УДК 630.1

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LAND ADMINISTRATION SYSTEMS AS IMPORTANT COMPONENT OF GEOGRAPHICAL INFRASTRUCTURE

Land administration systems, and particularly their core cadastral contents, are an important component of geographical infrastructure which facilitates the implementation of land use policies. While most land administration systems traditionally have a primary objective of supporting the operation of land markets, which are increasingly evolving into a broader geographical information infrastructure which supports socio - economic development, environmental management and social stability in both developed and developing countries. Now a great deal of attention is given to land use policies world wide concerned with such geographical areas as forest management, coastal zone management, environmental sustainability and managing the urban environment, less attention is given to the infrastructures which facilitate the implementation of the associated policies and programs.

Keywords: *land administration systems, socio-economical geography, geographical infrastructure,cadastre, land information, land management.*

Володимир Тишковець, Володимир Опара. СИСТЕМИ АДМІНІСТРУВАННЯ ЗЕМЕЛЬ ЯК ВАЖЛИВИЙ КОМПОНЕНТ ГЕОГРАФІЧНОЇ ІНФРАСТРУКТУРИ. *Системи адміністрування земель, та особливо їх базові кадастрові складові, є важливими компонентами географічної інфраструктури, що полегшує здійснення політики використання землі. Хоча більшість систем управління земельними ресурсами традиційно мають за головну мету підтримку функціонування ринків землі, вони все більше залучаються у широку географічну інформаційну інфраструктуру, яка підтримує соціально-економічний розвиток, систему управління довкіллям та соціальну стабільність у розвинених країнах та країнах, що розвиваються. Зараз багато уваги приділяється політиці використання земель по всьому світу, пов'язаної з такими географічними галузями як управління лісовими територіями, прибережними зонами, екологічна стійкість та управління міського середовища, але все менше уваги приділяється інфраструктурам, які полегшують виконання відповідних політик та програм.*

Ключові слова: *системи адміністрування земель, соціально-економічна географія, географічна інфраструктура, кадастр, земельна інформація, земельний менеджмент.*

Владимир Тышковец, Владимир Опара. СИСТЕМЫ АДМИНИСТРИРОВАНИЯ ЗЕМЕЛЬ КАК ВАЖНЫЙ КОМПОНЕНТ ГЕОГРАФИЧЕСКОЙ ИНФРАСТРУКТУРЫ. *Системы администрирования земель, и особенно их базовые кадастровые составляющие, являются важными компонентами географической инфраструктуры, что облегчает осуществление политики использования земли. Хотя большинство систем управления земельными ресурсами традиционно имеют основной целью поддержки функционирования рынков земли, они все чаще участвуют в широкой географической информационной инфраструктуре, которая поддерживает соціально-экономическое развитие, системы управления окружающей средой и социальную стабильность в развитых и развивающихся странах.*

Сейчас много внимания уделяется политике использования земель во всем мире, связанной с такими географическими областями, как управление лесными территориями, прибрежными зонами, экологическая устойчивость и управление городской средой, но все меньше внимания уделяется инфраструктурам, которые облегчают осуществление соответствующих политик и программ.

Ключевые слова: *системы администрирования земель, социально-экономическая география, географическая инфраструктура, кадастр, земельная информация, земельный менеджмент.*

Introduction. Land administration systems, and particularly their core cadastral components, are an important component of geographical infrastructure which facilitates the implementation of land use policies. While most land administration systems traditionally have a primary objective of supporting the operation of land markets, they are increasingly evolving into a broader geographical information infrastructure which supports socio - economic development, environmental management and social stability in both developed and developing countries. While a great deal of attention is given to land use policies world wide concerned with such areas as forest management, coastal zone management, environmental sustainability and managing the urban environment, less attention is given to the infrastructures which facilitate the implementation of the associated policies.

The original premises. Land administration is defined as the processes of determining, recording and disseminating geographical information about the tenure, value and use of territories when implementing land management policies. As stated in works of Kaufmann [1], Larsson, G. [2] McGrath, G., MacNeill [3], McKean, M.A [4] and other outhors the issues and key principles related to the implementation of cadastral and land registration systems is a perspective from Eastern Europe and the former Soviet Union.

