



PROMOTION OF POLYCENTRIC GROWTH: STRATEGY FOR SUSTAINABLE SETTLEMENT DEVELOPMENT IN FEDERAL NEPAL

Engineering

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ABSTRACT

The present paper is an analysis of potential settlement locations for polycentric settlements (growth center) development and their expected contribution in socio-cultural, economic, environment and transport as spatial development patterns in the rural areas of Nepal. Reviewing concepts and theories of polycentric growth, national urban development policies and strategies, the study shows the polycentric settlements (growth centers) could ensure the balanced socio-economic development of rural municipal areas based on spatial development. The strategy would be useful to promote agglomerative economies, economic growth; and also generate a disproportionate number of trips and promotes transit ridership. Thus, the focus of the study is to the policy support for polycentric settlement (growth centre) development. National policy framework of the polycentric settlement development can improve the livelihood of the rural population and also meet the national goal of peace, prosperity, and sustainable progress. Further, the study suggests that polycentric settlement model as a sustainable development strategy requires careful coordination of local, provincial and federal level budgetary systems designed to balance development within a center's periphery. It is recommended that the development strategy of the country has to make paradigm shift from monocentric i.e. urbanization to polycentric settlements or growth centers development which could encourage the concentration of socio-economic as well as physical infrastructure services with economic growth in superior settlement centers (service centers). The livelihood opportunities would be increased through the growth centers by developing available resources based entrepreneurship in the hinterland area. Moreover, polycentric settlement development strategy can help to ensure the territorial identity, social innovation and cultural importance of the growth centers those evolved in the center as well as neighbors of the centers in spatial development perspectives.

KEYWORDS

Spatial development, entrepreneurship development, social innovations, paradigm shift, solidarity for partnership, opportunity and dialogue

INTRODUCTION

The economic, spatial and mobility trends in Nepal point towards the inevitability of developed dense and compact human settlement in the countryside with a view to materialize the social innovation and cultural practices in the sphere of existing state-of-the-art and technology. To solve the local development demands in the context of rural areas, satisfaction of human needs, diffusion of skills and technology by activating local politics and policy making for valorization of territorial specificity through democratic governance or democratization of local development is to be the prime focus for national development policy framework in order to promote the practice of self-determination economy as people transform their livelihoods and lives by enlarging the power and competence base of localities (Pokhrel et al.2018; Sharma,2014). In the Nepalese context, polycentric centers growth process can play the role as the engine of economic growth, social change and science and technological development (NPC, 2015).

The inhabitants in the dispersed settlements in rural areas of Nepal show a distinct gradient in their living conditions largely governed by the degree to which they have access to resources, information and services. The high production oriented settlements with reliable access to markets and services are relatively densely clustered and seem to have progressed well due to high accessibility, agricultural intensification, and access to services and technologies. In contrast, there are many small settlements with only few houses that are not as fortunate to have these opportunities for progress. Most of such settlements have limited agricultural activities cultivating single crop and can be accessed by foot path. The predicament of present day large number of population still lives in these scattered and isolated settlements. Physical inaccessibility deprived them of the amenities such as adequate shelter, water supply, health services, education, information, and rescue and relief at the time of need (NPC,2013). The Constitution of Nepal promulgated in 2015, Nepal is poised to move towards a federal system of governance which has significant implications for compact settlement as the process of balanced and sustainable urban growth and development. The constitution can be a guide to orient provincial and local territorial development processes and associated investment decisions in the new federal structure of governance (NUDS, 2017).

The rural population, which lives in scattered settlements in all three ecological regions of Nepal, does not reach minimum population thresholds to be effectively and efficiently provided with basic infrastructure, and social and economic services including job opportunities. Due to the dispersed rural settlement patterns, the per capita costs for construction, operation and maintenance of basic infrastructure and other essential services are very high coupled with low economic returns with high environmental cost. (Fujita et al, 1999; DUDBC, 2010). In the absence of basic life-sustaining services and economic opportunities in the rural areas, the population belonging to economically active age groups has been migrating temporarily or permanently to the urban centers of the country as well as outside the country in search for better services and facilities, and for employment which is a critical factor affecting rural municipal development in Nepal.

This calls for a new thinking or new paradigm shift in local or spatial development approach and processes for providing better services and sustainable livelihood opportunities in the countryside. The national paper on compact settlement development (2003) designation of hierarchy of human settlements standards(2004) noted that developing integrated compact settlements(ICS) or polycentric settlement (growth centers) for provision of basic services and livelihood opportunities along with the appropriate measures for protection of natural resources and environment could be a viable option and approach to initiate this new thinking, and could help raise the living standards of a majority of rural population.

