



Evaluation of the Agricultural Economics Research Institute of Finland (MTTL)

Report of the international evaluation group

Ministry of Agriculture and Forestry in Finland

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Foreword

The Science and Technology Policy Council of Finland issued in 1994 a recommendation urging the ministries to carry out international evaluations of all state research organisations within their respective branches of administration. Evaluations would serve to give an objective view of the organisations in their fields of research and to help to improve their operational efficiency. The evaluation of the Agricultural Economics Research Institute is the last one of its kind within the Ministry's branch of administration.

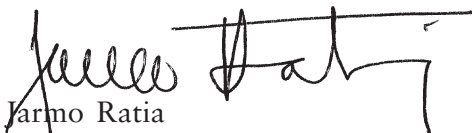
The Ministry invited Professor M. Shucksmith from the United Kingdom, Professor P. Kettunen from Finland, Professor U. Koester from Germany and Mr. K.J.Poppe MSc. from the Netherlands to carry out the evaluation. The Ministry also appointed a steering group, consisting of representatives from the principal reference groups of the Agricultural Economics Research Institute to guide and assist the evaluation panel in its work.

This report is the result of the independent evaluation panel's work.

The Ministry wishes to express its sincere gratitude to the evaluators for their work, which gives a good basis for further consideration of the development of the Agricultural Economics Research Institute. The possibilities of implementing the panel's recommendations will be carefully examined.

The Ministry also wishes to thank the members of the national steering group and all those who have helped the evaluation process. Finally the Ministry wishes to extend its appreciation to the management and staff of the Agricultural Economics Research Institute for their efforts throughout the course of the evaluation.

December 10, 1999



Jarmo Ratia
Secretary General



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Preface

The international evaluation group established to undertake the review of the Finnish Agricultural Economics Research Institute (MTTL) is pleased to present its report. This summarises our findings and reflects the wide-ranging discussions we had with the management, staff and stakeholders of MTTL. These discussions resulted in an analysis and assessment of the performance of MTTL and were the basis for our recommendations for the future.

Agricultural economics can help Finland to promote the competitiveness of its food industry and rural services, sustain the viability of rural areas and ensure care for the environment. However, in a modern, rapidly changing industrial and scientific context, with an agricultural sector in transformation, the demands on agricultural economics and MTTL are high. In fact the pressures of change are so intense that meeting many existing and emerging research demands requires changes in MTTL and outside it: in the larger Finnish research system and in the scientific community of agricultural economics research.

Against this background we have given our views of the future needs and changes we believe will assist MTTL and the Ministry of Agriculture and Forestry in Finland in meeting the challenges of the future. To meet our terms of reference, we have found it necessary to look not just at MTTL but also at the broader field of agricultural economics research in Finland, and how this is supported by the Finnish research system. We trust that our evaluation and recommendations will be of value to those involved in this process. We have found a welcome willingness in Finnish society, as well as in MTTL, to call upon science to meet the challenge of change and to see knowledge as the basis for a modern society. That recognition encourages us to believe that successful changes will be implemented for the benefit of the Finnish society.

Mark Shucksmith (chairman)

Ulrich Koester

Krijn J. Poppe

Pertti Kettunen

Executive Summary

1. For many years, the Agricultural Economics Research Institute of Finland (MTTL) has been a valuable source of policy support for the Ministry of Agriculture and Forestry in Finland (MMM). Their applied research has been essential to negotiating farmers' incomes prior to EU accession, and to the negotiations on EU accession. However, it is important that their work also meets the changing needs of Finnish society in the future. The pressures of change are such that meeting the many existing and emerging research demands requires changes not only in MTTL but also in the broader field of agricultural economics research in Finland, and in the ways in which this is supported by the Finnish research system.
2. Finland devotes a substantial share of its GDP to research and has an impressive science policy. One feature of this is the commitment to evaluation of its research institutes by international panels such as this one. However, agricultural economics research in Finland seems to be of low quality relative to international standards. The number of PhDs is low, and there are very few papers published in peer-reviewed journals of international standard. There is a narrowness in the research paradigm, and both a lack of innovation in methods and an inertia in the topic focus : moreover, this seems to be true of the University as well as MTTL. There is only one school of thought, leading to a lack of diversity and an absence of critical research that investigates and informs policy effectiveness.
3. Both MTTL and the University's Faculty of Agriculture undertake similar applied research, and there is a lack of basic research. There is a need for greater complementarity in this respect. In our view it is appropriate for MTTL to emphasise applied research, and for the University to include more basic research in its programme.
4. Research training, and especially the training of postgraduates, is inadequate, largely due to a lack of funding for agricultural economics studentships from the Academy of Finland. The University does not train enough doctoral students, and in MTTL there are too few experienced staff to supervise such work. This is a crucial issue for the future of agricultural economics in Finland.
5. MTTL itself has an extremely close relationship with the Ministry, and this has both positive and negative aspects. On the positive side, MTTL has provided a lot of policy support for MMM which has been especially helpful in the period of accession to the European Union's common agricultural policy (CAP). This work is highly valued by the Ministry. However, this has had negative effects on its output for farmers and the advisory services (rural community support) as well as on its contribution to science (knowledge development). The results agreement is applied in such

a way as to guard this close relationship, rather than to promote quality and innovation. No limits are placed on the amount of work which MMM can require for policy support, and this has led to crowding out of knowledge development and rural community support. It should also be noted that MMM's needs are not necessarily synonymous with the needs of Finnish society.

6. The staff of MTTL are young, and very few have PhDs. The management of MTTL's human resources is problematic, since high starting salaries and permanent posts are given to staff without doctorates who in other countries would be research assistants. The grading structure makes no clear distinction between qualified researchers and research assistants. This provides few incentives towards excellence and improved performance. Generally there is only a poorly-defined research career structure, an inflexible wage structure, and consequently a tendency for experienced staff to leave.
7. Measurable scientific output of MTTL is very low, partly because of the lack of incentives both for individuals and for the institution (in the results agreement), and partly because much work for MMM goes unreported and unpublished. The image of MTTL is 'solid and traditional' and this tends to be seen negatively as not very dynamic or innovative regarding new topics and research methods. On the other hand, the neutral stance of MTTL is valued, along with the potential of its FADN (the Farm Accounting Data Network) dataset.
8. The changing character of Finnish agriculture, serving new needs in Finnish society in an increasingly globalised world, means that MTTL's focus needs broadening if it is not to become out of date. Its successful work in environmental economics should be further developed, and more attention should be given to rural development, upstream and downstream supply chains, critical policy evaluation, cost-benefit analysis, scenario planning, and rural enterprises. Both the style and content of MTTL's research needs updating to serve the changing needs of Finnish society. Some steps in this direction have already been taken, notably in relation to agro-environmental research, and these are welcomed.
9. We recommend increasing the independence of MTTL by installing an independent board (like that at MTT) to protect the wider interests of Finnish society in agricultural economics research, and reformulating MTTL's mission. The words 'under the guidance of the Ministry' should be deleted from MTTL's operating principle, and this might be reformulated into a mission to 'help clients to maintain the vitality of farming and the rural areas, and to sustain the environment, through economic research of international standards'.
10. Account management should also be introduced to promote efficiency and to achieve a better balance between the three tasks of MTTL : knowledge develop-

ment, policy support, and rural community support. Preventing crowding out by the insatiable demands of policy support is essential to the sustainability of the institute and its work. This is discussed in detail in Summary 6.2 and in Appendix 3.

11. MTTL in cooperation with appropriate universities should as a priority develop a research training strategy through Graduate Schools (with funding from the Academy of Finland), with teaching obligations for MTTL staff and the employment by MTTL of graduate students as research assistants. Such a Graduate School could either be in applied economics or in multidisciplinary rural research. It should be emphasised that the severe lack of PhD-qualified agricultural economists in Finland is a major handicap to meeting the research needs of Finnish society.
12. In adjusting its work to meet changing needs, MTTL should proceed in partnership with other researchers, and engage more in research networks. While this is already the modus operandi of the environmental economists at MTTL, the rural researchers and agricultural economists are rather isolated at present. Partnerships and networks are the only feasible way of increasing the research capacity of MTTL in the new fields where the needs of stakeholders are growing. There may be a role for MMM and others to foster such partnerships and networks.
13. Three options for the organisational reform of MTTL are summarised in Summary 6.3. Each of these would bring greater efficiency, relevance and quality. The three options are:
 - MTTL remains a separate institute, with internal reforms
 - MTTL is merged with Government Institute for Economic Research (VATT) and Information Centre of the Ministry of Agricultural and Forestry (TIKE)
 - MTTL becomes an institute within Agricultural Research Centre of Finland (MTT)
14. The advantages and disadvantages of each are considered in Summary 6.3. The final choice between options 1 and 3, each of which has distinct advantages and disadvantages, is finely balanced. Change may well be quicker and easier to achieve if MTTL is merged within MTT, but this has to be considered as part of the broader issues highlighted in the report about the future direction of MTTL's and MTT's research.
15. MTTL has made an important contribution to Finland's farmers and the broader needs of Finnish society in the past. We hope that these recommendations will assist in enabling it to make a similarly valuable contribution in the future.

1. Introduction and terms of reference

1.1 International evaluation team

The Finnish Ministry of Agriculture and Forestry has decided to carry out an international evaluation of its Agricultural Economics Research Institute, as part of the wider programme of evaluations of research institutes required by Finnish science policy. The Ministry of Agriculture and Forestry (hereafter: MMM according to its Finnish abbreviation) believes that an evaluation carried out by outside experts is the best way of getting impartial views as a basis to define the tasks of the Agricultural Economics Research Institute (hereafter: MTTL) in agricultural research in Finland and to evaluate its ability to operate internally when the trends in agriculture and other rural sources of livelihood are changing rapidly. The evaluation is seen as important in giving an objective view on MTTL as an organisation in its field of research both in the Finnish and the European context.

MMM has invited the following experts to carry out the evaluation:

- Prof. M. Shucksmith (University of Aberdeen, UK), chairman;
- Prof. P. Kettunen (University of Jyväskylä, Finland);
- Prof. U. Koester (University of Kiel, Germany);
- Mr. K.J. Poppe MSc. (Agricultural Economics Research Institute LEI, Netherlands).

The work of the international evaluation group (hereafter: IEG) has been guided by a steering group and has been supported by secretarial help from MMM.

1.2 Terms of reference

The evaluation focuses on the operational efficiency of the Agricultural Economics Research Institute and on the inner operability and the functionality of the organisation with regard to agriculture and horticulture and other new trends in rural businesses and the new environment. The evaluation should provide answers to the following questions:

1. Are the business idea of MTTL and the general goals in accordance with the needs of the development of rural industries and the society?
2. Does the results agreement system between MMM and MTTL function properly?
3. Do the organisation of MTTL, its management practices and the research methods used, create a good basis for directing research, for monitoring and evaluating the implementation of research, for guaranteeing the quality and development of research and carrying out necessary amendments?

4. Do the methods of MTTL comply with the criteria of efficiency for the needs of research development, administration, advisory activities in agriculture and horticulture, entrepreneurial activity and other interest groups and international co-operation?
5. Do the strategic basic research, applied research and research for the purposes of administration and agricultural policy and the expert services have the appropriate and right focus in the working programme of MTTL?
6. Does MTTL have enough resources and opportunities to act as a research and expert organisation in order to support the national and EU agricultural administration?
7. The focus, the dimensions and the role of the research within MTTL compared to other Finnish research in the field?

1.3 Procedure

The members of the IEG received an information package before the first visit, which included the terms of reference. The evaluation consisted of three visits. The first one was organised on March 4 and 5, 1999. The IEG was briefed on the terms of reference and MTTL was presented by its management. Discussions were held on the organisation of the institute, its facilities, the output and the research activities. MTTL also presented some questions which they considered relevant to the evaluation. These questions have been integrated with the terms of reference as much as possible (see chapter 5). After this visit the IEG organised a survey among MTTL staff, to review more closely their scientific output and to hear their views on the performance of the institute.

A second visit was organised on May 6 and 7. During this visit many stakeholders were interviewed, by the IEG as a whole or by individual members. The management of MTTL was also interviewed and present at certain moments to answer questions. Some stakeholders were interviewed in Finland and elsewhere in Europe outside these two days. The evaluators shared all their notes (including hypotheses, preliminary conclusions and points still open for discussion) by e-mail after this visit. On the basis of the common notes, a first draft of this report was written and exchanged by e-mail.

A third and last visit was organised on June 30 – July 2. Part of this visit was used for extra interviews with stakeholders. Most of the time, though, was used to discuss the draft report and to draw conclusions and formulate recommendations. These were presented at the end of the visit to the Steering Group and to MTTL's management. Comments and reactions to those conclusions and recommendations, made in the meeting and shortly afterwards, have been taken into account in this

final version of the report, as far as the IEG agrees with them or finds this useful. Afterwards the draft report was completed and presented to MMM in August 1999.

1.4 Remarks on the procedure

The IEG was satisfied with the amount and type of information which was made available in good time before the visits. Especially the background document prepared by MTTL was highly appreciated. MTTL spent a lot of valuable effort in translating documents. In the preparation more attention could have been given to a clear and concise overview of (international) publications per staff member. The lack of this information was one of the triggers which stimulated the IEG to organise a small survey. Another trigger was that this made it possible to get an impression of (dis)satisfaction of the staff; as the first visit (shortened by air strikes) was dominated by talks with the management, leaving little room to interview individual researchers independently of the management. A problem for foreign IEG members that is hard to overcome is the fact that many MTTL publications are written in Finnish.

The IEG was confronted with many issues on the external organisation of MTTL: its relations with other organisations and its role in the Finnish 'science industry'. Partly for this reason the IEG did not evaluate the different parts of the institute separately. However it paid attention to the main research themes and the FADN (Appendix 2).

Finally, the IEG was very satisfied with the way MTTL and MMM prepared for, and supported, the evaluation. The presentations at the institute were of good quality. The stakeholders whom we interviewed were well prepared and willing to provide their insights in a balanced way and with an open mind.

1.5 Report

The terms of reference were used to structure the report. Chapter 2 describes the organisation of agricultural economics research in MTTL in relation to the research system and science policy in Finland. Chapter 3 comments on the tasks of MTTL, its mission, its goals and the way these are steered by the legislation and the results agreement system. This is followed in Chapter 4 by an assessment of MTTL's output in relation to the needs of Finnish society for agricultural economics research.