It is considered to include a core cadastre (usually including land registration, cadastral surveying, geographical cadastral mapping and related indices), multipurpose cadastres and parcel based land information systems, and in many systems is closely related to or facilitates or includes information on land use planning and valuation and land taxation systems (although land administration does not usually include the actual land use planning or land valuation processes).

The wording of the objectives of article task. While a great deal of attention is given to land use policies world wide concerned with such areas as forest management, coastal zone management, environmental sustainability and managing the urban environment, less attention is given to the geographical infrastructural COMPONENTs which facilitate the implementation of the associated geographical matters.

The explanation of basic materials. Land administration systems, and particularly their cadastral components, are an important infrastructure which facilitates the implementation of land use policies in both de-

veloped and developing countries. These systems are concerned with the administration of land as a natural resource of geographical space to ensure its sustainable development. Land administration systems are concerned with the social, economic and technical framework of geography within which land managers and administrators must operate. In developing countries, the introduction or improvement of appropriate land administration systems is a key component of land policy.

he role of land administration as institutional component of geographical infrastructure is evident in developed countries. It supports the operation of land markets, the use and creation of capital, land use planning, land taxation systems, urban infrastructure and to a large extent most of the natural resource management through the provision of geographical spatial frameworks providing topography, land tenure, value and use of territories.

Land administration is defined as the processes of determining, recording and disseminating information about the tenure, value and use of territories when implementing land management policies. It is considered to include a core cadastre (usually including land registration, cadastral surveying, geographical mapping and related indices), multi-purpose cadastres and parcel based land information systems, and in many systems is closely related to facilitates or includes geographical information on land use planning and valuation (land) taxation systems (although land administration does not usually include the actual land use planning or land valuation processes).

Kaufmann [1] wrotes that land management needs reliable geographical information about the existing land and its resources and about the legal situation of these items. Cadastres provide the "book-keeping" for this information within the wider land administration and land management systems. The core of a land administration system is the cadastre. A cadastre is defined as a parcel based and up-to-date geographical land information system containing a record of interests in territories (e.g. rights, restrictions and responsibilities). It usually includes a geometric description of land parcels linked to other records describing the nature of the interests, and ownership or control of those interests, and often the value of the parcel and its improvements.

For economic reasons, most land administration systems (and particularly their core cadastres) have historically had a primary objective of supporting the operation of land markets. However they are increasingly evolving into a broader geographical information infrastructure which supports economic development, environmental management and social stability in both developed and developing countries. The trend for the key components of land administration systems, the cadastral and land registration activities, to evolve into land information systems within an information technology environment, has also seen the evolution of the Spatial Data Infrastructure (SDI) concept as a key component of land administration infrastructures [2]. This has resulted in the increasing integration of traditional land administration and geographical mapping activities into one governmental institution. In this paper an SDI is defined as "the policies, technologies, standards and human resources necessary for the effective collection, management, access, delivery and utilisation of geospatial data" [3]. An SDI typically comprises core data sets such as the topography, hydrology, cadastre, administrative boundaries, geographic names and geodetic framework. Within a country there is a hierarchy of SDIs from the local to state to national levels. The key to the success of SDIs are an understanding of the role of partnerships between all the components and the relationship between the SDI as an infrastructure and the business systems it supports.

In most countries the land administration infrastructure provided by the cadastral and land registration activities, and surveying and mapping activities, is the only available infrastructure which enables the implementation of integrated national, state or provincial land policies. Unfortunately these land administration infrastructures are often out of date and inadequate to serve a more integrated role, even though they are usually the only option if an integrated national approach is needed. This results in geographical purpose-built infrastructures being created which in turn results in isolated land information "silos" which are jealously guarded, cannot be integrated or combined, and are usually not shared [4].

These separate purpose-built spatial or map based infrastructures have been created in virtually all countries and particularly in developing countries. Examples in forestry, planning, agriculture, land reform, environmental management, city administration, valuation and land tax departments or ministries are common world wide. While difficult to achieve, the need for a common land administration infrastructure and particularly SDI, is generally accepted in both rural and urban geographical areas to implement broad or integrated land policies.

This increased interest in improving land administration systems has been partly due to the changes that have occurred in Central and Eastern Europe. However the reality is that there has been major land administration reform world-wide during this period, with no indication of a slowing down of the reform process. As a result there has been considerable attention in recent times given to land administration principles and what constitutes "best practice". For example over the last 20 years there has been about a large increase in land administration type projects supported by the World Bank.

