

*Perspective*

# Provision of ecosystem services, urban growth, and the rural-urban interface

Victor R. Squires\*

Department of Crop Production, Bei Bu Gulf University, Qinzhou, China.

Accepted 21 December, 2021

## INTRODUCTION

The rural-urban interaction areas are critical places for creating a market for ecosystems services. Transitions in land use in urban areas affect ecological functions and thus human well-being. The prospective availability of such services,

especially in urban areas with high population (as in most of China) and high demand, must be considered in order to promote effective and sustainable decision making and prevent further ecosystem degradation. The challenge for local government planners and land managers is to find tools to allow for the collection and analysis of relevant data. Such techniques, ideally, ought to be able to provide a rapid assessment while still not requiring large teams of highly trained personnel or incur additional high costs.

This same paper describes the development and testing of such a tool.

The paper is divided into three sections. First, we provide a brief overview of the current and evolving situation in China in terms of urban development, population shifts, and the creation of new cities Peri-Urban Areas (PUAs). Then, based on findings from the literature and discussions with village leaders, counties and prefect authorities, we construct an understanding of local needs for tools to aid planning and land management while remaining within the restrictions of national policy. Finally, our multi-method got the right a “template” that provided a new technical instrument for quickly assessing the value of EG and S in each of five land use categories. In the transition zone between rural and urban areas, the tool embodies a way to handle trade-offs between environmental, social, and economic concerns.

The tool was tested in the QinBei District of the Guangxi Autonomous Region in south China, and it was found to be useful and adaptable to other rural-urban areas.

China is rapidly urbanizing, with the show greater from 10.64 percent in 1949 to 58.52 % and 60 % in 2019. Data from the national bureau of statistics show that the rate climbed from 10.64 percent in 1949 to 58.52 % and 60 % in 2019. According to a paper published by the National Academy of Social Sciences’ National Academy of Economic Plan, China’s urbanization growth will continue, with the urbanization ratio hitting 70% by 2035. China has been experiencing possibly the most rapid, dramatic, and far-reaching urbanization process in human history for the past 25 years or more. As a result, despite similarities and contrasts with other experiences, it deserves special attention. The tendency toward rural to urban migration is widespread, although it is shaped by diverse national and regional political economy. The shape and function of China’s “urban regions” is predicted to transition from a metropolitan focus to urban agglomeration domination in the next 15 years, according to an article in the “China Daily.” The trend of urbanized population is expected to be across the spectrum of urban agglomerations, with 25% of the population living in rural areas.

Small towns account for 25% of the population, small and medium cities for 25%, and central cities and metropolises for 25%, respectively. The functions of modern services will be supported by a metropolis, this included knowledgeconcentrated industries, which require a large population of persons to flourish, as well as capital-concentrated sectors, and small and middle cities will support megacity industries in the future, including such manufacture. The implementation of the Household Responsibility System (HRS), which abolished communes and allowed rural households individual contracts to cultivate agricultural land, increased the mobility of the

\*Corresponding author. Victor R. Squires,  
e-mail: [vrsquires1812@internode.on.net](mailto:vrsquires1812@internode.on.net)

workers in China for the first time in 1982. What is now known as “globalisation” has altered the scope and character of production and distribution systems during the last few decades. People’s lives have indeed been profoundly influenced on cultural, ideological, and economic levels. Globalization has a variety of effects on the provision of environmental goods and services (EG and S).

### **Methodology notes on the approach we used in field study**

As peri-urban environments become more endangered, there is a greater need to comprehend the connections between human livelihoods and environmental processes.

Local government officials (planners and land managers) had stated a need, and we were reacting to it. The knowledge gap we addressed was the creation of a “template” that allows for a quick “broad stroke” assessment that can be relevant to land use planners and others in charge of moving China toward “ecological civilization” and achieving the “China Dream.” The population of the towns in QinBei District has been quickly expanding in recent years. Natural growth and in-migration into towns, primarily of government employees, have contributed to this increase, as has the engulfment of villages as urban centers.

This growing population clashes with the township’s ongoing socioeconomic infrastructure development program, posing numerous planning issues for officials. The three mixed methods analyses would include:

- Ecosystem service-based RAWES assessment, including calculated ESIs.
- STEEP analysis of systemic interactions across the socio-cultural system.
- Satellite data interpretation to reveal differences in land use and condition, as well as societal benefit flows, across the sampled area.

Our study of systemic links between the essential social, technical, environmental, economic, and political elements under the Social, Technological, Environmental, Economic, and Political (STEPP) model supports the close interconnectedness between humans and supportive ecosystems. The STEPP methodology was chosen because ecosystem-human interdependencies occur inside complex socio-ecological systems with highly intertwined governance arrangements, technology choices, and economic considerations. This study offers a unique viewpoint on land - use changes in rural Guangxi’s peri-urban border, allowing researchers to better understand how rural land use and functions are formed and changed, as well as the factors that underpin them. Our findings may have implications for enhancing China’s rural development policies, planning, and governance.