Chapter 5 presents our main findings as answers to the questions raised in the terms of reference. Chapter 6 draws together the conclusions of the IEG and provides recommendations for further action.

1.6 Acknowledgements

The IEG would like to express its thanks to Juhani Tauriainen, Mirja Suurnäkki and Hanna Lilius for their excellent support in organising the visits and the interviews and for their helpful comments on our draft report. Besides the management and staff of MTTL, we would like to thank all the persons interviewed for providing valuable input in the evaluation. They are listed in Appendix 1.

2. The Finnish research system, agricultural economic research and MTL

2.1 The Finnish research system

The vision for Finland adopted by the Council of State and Parliament is of a knowledge-based society, in which knowledge and know-how are central factors for economic, social and cultural development. To achieve this ambitious goal a very high percentage of GDP (3%) is channelled to research and development.

Most (70%) research and development in Finland is funded by the private sector, and only some of this is done at universities and polytechnics or in private and public research institutes. Of the Government's funding for research and development, 80% is controlled by the Ministry of Education and the Ministry of Trade and Industry. The rest is under the control of other ministries like The Ministry of Agriculture and Forestry.

In Finland as in many other countries one may distinguish three types of research:

Type of research	feed back from	main goal
Basic research	scientific community	excellence
Sectoral research	unclear	relevance
Technology development	market	dominance

In recent years the largest increases in funding have been in technology development, while funding for sectoral research has also increased. The basic budgetary allocation of the universities has been slightly decreasing, although total funding of basic research has increased. Funds available are increasingly for fixed-term projects and involve competitive bidding (soft money).

The research system in Finland consists of several layers illustrated in figure 2.1.

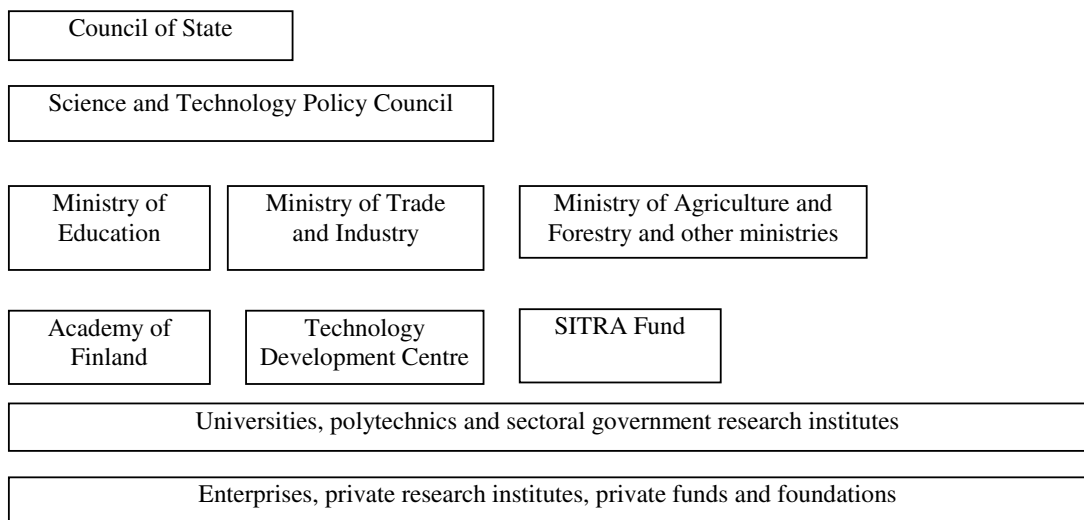


Figure 2.1 : The research system in Finland

The Science and Technology Policy Council is the highest authority, and the most important initiator and policy making body in the Finnish research system. It is headed by the prime minister and the members of the Council represent government, i.e. ministries, industry, universities, research institutes and trade unions.

A target was set by the Council of State in 1996 to increase the funding of research and development to FIM 18 300 million and 2.9% of GDP by the year 1999, and this has been achieved due to increasing R&D funding by industry. Currently there is discussion about whether a new even higher target should be set, but because this may be constrained by a shortage of competent researchers it is more likely that future growth will be more qualitative than quantitative.

The development of sectoral research

The volume of sectoral research, in funding terms, is as great as the whole university system in Finland. The bulk of this funding goes to technical research and development work through the Technology Development Centre (Ministry of Trade and Industry). Most ministries have their own sectoral research institutes, and of these it is the Ministry of Agriculture and Forestry which has the most. Ministries work very independently and cooperation between them is not without difficulties.

The Science and Technology Policy Council (STPC) published in February 1999 a review of current developments and problems of sectoral research. In this document STPC reviewed its earlier recommendations and policy decisions and indicated lines for further development of sectoral research.

The main thrust of this revised policy is that the research system in Finland should in the future have a network structure. Instead of a series of unconnected binary links between each funding body and each research institute, the STPC proposed a system of interconnected networks cutting through the administrative boundaries and through the boundaries between sectoral and basic research.

The STPC also grouped the sectoral research institutes into three groups according to their field of research, a) Natural resources b) Man and his environment c) Culture and society. The Agricultural Economic Research Institute (MTTL) was put into the third group together with other economic research institutes and several research institutes in the field of museums, languages, consumer affairs and law.

The STPC emphasised that there might be a need for structural reorganisation within each of these groups, across existing administrative boundaries. In particular, the Council pointed out that in the third group the research institutes are small and that there should be interest in ministries and in the research institutes for structural reorganisation. This would suggest restructuring or increased cooperation between

the Agricultural Economic Research Institute and the Government Institute for Economic Research, and perhaps also the National Consumer Research Institute.

The Science and Technology Development Council recommended also:

- that the governing/management system of research institutes should be examined, and that a board with outside stakeholder representatives might be a good model, such as that at the Technical Research Centre of Finland;
- that the research institutes have to increase the relevance and effectiveness of their work from the point of view of their 'customers', the users of their research;
- that the results agreement system which operates between ministries and research institutes should be developed further, to ensure a balance between competitive elements and cooperative elements of funding. The opening up of research institutes to domestic and international competitive 'research markets' is important.

In line with this emphasis of policy, there has been a shift away from core funding of research institutes towards competitive bidding (from 25% to 40% of public investment in R&D since 1996). Similarly, 80% of the total increase in public investment has been channelled through the Academy of Finland (and the Research Councils) and the Technology Development Centre. The purpose of this has been both to enhance competitiveness and to increase the quality of research undertaken.

2.2 The organisation of agricultural economics research

The need for agricultural economics research in Finland is considerable and is growing due to:

- the rapid transformation of agriculture and rural industries;
- EU membership and the development of EU agricultural policy;
- the importance of the food and forest industry cluster to the Finnish economy;
- the changing structure of the farm-to-consumer value chain in the food and forest industries.

The Ministry of Agriculture and Forestry and the Advisory Committee for Agricultural Research has defined the target of agricultural research to be:

- to contribute to the adaptation of Finnish agriculture and other rural industries into the opening up of the international agricultural and food markets;
- to contribute to the competitiveness of the Finnish food economy;
- to develop new products and production technologies;
- to increase the attention given to the sustainable use of renewable natural resources;

- to produce basic information for rural development policies and programmes.

Agricultural economic research in Finland therefore has three main tasks:

1. contribute to the adaptation of Finland's agriculture and rural economy into the new competitive environment;
2. promote the competitiveness of the Finnish food industry;
3. increase the attention paid to the sustainable use of natural resources.

Most agricultural economics research in Finland is done at the Agricultural Economic Research Institute (MTTL) and at the Department of Economics and Management of the Faculty of Agriculture and Forestry of the University of Helsinki. These research institutions have very close links. The university department undertakes both basic and applied research, while MTTL shares with the University in training Ph.D. students in addition to its applied research, to the extent that a typical career in agricultural economics includes work in both of these institutions.

There are other institutions which pursue research in agricultural economics and related fields. The Government Economic Research Institute of Finland has shown some interest in the field and some private research institutes like Pellervo Economic Research Institute (PTT) are engaged very much in agricultural economic research. PTT's client group, the Finnish food and forest industry and Finnish farmers, overlaps considerably with MTTL's.

MTTL is funded through a mixture of core funding from MMM (83%) and soft, project funding (17%) from a slightly wider range of sources (though still principally from MMM). The Ministry of Agriculture can thus exert considerable influence on MTTL both through this dependency on its funds and through the annual results agreement system (discussed in detail in chapter 3 below).

In contrast, the University is funded primarily through the Ministry of Education, both through its core funding for teaching and research and through its competitive bidding for funds from the Academy of Science of Finland. It also pursues competitive funding from the EU and other sources. The Pellervo Economics Research Institute, and other private research institutes, are totally dependent on competitive tendering for funds from the public and private sectors.

According to the general STPC policy, both MTTL's and the University's research funding is likely in the future to be more reliant on competitive bidding. The Ministry of Agriculture and Forestry would also like the share of external funding to increase. MTTL on the other hand would like to have increased core funding to secure the long term financing of its research programmes and to be able to keep competent staff.

The problems in the current structure are:

- the STPC wants a more networked structure of research institutes. This will be difficult to achieve and will require the commitment of the top-management of the ministries. In addition cooperation requires research topics which are interesting from the point of view of all the cooperating research institutes, and in which they can offer complementary skills;
- the Ministry of Agriculture and Forestry has a large number of research institutes. A requirement for a simpler structure might follow from the increased need for multidisciplinary collaboration in research. The research institutes' scientific orientation, their history and tradition make changes in this structure difficult;
- MTTL serves the Ministry, and the needs of the Ministry dominate its work. There are very few contacts with the advisory organisations other than in the collection of data. The needs arising from transformation of the rural economy necessitate more direct contacts and cooperation between MTTL and the advisory organisations;
- the relationship between the ministry and MTTL is primarily administrative. MTTL does not have a board of its own, although this is partly compensated by its advisory board. The need for a less dependent status and a board has to be explored as part of the larger study about the future tasks, organisation and status of MTTL;
- MTTL reports to the Directorate of Agriculture in MMM and then to the Director General. How are research needs from other directorates, such as those for rural development or for forestry, taken into account? How should this be organised if MTTL goes further into rural development or forestry research?

All in all there seems to be a need to examine in more depth the future structure of agricultural economics research in Finland. The new structure should be such that it allows and encourages:

- collaboration and networking;
- independent and critical research;
- rapid identification of emerging problems needing research;
- serves the agriculture and rural development policy work at the Ministry;
- serves the advisory work in rural development.

A number of options for radical restructuring were suggested to the IEG, including:

- merger of MTTL within the Agricultural Research Centre of Finland (MTT);
- merger of MTTL within the University of Helsinki's Faculty of Agriculture;
- building up the basic and strategic research function of MTTL, while transferring its applied work into the Ministry itself;

- merging MTTL with other small research institutes, such as the Government Institute for Economic Research, National Consumer Research Centre, and the National Research Institute on Legal Policy to form a research cluster on the Future of Welfare Society.

These alternatives will be considered during the course of this report, in addition to less radical restructuring suggestions.

2.3 MTL and the University of Helsinki

The goal for the university system in the Finnish Knowledge-Based-Society agenda is to expose 60% of each age cohort to degree level higher education. This will face the universities and their departments with a major challenge. Simultaneously their basic funding is decreasing and research funding is increasingly derived from tender-based competitive funding.

The Department of Economics and Management in the Faculty of Agriculture and Forestry of the University of Helsinki has a research staff of 38 persons and its annual budget is about FIM 10 million. The scope of its research is much wider than that of MTTL. It produces on average one Ph.D. a year, which is an extremely low figure in international terms. Its staff produced about 25 publications in 1998, and this is also very low. International publications are very few, although its international contacts are quite good in comparison with MTTL. The research done is mostly applied econometric research, especially in the field of production economics and farm management.

A central problem for the Department of Economics and Management of the University of Helsinki is that there is no longer a special Research Council within the Academy of Finland for agricultural and forestry research. The Department thus has to compete with a larger body of research proposals from the wider field of scientific research, it does not have 'earmarked' research money, and it is handicapped by a lack of representation of economists on the relevant committee in the Research Councils. The meagre funds at the university increase the attractiveness of Ph.D. studies at MTTL.

The performance of the university department is more and more dependent on the money that flows to projects. There is no clear Ph.D. programme, but every year one of the Nordic countries organises a course. Most of the Ph.D. training takes place at visits to foreign universities (Wageningen or USA) while a few take Ph.D. courses at other departments, business schools, or economics department. A Ph.D. in Finland in agricultural economics is still always in the form of a monograph and not a combination of a number of accepted A-journal articles. In many other fields (e.g. science or business studies) in Finland a combination of articles is now common practice.

The most effective organisations producing Ph.D.'s in Finland are the 'Ph.D. Schools' or 'Graduate Schools'. They are collaborative organisations where departments from several universities organise together a Ph.D. programme. The field of research or the research paradigm can even be quite narrow. Agricultural economics could very well be the topic of one 'Graduate School', but there is only one university in Finland where agricultural economics is represented. Alternative ways of addressing this problem are suggested in Chapter 6 below. 'Ph.D. Schools' are established on a competitive basis. The Research Councils fund these 'Ph.D. Schools' and also provide full time research scholarships for the students participating in the programme.

The size of MTTL is rather big and well funded as compared with university departments. MTTL has a staff of 60 persons and a budget of about FIM 15 million. MTTL nevertheless produces very few publications, by international standards, averaging around 70-80 per year. They are less academic than those of the University, being mainly short articles in newspapers and professional journals. The number of in-house research reports is around 30 per year. International publications are very few.

The research paradigm of MTTL is narrow. Virtually the only one used is econometric modelling based on production theory. This is also the case for most of the research in agricultural economics done at the Department of Economics and Management of Helsinki University. There are exceptions to this, both in the research done at MTTL and in that done at the university, and it is to be expected that new paradigms will gain importance in the future. The first signs are already visible.

The relationship between the university and MTTL seems to be good, and there is an interest in strengthening collaboration. The university appreciates the access to FADN data and 5 to 10 students each year write their masters thesis at MTTL. MTTL is –in most cases- not seen as a competitor by the university. There is some cooperation in teaching, where MTTL staff teach subjects such as accounting. This is remunerated and due to a money shortage these activities are declining.