The land administration "best practice" evolves over time and varies from place to place and country to country in response to national and global drivers.

In recognising the principle that what is "best practice" for one country is not necessarily "best practice" for another, we consider the dimensions of land administration reform that influence "best practice" for a specific country or set of circumstances within a country. This leads to the concept of a land administration "tool box" of options for reforming or re-engineering land administration systems based on "best practice" components.

Land administration "best practice" has evolved as a result of the changing relationship of humankind to land and the global drivers of sustainable development, urbanisation, globalisation, economic reform and technology. In recent years globalization is being balanced by localization as a competing and often complimentary

phenomena.

Globalization, which reflects the progressive integration of the world's economies, requires national governments to reach out to international partners as the best way to manage changes affecting trade, financial flows, and the global environment. Localization, which reflects the growing desire of people for a greater say in their government, manifests itself in the assertion of regional identities. It pushes national governments to reach down to regions and cities as the best way to manage changes affecting domestic politics and patterns of growth.

Historically modern land administration systems and resulting "best practices" realistically became established in the late 18th Century or early 19th Century with the development of the Napoleonic cadastre and the establishment of "modern" land administration systems by colonising powers such as England, France, The Netherlands, Germany, Portugal and Spain. Today the challenge in most developing countries is to integrate these so called "modern" land administration systems with indigenous cultures and tenure systems, and rapidly expanding informal sectors and institutions.

An example of a "modern" system is the Torrens System of title registration which was developed in Australia in the mid 19th Century. As a result of the Torrens system being seen as "best practice", it was introduced into many British colonies in the late 19th Century or early 20th Century as well as into such countries as Thailand, Brazil and Hawaii. These systems however were generally introduced to support the property interests of the colonising power, the expatriate population and a wealthy elite. These systems had a clear economic focus. They were usually not designed for general application across the entire population of a country.

Both colonisation and de-colonisation have been a driving force for land administration reform (and "best practice") over the last 200 years. Examples of the tensions resulting from attempts to accommodate western land tenure and title systems with indigenous or customary land tenure systems are common in both developed and developing countries.

The later half of the 20th Century saw a great deal more attention given to land registration, cadastral surveying and land administration in general. Without doubt land administration "best practice" evolved during this period, and continues to evolve to this day. During this period there have been two major forces promoting land administration reform. The first is the desire of countries to promote economic development by improving their land administration institutions and infrastructure. The second driving force is political and is more concerned with justice and the restitution of land rights.

For much of the 1950s to 1970s or so, the focus was either on the technical aspects of cadastral surveying and geographical mapping or land reform issues. Much of the literature focussed on individual cadastral or land registration activities. It was not until the mid 1990s that the role of cadastral systems and land information was starting to be widely understood in the broader context of land administration. However while there continues to be an active interest in cadastral systems due to their central role in land administration infrastructures, there has been an increasing focus in the 1990s on the broader role of land administration with strong links to land valuation, land use planning and a focus on land markets. The latter part of the 1990s then saw a growing recognition of the need for land administration systems to maintain organizational aspects of socio- economical geography.

Today land administration systems are having to administer a greater variety and complexity of rights, restrictions and responsibilities and are having to take a more integrated and national view of land administration. Also as a result of the impact of information and communication technologies on land administration systems, a clear vision of what the future land administration systems and particularly the future cadastral systems will look like in a decade or so is becoming more urgent.

In undertaking land administration reform by drawing on "best practices" in land administration, it is important to consider the factors that drive or affect the reform and the choice of the specific strategies adopted. These factors are many and varied which re-enforces the statement that the land administration system for each country requires its own individual strategy. On the other hand strategies can be developed using the "tool box" approach. That is each specific strategy and resulting system can be made up of many separate, well understood, proven and generally accepted principles and concepts.

In designing a strategy it is first important to recognise that almost every country will require a range of different strategies depending on the relationship of humankind to geographical territory in each individual region in the specific country. In simple terms these arrangements include:

- Cities and urban areas, where active land markets operate on titled land,
- cities and urban areas, occupied by informal settlements (squatter, illegal or low cost systems outside the formal or regulatory structures),
- high value agricultural lands which are titled and are part of the formal land market,
- private untitled lands in rural areas and villages,
- informal or illegal settlements in rural areas, especially in government forests,
- lands which are subject to indigenous rights,
- lands in all categories which are the subject of claims from previously dispossessed persons,
- government or state lands, reserves and forests and usually many other forms of common property.

