOUR PRESENTATIONS

A. Presentation One – Regional Experiences in Organic Agriculture (Pedro Cussianovich, Regional Specialist in Sustainable Production Systems – Costa Rica)

24. Organic agriculture presents a real option for small producers and the rural poor. There are a number of positive factors that contribute to this:

a) Quality of life. Organic agriculture helps establish food security because of the multi-cultural approach of the cropping system. It also promotes good health because chemical products are eliminated.

b) Quality of products. Organic products help to conserve the nutritive quality of the products and can give very positive benefits in the medium and long term.

c) Quality of environment. Organic agriculture helps to improve the fertility and conservation of the soil and the environment, improving the physical, chemical and biological factors.

25. At the same time, it is important to look at the obstacles that have prevented small producers from being able to draw on the benefits and positive externalities that organic agriculture can have for them and their communities.

26. **Access to information**. In Latin America, there is limited information and it is very hard to access, as it is held in only a few hands. This is particularly important for information on certification and on markets.

27. **Lack of involvement of the State**. The State has been minimally involved in promoting organic agricultural, primarily because of its links to the agro-chemical industry. This lack of presence and intervention, with several exceptions (e.g. Argentina and Costa Rica) means that there are no technical norms and a high dependency on foreign certification.

28. **Lack of Markets.** The majority of organic producers in Latin America do not have access to international markets because of the very nature and structure of their productive system. This would not be a problem if there were local markets, but these do not exists or are very rarely developed.

29. **Support Services**. In order for organic producers to maintain links with the market, they will need support services in the form of information, technological and management training, research and financial support. In this regard, the participation of cooperating agencies, particularly NGOs, is critical. The groups working at the local level help to shape the organic movement in the country, which can then really for government legislation and norms. Once there is state support, support from IFAD and other organizations can begin to respond to the national agency through training, information, etc.

B. Presentation Two – Organic Agriculture in Bolivia (Oscar Mendieta, Asociación de Organizaciones de Productores Egológicos de Bolivia)

30. It is important to highlight organic production and agriculture in Bolivia because of the great demand and the great opportunity presented by the international market. In addition, the production costs are lower than those of conventional agriculture because the latter is dependent on chemical inputs and machinery. Thirdly, the long-standing indigenous knowledge of the farmers is used fully in organic agriculture. The farmers to not have to learn technologies that the may not understand. On the contrary, they return to their traditional forms of agriculture and rediscover them. Finally, through organic production practices, soil fertility will be maintained, and many farmers will not be forced to migrate.

31. There are a number of concrete impacts that have been achieved to date. Organic products have been able to provide an aggregate value if they have been certified. Farmers are able to negotiate prices. Another important impact is the fostering of local power and self-management. In addition, organic agriculture certainly improves production and income in a sustainable way, not in great volumes but certainly in terms of food self-sufficiency in households, which is considerable.

32. There are constraints faced by organic producers in Bolivia. The one- to three-year transition form conventional to organic production requires investments that are difficult for a farmer to sustain or have subsidized. It is not easy for people to switch to the new system and leave the conventional one behind. It is also important to have the necessary inputs – appropriate fertilizers and seeds – as well as teams and labour. The natural conditions of the land need to be considered as well; in more deteriorated areas, for example, it is more difficult to practice organic agriculture.

C. Presentation Three – Organic Agriculture in Latin America (Luis Chávez, Regional Director for Latin America, TechnoServe)

33. TechnoServe is a United States NGO that provides business advisory services, technical assistance and training to small- and medium-business enterprises in Latin America. It is not an organic or environmental NGO. However, through the market assessments, costs analyses and competitive analyses that were conducted, TechnoServe concluded that organic production is a viable option for small producers. Three experiences will illustrate this.

34. In El Pital, El Salvador, a market study of the growing supermarket industry revealed that many supermarkets were obtaining their products from neighboring countries. Since El Pital has agro-climatic conditions that are suitable for fresh produce, it had a potential competitive edge. In 1999, about 15 farmers responded to the project and had sales of USD 5,000. In 2000, sales will exceed USD 200,000, and they are expected to double by 2004, with about 130 farmers participating. It is important to note that their products are not certified, but because of the quality, reliability and year-round production, they are able to generate a significant and sustained income.

35. In Nicaragua, 120 small producers have entered into contract with an American company that provides organic vegetables to the U.S. and Central American market. The company provides the producers with irrigation technology that they finance, technical assistance, financing and guaranteed minimum prices. In 2002, sales are approaching USD 700,000.

36. In the highlands of Peru, a coffee company with 200 small producers began to cultivate organic coffee. The producers were already producing coffee organically, and the transition was therefore minimal. Yields have increased due to the introduction of organic fertilization processes. The company also provides working capital and technical assistance, including financing and access to environmentally friendly wet milling equipment. Business plans for the current season are USD 650,000 in sales.