The relationship between the University and MTTL seems to be beneficial to both of the parties. There are problems also. This relationship where most of the agricultural economists are trained through employment at MTTL, might also leave agricultural economists isolated from other social scientists. A further problem related to this might be the development of a much too narrow school of scientific thought and practice. There is an indication both at the university as well as at MTTL of this. A further problem is that the topics Ph.D. students can pursue at MTTL are limited by the research programme of MTTL, which is necessarily applied. Students find it hard to complete their Ph.D. under the pressure of MTTL contracts, or to engage in the more theoretically informed, more basic research normally required at Ph.D. level.

3. The organisation of MTTL

3.1 The institutional setting

The Agricultural Economics Research Institute (MTTL) is a Research Institute affiliated with the Ministry of Agriculture and Forestry. Its tasks are set out in a special Act. The organisation of the Institute is specified in the ‘Statute on the Agricultural Economics Research Institute’ No. 153, enacted in Helsinki 15 March 1996 and in a ‘Standing Order’ ratified 25 June 1998.

A general issue is whether research institutes should be tied to any one sectoral Ministry. Agricultural research, like any other research funded by the taxpayer, is justified in economic terms if it contributes to the welfare of society at large. Hence, there is a case to have organisations, such as ministries for education, technology or academy, which are in charge of research in general, independent of the sectoral focus of research. The affiliation of agricultural research institutes wholly or mainly to the Ministry of Agriculture may have been justified in former times when the agricultural sector had a special role to play in the economy and when political economy aspects were neglected. However, first, the agricultural sector has now been widely integrated into the overall economy in industrialised economies, and there is hardly a rationality for having agricultural research dominated by the Ministry of Agriculture. Second, there is ample evidence from political economy studies that Ministries of Agriculture tend to favour agricultural producers at the costs of the society at large. Hence, there is a danger that the research focus might be biased from a macroeconomic point of view if the Ministry of Agriculture is the only organisation in charge of agricultural research.

Therefore, the IEG investigated the present structure and reflected on alternative structures which would ensure that MTTL’s research serves the wider needs of Finnish society, including those where agricultural research would be under the same umbrella as research for the other sectors in the economy. This is in line with the STPC’s reports.

According to the Act, the Institute must be headed by a Director General and, in addition, there may be Research Directors and staff at the Institute. The Director General must have proven managerial skills. In addition, he must hold a doctorate degree or must have demonstrated equivalent scholarship.

It is noteworthy that the Statute states that the Director General is appointed by the President of Finland on the submission of the Council of State without a public announcement of a vacancy. Such a provision seems questionable. The Director General of a Research Institute is of great importance for the performance of a research institute. Hence, the selection procedure should enable the best available

candidate to be hired. In our view the vacancy should be announced, and candidates within and outside the country should be considered. It may be that this provision was not of much concern prior to 1995 when Finland's agricultural policy was more inward looking and knowledge of internal matters was crucial. However, times have changed. Any successful Director General now should have a good international reputation and experience. Hence, the present selection procedure should be reconsidered.

The performance of any institute also depends on the facilities available, and this includes offices, computers and the library. The offices of MTTL seem to be well equipped, but the PCs are somewhat outdated and the library is not sufficiently equipped. There are only about 10 journals in the library, and the number of new books is very limited. The lack of books and journals in the offices of most researchers also conveys the impression that the need for reading, and thus, keeping up with the research progress in the international research community, is not given high priority.

The Standing Order of the Agricultural Economics Research Institute specifies its internal organisation. It says that the Institute has the following operations:

- research field of farm enterprises;
- research field of agricultural policy;
- accounting of farm enterprises;
- research field of environmental economics;
- auxiliary activities for research.

Consideration should be given to the reorganisation and replacement of some of these areas of research, in line with the changing needs of Finnish society, and this is discussed further in the next chapter of this report. Such changes, of course, are not independent of the issues raised above about the relationship of MTTL to the Ministry.

The results agreement system between the Ministry and MTTL includes the annual agreement of a very detailed research programme. The research topics are derived from the research programme of the Advisory Committee for Agricultural Research, such that MTTL appears not to have an independent research strategy of its own. Partly for this reason, the Ministry of Agriculture and Forestry usually accepts MTTL's proposed research programme with no changes. In fact, of course, there is a long process of informed instruction between staff of MTTL and the Ministry during which new subjects and projects can be discussed (such as the work on agro-environmental issues and sectoral modelling projects). MMM officials believe they allow MTTL considerable freedom to influence their objectives and strategic priorities, but it appears to us that this freedom is little used because MTTL's Director sees his role as serving the needs of MMM. MTTL is, of course, represented on the Advisory Committee, along with academics, and representatives of the farming, food and related industries.

First experiences with the results agreement system with MTTL date from 1994 and there have been some improvements since then. There are no big differences from year to year in budget funding. There is a planning scheme for the steps in the negotiations on the results agreement (figure 3.1). The budget and the results agreement cover all of the activities of MTTL, including those dependent on competitive bidding for external funds. MMM thinks this helps MTTL to maintain its focus and to avoid commercial projects that would not have synergy with their core work programme. The central questions are whether this complementarity and relevance can be gauged better by MMM than by MTTL, and whether MTTL would be successful in winning projects from competitors that are outside the scope of its normal research agenda.

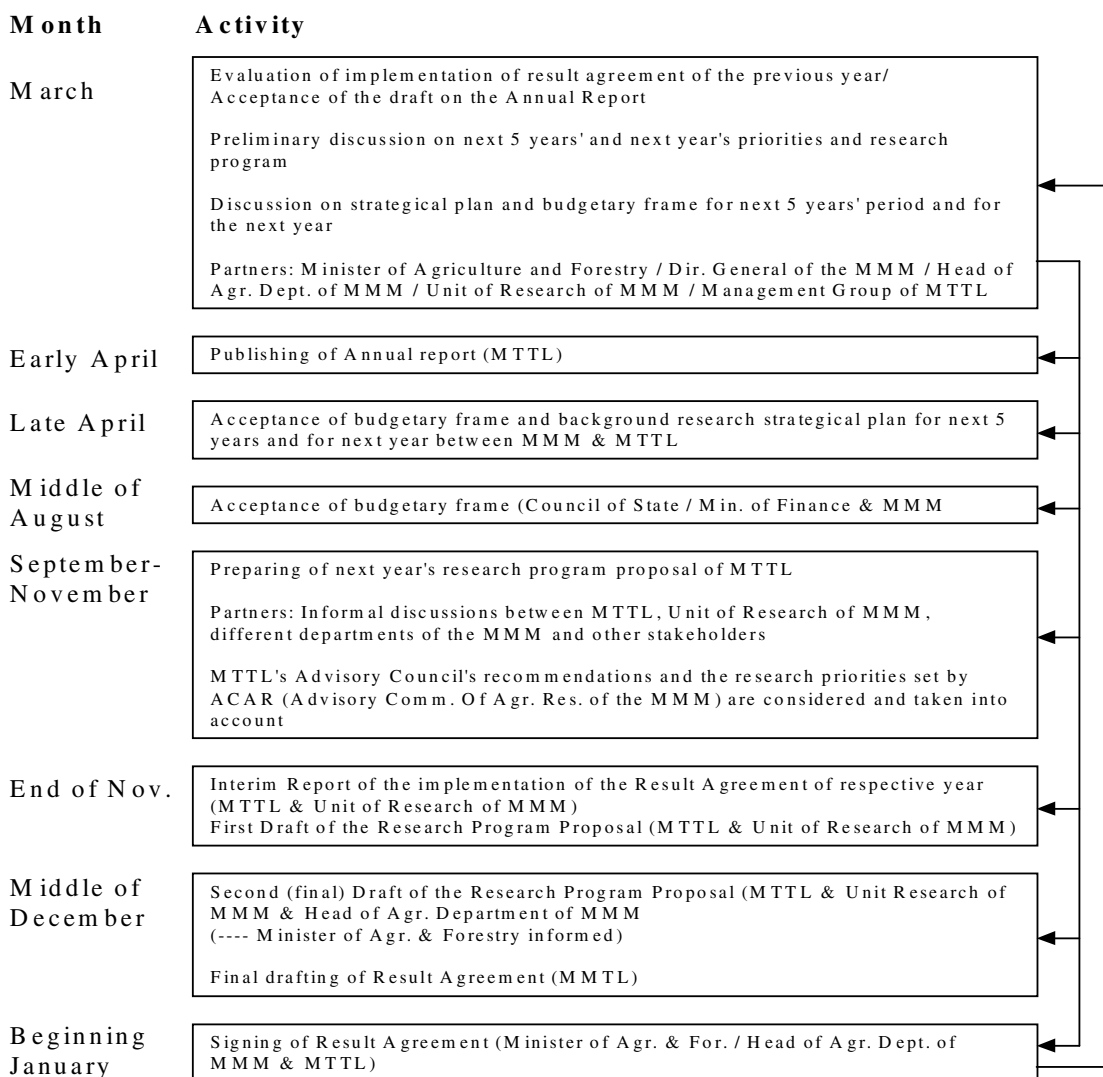


Figure 3.1 Yearly process of management by results of MTTL

The Agricultural Department of MMM is in charge of the strategic agricultural research plan. There seem to be problems in both timing and co-ordination of research planning both at the ministry's level and at MTTL.

In this procedure the role of basic research and Ph.D. training at MTTL is problematic. They have no clear status in the planning system and, in spite of the fact that they are part of the work proposed, their funding is unclear. Ph.D. training and the thesis work of the Ph.D. students cannot be included in the results agreement as they should be. The results agreement system needs to be improved in this respect of how to include basic research and Ph.D. training. Another point that needs rethinking is the strategic level planning at MTTL and its links with the annual results agreement.

We noted complaints from MTTL about delays in planning the 1999 work programme, although these are disputed by MMM. MTTL finds this especially undesirable as 16 out of 63 persons are paid on a contract/project basis. One third of MTTL's work is determined in the short run to answer immediate questions from the Ministry.

Because it is MTTL that makes the draft of the results agreement, it should be possible to propose that a greater priority is given to longer term research needs, such as projects on Agenda 2007 (e.g. contracts on public goods) that will be needed in 2003.

The selection of projects financed by the MMM on the basis of competitive tendering takes place by a special committee. Currently 30 projects are grouped in 9 clusters, making it easier for MMM to manage the programme. This also facilitates management within MTTL as the span of control of the research directors is limited. It also helps in co-ordinating contacts with other institutes.

The main problems to be addressed in developing the results agreement system are therefore the following:

- Developing the strategic input of MTTL within the freedoms allowed by MMM.
- Timing of the strategic and annual research planning cycle.
- Co-ordination of agricultural and rural development research.

Both MTTL and MMM are satisfied with the operation of the results agreement system. Nevertheless, it may not be the most appropriate system for a Research Institute. The issue is whether the current version of the results agreement system works in the intended way and whether it contributes to the objectives of MTTL (see below).

3.2 Personnel matters

The Standing Order of the Institute says that there should be two Research Directors, with one person responsible for each of the research units.

This structure should be reconsidered. The Director General of a research institute of this size should not be only an executive manager, but also a researcher who provides intellectual leadership to his/her staff. To some extent, then, his or her role may overlap with one or more of the research directors, who would be in a position to substitute for the Director General when the need arises. One possibility would be to nominate a program director or division chief for each of the programs, who would then be able to act as substitute for the Director General when appropriate, so freeing up some time for the Director General to undertake and supervise research.

Some of the researchers claimed in their responses to our questionnaire that the organisational structure of the Institute has too many levels. They suggested eliminating one level. Indeed, this makes sense and is widely in line with other Research Institutes in other countries and International Agricultural Research Institutes.

The staff of the Institute consists both of people with permanent employment contracts and those with fixed term contracts. The core budget appropriation allows for a maximum of 47 regular staff, out of whom 30 are researchers. The fixed term contract staff members are financed from project money, which comes mainly from the Ministry of Agriculture and Forestry, but could in principle come from other sources in the future (notably the Academy of Finland and the EU). There are about 15 researchers financed from this source of income. The total number of people employed is 63.

The Institute considers the high share of project funded researchers a problem, as it causes uncertainty about the continuity of the employment. The main problem seems not to be the fixed term contract itself, but the salary scale and the source of funding. Project money is mainly provided by the Ministry and the projects funded may well contribute to decision making in the Ministry, but the projects seem to be of less interest from a scientific point of view. It would be dangerous to introduce more permanent employment contracts at a competitive salary scale, and this would also go against the grain of STPC policy, as already noted. Experience with international research institutes clearly shows that fixed term contracts are more the rule than the exception, and nevertheless the performance of these institutes is, in many cases, excellent. What is needed is an adequate incentive provided by interesting research tasks, a stimulating atmosphere and an attractive income. The last issue is discussed in more detail below.

Out of the 63 staff members at present there are 18 support staff. There are no formal research assistants. The number of support staff seems to be high, but could be justified due to the workload in the FADN section, which employs 4 support staff members. However, the efficiency of the researchers could be increased if there were qualified research assistants. Actually, most of the present researchers would be considered research assistants at international research institutes where a Ph.D. is the necessary precondition to become a full-time researcher. This is an important point.

Our recommendation would be to introduce the grades of research assistants and research fellows to the personnel structure of MTTL. Holders of a Masters degree should generally belong to the first category, and only those with a Ph.D. to the second. It is important, however, that such a restructuring be accompanied by opportunities and incentives for staff to undertake PhDs, with appropriate time, funding and supervision.

The questionnaire completed by 31 researchers of the Institute revealed that the average age (arithmetic mean) of the researchers is only 35.7 years, with a skewed distribution. Most of the researchers are under 35 years of age. It is doubtful whether there is any research institute world wide, with such a young research team, which is able to maintain high-quality research. International research institutes of high reputation have a research team in a significantly higher age bracket, about 10 years or more.

The present staff of the Institute is likely not sufficiently trained to contribute to scientifically high-quality research. One would expect that the senior researchers with Ph.D.'s are widely engaged in supervision and training. Therefore, they have less time to do qualified research than their counterparts in other Research Institutes who can work with research assistants who are likely better trained than most of the present researchers in the Institute.

The young research team is of special concern because of the labour market regulations in Finland. Most of the researchers of the Institute are permanently employed and can rarely be dismissed. If, nevertheless, many of the young researchers leave the Institute it must be due to the individual incentive structure. It seems that, as staff gain experience, salaries offered by the Institute are not competitive with salaries paid by the Ministries, or by the private sector. Experience from other countries shows that excellent researchers often have a high preference for research careers and may be willing to forgo some income in order to continue in research. However, if the gap is too large they will move to better paid positions. The Director General of the Institute has confirmed that it would be possible for the Institute to pay higher salaries and to differentiate more than at present. MTT has experience of introducing more differentiation in order to address these issues. Salaries at MTTL

seem to be attractive for graduates with a Master's degree in their late twenties, but salaries are often not competitive for more highly qualified staff. The consequence of this salary structure is a complement of staff which is less qualified than research staffs in most other countries and in international Research Institutes.