To some degree these categories are common to all developing (and many developed) countries.

Our second consideration is that the relationship of humankind to land is dynamic with the result that there is an evolution in the each of these categories. None of these relationships stay the same in the long term. They are affected by the impact of the global drivers on the relationship of humankind to land such as sustainable development, urbanisation, globalisation, localisation, economic reform and environmental management, as discussed above. As a result a different land administration response is required for each area or situation, within an overall national vision or strategy.

The categories of land tenure can be considered a continuum of land tenure relationships in a country where to some degree tenures evolve from undocumented customary or informal tenures to documented or formal individual private rights.

Third, the stage of development of the specific country has a major impact on the appropriate form of land administration response, and what is considered "best practice" for the individual country. While each country has different development priorities, those in each group do share some similar priorities. A complication is that many countries do not fit easily into these categories with some countries having aspects of all categories. But in general the stage of development overall of an individual country does significantly influence the choice of which land administration strategies are adopted.

The combination of all these factors determine or at least strongly influence, the specific strategy or strategies adopted in reforming or establishing the land administration system. These strategies draw on the land administration "tool box" for their institutional, legal, technical and administrative solutions.

For example there is a whole range of geographical surveying and mapping technologies and approaches depending on what is the stage of development of the country and what is the major relationship of humankind to land which is being surveyed or mapped. These options include sporadic and systematic approaches, graphical and mathematical surveys, different positioning technologies such as satellite positioning or scaling off geographical photomaps, different mapping technologies such as photomaps, topographic mapping and simple cadastral maps. In addition there is a range of options for the recording land tenure relationships. There are government guaranteed land titles, deeds registration systems, title insurance systems, qualified titles (both to boundaries and title), individual ownership and communal or customary ownership.

Institutional arrangements are influenced by many factors. Whether the system is decentralised, deconcentrated or centralised. The level of education and training in a country. Clearly this is not realistic in the short to medium term and as a result this re-enforces the need to develop appropriate solutions matched to the stage of development and specific requirements of the individual country.

Conclusions and perspectives of future investigations. While geographical territory related activities receive a great deal of attention world wide, there is much less attention given to the land administration systems as important component of geographical infrastructure which facilitate the implementation of those policies and programs. Consideration of the importance of land administration systems has increased over the last decade or so, with considerable attention being paid to what constitutes "best practice". As a result we have attempted to describe the concept of land administration as important component of geographical infrastructure through examining the dimensions of land administration reform. There are two key principles which underpin all land administration "best practice". First the documentation and wide acceptance of why the reform is being undertaken. Second is the development of a vision for a future land administration system for the country as important component of geographical infrastructure.

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Summary

Volodymyr Tyshkovets, Volodymyr Opara. LAND ADMINISTRATION SYSTEMS AS IMPORTANT COMPONENT OF GEOGRAPHICAL INFRASTRUCTURE.

Land administration systems, and particularly their core cadastral components, are an important component of geographical infrastructure which facilitates the implementation of land use policies. While most land administration systems traditionally have a primary objective of supporting the operation of land markets, they are increasingly evolving into a broader geographical information infrastructure which supports socio - economic development, environmental management and social stability in both developed and developing countries. While a great deal of attention is given to land use policies world wide concerned with such areas as forest management, coastal zone management, environmental sustainability and managing the urban environment, less attention is given to the infrastructures which facilitate the implementation of the associated policies.

Land administration systems are concerned with the administration of land as a natural resource of geographical space to ensure its sustainable development. Land administration systems are concerned with the social, economic and technical framework of geography within which land managers and administrators must operate.

While geographical territory related activities receive a great deal of attention world wide, there is much less attention given to the land administration systems as important component of geographical infrastructure which facilitate the implementation of those policies and programs. Consideration of the importance of land administration systems has increased over the last decade or so, with considerable attention being paid to what constitutes "best practice". As a result we have attempted to describe the concept of land administration as important component of geographical infrastructure through examining the dimensions of land administration reform. There are two key principles which underpin all land administration "best practice". First the documentation and wide acceptance of why the reform is being undertaken. Second is the development of a vision for a future land administration system for the country as important component of geographical infrastructure.

