1. General Introduction

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Background

Rural areas in Europe are in a continuous transformation. Large part of the rural areas is used for agriculture, and agricultural production systems are under pressure to reform to meet the increasing demands from market and society. The economic and political importance of agriculture has greatly diminished during the last century, and some rural areas in Europe have become abandoned, depopulated and impoverished. Some areas witness a diversification of activities and part-time employment to raise sufficient income. Other areas though have witnessed the development of relatively large specialized and industrialized agricultural production systems. There are also increasing urban and ecological claims to the rural area; living, forestry, nature conservation, recreation, water management, and landscape conservation gain in importance.

Globalisation, population growth and migration, technological developments, and changes in consumer behaviour and political situations will contribute to global changes during the next decades. The projected increase in global population of 2 to 3 billion people during the next 3 to 5 decades will require global agricultural productivity to increase by a factor of about 2, especially in the places where the population increase takes place. To be able to diminish the further degradation of natural ecosystems as a result of externalisation of environmental effects, resource use efficiency in agriculture has to increase by at least a factor 4. Meeting these goals will require radical changes in global agriculture.

Agriculture in The Netherlands

Agriculture of The Netherlands ranks among the highest in the world in terms of production level and resource use per unit surface area. Though the country is small (34,000 km2) and densely populated (470 inhabitants per km2), it ranks among the first in the world as net exporter of agricultural products. About 60% of the total surface area

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is covered by agricultural land, leaving 10% for forests and natural areas, 15% for surface waters and 15% for living, industrial and infra-structural area. Governmental policies have strongly contributed to the intensification and specialization of agricultural production during the second half of the 20th century. Early signals in the 1960's and 1970's about the environmental and social-cultural side-effects of this intensification of especially animal production were largely ignored initially by stakeholders and policy makers. However, from 1985 onwards, drastic changes in agricultural and environmental policies and measures have been implemented. These policies and measures have improved the environmental performance of agriculture, but some problems appear stubborn and wicked, and the outbreaks of foot and mouth disease, BSE, pig pest, and Salmonella infections, at the end of the 1990's, have put agriculture further under pressure to reform. Recent changes in the common agricultural policy of the EU and in trade policy and markets have altered the economic competiveness of various sectors within Netherlands' agriculture and necessitate for further changes as well. Urban sprawl, nature conservation and water storage increasingly claim areas at the expense of agricultural land.

Transition towards sustainable agricultural

Recent governmental initiatives plead for a 'transition towards sustainable agriculture', by restructuring Netherlands' agriculture and by having solved all stubborn problems by the year 2030. Though there is broad consensus about the need to move towards 'economically viable, socially acceptable and environmentally sound agriculture' there is less consensus about the outlook of such agriculture and about how to reach that agriculture. There are no generally accepted 'blueprints' for sustainable agriculture, and no validated transition management theory for sustainable development, which would facilitate managing the transition towards sustainable agriculture. Current believe is to develop innovative and sustainable agroecosystems jointly with relevant stakeholders, considering all economic, ecological, social and cultural trade-offs of such systems in a balanced manner. It is also believed that a sequence of well-focused activities are needed to achieve the transition towards sustainable agriculture. These activities are carried out in so-called arenas with all relevant stake-holders.

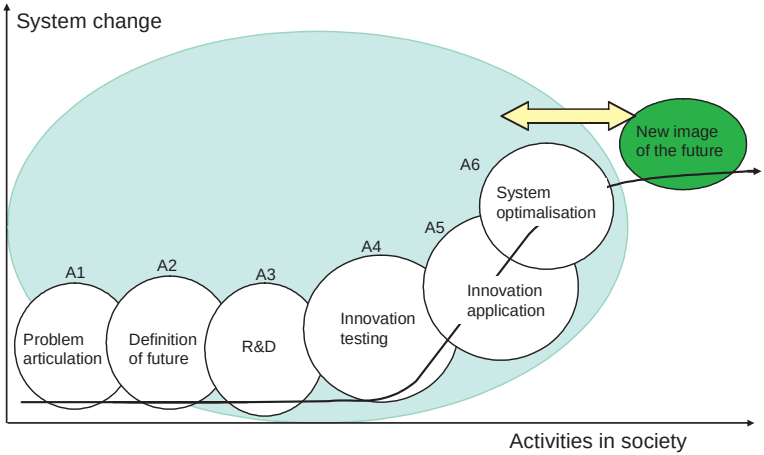

Figure 1. Hypothetical picture of the transition process towards sustainable agriculture. A sequence of activities with all relevant actors is needed to achieve the structural changes in systems. Innovations and system optimization are suggested to play a key role. (after Ros etal., 20003)

Over the last two years, researchers from Wageningen University and Research Center have made a number of preliminary studies exploring the challenges, barriers and dilemmas of future agriculture and rural areas in the Netherlands. The purpose of these studies was to assist policy makers in (re)shaping agricultural, environmental and spatial policies. The studies were financed by the Ministry of Agriculture, Nature and Food Quality, through program 385 Environmental Assessments. The studies were carried out in close interaction with policy makers from the Ministry of Agriculture, Nature and Food Quality (LNV), the Ministry of Housing, Spatial Planning and the Environment (VROM), and the Environmental Assessment Agency (RIVM).

This booklet provides a quick overview of the results of some of the studies. Each chapter summarizes the major findings of a study and the lessons to be learned from that study.
Chapter 2 provides a common framework (Road map) for analyzing (the need for) agricultural change. Chapter 3 discusses the pros and cons of three approaches (food chain, sectoral and regional) for managing changes in rural areas in desired directions. Chapter 4 sketches maps of future developments of various agricultural sectors

in EU-25, and the Netherlands, based on an analysis of major driving forces for change. Chapter 5 presents designs of future farming systems. Chapter 6 reports on an inventory of initiatives in practice in the Netherlands to move towards sustainable farming systems. Chapter 7 reports on another inventory of initiatives in practice in the Netherlands to move towards sustainable farming systems. Chapter 8 compares a selection of approaches and initiatives towards sustainable agriculture in France and United Kingdom with those in The Netherlands. Finally, the benefits and constraints of the transition toward sustainable agriculture are discussed in chaper 9.

Each of the chapters is based on an underlying report, written in Dutch language. These reports can be obtained from the authors upon request.

References

Ros, J.P.M. et al., 2003. Method for Assessment of a Transition. The case transition towards sustainable agriculture and food chain. RIVM report 550011001/2003, Bilthoven.