D. Presentation Four – The Case of Zai in Burkina Faso (Daniel Kabouré, Agricultural Economist, *Institut pour l'Environnement et de Recherches Agricoles* – Burkina Faso)

37. The word *zai* refers to manure use in a traditional system. The system emerged in Burkina Faso during the recurrent droughts and subsequent crop failures that took place in the Seventies. Crop failures also forced farmers to cultivate on marginal lands, reducing fallow periods and increasing completely barren lands. Faced with this crisis, farmers went back to their traditional techniques of digging planting pits on barren land to rehabilitate it. They increased the depth and width of the planting pits and applied manure to them. NGOs supported them with funding. The process is very labour-intensive, requiring approximately 774 hours per hectare.

38. However, through this system, degraded land can be rehabilitated to go from zero yields to yields of 1,500 kg per hectare in a good-rainfall year. At the same time, weed control is more effective, since rehabilitated lands diminish weed growth. In addition, the water retention capacity of the soil is increased. There are also positive impacts on farm forestry. Trees are scarce in the Sahel, and the *zai* is generating woody and herbaceous species that are used for traditional medication and firewood. Most importantly, the number of poor families decreased by 50 percent and their food security increased up to 70 percent. The extra income also means that more money is spent on health and education.

39. There are some constraints. The intense labour demands mean that people cannot reclaim more than 0.25 to 0.5 hectares per cropping season. In addition, 2.5 tons of manure are required per hectare, which is not easy for farmers to produce or to transport. The involvement of NGOs and organizations like IFAD could help to address these constraints through financing and credit, support to farmers' organizations (which have already created *zai* schools to disseminate the practice) and support to research for fodder crop development.

E. Discussion Highlights

- It must be kept in mind that organic agriculture cannot be done on farms where the eco-system has been compromised, for example by contamination.

- It should not be assumed that organic agriculture is always more labour-intensive. Some of the more widely spread technologies, such as zero tillage and green manure cover crops, actually reduce the amount of labour.

- The organic option is not for everyone. It is the consumer who pays for the product, and the consumer wants sustainability in three aspects: the social aspect, to which fair trade responds; the environmental aspect, to which certification responds; and the security, safety and quality of the food. The organic solution must cover all of these aspects.

- The role of farmers' organizations is very important, particularly with regard to market access. At the same time, these organizations often need to develop capacities before they can have access to new and export markets, particularly in developing their entrepreneurial skills.

- Organic agriculture is paying the environmental costs that conventional agriculture does not. When soil is eroded or water is contaminated, it is not the consumer who pays but the producer. When working the governments and international institutions, the value of these externalities and the solutions to ecological problems that go along with organic agriculture must be considered and assessed.

IV. DAY TWO – EXCERPTS OF OPENING STATEMENTS

A. Lennart Båge, President of IFAD

40. The aim of this workshop is to present and discuss the findings of a thematic study on small farmers in organic agriculture, lessons learned from Latin America. This study, conducted by the Office of Evaluation, focuses on six countries: Argentina, Costa Rica, the Dominican Republic, El Salvador, Guatemala and Mexico, and presents conclusions and implications for future IFAD initiatives in this area. That is why this workshop is so important. It is the first step in discussing future opportunities for organic agriculture and IFAD's role. The second step will be to hold a regional workshop in Costa Rica during the first quarter of 2003. To better understand some of the constraints and opportunities linked to organic agriculture, IFAD needs to learn from the experience of different organizations and institutions involved in all aspects of organic agriculture—the support for it, research in the production, certification, production and trading of organic products.

41. I would briefly like to highlight four reasons why we, at IFAD, are interested in organic agriculture. Firstly, the demand for organic products has increased rapidly over the last ten years. Many developing countries that are financed and supported by IFAD are producers and exporters. This new, increased demand for organic agriculture opens up many opportunities for numerous IFAD-supported projects. Secondly, a number of IFAD projects in Latin America have just started supporting organic agriculture, and other regional divisions have technical assistance grants that focus precisely on organic agriculture. So this makes it an ideal time to put our experience to good use and to contribute to policy dialogue and policy development at the corporate level. Thirdly, in several developing countries, small poor farmers are the main producers of organic agriculture. They can benefit from organic agriculture through higher farmgate prices and through improved conditions -- health conditions among others -- thanks to the non-use of chemical fertilizers and pesticides. Fourthly, in 2001, we at IFAD launched our new strategic framework covering the period 2002-2006.

In the framework we have three main strategic objectives: to strengthen the capacity of the rural poor and their organizations; to improve equitable access to productive natural resources and technology; and to increase access to financial services and markets.