The traditional mode of living sustained by the conventional economic activities in the remote rural and scattered settlements is no longer adequate to meet the rising needs and aspirations of the present day population, let alone that of the future generation. It becomes the prime responsibility of the state to provide the basic amenities to its citizens in an inclusive way. Irrespective of where they live, the citizens must be able to access clean water, education facility, health services, and opportunity for economic growth. They need access to opportunities for income by practicing economic activities of their choice. However, with the current pace of infrastructure development it would take long time before these remote and isolated settlements are provided with

basic amenities; and until then they will remain outside the purview of mainstream development.

The ramification of road access to densely clustered settlements can be seen in the development of private sector providing education, health services, agro-vet services, and markets for farm produce. The compact as well as polycentric settlement seems to have advanced development by providing entry points for different stakeholders including the private sector wherever access to roads and services have been made available (Mac.Cllum et.al. 2008). It is therefore, under the new Constitution of Nepal, the government has given priority to promote the urban system by increasing urban centers (municipality) with adequate urban facilities. At present, there are 293 urban municipals and 460 rural municipals in Nepal. Urban municipals are cities and towns meeting minimum standards set out by the government like minimum population threshold, infrastructure, social services and revenue collection. On the basis of population, resources and other available facilities, the urban municipals are further classified into three broad categories: metropolitan city (6), sub-metropolitan city (11) and municipality (276).

However, the level of urbanization is still very low in Nepal. For the level of urbanization and to increase the urban growth there has to be an economic transformation in the productive sectors. Major economic sectors are required to modernize. For this, the main livelihood of Nepalese people, agriculture needs to be commercialized, agro-based and other natural resource based entrepreneurs need to be encouraged. The space economy has to be further articulated through the development of transport and communication and a context has to be created for meaningful economic exchange between different ecological regions of the country. There are enormous differences in the province levels in terms of development and living standard. This can be addressed only through the realization of the productive potentials of different territories. At the same time the tendencies of a centralized urban process have to be countered not only to foster decentralized urban growth but also to avoid the problems that accompany primate and very large cities particularly in fragile mountain environments (Birukou & Romarenko, 2016).

In above background, Ministry of Urban Development/ Department of Urban Development and Building Construction of Nepal has initiated to promote the compact settlement i.e. polycentric settlements (growth centers) to reduce the disparity between urban and rural areas in terms of human needs, satisfaction, infrastructure development and providing social services as to the access to governance and government, increase in the transparency of public administration and empowerment of locals through horizontal information to enhance the local capacity as the breeding grounds of social innovation for economic dynamism (DUDBC,2010). Within the framework of national urban development strategy of Nepal, spatial elements have been taken to account to establish functional interdependencies and emphasize synergies in the line with local needs, energy policy and sustainable mobility. The program has been expected to promote the integrated and multispectral approaches for a polycentric and balanced settlement cluster (growth centers) system and strengthening of the partnership between urban municipals and rural municipals which can overcome the outdated dualism between city and countryside (Nilsson, 2014).

Regarding aforementioned urban and rural municipal development issues, challenges and new opportunities, the main aim of the paper is to point out the required national policy frame to promote the polycentric settlement (growth centers) development model for promoting socio-economic development and sustainable use of available resources in the rural municipal areas of Nepal. The present paper focused to review the related concepts, theories, policies and lessons learned about polycentric development as a growth center development at the global level and to frame out the strategic policy for polycentric settlement centers at the local level in Nepal.

METHODS

This study concentrates to analyze available polycentric settlement development policy and guideline related documents using content analysis technique of qualitative research method. In some case primary information was used to discuss the apparent issues in the national context. Key informant interview (KII) and focus group discussions (FGDs) were conducted for collecting views, opinions and suggestions of concerned authorities, policy makers and experts as well as elected local authorities on settlement development model and

approaches. The collected views, opinions, and gist of the reviewed document were synthesized into integrated sectoral policies that need to address by the national government in order to implement the polycentric settlement (growth center) development activities at the local, province and national level. The paper emphasizes the territorial cultural typicality and the perspectives of supporting the consolidation of the spatial human settlements system. This is based upon the development of some urban systems which represent engines of development for the subordinate urban and rural municipal systems. Within the polycentric development centers, a special attention was given to highly disadvantaged areas, where it is necessary to use multi criteria decision making method and analytical hierarchy process (AHP) to identify the growth poles that able to structure the space functionality in an optimal way. Considering National Urban Development Strategy (2017) the economic performance including measures of comparative basic and non-basic functions, economic and livelihood opportunities, population density, resources availability, ecosystem services, cultural and social identity, occupational structure and employment growth possibilities are examined as the nodes in the national and province transformation system (Saaty,1980;Hossain, 2007; Haris, 2017).