The salary scale of the Institute is based on the scale available for other public servants, but allows for less variance than at the Ministries. Young researchers who usually hold a Master's degree start at the scale class 21, which amounts to about 10,000 FIM per month. Most of the researchers are in class 22 which surpasses the starting income by about 1,500 FIM per month. Only 4 researchers are in class 25, which is normally the salary of researchers with a Ph.D. The alternative income in other occupations for researchers with a Master's degree is about 200 FIM higher and for a researcher with a Ph.D. the gap is much higher. Of course, there is a wide range in the alternative income levels, but it helps to explain why there are only four researchers with a Ph.D. in the Institute. This is far too low a proportion for MTTL to be effective.

The Director General of the Institute confirmed that the Institute is free to change the salary scale. The present scale seems to be based on history and on an understanding of fairness (based on a statement by the DG). However, one should take into account the efficiency effects of such a payment scheme. It is highly recommended that MTTL should introduce a competitive salary scheme based more on performance. It was confirmed by the DG that other Institutes pay extra salaries related to performance.

The Institute is allowed to pay part of the normal salary to individuals who are abroad for further training (Ph.D. candidates). It is praiseworthy that the Institute is willing to use scarce funds to build up human capital in this way. However, the individuals who benefit from this program are not obliged by contractual arrangements to spend a minimum number of years in the Institute after their return. Hence, the investment of the Institute is highly risky. It is recommended that alternative ways for building human capital should be used. First, those who enjoy the benefits of the present scheme should have to sign a contract which commits them to return to the Institute for a specified period of time. Second, the present scheme implies that part of the Institute's wage bill is used for scholarships. It should be investigated whether MTTL can get access to some official scholarship programs in Finland or abroad. Third, the Institute should formalise some training schemes at the Institute or at the University. There is no formal Ph.D. program based on course work in agricultural economics or in economics at the University, but the Institute might engage with other partners in attempting to build up a graduate school which could attract funding from the Finnish Academy (see Chapter 6). Part of the salaries budget might also be used to invite visiting professors from abroad for a short period

of time (minimum 4 weeks, maximum 6 months) to teach in quantitative methods and in fields which are not sufficiently covered in the normal University training for Master's students. (Such gaps are identified in the next chapter.) Fourth, it would contribute to the scientific atmosphere of the Institute if there were regular seminars where the staff members report on their work, followed by a critical discussion.

3.3 The tasks of MTTL

MTTL itself defines its overarching objective:

“The task of Finnish Agricultural Economics Research Institute is to perform economic research on rural industries and food economy for the needs of rural entrepreneurs, administration, and other interest groups, in guidance of the Ministry of Agriculture and Forestry. MTTL's main functions are currently:

1. analytical work and topical applied research serving its customers, primarily MMM, the administration and thereby rural entrepreneurs;
2. scientific high-quality research in the field, focusing on applied research in the sector, but also including basic research;
3. researcher training and qualifications. This includes material and intellectual support for the further studies and additional qualifications of its own staff and the recruitment of students to do degree work in areas covered by the Institute's research programmes;
4. the official duties of FADN accounting, and its development and use as basic material serving research and administration.”

It is questionable whether any Institute with limited funding could adequately contribute to the achievement of the four main functions.

It has already been noted above that a research institute that primarily serves the Ministry of Agriculture does not necessarily serve society at large, or even rural entrepreneurs. Neither is it clear what is meant by rural entrepreneurs, unless these are assumed to be identical with farmers. It is likely that some of these entrepreneurs have quite different interests from the Ministry of Agriculture and Forestry. The research needs of these entrepreneurs are most likely not only served by those who have training as agricultural economists, like the researchers in the Institute, but by those who have training as general economists, business economists and sociologists. Hence, it is unlikely that the present staff composition of the Institute can contribute to task 1 effectively.

Concerning task 2, it follows from the analysis presented above that it can hardly be expected that the Institute can contribute much. The questionnaire revealed that the researchers rarely – if at all – publish in refereed journals. Most of

their publications, however few per person, are distributed in the form of research reports or articles in newspapers and unrefereed journals. Some researchers reported that their work consists mainly of calculations for the Ministry which are not published. There are only a few researchers who have presented papers at international conferences since 1993 (on average 0.16 to 0.42 per researcher per year). The number of papers presented at national conferences is about the same. This very poor result is due to the few researchers who are internationally active and due to the researchers' lack of advanced training.

Concerning task 3, one may wonder how a Research Institute with the present staff (of whom only four have PhDs themselves) can contribute much to the task. Probably this would not have been added to MTTL's tasks, if there were a more acceptable output of trained Ph.D.'s from the Universities in Finland. This is considered further below.

Concerning task 4, it should be noted that there are alternatives elsewhere in Europe to this task being undertaken within a research institute. It seems that there are two main approaches in European countries to such systems that serve the needs of the Common Agricultural Policy. In some countries (like Germany and France) the Ministry takes care of this, where in other (UK, Denmark, Italy, Netherlands) the research institutes or even universities (UK) take up this task (see Appendix 2).

3.4 Work done at MTL

MTTL does applied econometric research, which typically is based on microeconomic production and cost functions. The work done is applied research, but in most cases not very innovative and not critical. It rarely contributes to stimulating the policy debate in the country. Neither is its quality tested against international peer review.

The research agreement between the Institute and the Ministry does not indicate that critical research is wanted. It is understandable that the Ministry is not interested in critical research which questions the adequacy of past policy decisions, the effectiveness of policy instruments, the role of specific organisations and institutions, and the decision making process. Nevertheless, it is important to any society that these questions are studied and lessons learned. Hence, the Institute can hardly contribute to a critical policy debate in the country. It is striking that research is limited in the area of cost/benefit analysis, and that most research focuses on a sectoral view, neglects macroeconomic interdependencies, and concentrates instead on descriptive studies of the administrative functioning of policy instruments. Studies which deal with the regulatory framework of markets from a macroeconomic per-

spective are completely lacking. The milk market and regulations on factor markets should be of special interest.

This point may be illustrated with reference to the study of 'The investment aid programme on agricultural investment'. This study found that investment aid resulted in 'reducing the production costs (29% of the farms), improving working conditions (28%) and higher income (24%)'. Furthermore, the study listed some reasons why investment was not undertaken. Inadequate subsidy was one of the reasons. No apparent investigation was made into the broader issue of whether investment aids are a reasonable instrument to improve the efficiency of resource allocation in the economy or in rural areas; likewise it was not questioned whether investment aid could be considered as an efficient instrument of income policy. What is the value of such research? Another example may serve to emphasise this point: What do income calculations based on FADN data really show if most farmers are part-time operators and changes in the main income are not included? The book on 'Finnish Agriculture and Rural Industries 1998' presents such income calculations, and among others, cost calculations for main product lines are differentiated with respect to farm size. It is not mentioned that these imputed costs are largely determined by the assumed opportunity costs for labour. Is it realistic to assume that part-time farmers with less than 10 cows or crop farms with less than 30 ha really have opportunity costs as high as assumed? These examples reflect our finding that the institutional framework is not supportive of critical policy relevant research.

MTTL clearly serves the Ministry more than the field of advisory services or other organisations serving farming entrepreneurs. MTTL has to decide whether this current orientation will be the right one in the future. Should it pay more attention to other client groups and their problems? The challenges of the market and the changing pattern of farming may well make the current research line if not obsolete at least less fruitful. The links of MTTL to its other clients, and the changing research needs of Finnish society, are discussed in detail in Chapter 4.

MMM is satisfied with the support they get from MTTL, especially with the support they have received in relation to EU accession (e.g. Mateus program). MTTL has provided much more usable research than the University of Helsinki, in this respect. The Ministry sees a danger of its needs being crowded out, though, between consultancy and basic research. Until now MTTL has been able to explain why it should devote time to certain basic research topics, and the Ministry of Agriculture and Forestry itself has taken responsibility for some basic research.

MTTL is a fairly closed organisation, with few international contacts or partners, and limited contacts even in Finland other than in the Department of Economics and Management at the University of Helsinki. Some progress has been made in

this respect in recent years, but its internationalisation has barely started yet. Given that in the future more money will be distributed in the form of projects instead of as core funding, MTTL has to become more client oriented, and better in sales and marketing.

MTTL's research output is reported and evaluated in its own annual report. There is no outside evaluation of the research (other than by this IEG), nor is it evaluated at the Ministry. The results of the research, its quality, relevance and effectiveness could and should be measured. A balanced scorecard type of measurement tool would be desirable as there are several dimensions to be measured, and links to the strategy of MTTL are needed. In its current application the results agreement system leaves much to be desired even if it seems to work satisfactorily.

3.5 On co-operation with Statistics Finland and TIKE

A few years ago (1992) a working group between MTTL, Statistics Finland and a statistical unit in MMM, Information Centre of the Ministry of Agriculture and Forestry (TIKE), agreed some principles for the division of their work. MTTL does basically economic research plus FADN, TIKE does EDP for MMM and MTTL and makes a sample frame for FADN (typology tables on FSS). Statistics Finland has impressive income statistics of farmers (based on tax returns with additional questionnaires) that seem to be an authoritative source for income reports. In that sense there seems to be competition (with different definitions) with MTTL's FADN and more co-operation looks attractive. More co-operation in this field is required as sometimes Statistics Finland and MTTL publish different results on income development. Before the membership of the EU, there was a Farmers' Income Law that contained a number of definitions, of which some have become obsolete for income comparison in the EU. The national agricultural policy has lost its relevance in this respect. Problems are however mostly on details.

MTTL helps Statistic Finland with forecasting the sector income index. The input of MTTL staff is very much appreciated. There are however some differences in definitions between MTTL and the EAA (cash flow versus accrual).

3.6 The Farm Accountancy Data Network (FADN)

The Farm Accountancy Data Network (FADN) is an important activity for MTTL (see Appendix 2 for details). It does not only consume a large part of their resources, but the FADN provides also a wealth of data for their applied research. In a certain sense one could claim that the FADN is MTTL's laboratory to observe the agricultural system that economists wish to investigate. The FADN also provides MTTL automatically with a network with other Finnish organisations, as well as with other European agricultural economic research institutes.

The rural advisory centres are responsible for the farm selection, data collection and management of the general FADN-relationship with the farmer. 60 to 70% of the farms have their own PC for accounting purposes. Some advisory centres are not very interested in bookkeeping, because they have other more important tasks such as taxes. Sometimes advisors lack economic training and have a rather technical orientation. The feedback by MTTL does not provide them with much information on economic concepts and how to use the results either. However many advisors see that this work is needed as one requires the data also for advice, and that it also leads to new demands for advice.

MTTL constantly needs 3 to 4 persons checking the FADN data, as 50% of the data from the rural Advisory Centres contain errors that must be corrected. Possible solutions are more precise instructions for data collectors and advice for farmers. Currently a new ICT system is being built; the target will be to have results in a half year after the closing of the accounting year. There are also plans to create a data warehouse that could be integrated with the data processing centres of the Advisory Service. The MTTL would control this as long as advisors have direct access. However, if MTTL needed extra data, the Advisory Service would like to be paid for its extra costs.

The MTTL has no direct access to FADN farmers, which leads them to carry out their own surveys, rather against the wishes of the Advisory Service as it leads to questions by farmers. Under the current arrangements, MMM has results agreements with both MTTL and the Advisory Service. Therefore MMM should have an important role in coordinating these agencies.

Farm selection could also be hampered by the lack of a clear public relations policy in relation to the FADN : this might be improved by the following solutions:

- make clear the role of the FADN;
- ensure privacy regulations/guarantees in use of the data

To improve the participation of farmers and of the Advisory Centres, the yearly master-contract with the Advisory Centres has now been replaced by contracts with individual regions, which means quality aspects can be better managed because direct agreements are possible. Another step would be to differentiate the fee per farm according to region, type of farming and new farms. Another improvement would be to monitor performance through a Balanced Score Card approach much like Statistics Finland and the Dutch FADN.

For outsiders the documentation and meta-data of the MTTL are unsatisfactory, to say the least. Quality management is unclear. Co-operation with other institutes could be improved by the financing bodies in MMM. The main reason to co-operate

is, however, that this would lead to better quality, a reduction in duplication of work, and further quality improvement by using experts.

Statistics Finland may help to provide know how and courses in the field of quality management and statistical methods (econometrics, panel data, post-stratification). They also provide a label, SVT. For Statistics Finland, it would be attractive to bring FADN under this label so that they can use it for answering statistical questions. For MTTL it could help to solve apparent inconsistencies between the different income statistics. Although the costs of FADN in relation to other statistics seem reasonable, the data could be improved to secure the financial support of MTTL in the future. In addition, FADN data should be published on the Internet in order to make it more portable and accessible to travelling advisors.

4. The output of MTTL in relation to stakeholders' needs

4.1 Changing needs of stakeholders

The stakeholders of MTTL belong to two groups of which the interests are very different. The first group consists of ministries, governmental, regional and professional bodies and actors who operate in policy making on the regional, national, EU or international levels (WTO etc.). The second group consists of actors who operate on the level of rural development work. In this group belong farmers and their professional associations, rural small entrepreneurs, the advisory and extension services, regional and local governments and many other organisations.

The needs of the first stakeholder group are changing from descriptive facts and from econometric studies of the current situation towards future oriented studies to assist with strategic development. Alternative policies and their implications, critical evaluation of policies, policy instruments and decisions, the competitiveness of rural industries in alternative futures and material for continuous policy discussion are examples of the information needed by these policy stakeholders. There will be a need both for rapid survey information in relation to specific issues and also for more basic exploration of alternative futures.

The needs of the second group of stakeholders are changing from cost and productivity orientation towards market and marketing orientation. The implications of the policies and implementation of the policies in a market driven economy need more attention. The focus of needs will be in managerial problems and the problems of regional development. The management of the value chain, the competitiveness of regions, firms and farms, the problems of multiactivity farms, and changes in consumers' behaviour are examples of the information needs of this stakeholder group.