42. As the report prepared by the Office of the Evaluation shows, small organic farmers need strong cooperatives of producers to monitor their transition to organic agriculture and to obtain better contractual conditions with wholesalers. Although there may be competitive advantages in the adoption of organic technology by small organic farmers, they will need support in the certification and in the marketing of their products. So, clearly, what we do at this workshop is relevant to the strategic objectives that we have formulated at IFAD.

43. Let me also mention the recently concluded World Summit on Sustainable Development in Johannesburg, where the need for farmer-to-farmer exchange of good practices was heavily emphasized—certainly the exchange of experience of practices related to environmentally sound, low-cost technology that truly benefits the poor. I think there is a growing recognition, certainly among many donors, that small farmers, rural development, agriculture and sustainable resource management have to be given more attention. That is something that we can build on coming out of Johannesburg.

44. This workshop is certainly a very important opportunity for us to meet with you, who have a very rich and diverse experience, to share and see how we can move forward. I would encourage you to be very candid in highlighting the challenges that you have experienced because ultimately this is your workshop and we expect your insights to contribute to the shaping of IFAD's and other agencies' approach to organic culture.

45. Let me finally put the subject matter into a broader perspective. In a recent OECD government report it is stated as a fact that the present type of agriculture in the rich countries based on intensive use of energy and chemicals is clearly not sustainable. New approaches are needed, both in rich and in poor countries. Organic production is one key element in the future production systems worldwide. You are part of the quest for a sustainable agricultural production system and can provide ideas of great significance for our common future. Thank you very much and may you have a very fruitful workshop.

B. Klemens van de Sand, the Assistant President, Programme Management Department, IFAD

46. Organic food production is one of the fastest growing sectors, with annual growth rates that vary between 10 and 30%, so there is a tremendous dynamic. This dynamic is particularly rapid in European countries, Australia and the United States, but it is also taking place in developing countries… there is quite an intensive debate for many farmers on whether to enter this sector. The issue is that yields are much lower, the labour costs are much higher and the question is who is going to pay the higher prices. The demand is there, but it still needs to be seen whether the demand is so high that the big retailers, the food chains, are interested. That would enable the sector to be brought out of its fairly small niche. So the big issue is markets. I think this is exactly the question that we face in developing countries.

47. For IFAD, there are two obvious questions: what is in it for the poor, our target group, and what can we do? What can we at IFAD do to help the poor to take advantage of the potential that seems to be there and of the market opportunities that have to be scrutinized? These are the core questions that you will face in this seminar and on which I hope you will shed light. These are questions that are at the heart of IFAD's strategic framework—the access of the poor to markets at the local level, the national level and also at the international level. How can we help small producers overcome the obstacles they face in accessing these international markets, such as lack of know-how, scarce storage facilities, limited market information, complex certification processes and insufficient financing? What can be done to promote the sustainability of organic agriculture?

48. For us in the Operational Department, the main tools are projects. IFAD sees the rural poor as producers and citizens responsible for their own livelihood. I think that is the important point to start with when we look at these questions as well. To what extent can and should our projects incorporate the promotion of organic agriculture as one of its activities and, if so, under what circumstances? We neither advocate nor discourage organic agriculture. IFAD's approach is to build on the traditional practices of the farmers in the project area. Using farmer participatory methods, IFAD-supported projects identify constraints that limit the productivity of existing farming systems and seek ways of overcoming these constraints. This usually requires farmers to collaborate with researchers and extension workers in the testing of new varieties of crops. It is here that IFAD projects have an important bridge-building function between the small producers and supporting structures, not least the national and international research institutions.

49. There are three specific issues that are particularly important for the Programme Management Department. First is the link between organic agriculture and poverty. What can organic agriculture do to help reduce rural poverty and when can it not help? Secondly, what should IFAD do to assist this process? What sort of processes should IFAD support to enhance the development of organic agriculture and the marketing of organic agricultural products? Here we can distinguish three different areas -- activities related to policy dialogue, to ensure that the potential is recognized by those who shape the framework conditions for production in a given country and region; and activities at the local level, which are the basis for such policy dialogue. The third area is partnership with other institutions. I am aware, for example, that there is a link between FAO and IFAD through the Regional Unit of Technical Assistance operating in Central America. What can be done to enhance these kinds of relationships?

50. I would like to finish by referring to one of IFAD's main strengths, which is it multiplicity of approaches and the variety of situations it deals with. This is a challenge and also an opportunity. IFAD works globally, has operations in countries located in virtually all the developing countries in the world, and I think this gives a tremendous opportunity for learning and for cross-fertilization. Today we will discuss the opportunities and challenges brought about by organic agriculture, drawing on the case studies carried out in Latin America. But we will not only think about the potential in that continent but rather attempt to use these case studies as an opportunity for learning and cross-fertilization across the divisions.

