

## Chapter 58

# Integrating Spatial Technologies in Urban Environments for Food Security: A Vision for Economic, Environmental, and Social Responsibility in South Bend, Indiana

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### **ABSTRACT**

*Food security for the urban poor has been an important topic for both developed and developing countries over the last 15 years. Although South Bend Indiana is a city in a developed country, declining economic circumstances have caused the city to show significant urban decay somewhat similar to some cities in developing countries. In this chapter, we explore South Bend's history and economic development strategies, and review practices aimed at strengthening food security for the urban poor. The chapter documents how numerous disparate organizations have been trying to help alleviate urban poverty and hunger, and reviews previous strategies used to foster sustainable growth and development. The integration of spatial technologies will become a key factor for promoting community social networks, participatory planning, and collaboration. The case is presented for the use of Geographic Information Systems (GIS) and associated technologies to help organizations, community leaders, local organizations, city planners, higher education institutions and the urban poor, work together to alleviate poverty and malnutrition through networking and sustainable urban agriculture.*

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## INTRODUCTION

The World Food Summit of 1996 defined food security as “*when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life*”. Food insecurity is defined as, “*a household-level economic and social condition of limited or uncertain access to adequate food*” (World Health Organization, 2015). The United States Department of Agriculture (USDA)’s definition of food security is, “*access by all people at all times to enough food for an active, healthy life* (USDA, 2015).”

## ECONOMIC PROFILE: SOUTH BEND (2015)

The city of South Bend is considered the economic and cultural hub of the greater seven-county region known as Michiana, Indiana in the United States of America. The Chamber of Commerce of St. Joseph County, Indiana defines Michiana as St. Joseph County and “counties that contribute at least 500 inbound commuting workers to St. Joseph County daily.” Those counties include Elkhart, La Porte, Marshall, St. Joseph, and Starke in Indiana, and Berrien and Cass in Michigan (Wikipedia, 2016). South Bend is the fourth largest city in the state, with a population of 101,190 (Indiana Demographics, 2016).

The 2015 unemployment rate in St Joseph County was 4.8%. The top three employers came from education [Notre Dame University], health care [Beacon Health System], and K-12 Public Schools [South Bend Community School Corporation] (South Bend Region Economic Development, 2016). There are concerns over the ecological unsustainability within some areas of the city. There is also growing inequality among the urban poor. The big issue is to identify possible remedies for inner city poverty in South Bend, knowing that the gap in the wealth among American households is more extreme than at any time since the Great Depression (Matthews, 2014). Seeking solutions for these problems may take many forms. One way is to explore pathways towards economic growth through urban sustainable agriculture. It is also instructive to review trends that are currently occurring in developing countries.

## POVERTY AND SUSTAINABLE DEVELOPMENT WORLDWIDE

There seems to be much programmatic interest about living standards and health among neighborhoods in developing countries, but very little in developed countries. Researchers have indicated that population growth will be concentrated in cities and towns by 2030 (Montgomery & Hewett, 2005). This statistic is supported by the United Nations Department of Economic and Social Affairs world population and distribution research data, which shows that 66% of the world’s population would be urban, with North America currently having 82%.

At the 2012 Rio+20 meetings, political leaders acknowledged that there were many challenges to sustainable development, and reiterated that many of the world’s poor depend on rapidly disappearing and fragile biodiverse ecosystems (Chappell, et al., 2013). The United Nations department of Economic and Social Affairs stated that there are more than 1 billion people living in extreme poverty and income inequality worldwide. As a result, inadequate and unsustainable consumption and production patterns exist, but at huge economic and social costs (DESA, 2013).

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