These changes in the needs of both sets of stakeholders pose a challenge to the research strategy of MTTL. It must now reorient itself towards this new environment where global market forces will dominate the development of rural areas and their industries, enterprises and occupations to a degree unseen before.

In the past, MTTL's strength has been applied research to serve the needs of the Ministry. Before EU accession, the farm income and cost development figures produced by MTTL were essential to negotiating farmers' incomes and on the terms of developing social conditions of farmers. This work was also vital to the negotiations on EU accession. However, this work is now much less relevant to the changing needs of Finnish society.

4.2 Topics covered and style of research

MTTL initially had only a department of farm management (1952) and then a marketing research (agricultural policy) department was added in 1960. In 1962 MTTL took over the farm accounts system (FADN) and has used this extensively for research on farm profitability and farm incomes. Between 1962 and 1993 it operated largely unchanged in this form with departments of farm management and market research (agricultural policy) and a bureau for profitability research responsible for FADN accounting. In 1993, however, this structure was seen as no longer meeting Finland's needs, and the Institute was reorganised to address the following four topic areas:

- farm management and rural enterprises;
- agricultural policy;
- agri-environmental economics;
- farm accounting.

In essence, this added agri-environmental economics to the existing scope of the Institute's work. This addition is welcome and highly appropriate, both in relation to the changing needs of Finnish society and also in respect of the changing nature of EU rural policies. This area of activity still remains small, however, and is mainly reliant on 'soft' project funding. Further attention is given to the Institute's environmental research in the penultimate section of this chapter.

Within the last three years MTTL has broadened its studies of profitability to include not only farms but also other entrepreneurs in rural areas. The FADN system has been expanded to cover rural SMEs as well as farms, and to cover all elements of farm households' incomes. This is also highly appropriate. However, as MTTL points out in its background information for this evaluation, 'the socio-economic changes going on in the countryside warrant much more research input. Ongoing and future regional development programmes and impact assessments will give rise to many new research questions.' Accordingly, in its operational plan for 2000-2003, MTTL has placed more emphasis still on developing its work on rural enterprise and rural policy.

Apart from the topics covered, some discussion is required of the style and methods of MTTL's research. Typically these rely on rather traditional statistical analysis of FADN databases rather than special surveys, fieldwork, or qualitative methods. The style is heavily descriptive analysis of farm accounts or orthodox quantitative analysis. The Institute relies on its strengths here, and on the wealth of its FADN datasets: however, this is seen by some as inhibiting innovation and as rather old-fashioned.

Most of those interviewed saw the essential contribution of MTTL in terms of its analysis of these and related datasets, and in supplying data to others for more innovative analysis. If the Institute wishes to go beyond this role, and to meet its aspirations for 2004, it will need to innovate in the style of its research, while of course maintaining its areas of established strength.

4.3 Quality

Compared with a university department MTTL is a big research institute, although of course it has a very broad range of tasks. The research done is applied research of adequate (but not high) quality, of its type. The research paradigm followed is rather narrow: micro-theory, production functions and standard tools of statistical analysis are very typical of the institute's research. This is also typical for most of the research in agricultural economics done in Finland. The research results are published almost entirely in the series of MTTL or other Finnish series, whereas international publications are very rare. The research done is narrow also in terms of content if we look at the changing needs of agriculture and the needs of the new rural occupations.

As applied research intended to meet the needs of MMM, MTTL's research output is well received. Those within the Ministry regard the Institute's output as relevant and useful, especially in relation to EU accession, and informing the Finnish Government's participation in the Agenda 2000 negotiations. Others, though, regard MTTL's work as below international quality, and as 'narrow and old-fashioned'. Several mentioned a lack of innovation, and the absence of theoretical or methodological development.

When measured in conventional terms it appears that these criticisms are well-founded. There have been almost no publications in international refereed journals by any members of the Institute's staff. Instead, publications are almost exclusively in reports series published by MTTL themselves, with no peer review. There have been very few papers to international conferences and very few funding applications to the EU or other international sources. The output of MTTL has thus not been subjected to the tests of international competitiveness or peer review. Moreover, the researchers of the Institute do not appear to be well integrated into the international research community. In this context it is hard to see how the Institute can expect to realise its vision for the year 2004 of 'attaining high international appreciation'.

One might explain this poor performance relative to international academic standards in terms of MTTL's chosen emphasis instead upon applied research of practical value within Finland. However, while well appreciated by MMM, those

engaged in the advisory and extension services were also somewhat critical of MTTL's performance. MTTL is valued as a reliable, neutral, non-ideological research centre. The research reports are known and used at the regional level to keep the advisers or government officers informed, and to update their knowledge. But unfortunately the reports are not produced quickly enough to meet the requirements of these users, nor are they often in a form which can readily be interpreted by practical users in the field. The staff of MTTL have tried to overcome this problem by publishing articles in newspapers and in professional journals, but obviously this is not enough.

According to those interviewed in the advisory and extension services, a number of changes are required. First of all the profitability reports based on accounting data should be ready much faster, since now the reports arrive much too late. More current information of profitability is needed. Second, newly emerging problems and opportunities should receive more attention. Respondents thought that research would be needed on the problems of rural life and that rural entrepreneurship and new rural occupations would need more attention. Opportunities open for entrepreneurs in the countryside could be researched, so providing practical help and guidance for potential diversification on and off the farm. Case studies and examples on the firm level would be useful for the advisory services. Thirdly, more research, forecasts, scenario-building and reports on current, topical problems would be helpful.

The advisory centres regarded MTTL's researchers as more remote than those of other institute's, and argued that it would be beneficial both for practitioners and researchers to meet more often. They hoped that MTTL staff would more often come to local and regional meetings, to lecture and disseminate their work, and also attend seminars and other events for farmers both to lecture and to listen to what is going on at ground level. As it stands, the flow of information to the advisory services is not institutionalised, with the exception of an annual one-day conference for 50 extension service workers; and there is no clear channel for the upward flow of information from farmers, advisers and extension service workers to MTTL staff which would allow them to ground their work in practical concerns. One possibility would be to appoint one or two persons from the advisory services as liaison officers with MTTL. The internet might also be used to post early, accessible abstracts of emerging findings.

Such contact would also help MTTL staff to disseminate their work in more appropriate forms: at present, their research reports are seen as 'much too scientific'. Instead of reading these research reports, practitioners tend to rely on the associated press releases and more readable publications from other sources than MTTL. In spite of this,

MTTL's output was considered to be valuable and important. There is clearly scope for summary versions of reports to be published in more accessible form for these users.

Overall, then, it appears that MTTL is falling between two stools. The research is viewed by academics as too applied and practical, and by practitioners as too scientific and abstract. This, again, may be because of the close relationship with MMM, for whom this intermediate level is more appropriate, and this appears to be the readership at which output is pitched. It would be far better if each MTTL project were to aim to produce a range of output targeted explicitly at different research users. If the Institute's vision for 2004 is to be realised, each project should generate at least one internationally refereed publication as a measure of scientific quality, but alongside this the results should be disseminated to practitioners both through seminars and short 'agri-monitor' newsletter with summary articles which consider the practical implications.

4.4 Balance between basic and applied research

MTTL's functions include undertaking 'scientifically high quality research in the field, focusing on applied research in the sector, but also including basic research'. It appears from the evidence that MTTL is focusing almost exclusively on applied research for MMM, with virtually no basic research. At the same time, as we have seen, the applied research is not reaching other research users such as the advisory and extension services in readily usable form. Neither is there a clear division of roles between MTTL and the University of Helsinki in relation to basic and applied research, although this appears to be a wider issue in Finnish research (see the evaluation of MTT).

Upon detailed consideration, it seems to us that the Institute has not been sufficiently clear in defining its strategy in relation to basic and applied research. While its applied research for MMM is set out in the results agreements, there is less attention given to a strategy either for producing high quality basic research or for meeting practitioners' research needs. Even in the few cases where top quality international research is being undertaken there is no obvious rationale for the choice of topic. For example, a project on investment decisions, exploring the possibilities of real option theory in energy savings, is of a very high standard, but it is not clear why this is applied to Dutch horticultural holdings using their FADN data rather than to Finland. Another interesting Ph.D. project is applied to ASEAN markets rather than to the St Petersburg market, which would be far more relevant to Finland's needs. This is not meant as criticism of these interesting projects, but rather as evidence of the lack of any clear strategic vision of the MTTL management regarding either international collaboration, the needs of research users beyond

MMM, or the balance between basic and applied research. A potential strategy might prioritise co-operation with the Baltic States and Russia, with the agreement of MMM, to transfer knowledge from Finland and to conduct market analysis on emerging markets such as St Petersburg. Another priority in such a strategy might be co-operation with other Nordic countries on graduate training and on joint projects on Nordic topics. The main issue is the need to develop a clear strategic vision.

4.5 Future needs: rural research

Finland's research needs in relation to rural areas are changing fundamentally. In the context of EU there is no longer the same need for research to support domestic agricultural production. Instead research is required to assist in developing long-term competitiveness in the economies of rural areas, of which agriculture is but one element. This imperative was recognised in 1997 when MTTL was asked to deepen and expand their work beyond agriculture to consider rural areas as a whole. Indeed, MTTL's vision for the year 2004 is as follows:

‘MTTL is the leading research body influencing the development of the rural areas in Finland. The economic research at the Institute directed at rural industries, food economy and rural resources has attained high international appreciation.’

Despite this aspiration, those interviewed as part of this evaluation felt that MTTL was ‘not yet a player’ in rural research in Finland, let alone of international renown. Nevertheless, it was felt that MTTL had the potential to make an important contribution.

There are 3-5 staff at MTTL who are engaged in analysing and calculating the profitability of rural SMEs, basically by extending their familiar techniques of analysis of farm accounts data to similar data for other rural entrepreneurs. This is an encouraging start, but this work has to be set in the context of much broader unfulfilled needs for research on the economics of rural areas. MTTL is doing good work on sectoral (agricultural) policies, this tends not to be translated into a form which local and regional planners working in rural development can use. The research gaps include:

- more comprehensive information on financial flows between rural and urban areas requiring input-output models and social accounting matrices (SAMs), which would allow the assessment of multiplier effects and impacts of changes on rural economies;
- regional economic research, especially on the competitiveness of rural areas, perhaps examining the importance of social capital and local networks;

- research on marketing, networking and social impacts, local production and marketing chains and networks;
- research on new activities and new jobs, local grassroots development;
- inter-sectoral linkages – most current research is specialised in sectors;
- gender issues in rural society and in rural development;
- the relationship between migration, environmental capital and social networks;
- structural changes in regional and rural economies and associated forecasting;
- institutional economics.

However, these research gaps need not all be tackled by MTTL who are far from the only potential researchers able to address this agenda. Rural research is being conducted by many others in Finland, especially by sociologists and geographers within several universities, and the important question is how MTTL can fit into this existing research landscape. Of roughly 50 projects commissioned each year by the Rural Policy Committee, worth FIM 10m per year, only 2-4 are placed with MTTL, for example. Moreover, there are established networks of well over 100 rural researchers, with regular meetings, in which MTTL does not participate. These are undertaking highly policy-relevant work, for example on National and EU rural policies, evaluations of structural fund programmes, LEADER, POMO, village action and the EU Rural Development Regulation, and on the processes of rural economic and social change, while also producing internationally recognised outputs – all on ‘soft’ funding.

Opinions differed among those interviewed as to the contribution which MTTL could make. Some argued that MTTL is not suited to regional economic research, since they lack the necessary skills and others such as the Pellervo Economic Research Institute (PTI) are already doing it: from this perspective, MTTL’s contribution would be limited to providing the data for others with better skills to analyse. The idea of MTTL as essentially a provider of data was a recurring theme during the interviews.

The alternative view was that the Europeanisation of Finnish rural policy necessitated an integrated programme of research to inform strategic thinking, and that this could be divided amongst the existing network of researchers according to their complementary skills. Rather than taking a leading role, MTTL’s knowledge of farm economics would be their contribution to this. However, in order to fulfil this role, MTTL would have to engage in the active networks of rural researchers and get to know the other potential partners and their work. Partly this could be achieved through joint projects, and perhaps through key appointments which would link their established expertise with such networks. At present, MTTL was viewed as being rather behind in its understanding of rural issues, and unaware of its ignorance and isolation.

If such cooperation is to be encouraged, a number of measures could be taken:

- a concerted inter-disciplinary programme of research should be financed jointly by MMM, the Rural Policy Committee and the Academy of Finland, striking a balance between competitive tendering and the need for partnership and cooperation;
- selected MTTL staff should be sent on one of the two existing diplomas in rural development practice and encouraged to make connections with existing research networks, for example by attending the annual conference and working in joint projects;
- key appointments at MTTL should be made to bring research leadership in this area and to link MTTL with the established networks and knowledge-fields (another ingredient might be some visiting professorships);
- MTTL and MMM should build into the results agreement the development of expertise in 2 or 3 aspects of rural research where MTTL can fill a gap in the existing research landscape.

4.6 Future needs: environmental research

Since accession to the EU, an important policy question has been whether environmental support could provide a new source of income for Finland's farmers. The MTTL is seen as having an important role in informing policy in this area, and the environmental economists at MTTL are highly regarded within Finland. Indeed, the quality of their work was frequently singled out as superior to other work within MTTL. They were seen to be using modern methods of analysis as well as making good connections with other researchers in Finland, often through joint projects.

MTTL's current work includes joint projects with SYKE on life-cycle analysis and on the efficiency of agri-environmental measures; a joint project with MTT and others on reducing nutrient leaching from arable land; the profitability of organic agriculture; the willingness of farmers to engage with agri-environmental measures; the value of the rural landscape; and the production possibilities of biomass energy. A new project with MTT is examining the sustainable use of renewable natural resources and indicators of sustainability.

Other potential areas of research were suggested as follows:

- MTTL's work (and economics generally) focuses on the farm unit, whereas biologists tend to focus more on the processes of environmental change: there is scope for addressing the interconnection between these through further interdisciplinary research, perhaps following the steps of the production chain or supply chain (the value chain);
- assessing the benefits, as well as the costs, of environmental measures (CBA);

- analysis of policy instruments: are these the best way to tackle these problems?;
- local food networks;
- environmental management, especially assessing the effectiveness of abatement measures.