51. From the estimates I have read on organic agriculture, there were about 17 million hectares of certified organic agriculture in 2001; roughly 68% is in Europe, Australia and New Zealand and North America. The development of organic agriculture in developing countries was comparatively very small, less than 2% in Africa and Asia, but in Latin America it was 22%, so the potential for learning is obvious. My colleagues and I look very much forward to learning the lessons from your experiences in Latin America and to hear your ideas and insights on how to apply these lessons to other regions. Thank you very much.

V. PRESENTATION OF IFAD/OE REPORT ON SMALL FARMERS AND ORGANIC AGRICULTURE: LESSONS LEARNED FROM LATIN AMERICA
(Octavio Damiani, Mission Leader, Office of Evaluation, IFAD)

52. The presentation was given by Octavio Damiani, Agricultural Economist and Research Coordinator for this thematic study. The presentation highlighted the key points from the report and was divided into three parts: motivations, objectives and methodologies of the study; main findings; and lessons and conclusions. Highlights from the three sections of the presentation follow.

A. Motivations, Objectives and Methodologies of the Study

53. The dramatic growth of organic farming areas in Latin America was an important motivation for the thematic study – more than 20% of certified organic farming areas in the world are in Latin America. In addition, small farmers dominate organic agriculture in Latin America and the Caribbean. Several IFAD projects are already promoting organic agriculture, although such promotion was not the result of having included this alternative in project design. Finally, as IFAD does not have a position on organic agriculture, the study was conducted in order to provide insights on including organic agriculture in projects targeting the rural poor as well as to generate lesson and policies on how to support the adoption of organic production among small farmers.

54. The methodology consisted of a set of case studies on small farmer groups that have been successful in introducing organic methods of production and in marketing their products. Six countries were included: Mexico, Guatemala, El Salvador, Dominican Republic, Argentina and Costa Rica. These countries have different laws and regulations concerning organic agriculture, as well as different agricultural rural and development policies. The study also included different products that posed different challenges to farmers in terms of production and marketing. Three cases involved IFAD projects, four cases involved indigenous communities and five cases included products sold on foreign markets. Approximately 5,100 organic producers and 9,000 hectares of organic land were studied.

55. The focus was to evaluate the impact of adopting organic methods of production through a before-and-after comparison, with a particular emphasis on the economic variables: yields, production costs, prices, yields and net revenues. In addition the study tried to identify the main problems that successful small producers faced when making the transition to organic agriculture, as well as how they had solved these problems and the role of private and public institutions throughout the process.

B. Main Findings

56. **Production costs.** The adoption of organic methods of production led to higher production costs when the previous production system was based on low-input technology due to labor and certification costs. However, production costs were lower when previous technologies were high-input. In these two cases, although producers faced higher costs of labour and certification, the decreasing costs of chemical inputs were much higher.

57. **Prices.** All cases showed higher prices, with one important variable: marketing. For example, cocoa producers in Costa Rica had established long-term relationships with their buyers while coffee producers in Guatemala relied more on spot markets. The cocoa prices were 175% higher than conventional prices, while coffee was 20% higher. In El Salvador, organic producers established stable prices throughout the year, compared to the variable prices for the conventional market, because of agreements established with supermarket chains. In all cases, the farmer organizations had been key for obtaining better prices, as buyers do not wish to deal with isolated farmers.

58. **Yields.** The study revealed three different situations: rapid increase; decrease; and no significant change. Rapid increases tended to occur when organic production introduced improvements to the previous technology. Lower yields occurred when the previous system was based on the use of chemical inputs. Yields remained the same when organic fertilizes were not used sufficiently. The overall result is that higher production costs, combined with higher and more stable prices and yields meant higher net revenues in all cases.

59. **Wage labour.** Since organic technologies are labour-intensive, although most farmers relied mainly on family labour, there was a higher contraction of labour. In addition, there was less off-farm employment, as farmers stayed on their farms in order to cover the higher labour demands.

60. **Environment.** Although there was little information, since environmental impacts take place in the long-term, there was strong evidence of positive effects. Many farmers ceased to burn their fields and bean to introduce crop rotations. In addition, all of the cases incorporated soil conservation measures. In Argentina and El Salvador, farmers stopped using chemical inputs. And forests were conserved for honey, cocoa and coffee production.

61. The role of farmers associations figured throughout the study. As mentioned before, better prices were obtained by farmer organizations, particularly those that worked out long-term agreements with their buyers. In addition, they are key in terms of providing training and technical assistance, and in decreasing the certification costs per farmer. The organizations also play a central role in monitoring individual farmers' compliance with organic methods of production. Moreover, they attracted support from government agencies, projects and NGOs to receive resources to implement the changes need to adopt organic production. It is important to note that in all the cases, organic agriculture developed before the creation of government policies and regulations specific to organic production. In most cases, the non-government sector had played the main role in the development of organic agriculture.

