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## **Mexican Rural Communities' Metabolism and Its Impact on Socioeconomic Indicators**

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Additional information is available at the end of the chapter

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### **Abstract**

The rural poverty in Mexico is mainly due to the lack of access to basic services, resources, technology, and scientific knowledge. Despite the Mexican government's efforts to contribute on improving income levels and employment in rural communities, the challenge that faces the communities to achieve sustainable development is very significant. The principal purpose of the study is to analyze the metabolic scaling of cultural, environmental, and economic aspects in the context of Mexican rural communities in order to predict the energy necessary to maintain them connected and to estimate their impact on the improvement of socio-economic indicators. First, we used the socio-metabolic approach to the study of social complex systems in rural context. The social metabolism approach aims at the study of the material and energy exchange relationships between societies and their natural environment. Then, we analyzed the metabolic scaling of cultural, environmental, and economic aspects in the context of Mexican rural communities. Finally, the energy necessary to maintain the community connected and its impact on the socio-economic indicators was evaluated. We consider that results from this study can support the design of public policies focused on the improving the living conditions of Mexican rural communities.

**Keywords:** culture, socioeconomic indicators, metabolism, rural communities.

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### **1. Introduction**

In 2010, rural population in Mexico was around 25 million and 61% of people were living below the national rural poverty line [1]. The main factors that influence the state of poverty in Mexico are mainly the geographical area and proximity to urban centers, ethnicity, and gender. Following [1], the incidence of rural poverty is highest in areas that are geographically