MTTL staff were seen as more open to interdisciplinary work with ecologists and biologists because of their initial training in agriculture, but perhaps less able to engage with other social scientists for the same reason. Their collaborative work with natural scientists, anchored in practical, applied work, has potential to develop more challenging theoretical and methodological insights. This was also viewed as an area of increasing research need, but it was noted that there are very few environmental economists in Finland at present. It was suggested that a joint programme of research might be funded by MMM and the Ministry of the Environment, while further Ph.D. training might be supported by the Academy of Finland in order to build capacity in this area.

In general this was seen as an area of great promise, as well as an area of increasing research need, which should be encouraged by MMM and by MTTL's Director General.

4.7 Future Needs: agricultural economics

There is also a need to innovate in the core area of agricultural economic research itself. It has already been noted that MTTL is viewed as traditional and slow to innovate, even in its core area of expertise. Among the areas which were perceived as requiring development were:

- critical research into agricultural policy and its welfare efficiency;
- farm level information and decision making, longitudinal studies, case studies and reports of successful entrepreneurs, farm management, marketing, finance;
- farm level research which would help farmers and decision makers in the problems of change management;
- scenarios and visions of the future development of various specific trends;
- research and information about new opportunities;
- more research on the multifunction farms and rural industries other than farming;
- information and research on new developments in rural areas, other than farming;
- qualitative (sociological) research on the problems of rural areas;
- research on environmental problems at farm level.
- models and research of the new phenomena of big co-operative projects of farmers
- food safety and its implications for farm economics;
- upstream/downstream supply chains (value chains)

4.8 Future needs: partnerships and networks

In each of these areas of future needs, it has been suggested that MTTL should proceed in partnership with other researchers, and engage in research networks. While this is already the modus operandi of the environmental economists at MTTL, the rural researchers and agricultural economists are rather isolated at present. Partnerships and networks are the only feasible way of increasing the research capacity of MTTL in the new fields where needs of stakeholders are growing. Increased resources are necessary to address the new areas of research, but this is not sufficient in itself : networking is also essential if these future research needs are to be addressed. National and especially international networks are also an important part of the knowledge development needed at MTTL. There may be a role for MMM and other research funders to foster such partnerships and networks through financial incentives and the organisation of research.

5. On the specific questions of the evaluation

This chapter provides the answers of the IEG to the questions that were explicitly stated in the terms of reference. A number of questions put forward by the management team of MTTL were integrated into these.

As the previous chapters already dealt with these issues, and the next chapter summarises our findings in the form of strong and weak points of Finnish agricultural economics and MTTL as a basis for further recommendations, these answers are given in summary form without much explanation and discussion.

1. *Are the business ideas of MTTL and its general goals in accordance with the needs of the development of rural industries and the society?*

The activities of MTTL focus too much on the needs of MMM, at the expense of the broader needs of Finnish society for both basic and applied research. MTTL's contribution to the international knowledge base (in the form of applied research in Ph.D.'s and papers in international peer reviewed journals) is very low. Meanwhile, users in the field, like the extension service, also feel that they do not get enough support. Although perhaps understandable in the light of accession to the EU, this is not acceptable for the future, as it makes the know-how at MTTL unsustainable.

2. *Does the results agreement system between MMM and MTTL function properly?*

The results agreement system has the advantage that there is an output-oriented method to discuss the organisation of the research carried out at MTTL. However it has not prevented MMM from 'stealing the capacity of MTTL' (to quote a high level source in MMM). It does not set targets for the development of MTTL's capacity and the country's knowledge base (number of Ph.D.s, international papers, conference presentations), nor does it encourage innovation and reorientation towards future research needs, both of and beyond the farming community. It does not set targets to find soft money. The clients in MMM for the programmes from MTTL are also not clear from the results agreement. These faults are not inherent to the results agreement system, but derive from the way in which it is operated by MMM and MTTL in this case.

This also answers the question from MTTL on the effectiveness of its research planning and the results agreement.

3. *Do the organisation of the MTTL, its management practices and the research methods used, create a good basis for directing research, for monitoring and evaluating the implementation of research, for guaranteeing the quality and development of research and carrying out necessary amendments?*

We recommend increasing the independence of MTTL by installing an independent board (like that at MTT), to protect the wider interests of Finnish society in agricultural economics research, and reformulating the mission. Account management should be introduced (see Chapter 6 and Appendix 3 for details).

In the Act on MTTL the tasks should be reformulated, with less emphasis on production costs and more on the economics of a vital and sustainable rural area. MTTL should reformulate its operating principle into a mission, by deleting at least the expression ‘under the guidance of the Ministry’. A start for the formulation of a new mission could be ‘helping clients to maintain the vitality of farming and the rural areas and to sustain the environment through economic research of international standards’.

This also answers the question by MTTL on the effectiveness of the Act, Statute, Working order, and Advisory Committee.

4. *Do the methods of MTTL comply with the criteria of efficiency for the needs of research development, administration, advisory activities in agriculture and horticulture, entrepreneurial activity and other interest groups and international co-operation?*

The changing character of Finnish agriculture, serving new needs in Finnish society in an increasingly globalised world, means that the focus of MTTL on agricultural production, with the agricultural economic methods that are traditionally used in this field, is becoming out of date. The successful activities in environmental economics should be further developed, and more attention should be paid to rural development, upstream and downstream supply chains (which could include institutional economics), cost/benefit analysis, scenario planning, and enterprise level managerial issues of small rural firms. Both the style and content of MTTL’s research needs updating.

5. *Do the strategic basic research, applied research and research for the purposes of administration and agricultural policy and the expert services have the appropriate and right focus in the working programme of the MTTL?*

In the past, MTTL’s strength has been applied research to serve the needs of the Ministry. Before EU accession, the farm income and cost development figures produced by MTTL were essential to negotiating farmers’ incomes and on the terms of developing social conditions of farmers. This work was also vital to the negotiations on EU accession. However, this work is now much less relevant to the changing needs of Finnish society.

The primary focus of MTTL should continue to be applied research, for several purposes. Strategic basic research should be primarily the responsibility of the university (although this too emphasises applied research, partly due to the historic

training of its staff at MTTL). Ph.D. training, which is problematic in Finnish agricultural economic research due to the performance of the University of Helsinki and the lack of funding of the Academy of Finland, should be organised together in a graduate school. This can be either as applied economics or as multidisciplinary rural research (see Chapter 6). It should be emphasised that the severe lack of PhD-qualified agricultural economists in Finland is a major handicap to the research needs of Finnish society being met.

The introduction of new methods and topics, although existent, is below expectation due to the huge amount of work done for the administration and the lack of post-doctoral staff. Although the farming community does benefit from the short-term work done for the Ministry, their needs have not been fully fulfilled; for instance, the integration of technical and economic research is underdeveloped.

This also answers a similar question by MTTL.

6. *Does MTTL have enough resources and opportunities to act as a research and expert organisation in order to support the national and EU agricultural administration?*

As in many other countries there seems already to be a relative shift from resources in technical to rural and economic research. Seen in terms of the needs of Finnish society for research on rural areas, this trend has to continue. This in turn requires decisions in MMM to free resources from other areas and to make them available for MTTL and others to meet these changing needs. However MTTL could also play a role in this shift, by being more active in marketing and attracting funds from other sources like the EU, other ministries and regional authorities. This necessitates MTTL networking (with other research institutes, universities, polytechnics and rural development specialists) and making use of the network of ex-MTTL staff.

Related to this is a question from MTTL on how to deal with the big share of temporary (1-2 years) contract financing of research. As such the IEG does not recognise this as a problem. So called soft money is not bad in itself, but offers a possibility to take in extra funding and to expand in certain areas. It is a trend that will not disappear as Ministries and others use it to increase quality through competition and to direct research and to organise cooperation between institutes. Fixed-term (temporary) contracts can also be attractive if one requires flexibility to shift from one paradigm or research topic to another. It also facilitates turnover of staff. However this only works if the institute can also provide research careers for those persons that one would like to keep. This is lacking at present, partly due to the lack of incentives in the salary structure of MTTL. In addition the IEG understands from the experiences of METLA that the labour regulations in Finland are not really supportive of employing staff on fixed-term contracts.

7. *The focus, the dimensions and the role of the research within the MTTL compared to other Finnish research in the field?*

MTTL's research has a 'solid traditional' image deriving from its a long-standing record of providing neutral research. At the same time it is not seen as innovative. There is clearly a need for MTTL's applied research, and its Ph.D. training partially fills a gap that the university system and inadequate funding from the Finnish Academy has left. A number of remarks on the orientation of its research, however, and the need for innovation and reorientation have been made already above.

Like many other institutes (including MTT and others) which have already been evaluated, and which have since implemented a number of (sometimes impressive) changes, MTTL seems to be behind similar institutes abroad in terms of a range of performance indicators. Now that the transformation of the administration towards EU accession has been largely carried out, it is necessary for the government and MTTL itself to invest in rebuilding the capacity of agricultural economics research in Finland.

6. Summary of findings and recommendations

6.1 Strong and weak points in Finnish agricultural economic research and MTTL

Before commenting on MTTL itself, it will be useful for us to offer our views on Agricultural Economics Research in Finland. Although this is beyond our strict terms of reference, we believe it is necessary to place our evaluation in this context.

Strong points of the agricultural economics research system in Finland are:

- agricultural economics research provides a lot of policy support for MMM, which has been especially helpful in the period of accession to the (changing) CAP;
- the data availability at Statistics Finland, TIKE and MTTL is good;
- Finland is willing to finance research and there is an impressive science policy;
- there is a willingness to organise research in a demand driven way and to audit its results, through the use of results agreements.

However, these strengths are outnumbered by several weak points:

- agricultural economics research in Finland seems to be of low quality from an international point of view. The number of Ph.Ds is low, and there are very few papers published in international, peer-reviewed journals;
- both MTTL and the University department undertake similar applied research and there is a lack of basic research. There is a need for complementarity in this respect;
- research training, and especially the training of post-graduates, is not in line with international standards. The University of Helsinki does not train enough doctoral students, and in MTTL there are too few experienced staff to supervise such work. Some take training abroad (Wageningen, USA). The fundamental issue is the lack of funding from the Academy of Finland;
- there is a narrowness in the research paradigm (which is very production economics oriented) and both a lack of innovation in methods and an inertia in the topic focus. This seems to be true for the University as well as MTTL. It is one school of thought, with a lack of diversity;
- the Advisory service and the farmers don't seem to receive a full service, and especially the integration of technical and economic research is lacking;
- there is no critical research that investigates and informs the effectiveness of the (common) agricultural policy and of specific policy instruments;
- there is a lack of integration with other disciplines (rural development, economics, geography, sociology); agricultural economics is isolated from economics;
- the integration between the University and the institutes could be improved, for instance by greater use of the resources of MTTL in University teaching, and also by using the University's Ph.D. students as research assistants at MTTL;

- inflexibility in labour relations;
- lack of incentives for researchers to stay in research and build up a research career;
- the strong influence of MMM (which has disadvantages as well as advantages).

Turning now to MTTL itself, again we found both strong and weak points. The strong points are:

- good in recruiting young staff, due to the facilities and income offered;
- good network of ex-MTTL staff, who have left the institute (although it is not obvious how well this network is used to generate projects and income from other sources than MMM);
- MTTL's data sets are seen as valuable and in addition it has good access to data from TIKE and Statistics Finland;
- good in providing the services to MMM that are requested by it;
- an image deriving from a long tradition of providing neutral research;
- the new area of environmental research has been built up quite successfully.

However MTTL also has a large number of weaknesses:

- its extremely close relationship with MMM has negative effects on its output for the advisory service and farmers, as well as on its contribution to knowledge;
- the results agreement is used to guard this relationship, rather than to promote quality and innovation;
- the results agreement is applied in such a way that it very much limits researchers' freedom, fails to provide incentives to carry out international research, fails to set standards to publish a minimum number of articles in peer reviewed journals nor to carry out research for other ministries and clients from businesses;
- in contrast, no limits are placed on the amount of work which MMM can require for policy support. Perhaps understandably in the light of the accession to the EU and the transformation of Finnish agriculture to the CAP this has led to 'stealing the resources of MTTL' (to quote a source in MMM)
- the staff are young, with few experienced staff in the age class of 35 – 45 years, and very few with Ph.D's;
- management of MTTL's human resources is problematic: there are no clear research careers possible, the wage structure is not flexible and many leave after a few years;
- measurable output is very low and efficiency could be improved. This observation is probably due to the fact that much work for MMM goes unreported and unpublished;
- although MTTL has three tasks (Knowledge development/Research, Policy Support and Rural community support), it is very much focussed on Policy Support;

- although a number of MTTL staff are pursuing Ph.D. research, partly to make up for the lack of funded Ph.D. studentships in the University, the topics chosen are often unconnected to MTTL's research programme and instead derive from personal choices of the researcher involved. The lack of in-house training capacity is partly solved by sending employees abroad, but this involves no obligation for the staff and there is no programme of visiting professors and internal seminars;
- there is no clear international strategy for developing cooperation with other institutes and universities, be it on training or on joint research;
- the internal organisation has many levels, and yet the grading structure makes no clear distinction between qualified researchers and research assistants;
- the image of the institute is 'solid traditional', and this tends to be seen negatively as not very dynamic or innovative regarding new topics and research methods;
- the research is very descriptive and data-driven; apart from more critical and analytic work, future-oriented scenario planning would be helpful to several stakeholders;
- the composition of the staff with respect to disciplines is narrow, being overwhelmingly oriented towards production economics;
- the library is of poor quality for such a research centre.

6.2 Tasks and organisation of MTTL

The tasks of MTTL can be split into three major areas:

- knowledge development;
- policy support;
- rural community support (practice support).

These three activities could be organised as separate accounts in a system of account management in the MTTL. They are not necessarily of the same size, but should certainly be clearly separated administratively. This would prevent any one of them dominating at the expense of the others, as policy support does at present. Preventing such crowding-out is essential to the sustainability of the institute and its work.

The account management of Knowledge development (or Research proper) should focus on research training (Ph.D. research) and publishing applied research (especially on future oriented, strategic and new topics) in not only research reports but increasingly in papers in international peer-reviewed journals. This would involve international cooperation and winning international funding. It would help if Ph.D.'s could be awarded on the basis of publications of 3 such articles and a summary, as in many other countries. The research undertaken should be innovative and

should concern future-oriented topics. The institute should gain the image of a think tank in respect of this work. There should be a clear link to a university, like the University of Helsinki, in the form of a graduate school. The VATT institute represents a role model for such a unit. The activities include the development of human capital at MTTL (seminars, etc.)