62. In addition to these findings, a number of challenges emerged in the transition to organic production:

- New technologies had to be learned, and must ensure that the fertility of the soil is maintained.
- In some cases, there was a decrease in yields during transition.
- The inspection and certification costs were high, and took place before a price premium could be established.
- Farmers with insecure land access or tenure found it very difficult to adopt the soil and conservation measures required by organic production.
- Those who had more family labour available found it easier to adopt organic agriculture. Households headed by women tended to have less labour available.
- The entry of supermarkets is making the demand more quality-oriented.
- There is a very limited supply of professionals who know about organic agriculture for purposes of research and training.
- Small organic producers have great difficulty in accessing commercial credit, particularly since formal institutions are not familiar with organic products.

C. Lessons and Conclusions

63. The findings point to the viability of organic agriculture for projects targeting small farmers. However, the heterogeneity of small farmers must be considered. It would be more suitable to target those farmers whose production systems are closer to organic systems, and those who have stable forms of land tenure. In addition, negotiations should take place with land owners regarding long-term rental contract and compensation at the termination of the contract for land improvements that the farmer has made.

64. Most efforts should be concentrated on the transitional period, which is the most difficult. In this regard, support should be in the form of technical assistance, credit, training and the certification process. Moreover, support should have the promotion of farmers organizations as its foundation and focus on three issues: marketing of production; extension and training; and certification.

65. In terms of financing, individual farmers will need support for certification and for labour costs for the soil conservation measures. Short-term subsidies should be considered during the two- or three-year transition period. It will also be important to support farmers association with credit for investments in packing and storage facilities.

66. Much can also be done to promote the incorporation of the challenges to small organic producers into the agenda of agricultural research institutions, universities and professional training

institutes. There is also room to participate in the debates on organic laws and regulations that are being created in most Latin American countries in order to prevent or remove obstacles for small farmers. This applies to some of the broader policies that establish biases against organic agriculture (e.g. free distribution of chemical inputs by governments).

D. Panel Discussion Highlights

Following the presentation of the study, a panel discussion took place to identify those areas in which IFAD could effectively support the promotion of organic agriculture. Panelists included: Paul Pilkauskas, Senior Commodities Specialist, FAO; Albert Pipo Lernoud, Vice President, IFOAM (Argentina); Reinhold Muschler, Head of the Department of Ecological Agriculture, Tropical Agriculture Research and Higher Education Center (Costa Rica); Pano Varangis, Senior Economist, Research Development Group, World Bank; Per Ryden, Managing Director, The Global Mechanism of the UNCCD; and Edward Heinemann, Regional Economist, East and Southern Africa Division, IFAD. The main areas for IFAD support are listed below.

- During the transition period, financing for certification and for the extra labour requirements;
- Providing training, as there is virtually no extension service, as well as instruments for disseminating information to small farmers;
- Creating storage and packing facilities;
- Developing and capacity building of farmers associations, especially regarding access to local markets;
- Working closely with NGOs and drawing on their expertise;
- Providing financial and technical support in collaborating with organizations to find cost-effective certification methods for small farmers;
- Engaging in policy dialogue on issues of land tenure an in advocating the value of organic agriculture.

VI. FINDINGS AND RECOMMENDATIONS OF THE WORKING GROUPS

67. For the final session of the workshop, participants broke into five thematic working groups to identify major issues that need to be addressed in order to move forward. The five themes were:

- Impact of organic production on small farmers
- Problems in the transition to organic production
- Management of the certification process
- Marketing of organic products
- The role of institutions

68. Each group was given a series of theme-specific questions to guide their discussions. In addition, all groups were given the following four general questions for consideration:

(i). What are the major advantages for small farmers in developing countries connected to organic agriculture?
(ii). What are the major problems or constraints (during the transitional period and over the long term)?
(iii). Under what conditions and for what types of small farmers is organic production a feasible alternative?
(iv). What kind of institutional actors may collaborate with each other to solve the above-mentioned problems? What are the possible types of collaboration?

69. The most frequent responses to these general questions are given in the box below.

ORGANIC AGRICULTURE AND PRODUCTION

a) Advantages

- Close to traditional existing systems and thus easily understood
- Enhances soil fertility and fights erosion
- Low-cost technology, less dependence on external inputs and high price for products
- Enhances self-reliance because of use of local resources and knowledge
- Promotes food security and food sovereignty
- Reduces risks to health and environment
- Catalyses local alliances and organizations and increases management capability
- Generates rural employment

b) Constraints

- Secure and long-term access to land
- High cost of certification
- Accreditation requirements of local certification bodies are not harmonized and compliance is often not enforced
- Lack of knowledge-sharing/campaigns on benefits of organic agriculture
- High transition costs if previous system was not organic
- Lack of technical knowledge/extension during transition
- Lack of inputs
- Market vulnerability and local market development

c) Feasibility Conditions

- Comprehensive market analyses to determine profitability
- Availability of financial resources and support
- Existing infrastructure for market access
- Ready access to labour
- Environmental conditions do not preclude organic agriculture (e.g. GMOs, contamination)
- Presence of farmer or producer organizations

d) Institutional Collaboration

- Government Ministries (Agriculture, Environment, Commerce)
- Local Government
- Certification and inspection bodies
- Importers and exporters
- Farmers' associations
- NGOs, civil society, churches
- Research Institutions
- Bilateral Organizations
- Professional trade (exporters, importers, retailers)

