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## **Linking processes and pattern of land use change**

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# Linking process and pattern of land use change

*Illustrated with a case study in San Mariano, Isabela, Philippines*



**Koen Overmars**



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Illustrated with a case study in San Mariano, Isabela, Philippines

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# **Linking process and pattern of land use change**

Illustrated with a case study in San Mariano, Isabela, Philippines

## **Proefschrift**

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in 1976

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Prof. Dr. H.A. Udo de Haes

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## Preface

The research reported in this thesis was conducted as one of three projects that together formed an integrated program called “Integrating macro-modelling and actor-oriented research in studying the dynamics of land use change in northeast Luzon, Philippines”, which was funded by the Foundation for the Advancement of Tropical Research (WO-TRO) of the Netherlands Organisation for Scientific Research (NWO). In this program three other researchers conducted their studies: Marco Huigen, Peter Verburg and Cecile Mangabat. Marco was based at the Institute of Environmental Sciences Leiden (CML) of Leiden University conducting a PhD study on agent-based modelling of land use change at the micro-level. Peter was working as a post-doc at the Department of Environmental Sciences at Wageningen University on spatially explicit modelling of land use change in the Philippines as a whole. The aim of my research was to combine and to link these two spatial scales at the intermediate level and to link micro-level processes to observed patterns of land use at the landscape level. This work was carried out in both Wageningen and Leiden. Furthermore, Cecile was appointed as a local counterpart to study the impact of all forest related policies in the study area. The program was supervised by Wouter de Groot and Tom Veldkamp. With this set up we had a multidisciplinary research team to study the interdisciplinary research questions of land use change.

At the start of the project in May 2001 I lived in Leiden and spent most of my time at the CML to become familiar with the various sociological and anthropological methods and ideas in environmental studies, in which the CML has its expertise. In this period I got to know a completely different aspect of land use science and although I thought I had a quite interdisciplinary mindset I got many new insights and ideas about the functioning of the world of science in general and land use science in particular. After a first fieldwork period in the Philippines in 2002, I moved to Utrecht. From that time on, I spent half my time at the CML and the other half at the Laboratory for Soil Science and Geology in Wageningen. This way I was exposed to the different disciplinary inputs of both institutions on a weekly basis. Although working at two places brings about some organisational difficulties I have always enjoyed working in both institutions. For the interdisciplinary aspect it has been a great benefit to participate in both research groups and I learned a lot from balancing between the disciplines that are represented by these institutes.

In the first part of 2004 a second fieldwork was conducted in which I tried to link the land use research with biodiversity research and nature conservation. After that trip I worked towards finishing the PhD study. In October 2005 I was ready to send a final draft to my supervisors.





## Acknowledgements

This dissertation is the result of four years of research and would not have been possible without the help, cooperation and support of many people. Writing these acknowledgements my thoughts go back to all the good things that have happened these past four years and I like to mention some of the experiences and people that were involved in this.

First of all, I would like to acknowledge the support of all my colleagues at both the Institute of Environmental Sciences (CML) in Leiden and the Laboratory of Soil Science and Geology in Wageningen. Although I spent only half my time in both institutions, I feel at home in both.

I would like to name a few people with whom I have worked most closely. Firstly, I like to thank Marco Huigen with whom I shared a room at the CML during these years, with whom I spent time in the Philippines and at many nice trips to conferences and workshops. Marco, maybe our characters are a little different, but finally we managed to work ourselves through this project. We have had tough discussions, but in the end I think it is precisely these tough discussions that most deeply influenced my understanding of what interdisciplinarity means. In Wageningen I shared a room with Peter Verburg and Kasper Kok. Peter, your support has been crucial for my research. I have learned a lot from you regarding land use science and I hope our collaboration will continue on projects in the future. Kasper, you always handled my moods elegantly and were always a good discussion partner. Cecile, thank you for your contributions to the project by giving us insight in the way forest polices work in the Philippines. Merlijn, I would like to thank you for the inspiring collaboration for the research and fieldwork on biodiversity and land use that resulted in the paper on which Chapter 6 is based.

During the four years of research that was spent on creating this dissertation nearly a year was spent in the Philippines. I gratefully acknowledge the support and commitment of CVPED in Cabagan, and especially Andy Masipiqueña and Jan van der Ploeg, who were the coordinators. Special thanks go to Noel Perez, who has been my field assistant during the fieldwork in the Philippines. Noel, without your help I could not have carried out the fieldwork. I very much enjoyed working with you and my thoughts go back to the many nice hikes we have had in the field.

I would especially like to acknowledge all government officials of the Municipality of San Mariano. Your cooperation has been essential to the success of my work. In the field I was helped by many people that offered me a place to stay for the night, cooperated with the research or simply enjoyed a merienda with us. In that respect I especially like to thank Jose and Patricia Wanol. I will never forget your hospitality to me and the students on all the occasions that we visited your home.

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