The policy support work would primarily cater for the needs of MMM by carrying out projects or providing data (like FADN) and information. Relevance, and a strong client orientation is the critical success factor for this account.

The rural community support would involve out-projects for the advisory service, farmers and other practitioners, be it with money from MMM (earmarked in the results-agreement) or with money from those organisations. These activities include the dissemination of research findings to the regions and building a network of contacts for information flows in both directions.

The organisational consequence of this split would be that an individual would be made responsible for managing (and increasing) each one of these activities and their money flows, and that they 'buy' capacity from the institute's research units. This account management could be broadened by also installing account managers for other sources of funding, such as EU funds or other Ministries. The research units should 'sell' their time to the account management.

This account management also solves the problems that will occur as a result of the growing importance of soft funding and allocation of projects by Ministries and others to cooperating institutes.

There are a number of new areas to which MTTL's research should be directed. These include rural development, rural entrepreneurship, research in the up- and downstream chain (including food safety topics), institutional economics, managerial issues in small rural enterprises, cost/benefit analysis, scenario planning and further development of environmental economics.

Appendix 3 considers in more detail the effects of account management on the internal organisation and content of the results agreement.

Addressing these weaknesses as well as responding to our observations on the different tasks and fields of research will create a large number of challenges for MTTL:

- creating new contacts, national and international;
- taking part in new networks, national and international;
- orientation on the future of agricultural and rural communities;

- becoming innovative;
- attracting new orientations in scientific disciplines;
- recruiting new staff;
- creating more and new incentives;
- learning new ways of operating;
- developing more independence;
- developing more flexibility.

6.3 Organisational considerations

The International Evaluation Group has been considering a number of options for the implementation of this change management. Three options for reform of MTTL are summarised below, but regardless of which of these options is chosen, we recommend that the following measures should be taken anyway:

- introduce a Board, replacing the advisory board, with the same independent status as in MTT;
- restructure the internal organisation of MTTL by introducing account management (see also above and Appendix 3) and separate budgets for:
 - knowledge development;
 - policy support;
 - rural community support;
 - investments in hardware (including buildings), software and data.
- develop a balanced scorecard type of tool to set targets and measure the outcome of the results agreement;
- adopt the salary structure and results agreement style of MTT to give incentives related to targets;
- pursue a strategy of internationalisation;
- pursue a strategy of developing new research areas in partnership with others:
 - rural development;
 - environmental economics;
 - upstream and downstream supply chains;
- develop a research training strategy in cooperation with Universities through Graduate Schools (with funding from the Academy of Finland) and with teaching obligations for MTTL (to make better use of scarce resources in research training in Finland) and employing Ph.D. students as research assistants;
- network building to reduce isolation and develop partnerships and cooperation (nationally and EU);
- address the need for a career structure and human resource development.

The advantages of this restructuring are:

- more efficiency;
- a board represents users;
- MTTL becomes more output oriented;
- it becomes more transparent;
- increased independence and better services, also in projects where MMM is the client;
- crowding-out of knowledge development and rural community support is limited;
- more relevant;
- future oriented;
- needs of changing society are met;
- networking increased;
- policy debate stimulated;
- quality improved;
- research training building human capacity;
- new incentive structure.

As this restructuring is quite a challenge there are a number of options on the future organisation of MTTL considered:

A. MTL REMAINS A SEPARATE INSTITUTE.

This option implies that MTTL undertakes the restructuring mentioned above on its own. It leads to the advantages mentioned.

Implications for MMM:

- limits ‘stealing’ researchers’ time for policy support;
- research resource is sustained and has higher quality;
- better dissemination to practice;
- research in new areas & disciplines meets new needs;
- control over the detail of research is reduced: clearer separation between sponsor and client role with better services as a client and less involvement in sponsor projects;
- more support for strategic policy development;
- better productivity;
- need for increased resources for specific development projects and new tasks

B. MERGE MTL WITH VATT AND TIKE.

The account management mentioned above could be replaced by creating 3 divisions, where the division of Knowledge development would be merged with Government

Institute for Economic Research (VATT), while the divisions for policy support and farm level support would be moved to the Ministry of Agriculture and Forestry (MMM) and the Information Centre of the Ministry of Agriculture and Forestry (TIKE).

The advantages of this option would be:

- the quality of economic science of MTTL would be improved by working in VATT;
- the prospects of receiving funding for a Graduate School of applied economics would be improved;
- efficiency savings would free up some resources
- the link with general economics would improve the flexibility of research, and broaden the methods and skills available to address new needs;
- the data and skills for MTTL to research broader aspects of rural economies would be available;
- MTTL's work would be strengthened in economics, albeit at the expense of multi-disciplinarity and cooperation with non social scientists.

However the distance between research services and policy and practice support would be increased.

Implications for MMM:

- MMM's control over research would be reduced/shared but its control over policy and practice support would be increased;
- agricultural economics research would gain more credibility with the Ministry of Finance due to its connection with VATT;
- limits 'stealing' researchers' time for policy support;
- research resource is sustained and higher quality;
- better dissemination to practice;
- research in new areas meets some new needs;
- less interaction with agricultural scientists;
- takes research away from production focus.

In many respects, this would be the most difficult of the three options to implement.

C. MTTL BECOMES AN INSTITUTE IN MTT.

MTTL could also be integrated into Agricultural Research Centre of Finland (MTT) as a separate institute. This would not necessarily mean that the location of the institute would move or that it would lose its identity and 'brand name'. MTT has experience with working in several locations, and MTTL could locate a small (and regularly changing) staff at MTT to cooperate in joint projects (like the Dutch LEI does in Wageningen

as a consequence of its integration in DLO / Wageningen UR). The advantages of this approach would be:

- MTTL comes under the control of MTT's Board (that contains a surprising number of economists), so obviating the need for a new board to be established;
- the independence of MTTL is increased;
- MTTL can easily adopt the salary structure of MTT and would come under the results agreement of MTT, which already matches our recommendations;
- synergy is enhanced with the biosciences;
- MTT also gains some renewal;
- practice support is enhanced and facilitated through the network of regional centres of MTT;
- efficiency savings (by sharing overheads and less need for coordination at MMM) would free up some resources, and it would also become easier to transfer resources from biological research to economic research. As in many other countries there seems already to be a relative shift from resources in technical to rural and economic research. Seen in terms of the needs of Finnish society, this trend has to continue. This merger offers MMM a means of freeing resources from other areas to make them available for MTTL to meet these changing needs.
- the prospect of a graduate school is promoted, either with economists elsewhere (as above), or with biosciences and/or rural researchers in a multi-disciplinary school.

However, links with other economists and social scientists would be diminished relative to option 2 (although little different from option 1).

Implications for MMM:

- control over MTTL is diminished a little, with the interposition of the MTT Board;
- resource allocation becomes more flexible, as it is easier to transfer capacity from biosciences to economics;
- practice support is improved;
- multidisciplinary and research guidance with biosciences is encouraged;
- improved quality and sustainability of research;
- production orientation of research maintained.

The International Evaluation Group was provided with other suggestions for changing the external organisation, but they can be ruled out quite quickly:

- D. A downsizing of MTTL by moving a division for policy support and farm level support to MMM or TIKE. This would leave a reduced MTTL that could concentrate on knowledge development in line with the Finnish science policy. However this would leave an institute that would be too small.

- E. Merging MTTL with the University of Helsinki (or making it an institute within the University) would have a number of disadvantages:
- this would further confuse differences between basic and applied research. MTTL and HY are already too similar and there is a need for HY to pursue more basic research (and critical research) to ensure complementary;
 - it would decrease resources for agricultural economics as it is unlikely that the Ministry of Education and the Academy of Finland would fund MTTL in this setting so generously as MMM do now;
 - MMM would lose control completely and would be badly served;
 - the Faculty of HY is not in favour of this option.
- F. Merging with private sector institutes like PTT. Although not unthinkable, this would require a privatisation of MTTL that seems in the short run unlikely, and unacceptable for the government as it leads to a large loss of direct control.

It is not easy for the IEG to conclude definitely on the most desired choice of the three options mentioned above. Each has its pros and cons from the point of change management as well as the direction that research should go:

	MTTL on its own	MTTL to VATT and TIKE	MTTL in MTT
Direction of agricultural research	Tradition breaking Relevance Resources needed	Economics dominates in Agricultural ECONOMICS. Quality	Agriculture dominates in AGRICULTURAL Economics. Environmental and food safety issues Access to resources Quality
Change management needed	Slow Strong internal will and leadership skills needed Difficult	Intermediate in timing Administrative problems to be solved at cabinet level Problematic	Quick Less leadership skills needed Easy

In our opinion, Option 2 is the most problematic and should probably be ruled out. The choice, then, is between Options 1 and 3, each of which has distinct advantages and disadvantages, both in terms of the outcome and in terms of the management of change. Change may well be quicker and easier to achieve if MTTL is merged with MTT, but this advantage has to be considered as part of the broader issues highlighted above, as choices are made about the future direction of MTTL's and MTT's research.

Appendix 1 Persons interviewed

Kalevi Hemilä, Ministry of Agriculture and Forestry (MMM)

Esa Hiiva (MMM)

Markku Himanen (MMM)

Esa Ikäheimo, Information Centre of Ministry of Agriculture and Forestry (TIKE)

Veikko Marttila (MMM)

Jarmo Salonen (MMM)

Eero Uusitalo (MMM)

Kirsi Viljanen (MMM)

Erkki Kempainen, Agricultural Research Centre of Finland (MTT)

Sirpa Kurppa (MTT)

Heikki Pajuoja, Finnish Forest Research Institute (METLA)

Aarne Reunala (METLA)

Esko-Olavi Seppälä, Science and Technology Policy Council of Finland

Kaisa-Leena Lintilä, Ministry of the Interior (SM)

Seppo Rekolainen, Finnish Environment Institute (SYKE)

Erik Haggrén, Helsinki University (HY)

Juha Helenius (HY)

Jukka Kola (HY)

Matti Ryhänen (HY)

John Sumelius (HY)

Kim von Weissenberg (HY)

Matti Ylätaalo (HY)

Jaska Järnfors, Statistics Finland (TK)

Martti Kankaanpää (TK)

Leena Söder (TK)

Simo Tiainen, Eurostat

Keijo Hyvönen, EU/DG6/FADN

Reino Hjerpe, Government Institute for Economic Research (VATT)

Ari Enroth, Rural Advisory Centres (MKL)

Jouko Setälä (MKL)

Mikko Siitonen (MKL)

Johan Korkman, Svenska lantbrukssällskapens förbund (SLF)

Kim Nordling (SLF)

Paavo Mäkinen, The Central Union of Agricultural Producers and Forest Owners (MTK)

Olli-Pekka Väänänen (MTK)

Panu Kallio, Pellervo Economic Research Institute (PTT)

Jukka-Pekka Kataja, (PTT)

Hannu Iivonen, Employment and Economic Development Centre in Central Finland (T&E/K-S)

Panu Kassi (T&E/K-S)

Heikki Leivonen (T&E/K-S)

Heikki Puranen (T&E/K-S)

Esko Hytönen, The Central Union of Agricultural Producers and Forest Owners in Central Finland (MTK/K-S)

Raimo Kunelius, Central Finland Rural Advisory Centre (MAKE/K-S)

Pauli Puttonen (MAKE/K-S)

Jouko Kahilainen, Regional Council of Central Finland

Jyrki Kataja, Jyväskylä Polytechnic, Renewable Natural Resources Sector, Tarvaala

Appendix 2 Review of the Farm Accountancy Data Network (FADN)

The Farm Accountancy Data Network (FADN) is an important activity for MTTL. It not only consumes a large part of their resources, but the FADN provides also a wealth of data for its applied research. In a certain sense one could claim that the FADN is MTTL's laboratory to observe the agricultural system that the economists investigate. The FADN also provides MTTL automatically with a network with other Finnish organisations, as well as with other European agricultural economics research institutes.

FADNs exist in different types. An EU sponsored concerted action, in which MTTL took part, found two major types (figure A2.1). The Finnish FADN has some main characteristics of the type Y: it is run by a research institute and the data are used in policy analysis by the institute. Concerning innovation in data collection, MTTL however is hampered by the fact that much depends on the willingness of the extension service.

Figure A2.1 Two different types of FADN

<i>Aspect</i>	<i>Type X: 'low cost – low value'</i>	<i>Type Y: 'high risk – high value'</i>
Central organisation in FADN	Ministry of Agriculture	Research Institute
Type of finance	internal budget	output-related
Data gathered by	buying from accounting offices	own staff
Farmer's participation	is paid	free
Information feedback to farmers	low	high
Data flow and its: - information and - innovation	low low	high high
Data used by research	incidentally	often, and critical success factor
Political culture	data monopolised by ministry; no open access by others	policy advise and consensus building in the public
Main role of EDI	can solve lack of interest	can reduce higher costs
Typical example	Germany	The Netherlands

The Finnish FADN has about 1,000 farms plus a number of farms for national purposes. Since 1995 it has delivered data to the European Commission. Due to the good performance of the previous and current Finnish FADN-managers, Finland seem to have experienced fewer problems in adapting its system to the EU demands and to deliver EU comparable data than other new member states have had.

The rural advisory centres are responsible for the farm selection, data collection and the management of the FADN-relationship with the farmer in general. 60 to 70% of the farms have their own PC for accounting purposes. Some advisory centres are not very interested in bookkeeping. They regard the fee (3,000 FIM/farm) as too low in relation to their labour costs or their target income per day (1,000 FIM/day), they are more tax oriented (and the income tax accounting has to be done at the same rush hour period as FADN) and sometimes advisors lack economic training and have a rather technical orientation. The feed back by MTTL also provides them with too little information on economic concepts and how to use the results. Especially if the accounts of the farmer are badly organised, this leads to the situation where advisors spent too little time on feedback to the farmer. However many advisors see that this work is needed as one needs the data also for advice, and that it also leads to new demands for advice.

Nevertheless, this situation leads to a high non-response for the FADN in some regions, and for some type of farms. There could be a bias in the sample due to non-response, but thanks to the use of stratification, the effect will not be large. In the past the FADN was seen as a sample of the better farms, but this has improved. There is however a problem with representativeness for smaller farm types like poultry. The use of the EU Farm Typology is seen as useful. Data on forestry in farms are gathered and costs are allocated to the forestry activity. However cooperation with the forest research institute METLA on this point is lacking, and METLA thinks the sample is biased at this point.