A. Group 1 – Impact of Organic Production

(i) What impacts may shifting to organic production have on the incomes and quality of life of small farmers? What influence do small farmers' characteristics have on organic production and the design of programmes to promote it?

70. The major advantages of small farmers shifting to organic production are: the closeness to traditional and existing systems, which makes the shift easily understood; the enhancement of soil fertility and reversal of soil erosion; the low cost of the technology, which also enhances self-reliance through the use of local resources and knowledge. In addition, organic production assures food security and food sovereignty and reduces risks to health and the environment. The constraints during the transitional period and over the long term include; vested interests, particularly with respect to agro-chemical supply agencies; lack of secure and long-term access to land; the lack of harmony among accreditation requirements of the local certification bodies; and the high cost of the certification process. In addition, the lack of technical knowledge and extension during the transition period is a major constraint, as well as the lack of inputs.

71. The conversion from a high internal input systems has both medium- and long-term impacts. The former would be low yields and more difficult financial viability. Over the longer term, the impacts would be stable and increasing yields, as well as an increase in biodiversity. In converting from low external input systems over the medium term, the impact would be the achievement of higher yields, but this requires the active participation of small farmers. Economic viability depends on the markets for organic products, the technical assistance and financial support during conversion. As solutions are location-specific, community structures and farmers' organizations must be involved in designing organic agriculture programmes.

72. IFAD's could play a significant role by catalysing the actions of government through the allocation of grants for technical assistance and internal control systems. United Nations agencies need to coordinate their positions on organic agriculture and deliver harmonized messages to counterparts at the country level, moving from the United Nations, through the government, and finally to the farmers themselves.

B. Group 2 – Transition to Organic Production

(ii) What are the main problems faced by small farmers during the transition to organic production? What is the role of services such as credit, agricultural research, extension and training? What role can government agencies, NGOs and donors play in helping small farmers solve these problems?

73. In Latin America, there are farmers who work on degraded lands and those who work on fertile land. The agro-ecological situation must be taken into account when considering the transition to organic production. Different strategies will need to be employed to introduce organic production according to local conditions. The transition is also more feasible when farmers already have a link to markets and are aware that organic agriculture should be based primarily on internal inputs, that they use the local resources that they have. It is also important that farmers do not work in isolation. Farmers must be supported by farmers' organizations and other organizations. The former are a critical tool for obtaining additional support and for advancing the organic agriculture movement. From the outset, farmers must also be extremely careful about where their products should be marketed. They need to contract buyers in local markets and/or export markets.

74. With respect to technology, in addition to understanding their agro-ecological situation, farmers need to know where to access knowledge and technology in order to produce with organic methods. For example, they need to think about obtaining local seeds and animals that are adapted to the local conditions, as well as what kind of local material they can use to control diseases and pests. They also need to know where to access knowledge and technology in order to produce with organic methods.

75. From an economic standpoint, farmers will have to consider labour implications, since higher labour input is often required during the conversation stage. They may also need to consider possible decreases in yields during the transition. In addition, organic agriculture doesn't simply mean producing organic products. It also means changing the marketing of these products. In terms of financing, possible support from the government or other organizations must be explored. Of course, the financial implications of the certification process cannot be overlooked.

76. The roles that governmental agencies, NGOs and donors can play are varied. For example, donor can provide financial support for certification costs during the transition period. They can support the establishment of local agencies in order to reduce certification costs. The can provide support to promote farmers' and other community organizations. They can also promote land reform legislation, or link up with the private sector to promote local organic markets.

C. Group 3 – Managing the Certification Process

(iii) What are the main problems related to the certification of organic products and production? How do the costs and the conditions required by the certification process affect small farmers' possibilities of selling in markets requiring certification? What is the role of farmers' organizations in dealing with problems of organic certification? What could be the advantages and disadvantages of establishing systems of certification specific for the domestic market?

77. One of the main constraints of the organic market is its vulnerability – for example, once there is pest infestation, the entire crop is lost. Organic farmers cannot rely on external inputs to control pest infestation. The transition from conventional to organic farming is another serious constraint, since farmers are not receiving any extra value for the products. The costs involved in inspection certification are very high, and the different certification requirements of different countries complicate the situation for the farmer, who may not even understand the system.

