Analysis and Selection of Optimum Direction of Bokan Physical- Spatial Development

Baratali Khakpoor*
Associate professor of geography and urban planning, University of Ferdowsi, Mashhad, Iran

Aiub Maroofi
MA student in geography and urban planning, University of Ferdowsi, Mashhad, Iran

Bayazid Sharifi
MA student in geography and urban planning, University of Ferdowsi, Mashhad, Iran

Vahed Ahmad Tozeh
MA student in geography and urban planning, Faculty of Geography, University of Tehran, Tehran, Iran

Hadi Soleymani
MA student in geography and urban planning, Faculty of Geography, University of Tehran, Tehran, Iran

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Extended Abstract

Introduction
Influenced by the global economy, urbanization has been accelerated in most parts of the world. This is actually changing the shape of the world. The growth in the urban population and the increase in rural migration to cities have fundamentally changed all the social, economic, environmental and physical aspects of cities. This turned them from a static and stable state into an dynamic environment replete with paradoxes. This population growth has had its own problems. One of the problems is the speeding physical development of cities. Urban physical development is a dynamic and continuous process and in this process the limits and physical space at cities will increase both qualitatively and qualitatively in vertical and horizontal directions. If this process is unplanned, the environmental and physical aspects of cities will face with too much problems. This is why the optimal planning and site selection and development of physical aspects in cities is of much importance in their future development. Based on the 2007 census, the city with a population of 150703 is the third city in population in the west Azarbaijan Province. According to population and physical aspects, the cities has undergone some major changes during the past few decades in a way that the unplanned and uncontrolled physical- spatial development of cities have resulted in the distraction of a large amount of agricultural fields and gardens around the city. This study attempts to investigate the...
physical development at this city in the recent decades and to determine the optimal physical-
spatial development in the future using Geography Information System (GIS).

**Methodology**
This study is an applied research in purpose with descriptive- analytic method. After collecting
the document data and doing the required modification and completing the data through field
study, an attempt was made to update the maps through observation and the information
available in relevant centers and to digitize the maps and create some bases. To create layers
and the required information for this study from the maps, the information available in the
master plan development of Bokan and some other information were utilized.

**Results and discussion**
According to the analysis at 1987 census, Bukan city has a population of 150703 which ranks
third regarding its population in the west Azarbajjan after urmiá and khoy. Due to various
environmental and human factors, this city has been under constant changes during the past 50
years. These factors are consisted of village- city migration, job opportunities, natural potential
for physical development, and inter intra city and provincial roads. Population and physical
changes of Bokan are so thought- provoking. The population of this city was 5308 in 1957 but
150703 in 2007. In other words, during the last 50 years the population of this city has become
29 times as much as it was in 1957. According to the fields around Bokan, we can divide this
city into three areas: completely suitable, unsuitable, and completely unsuitable. This is based
on the maps of fertilized lands, gardens and Nale Shekan Mountains. These are near the city and
have the lowest priority for the future development of the city. This means the authorities should
prevent the wasting of these lands and orient the development of cities toward the lands where
have low value concerning the environmental and natural factors.

**Conclusion**
The results of this study show that the physical- spatial development of Bokan in the recent
decades has been fast and unplanned. The results of locating using GIS reveals that the north-
est lands of Bokan are in the best direction for the continuous development of this city in the
future and that the city should move in this direction in the coming years. Results also indicate
that Boukan physical growth was Non application planning and has experienced Sprawl
development in the past few decades that this type of growth causes environmental and
economic problems for the city of Boukan. It can also be argued that the best land for physical
growth is located in the eastern part of the city of Boukan in Road Boukan - Shahindezh.

**Keywords:** Bokan City, Geographic Information System (GIS), location, physical-spatial
development, urban sprawl growth.