DISCUSSION

Paradigm shift from monocentric to polycentric development approaches

The spatial development agenda establishes new coordinates of the local development with the main purpose to create competitive multi functional centers that are evenly distributed on countryside with no differences and functional flaws between the centre and periphery and this system of human settlements has classified by their development potential, interconnected in functional networks. Development of human settlements formed by development poles is one of the major options of the decision factors and an interdisciplinary research for the scientific communities. The concept of polycentrism is the tendency of population and economic activities to concentrate themselves in municipal nuclei which have the capacity to exert their influence upon the entire municipal structure and upon the areas around them. Key informants of the study opined that the polycentric development can contribute to the balanced economic development in the country and also decrease the territorial disparities at local, province and federal levels. This statement has corroborated the Kaanap (2012) study from the spatial perspective. The municipal network to be the spine of a territorial system, as polycentrism ensures the transmission of information which is indispensable for the efficient development at the entire territorial system.

The FGD participants viewed that the national policy support for polycentric system networks is the prime responsibility in the spatial development context which emphasizes interesting evolutions of the development coefficient as a result of the impulses from the central level. Both KII and FGD participants suggested that the national policy and budget are to be allocated for these areas for reacting in a different ways as developed areas became more developed, and poor areas emerged as growth poles or development poles beyond the center. Evidences at the global level show that certain areas with significant economic unbalances, situated nearby urban centers with a significant economic dynamic have recorded the development of some territorial complementarities by means of the relationships enhancement with the development poles. Profoundly disadvantaged areas have proved their incapacity to amplify the effects of financial impulses. Whereas developed areas have registered a continuous development, regardless of the evolutions of the central decisional chain. This different capacity to react to the same decisional impulse advances several questions regarding the efficiency of the spatial development strategies applied in Nepalese context. Hence, it is supposed that polycentric settlement development approach comprises a network of development poles, classified according to their capacity to transmit information indispensable for development within the settlement system. The relationships between these development poles are complex, depending on the spatial complementarities which are in a permanent dynamic nature.

The principle of complementarities between development poles is analyzed in several studies which is difficult to predict evolution of the relationships between development poles from different levels and from the same level. Research conducted for the elaboration of polycentric development strategy emphasized the special importance of the enterprise sector within the economic dynamic of development

poles which analyzed in many academic approaches. Now the economic crisis spread at the world economy level has hard to predict implications due to the transmission speed by means of the more and more numerous synapses which appeared together with the globalization process. At the spatial systems level, the economic crisis is displayed as negative impulses, which contribute to the modification of the territorial dynamic with a negative sense, producing chaos or major unbalances at the level of some systems or subsystems. Negative impulses from the level of suprasystems leave their mark firstly on the demographic dynamic under the spatial structure of human settlements since the seminal works of Christaller to present.

The reasons for such sustained interest vary. Some interest is derived from concerns for economic productivity and grounded in the notion that economic efficiency can be enhanced through the efficient spatial arrangement of socio-economic activity. Some interest stems from concerns for social justice and grounded in the notion that the spatial arrangement of demographic groups reflects and determines social structure and equity. The interest of others is founded in support of environmental preservation and grounded in the notion that the spatial arrangement of human activity can impact the quality and integrity of the natural environment (Pokhrel, et al. 2018). At present, all of these concerns have become subsumed in the notion of sustainable development, frequently defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland, 1987). Peptenatu, et al. (2012) said that the elaboration of the polycentric development strategy is based on the human settlements classification depending on their polarization capacity and the designing of a polycentric network to ensure the territorial complexity from the suprasystems level.

In spatial planning, the concept assumes a complex approach to social innovation and territorial development using defined devices and classified depending on their capacity to spread a new quality in the subordinated spatial subsystems. The polycentric development approach is based on several decision levels: the national resource capacity, regional development strategy, intraregional development poles, and local development and growth centers. This development policy accomplishes the functional connection with the center having the role of coordinating the distribution of information to the entire area. Local development frame has therefore, an important role in the functioning of country networks, which contribute to the spread of development from the level of regional (federal) poles to the local level. Generally, growth centers are represented by rural settlements, which by the economic activities they hold, may transform into development engines for the highly disadvantaged rural areas of the country.