Keywords: land administration systems, socio-economical geography, geographical infrastructure,cadastre, land information, land management.

УДК 911.37

Надежда Чугунова

ГОРОДА КАК АТТРАКТОРЫ РАЗВИТИЯ И ПРОСТРАНСТВЕННОЙ ОРГАНИЗАЦИИ ТЕРРИТОРИИ РЕГИОНА. БЕЛГОРОДСКАЯ ОБЛАСТЬ РФ

В работе выявлена роль городов и их систем в пространственной организации территории Белгородской области на разных этапах их развития. Определено значение макрополизации в развитии экономики и социума региона, установлено социально-экономическое несовершенство пригородной зоны Белгородской агломерации, исследована иерархия региональной системы городского расселения, проблемы ее развития, показаны возможные пути трансформации пространственной организации расселения территории в информационном обществе.

Ключевые слова: *города, системы расселения, урбанизация, агломерация, инновации, информационное общество, трансформация.*

Надія Чугунова. МІСТА ЯК АТРАКТОРИ РОЗВИТКУ І ПРОСТОРОВОЇ ОРГАНІЗАЦІЇ ТЕРИТОРІЇ РЕГІОНУ. БЄЛГОРОДСЬКА ОБЛАСТЬ РФ. *В роботі виявлено роль міст та їх систем у просторовій організації території Бєлгородської області на різних етапах їх розвитку. Виявлено значення макрополізації у розвитку економіки і соціуму регіону, встановлено соціально-економічну недосконалість приміської зони Бєлгородської агломерації, досліджено ієрархію регіональної системи міського розселення, проблеми її розвитку, показано можливі шляхи трансформації просторової організації розселення території в інформаційному суспільстві.*

Ключові слова: *міста, системи розселення, урбанізація, агломерація, інновації, інформаційне суспільство, трансформація.*

Nadezhda Chugunova. CITIES AS ATTRACTORS OF DEVELOPMENT AND SPATIAL ORGANIZATION OF THE TERRITORY OF THE REGION. RUSSIA, BELGOROD REGION. *The study reveals the role of cities and their systems in the spatial organization of the territory of Belgorod region on different stages of development. It specifies the significance of macropolization in the development of the regional economy and society, reveals the social and economic imperfections of Belgorod suburbs, studies the hierarchy of the regional system of urban settlements, as well as the problems of its development, suggests possible ways to change the spatial organization of urban settlements in the information society.*

Keywords: *cities, urban settlement systems, urbanization, agglomeration, innovations, information society, transformation.*

Введение. Города возникают, растут, усложняются в соответствии с потребностями общества и на всех этапах исторического развития в городах происходила концентрация разных сфер и видов социально-экономической деятельности. Город – это звено в территориальном разделении труда, которое обеспечивает прогресс во всех сферах жизни общества. Именно города являются двигателями научно-технического прогресса, готовят высококвалифицированные кадры для народного хозяйства, способствуют развитию культуры, образования, науки, совершенствованию всех форм обслуживания населения. Жизнь и развитие города происходят не изолированно, а тесно переплетаются с развитием его окружения и страны в целом [3, С. 134].

В зависимости от ресурсного, административного, финансового, материального потенциалов, формируется тот или иной функциональный тип города, проявляется его роль в социально-экономическом развитии как фокусного центра территории.

В отечественной литературе по геоурбанистике до 70-х годов XX столетия преобладали эмпирические обобщения и только с конца 70-х годов приходят новые подходы и успешно развиваются исследования, ориентированные на осмысление роли городов, урбанизации в контексте общественного развития. Процессы урбанизации в современных исследованиях связываются с формированием урбанизированной среды, наполненной разным содержанием и функциональными характеристиками в тесной связи ее с городом, вскрывается специфика функционирования современного города, фиксируется высокая степень его преобразующего действия на развитие общества. В начале XXI века в рамках проекта «Новая урбанизация» широко обсуждается проект «Новая жилищная политика», журнал «Российское экспертное обозрение» открыл дискуссию о перспективах развития российских городов. Из конференций посвященных городам, следует отметить международную научно-практическую конференции «Устойчивое развитие городов в меняющемся мире: современный опыт, новые подходы» (Самара, 2013), на которой обсуждались проблемы настоящего и буду-