

**PRODUCTION AND UTILIZATION OF ORGANIC WASTE IN URBAN
AGRICULTURE: A CASE STUDY OF NAIROBI**

D.PHIL RESEARCH THESIS



BY

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ABSTRACT

This study was conducted in Nairobi, during the period starting from September 1998 through June 2001. The broad objective of this study was to investigate the production and utilization of organic waste in urban agriculture in Nairobi. The study had six specific objectives namely: a) to assess the type of organic waste, which is generated from selected households and other institutions, b) to identify the socio- economic characteristics of the urban farmer using organic waste to enhance agricultural production, c) to investigate the views of various stakeholders on re-use, recovery and recycling as management strategies of organic solid waste d) to determine people's attitudes, perceptions and behavioral patterns as regard generation, collection, and consumption and source separation of organic waste material, e) to determine the process of organic solid waste management starting at the dumpsites to the various destinations and f) to examine the role of Nairobi City Council in solid waste management and suggest recommendations for urban development planning with respect to urban agriculture and organic waste management.

The study utilized secondary sources and field research methods of data collection whereby various types of survey techniques were employed. These included a reconnaissance survey, administration of standard questionnaires, key informant interviews, focused group discussions, participatory urban appraisal, photography, observations and in-depth case studies. A total number of 500 respondents were purposively sampled at household level and interviewed using the standard questionnaire as the instrument of data collection. A number of institutions including 8 hotels, 13 schools, 1 university, 3 hospitals, 10 markets, 7 composting groups, 3 hospitals and 5 research institutions were also covered by the study. Data analysis was done using qualitative and quantitative skills. Diagrams and figures of simple measures like averages, percentages and frequency distributions were made. Seasonality calendars were also derived.

The major findings were that urban farming is practiced by all and sundry irrespective of their creed, ethnic group, race or social status. The poor practice it for a livelihood whereas the rich practice farming for commercial purposes and as a hobby. 55 % of the respondents have been practicing farming for less than 15 years. This could imply that extensive farming started when the socio-economic conditions in the country deteriorated abruptly when the World Bank and the International Monetary Fund and European bilateral donors started withholding development assistance to Kenya. 70% of all the respondents used organic waste on their farms. The study also determined that urban agriculture is a bigger generator of organic waste and a major user of the same.

More waste is generated in the high residential areas but improper waste disposal is enormous in the low-income areas than in middle and high-income areas than in middle and high-income areas. The city council, the composting groups and other stakeholders are in various ways engaged in solid waste management like composting, collection and disposal of garbage. It has been evidenced through the composting groups that systematic waste re-use and recycling are the best ways to reduce organic waste as they need it as raw material for composting. The City council of Nairobi is incapable of effective and sound management of solid waste management and organic waste in particular due to lack of a legal framework and transport among other resources.

The study recommends that, urban agriculture should be supported since it is serving a meaningful purpose for those practicing it. This should be done from the standpoint of sustainable agriculture, which is not harmful to the environment. There is need for assistance from the Nairobi City Council and other stakeholders on marketing strategies and improved communication network to the composting groups and finally there is need for an operational, participatory and efficient system of solid waste management that honours societal and environmental goals, e.g. through information dissemination and a working institutional framework.