Polycentricism as a social innovation and territorial (regional) development strategy

The concept of polycentric settlement has been used as a planning solution for achieving efficiency, competency and sustainability of the human settlements as their location specificity. Talen (2008) noted that the notion of a planned polycentric settlement has experienced a number of iterations starting with Ebenezer Howard's social city through notion of regional settlement with emphasized the role of communities as the building blocks of a region. Thus, Polycentricism is implicitly prescribed in the charter for new urbanism under the heading of metropolis, city, and town as economic units as well as environmentally determined finite places that can contain multiple centers within a settlement system. However, the edges require being clear and development patterns that have contiguous or else organized into townships, villages, and neighborhoods. In this connection, polycentric settlement needs to evolve as a multiply-centered-hierarchy (sic) as a remedy for suburban sprawl.

From a normative perspective, economists, geographers and spatial planners have emphasized the emergence of polycentric centers in post-industrial societies in the east and west developed countries (Nishimura, 2011), as well as in developing economies like China (Chou, 2011). It is indicative that demographic shifts, economic growth, and technological advances have vital role to the evolution of a new spatial order that is clearly distinct from classic mono-centric models of urban structure and function. Responding these fundamental changes, geographic areas are evolved as new centers of development and service which are distinct from the traditional urban core (Anderson, 2001). When these centers reach sufficient size, they are often recognized as regional employment clusters.

Thus, a policy shift at national level need for the formation and explanation of polycentric centers on the identification of social innovation, cultural and territorial development, and environmental balance in a broader context. These centers will appear as the geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (e.g., universities, standards agencies, trade associations) in a particular field that compete but also cooperate. So that polycentric clusters are conceived as collections of firms, having a proximate relationship, whose common spatial location provides the basis for shared interest. Long standing economic theory also suggests that firms have a natural incentive to form these spatial relationships, because the benefit from positive externalities and economies of scale, commonly known as agglomeration effects. Sources of agglomeration effects include labor pooling, input sharing, human capital spillovers, shared infrastructure, and consumption effects among others.

Polycentric settlement is a decades old western concept having the objectives of the spatial development perspective adopted in sustainable development era (Brandi, 2015). It could be more relevant in Nepalese context for the spatial development perspective. Because both sectoral and spatial (regional) development approached are much required the polycentric settlement network. Polycentric approach of development is not exclusively concentrate on the territory of the so called metropolitan cities, the area delimited by the government but builds strong network of urban centers outside the core area which support a place and people development in balance approach. Growth poles then get stronger and cooperate with each other; they have significant potentials to counterweight the increasing domination of the cores to give dynamism to their own wider hinterlands.

The objective of polycentric settlement network development has a double task as such the improvement of the external role of cities can support the polycentric structure to a great extent and the monocentric structure of the settlement network reduce the dominance of the capital cities beyond periphery and help to evolve the network of small and medium-sized service centers which could serve as a skeleton of development. However in Nepal small towns are not yet able to counterweight the dominance of the capital cities and Head quarters.

The development opportunities of the urban system of Nepal are substantially influenced by significant changes in the 20th century. The urban network of the country had developed in an organic way over centuries as noticed in different developing countries (Briney, 2017). The capital city Kathmandu thus became overweighed in the shrunken urban system. Similarly, the city hierarchies do not have appropriate city functions, which would be, however, necessary for them to serve as real regional centers and to mobilize their surroundings. Nonetheless, it is important to keep in mind that how the integration processes can transform and develop the role of cities. Therefore, national spatial development strategy is to well frame out aiming to promote spatially more balanced development poles and the strengthening of their roles as regional centers which can be classified as a development priority of outstanding importance. The reinforcement of development poles focus to strengthen regional (innovation, economic, cultural, governing and commercial) functions of the poles and create the necessary preconditions for spill-over effects: good accessibility, cooperation links, and the existence sub-centers. It is important to mention that the strategic policy for polycentric settlement network or growth center is the demand of time in order to ensure the economic prosperity, ecological stability and social cohesion across the country.

RESULT

The aforesaid discussion on the policy shift for the polycentric settlement or growth center development initiations could play the important role to promote the spatial development practices for the sustainable development of rural communities in Nepal. Number of advantages of the polycentric settlement centers in Nepalese context was pointed out from the active participation of key informants i.e. national policy makers, development practitioners, academicians and FGD participants. Some of are discussed here in brief.

a) Helping backward areas catch up

Several external and internal peripheries can be found in the north-south and east-west parts of Nepal, where the inhabitants' living conditions and opportunities are extremely poor because of high levels of unemployment, insufficient accessibility and extensive poverty.

