Tropentag, September 17-19, 2013, Stuttgart-Hohenheim

"Agricultural development within the rural-urban continuum"

VegGIS – A Web-Based Collaborative Research Environment – Pilot Application in Research on Vegetable Production in Greater Bangkok, Thailand

Axel W. Drescher[1], Robert J. Holmer[2], Rüdiger Glaser[1], Mark Hoschek[1], Pariyanuj Chulaka[3], Dirk Riemann[1], Steffen Vogt[1], Katharina Fick[1]

[1] *University of Freiburg, Dept. of Environmental Social Sciences and Geography; Physical Geography , Germany*

[2] *AVRDC - The World Vegetable Center, Thailand*

[3] *Kasetsart University, Dept. of Horticulture, Thailand*

Abstract

Urban and peri-urban vegetable production and marketing systems have the potential to contribute to poverty reduction, food and nutritional security, local economic and community development, social inclusion of marginalised groups and women in particular, as well as to enhance urban environmental management by increasing biodiversity and the productive reuse of organic wastes.

However, very often the complexity of urban and periurban vegetable systems is not fully understood by regional and urban planners, city administrators and policy makers, and hence, its potential for sustainable development of urban and peri-urban areas in developing countries has only be harnessed to a limited extent.

As part of the GIZ-funded project "Understanding urban and periurban vegetable production and marketing systems through GIS-based Community Food Mapping in Greater Bangkok, Thailand" a pilot web-based Collaborative Research Environment (CRE) was developed. The CRE supports research to better understand interlinkages between producers, marketeers and consumers. The core of the CRE consists of a central, spatially enabled database and a range of associated tools for distributed data entry, for remote and real-time monitoring of the incoming data, for data analysis, and last but not least for data presentation. The tools include the required Geographic Information System (GIS) functionality for spatial analysis and map-based visualisation.

In our pilot study the data included in the CRE comprises empirical data from different sources such as questionnaires and surveys, spatial information on production areas in relation to vegetable diversity as well as information on producers, traders and consumers.

As it is a web-based application, technical requirements for the users are low apart from having access to the internet. The multilayer food related data can thereby be presented, visualised, evaluated and analysed in a modern and straightforward way which helps to simplify the communication between scientific disciplines and the dissemination of findings to a broader public and to the policy level.

Keywords: Biodiversity, Collaborative Research Environment (CRE), food security, Geographic Information System (GIS), marketing, urban and periurban agriculture, web application

Contact Address: Axel W. Drescher, University of Freiburg, Dept. of Environmental Social Sciences and Geography; Physical Geography , Werthmannstr. 4, 79085 Freiburg, Germany, e-mail: axel.drescher@geographie.uni-freiburg.de