Epidemiological transition in Indonesia : impact of helminths and urbanization on the development of Type 2 diabetes

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EPIDEMIOLOGICAL TRANSITION IN INDONESIA:

Impact of Helminths and Urbanization on The Development of Type 2 Diabetes

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The research presented in this thesis was performed at the Department of Parasitology, Leiden University Medical Centre, Leiden, The Netherlands; the Department of Parasitology, Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia; the Division of Metabolism and Endocrinology, Department of Internal Medicine, Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia; and the Nangapanda Community Research Centre, Ende, Indonesia.

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About the cover: Illustration of the two different study areas described in this thesis. The upper part depicts Nangapanda (Flores), a rural area, which is characterized by its beautiful tropical beach which has a stretch of green stones and coconut trees. The lower part depicts Jakarta, the capital city of Indonesia, an urban area, which is characterized by its skyscrapers and the National Monument (Monas). The border between the upper and lower part is represented by the presence of soil-transmitted helminths (the brown-coloured curved lines).

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DEDICATION

This thesis is dedicated to the memory of my father, C.H.B. Benny Tahapary,
who inspired me;
to my mother, Endang Soeprapti,
who has provided unconditional love and patience;
to my wife, Maria Larasati Susyono,
who has supported me in all my endeavours;
and to my sons, Nicholas, Sebastian, and Olivier,
who make it all worthwhile.

He has made everything beautiful in its time.
Ecclesiastes 3:11

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