An example of a farm type with a high non-response is horticulture. Another is the so-called multi-activity farm. MTTL wants 150 farms in the panel but there are problems in data supply in some Advisory Centres. There is not much know-how with the advisory service to pay attention to small enterprises like rural handicrafts. However there are no alternatives in the region to create access to such businesses, so the Agricultural Advisory Centres sees this nevertheless as a market to be won. More attention could also be paid to a number of new-style cooperatives. It should be noted however that the non-response in these areas could also be caused by reluctant managers and that the Advisory Service is not to blame. There is now a working group to try to solve it.

Advisory Services keep accounts for 2,000 farmers and advise another 5,000 farmers who keep accounts themselves. Software of the advisory centres is compatible with the software of the MTTL, but this is not the case for some commercial packages. There is a standard chart of accounts, but this is not used by everybody. The Advisory Centre compiles its own regional statistics from the original data and distributes it to the other regional Advisory Centres. The other regional offices receive also a copy of this statistics. This gives preliminary information for the use of the centres early. The main use of this information is in benchmarking type in comparisons and in advice activities based on the information. Later they get information from MTTL, but this comes too late.

In autumn 1999 results are published for 1998, which is too late in the opinion of the Advisory Service. The centres are ready with their accounts in May/June. In an international FADN context, this seems not be a bad performance. However several countries (including Austria, Luxembourg and Italy) finish this job before or during the summer (like the Advisory Service, so the flow from the accountants of the Advisory Service through MTTL takes too much time).

There is therefore a demand to improve feedback to farmers. Especially the time lag is too long. Perhaps it makes sense to move to a system with quarterly data gathering that regularly provides farmers and especially small rural businesses with a cash flow report.

MTTL needs constantly 3 to 6 persons working on checking the FADN data, as 50% of the data from the rural Advisory Centres contain errors that must be corrected. It was reported that the instructions for the data collection and compilation should be more precise. The farmers would also need more advice on site, on the farm. Now there are too many cases where corrections have to be made afterwards. This causes delays and raises the costs. This suggests that a major reengineering of the system and its dataflows is necessary. Currently a new ICT system is being built; the target will be to have results in a half year after the closing of the accounting year. The input site of the system (on which FIM 500,000 has been spent) is now working and makes an up to date impression. However much work and investments are still needed on the control and output site of the system. It is also likely that after completion of these tasks, demands for new types of data and new information and communication technologies (like the internet) will require further improvements. As many countries are making such investments, it becomes more and more interesting to discuss the possibilities of joint investments.

There are plans to create a data warehouse for use by the Advisory Service and MTTL; there is the intention to give MTTL a central role in such a data warehouse, as long as advisors have direct access. There is also a data processing centre from

the advisory centres and the breeding organisations (milk yield etc.) that could be integrated in that data warehouse.

If MTTL were to need extra data (e.g. mineral balances or data on rural activities), this is in principle not seen as a problem. However the Advisory Service would like to be paid for its extra costs, and many accountants have to be trained. Due to a lack of direct access to its FADN farmers, sometimes the MTTL carries out an additional survey by mail. This is not a solution favoured by the Advisory Service, as it leads to questions from farmers to the Advisory Service. It is in this respect that the innovation of the Finnish FADN is not optimal. In a time of changing agriculture and new areas of research in MTTL this is a worrying aspect.

Under the current arrangements, with the results agreements between MMM and MTTL, MMM and the Advisory Service, and with contracts between MTTL and regional Advisory Services, there seems to be an important role for MMM to coordinate this and to organise this innovation process.

Farm selection could also be hampered by the lack of a clear public relations policy of the FADN. Some people remark that it is not always easy to motivate farmers if their subsidies are cut next year on the basis of the data. This hints at a need for improvement to make clear the role of the FADN ('use in research can be advantageous and disadvantageous for the farming community, but in the end it is always better that when decisions are taken, that they are based on a true and fair view of the reality') and its privacy regulations in handling individual data. There is a need for a clear public relations policy on the FADN that informs advisors and farmers on the role of the FADN, contracts with farmers and the privacy regulations/guarantees in use of the data. This privacy issue could be of general concern, as somebody remarked that it is not clear to them how the addresses TIKE supplies are protected when given to Gallup and other polling institutes to organise surveys for MTTL.

To improve the participation of farmers and of the Advisory Centres, the yearly master-contract with the Advisory Centres is now replaced by contracts with individual regions, which could have the effect that quality aspects could be better managed, as direct agreements are possible. It is clear that MTTL should do more on guidance and should differentiate its fee per farm to regions, type of farming and new farms. The national advisory committee on the FADN lacks a monitoring tool to steer the system. Like Statistics Finland (and the Dutch FADN), MMM and the MTTL could introduce a Balanced Score Card approach to measure the performance of MTTL and the regional Advisory Centres in measuring and improving the performance of the MTTL.

For outsiders the documentation and meta-data of the MTTL are unsatisfactory, to say the least. Quality management is unclear. Variance of the sample is not published and this also raises questions on how efficient the adaptations in the system are. This makes it hard for e.g. Statistics Finland to use FADN data for statistics or in compiling national accounts. METLA could have a comparable problem. Statistics Finland provides know how and courses in the field of quality management and statistical methods (econometrics, panel data, post stratification) to other institutes, e.g. the Game and Fisheries Institute of MMM. They provide a label, SVT, for official statistics, that asks for quality questions, methods, publication within a certain time, and comparable classifications. For Statistics Finland it would be attractive to bring FADN under this label so that they can use it for answering statistical questions. For MTTL it could help to resolve contradictions between the different income statistics.

Although the costs of FADN in relation to other statistics seem reasonable (TIKE spends FIM 7 to 8 million on statistics, on a total of Finnish Statistics in St. Finland of FIM 160 million, where FADN costs FIM 3 million.), a better use by FADN data, also in statistics, could secure the financial support by MTTL of FADN in the future.

The publication of FADN data could be improved further. Last year the FADN data played already a bigger role in the yearly report by MTTL on Finnish agriculture. The feedback to farmers and the Advisory service could be improved by publishing a newsletter, like the Dutch Agri-Monitor. In addition FADN data should be published on the Internet. These data should be downloadable. The advisory service remarked that advisors travel around by car and portable PC. They don't like to truck around a library on wheels.

Appendix 3 Account management, the results agreement and the internal organisation

The introduction of account management would create at least 3 and potentially even more account managers. MMM should split its funding in the results agreement into at least 4 budgets (measured in Euro):

- budget for knowledge development;
- budget for policy support;
- budget for rural community support;
- budget for investments in buildings, hardware, software and data (if not included in the previous budgets).

MMM and MTTL should take into account that MMM is a *client* for the products that are produced with the budget for policy support, but that it is ‘only’ a *sponsor* for the products that are produced from the budgets for knowledge development and rural community support. In these cases the results agreement should not detail the content of the work, but only the amount of work (e.g. number of Ph.D.s, number of articles in farm press). Decisions on the content of that work should be taken on the basis of a workplan agreed by the independent Board.

The results agreement should therefore be shortened and split into a general part and a workplan for the account ‘policy support’. The general part should contain agreements on:

- the mission of the institute;
- the strategy 2000 – 2005, including the strategy for international cooperation and the strategy on how knowledge development will lead to the know how needed in the future;
- the budgets (in Euro) for next years on knowledge development, policy support, rural community support and for investments;
- the targets for the account ‘Knowledge development’ for the next few years, measured as (for instance) 3 Ph.Ds. per year, 1 peer reviewed papers in international journals per person per year, the teaching obligations in the graduate school etc.;
- the targets for the account ‘Rural community support’, measured as (for instance) X articles in professional journals, Y research reports, Z seminars;
- targets for the institute to find soft funding from other sources (e.g. projects with a total budget of Euro 100.000 should be commissioned to MTTL by international organisations / other Ministries etc.).

The workplan for the account ‘Policy support’ should detail the programmes that are carried out with MMM as a client, with detailed information on the projects that are part of the programmes, including delivery dates. It can include a pre-fixed (option on an) amount of time that should be made available for MMM at request for ad hoc questions. In that case, this time should be recorded and audited.

The results agreement should be a contract between MMM and the Board of MTTL, prepared by the director general of MTTL at the request of the contract partners. It could be possible to leave a detailed work plan for policy support out of the results agreement, and only mention the budgets of the individual programmes within policy support (e.g. Euro X for research on the CAP, Euro Y for research on environmental policy, Euro Z for the FADN). The details on the projects in the individual programmes could then be negotiated between the account manager and the relevant client within MMM.

In addition to this results agreement, the account managers should make detailed workplans, which would provide information on the programmes and projects (including project plans with budgets, delivery dates etc.). These would be sent to the Board. The Board has to agree with / decide on the workplans for Knowledge development and Rural community support (and see if they are in line with the targets that the Board has agreed upon with MMM). The workplan on policy support would be essentially a matter for MMM and would be provided to the Board for information purposes only.

The account managers are responsible for satisfied clients. For the account ‘Policy support’ the clients are in MMM. For the other two budgets, the clients are (for the moment) represented by the board. Based on the budgets from the results agreement the account managers have money to ‘buy’ capacity from the heads of the research units.

These research units provide capacity and are organised by discipline or topic (e.g. farm management / production economics, environmental economics, rural development, farm accounting). These units provide a long term ‘home’ for the researchers, where the head of unit helps them to develop their skills. The heads of these units are responsible to balance their profit and loss account by ‘selling’ their services to the account managers. If they don’t succeed in that they should consider retraining and reallocating their staff, or –together with the account managers- try to find new clients for their capacity.

The ‘buying’ and ‘selling’ is a way of wheeling and dealing in the management team/institute, not a bureaucratic system of sending each other invoices. If on each project (at the start) the costs/budget is noted down with the allocation to the re-

search unit(s), and with a signature of the account manager and the head of unit, the administrative burden is low.

If in this type of organisation, MMM would like to have more research (or ad hoc support) from the account manager 'Policy support' than has been agreed upon in the results agreement, it should be prepared to pay for it (or to renegotiate the results agreement with the Board). The account manager then can use this money to buy extra capacity from the heads of units. They can in turn use this money to hire extra staff (on a part time basis).

Within MMM it is unlikely that the Research and Extension unit is the real client of the programmes for policy support. It is more likely that the real clients are the persons that are responsible for the implementation of the CAP, for the delivery of FADN data to Brussels, the director for rural development etc. These persons should act as a client for a certain programme. As long as a new board is not operational, the Research and Extension unit could act as a stand in for the clients on the programmes for Knowledge development and on Rural community support. Potentially also the farmers union or the advisory services are the real clients of this programme for Rural community support.

It would be possible to name account managers for other clients, like other Ministries or the EU Research funds. Account managers could even be given targets for the turnover that should be realised with these accounts (as for sales managers).

The introduction of account managers creates a matrix organisation. That means that there is potentially a tension between the account manager (who would like to fulfil the demands of the client as much as possible, implying quick delivery, low price for high quality and shifts from one topic or even discipline to another) and the head of unit (who has to sell also persons whose skill are at the moment less in demand). To control this tension, two measures could be taken. First of all the Director-General should not take up the role of account manager (not even on policy support to MMM) or head of unit, but oversee the process. This gives him possibilities to interfere within the institute in case of disputes, to solve problems between account managers and clients and to coach the account managers and heads of units in learning this new management system. It also allows time for him/her to develop new business, to pursue research, and to implement the other changes that we have suggested in this report.

Secondly the roles of account manager and head of unit can be combined by one person. One person can for instance be head of unit of the unit of environmental research (where a Ph.D. is written, as well as policy support is done and a project for the farmers is carried out) and account manager for a programme in Knowledge

development (e.g. Development of Environmental expertise in the food chain, including Life Cycle Analysis) and account manager for a programme in policy support (e.g. implementation of agri-environmental EU schemes). The advantage of such a combination of roles is that each member of the management team understands the aspects of the different roles, and that internal wheeling and dealing might be easier. The disadvantage is that some persons will mix up their roles and that their actions are not always understood if they don't make clear in which role they take them.

This account management has a large number of advantages:

- it helps to separate the different tasks of MTTL;
- it also will lead to a better relationship with MMM as the sponsor and client role are separated, and the real clients within MMM can be attached to a certain programme with the account of Policy support;
- it can also improve the relationship with the Advisory service, as they can be attached to some of the programmes in the Rural community support budget (MMM or the Board could even give them a voucher to act as a real client);
- it helps to release the administrative burden of the research directors, as others in the organisation can be charged with the account management for smaller clients or programmes;
- it helps to develop skills in client orientation and in attracting money, also from other sources than MMM;
- as competitive funding is increasing and as, on current trends, official European tendering procedures and privatisation are in the long run not unthinkable, this step into the direction of an output financed MTTL makes the long term future less risky;
- it supports quality management, as quality has different meanings in the different programmes. In the account for knowledge development quality is very much related to 'product quality': papers, citations etc. In the account for policy support however quality has to do with client satisfaction, in time delivery, relevance etc.

This type of organisation is used by other research organisations, including the Dutch Agricultural Economics Research Institute LEI and some successful English universities. It might be attractive for MTTL and MMM to study the situation in the Netherlands, although there are some differences. The LEI adopted a more or less similar structure of programme management in the early nineties with great success, to offset the problems of crowding out knowledge development by service duties for the Ministry of Agriculture. Heads of departments / units were made responsible for the profit and loss account of their department. This led to a client orientation, attracting much soft money (currently equivalent to 25% of the turn over) from

contract research from other ministries, regions, the EU and even the food industry. Later on and in addition account management was introduced, especially to coordinate contacts to other clients than the Ministry. Researchers have been trained in project management, dealing with clients and 'creative thinking' to develop new skills. Approximately 50% of the staff are recruited from other universities (and disciplines) than Wageningen Agriculture University. Recently this also involved some foreigners. Nowadays several of them have a Ph.D. or complete this in the institute. Time sheets (project administration) and quality management (ISO-9000) have been introduced to support the change. In general the researchers (who are on average not much older than MTTLs) have showed a very positive attitude to these changes.

Already for many years the LEI is one of the institutes of DLO (the Dutch equivalent of MTT, and currently merged with the agricultural university into Wageningen University and Research centre). This Wageningen UR is juridicially quite independent from the Ministry (the staff lost their position as civil servants). Many programmes for the Ministry are now carried out together with sister institutes, which in practice had led to a relative shift of resources from technical research to the LEI.