78. Farmer associations are very important for the small farmers. They can put in place the internal control systems and a sanctions system are not complying. They also have an important role in extension and training, and in information gathering and dissemination as well as innovation. They also are central in building external networks for the farmer associations. This is a considerable factor, particularly as the institutional actors usually include two governments, since products are often crossing borders.

79. Regarding the domestic market, this could be a very good first step for the organic farmer in terms of understanding certification and developing market relations. Local certification can also be less expensive because it is conducted by local inspectors, who sometimes provide local inspector training.

D. Group 4 – Marketing of Organic Products

(iv) What are the main difficulties in the marketing of organic products, particularly for small producers? What can be done about them? What are the predictions for the future market of organic products? What are the roles of exports vs. domestic markets? What is the role of contract farming, and what type of contracts can small farmers obtain with foreign buyers? What is the role of "brokers" and other market intermediaries?

80. The major advantages of organic agriculture from a marketing perspective are the fast market growth and higher prices. In addition, organic agriculture builds local capacity because of the need to transfer knowledge systems and controls. It creates local alliances and an ability to differentiate and brand products in the marketplace. At the same time, it is a niche market, which raises the issue of sustainability of premiums over the longer term and how to differentiate and add value to the

products. Another challenge is stimulating market demand and creating local market development. Shifting successfully to organic production requires the existence of producer organizations, profitability and market analyses, as well as the availability of financial resources and support. As organic agriculture perhaps evolves from a niche market product to more of a mass market product (i.e. in the presence of more multinationals and larger companies), the issue of credibility in terms of quality, quantity and ability to deliver becomes more significant. This credibility must be strengthened.

81. Collaboration should be tri-partite – public sector, private sector, NGOs. In this regard, IFAD should update its business model to engage the private sector more actively. Project design should include finance and marketing strategies, particularly strategies to make more credit available to small producer groups.

82. There should be a focus on both domestic and export markets. The domestic market develops skills that are useful for other markets. If there is a learning curve and a growth in capacity that must take place, focusing on the identification of local markets may be one way to bridge the gap.

83. With respect to contract farming, such contracts should be pursued, but dependency should be avoided, particularly on a single company, which could experience difficulties because of market adjustments. Brokers and other market intermediaries are necessary elements in the supply chain. The strategy is not to try to eliminate them but rather to develop negotiating skills in order to establish competitive terms and partnerships.

E. Group 5 – The Role of Institutions

(v) What role can the State play in the successful adoption of organic agriculture among small farmers? What is and should be the role of policies, regulations and government agencies that deal specifically with organic agriculture? What is and should be the role of macroeconomic and sectoral policies? What could be the roles of international agencies, NGOs and other organizations, and of possible strategic alliances among them?

84. The major role of the State is to coordinate among public sector agencies. Another role is to assure that there are no market distortions -- for example subsidies for synthetic agro-chemicals or irrigation for large-scale monocultures – which can inhibit or prevent the chances for adopting alternative systems. In addition, the State can establish or foster policies that favour diversification and that supply public funding for independent research and extension. Promoting consumer awareness is another role that should be taken up by the State, or at least the State should support this activity as well as promote market opportunities, including public/private partnerships and mechanisms that allow public and private interest to be linked.

85. Funds for the transition period, both in on-farm and off-farm investments need to be available, as well as policies that reflect positive and negative externalities, e.g. fines for pollution, payments for environmental services. A legal framework must also be in place that helps farmers to establish legal entities that function and support their interests. In addition, contracts between sellers and buyers must be enforced. Certification standards for both domestic and international consumption need to be harmonized, at least on a regional basis.

86. Multi-lateral and bilateral support should be provided to governments in order to establish enabling environments – that is, those conditions that help to implement the transition and to foster the adoption of organic systems. Capacity building at national and local levels is essential. Support should also be given toward public infrastructure development (e.g., testing laboratories, storage facilities) and toward financing of NGO support, particularly the role of local NGOs, as well as providers of such services as training of local inspectors, establishing internal control systems, training and extension. In addition, NGOs and other agencies could provide market brokerage and support the development of farmers' associations and cooperatives. They also have an important role

to play in coordinating policy among governments and donors and in instilling more confidence on the part of local and national banks to provide credit and funds for alternative schemes.

VII. WORKSHOP WRAP-UP

A. Highlights of remarks by Paolo Silveri, Evaluation Officer, Office of Evaluation, IFAD; and Raquel Peña-Montenegro, Director, Latin American and the Caribbean Division, IFAD

- **Paolo Silveri**

87. I would like to take a moment to talk about the possible linkages between organic agriculture and rural poverty alleviation. This is IFAD's main mandate, as the President mentioned, and is at the center of our new Strategic Framework. There are several ways to make this linkage operational. One is policy dialogue, in which we can help to develop supportive policy and institutional frameworks in some of the countries where we operate. Another way is partnership development and partnership building. IFAD works with governments, but the projects we support are more and more flexible in their nature and design. Many activities are out-soured to the private sector, to NGOs, to local communities. The potential for partnership development and building is extremely high and broad. The linkages are there, and I hope that they will be developed in the near rather than far future.

88. I would also like to talk about information and communications, which lie at the heart of many questions, problems and solutions. There is a wide range of improvements to be made in this area – communication to producers, developing local and regional markets, linking with international markets, and so on. Information deals with education and awareness building. We can promote farmer-to-farmer information and extension, support the local learning loop and processes. Bridges between institutions in developed countries and developing countries, bridges between individuals and institutions, can be developed to create the enabling environment that has been advocated in order for organic agriculture to become a viable tool for small producers.

89. What can be done next? We started with Latin American and are confident that other regions have interesting experiences to offer as well. Luciano Lavizzari, the Director of the Office and Evaluation, has stated that OE wishes to do more. The Office of Evaluation is available and considers this evaluation a first step. It offers other regions within IFAD the same opportunity. Discussion will start in the coming days on the programme of work for the next two years. We wish to offer the other regions in IFAD the same opportunity to review their experiences with organic agriculture so that IFAD can build a global vision and approach to organic agriculture in the coming years.

- **Raquel Peña-Montenegro**

90. On behalf of IFAD, and as Director of the Latin America and Caribbean Region, I want to thank you for all the work you are doing. What you have given us in the past two days will serve as a very strong stimulus to render our studies more complete and operative. Clearly, none of this could have been undertaken in isolation. It is all dependent on partnership and cooperation, the link-up between institution and governments. One message is clear – we must strengthen our connections with the private sector. Our efforts cannot be realized without their participation and partnership. We intend to use the elements that you have provided us and to have follow-up work in the regions, in Central America and elsewhere.

91. My direct supervisors, the President and Vice President of IFAD, are strongly committed to this work and to this path that we are exploring. None of us claims to be particularly wise in this area, and in all humility we are extremely grateful to you for your knowledge sharing and support.

Appendix A

WORKSHOP – LIST OF PARTICIPANTS

NGOs AND COOPERATIVES OF PRODUCERS

Asociación ANAI/APPTA
Roberto Mack**,** Organic Programme Consultant

Asociación de Organizaciones de Productores Ecológicos de Bolivia (AOPEB)
Oscar Mendieta Chávez, General Manager.

Asociación de Productores del Noroeste de Córdoba (APENOC)
Eduardo César Belelli

Fundación Agrecol Andes
Anne Piepenstock, Director.

Instituto Argentino de Investigaciones de las Zonas Áridas (IADIZA)
Jesús Antonio Páez, Agronomist.

International Federation of Organic Agriculture Movements (IFOAM)
-Alberto Pipo Lernoud, Vicepresident,
-Cristina Grandi, IFOAM/FAO Liaison Office Coordinator

TechnoServe
Luis Chavez, Regional Director for Latin America

RESEARCH INSTITUTES

Tropical Agricultural Research and Higher Education Center (CATIE)
-Raul Moreno, Coordinator, CATIE/SETEDER
-Reinhold Muschler, Chair and Associate Professor, Department of Ecological Agriculture (CATIE)

Centro para la Investigación en Sistemas Sostenibiles de Producción Agropecuaria (CIPAV) / Corporación Autónoma Regional del Valle del Cauca (CVC)
Gunnar Mordhorst, Advisor for Agriculture and Biotrade Projects

Research Institute of Organic Agriculture (FIBL)
Salvador Garibay, Agricultural Engineer

Inter-American Institute for Cooperation on Agriculture (IICA)
Patrick Chesney, Doctor

Institut pour l' Environnement et de Recherches Agricoles (INERA)
Daniel Kaboré, Agricultural Economist, Department of Natural Resource Management

Unidad Regional de Asistencia Técnica (RUTA) / FAO
-Mikkel Andersen, Certification Specialist
-Mario Castejón, Economist

Università della Tuscia
Giorgio Balestra, Dipartimento di Protezione delle Piante Università della Tuscia

Universita' di Roma Tre
Pasquale de Muro, Lecturer in Rural Development and in Territorial Economics,
Dipartimento di Economia, Universita' Roma Tre

Universita' degli Studi di Perugia
Filippo Pignataro, PHD Candidate, Dipartimento di Scienze Economiche ed Estimative,
Facoltà di Agraria

TRADE AND CERTIFICATION COMPANIES

ARGENCERT (Argentina)
Laura Montenegro, Director

ECO ALLIANCE
Juan Andres Santelices, Director

Fairtrade Labeling Organizations International (FLO)
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APPENDIX 2

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