These are constantly increasing, often leading to rural segregation. It is important to eliminate serious spatial disparities in the accessibility of public services, resources and favorable living conditions that are fundamental in determining equal opportunities in society. It is typical for the whole country that the most qualified segments of the labor force and the investments searching for locations find suitable conditions predominantly in large scales and their closer vicinity. Therefore, a greater share of the educated citizens and a disproportionately large part of economic activities concentrate in polycentric centers and their surroundings which results in less sustainable and rather unbalanced (homocentric) spatial development triggering also substantial commuting.

b) Harmonious regions and areas

Our province, regions and territories have to function as sustainable systems of their own. These areas manage not only to preserve their values, heritage, resources and their internal coherence but also strengthen these, as long as these regions are able to maintain harmonious relationships between their societies, economies and natural-environmental, cultural elements within their local-spatial systems. The sustainability of the spatial structure and the spatial connections are fundamental preconditions for economic stakeholders and social actors to operate in a sustainable manner. Uncoordinated urban sprawl around large cities can be mentioned as examples which go hand in hand with suburbanization. Its adverse effects manifest not only in the decrease of natural and open areas, but in the daily commuting needs of the locals, the disruption of ecological networks and even in tensions in transport, financial and monetary costs and social segregation.

c) Sustainable land use

It is important that regulations, different development projects, as well as settlement planning encourage wise management and safe forms of land use ensuring equal opportunities which guarantees free access to important public places, helps the mitigation of commuting and transport pressure, and at the same time ensures enough natural areas and public space for citizens.

d) Regional public utility systems, eco-technology, renewable energies

Generating autonomous local systems that are adapted to local conditions means sustainable ways in the fields of energy, material flows and public utilities. It includes local eco-technological solutions adopted by architecture and energy systems. While in rural areas, the improvement of environmental and cultural values and the enhancement of living conditions of their inhabitants are the chief concerns whereas the priority in large cities is to control and consciously harmonize the accelerating spread of urban land use (suburbanization).

e) Local, regional identity – a diverse country

Instead of a homocentric country where the rest of Nepal is pushed into the background by the dominance of its single centre and territorial diversity which is rich in areas with unique characteristics represents a more sustainable structure where people can feel strongly related to their own settlement, territory and region. To make this connection, it is necessary to reinforce the unique images of different areas to help local intellectual culture unfold and maintenance and renewal of natural and cultural resources everywhere across the country. Natural and cultural landscapes can be preserved by transforming them into valuable assets to be protected and real resources for the local residents. Polycentric settlement network could serve to the protection and development of natural and cultural assets and the strengthening of regional consciousness with outstanding priorities.

f) Territorial solidarity and equal opportunity

In relation to territorial solidarity that better living conditions and quality of life is secured in order to provide people everywhere with equal opportunities that are also matching the specific regional and local potentials irrespective of whether they live in the core or in the periphery. Equal opportunities are defined not only for the national context but at lower levels as well. Consequently, national characteristics should be taken into micro-villages and isolated farmsteads deserve attention. Especially, the permanently backward areas with micro-villages situated in the remote rural areas of the country have facing the crisis. These regions are characterized by the accumulation of several negative factors: especially poor accessibility, the lack of real regional centers that could take care of their

surrounding areas, unfavorable age and qualification structure of the population, disadvantageous economic structure and restricted availability of resources (shortage of capital, out-migration of the qualified labor force). The socially, economically and physically erosive processes in these areas ultimately lead to the emergence of rural ghettos which gather social strata excluded from the labor market and the cities; while spatial separation of these areas means further constraints to their reintegration into the labor market. Areas dominated by micro-villages or farms are in difficult situation, and so are those areas which have a higher concentration of backward people. Many of these settlements are threatened by ageing and depopulation, while in other settlements with a high proportion of inactive population (with high dependency ratios), people face the risk of segregation and high fertility rates coupled with a high proportion of low-educated young people lead to the reproduction of poverty. Due to their unfavorable economic and social circumstances, these people neglect, and what is worse, are forced to use up their built and natural environmental and cultural assets. It is, therefore government initiation has to be taken to shift from the rural isolation and homocentric structure to polycentric structure of human settlement in order to extent the coverage of towns and cities with their functions as real centers.

g) Dialogue for partnership

Multi-level governance, participatory decision making together with partnership and cooperation is necessary to constitute real traditional norms of behavior. The territorial and cultural development approach determines social cohesion as a permanent and cooperative process involving the various actors and stakeholders of spatial development at political, administrative and technical levels.

In view of the Nepalese common understanding, it seems to be evident that spatial cohesion can be attained only through the cooperation of public and private sectors, the scientific community, the civil society (NGOs and non-profit organizations), and with the involvement of actors from various economic sectors while continuous and intensive dialogue is indispensable among all stakeholders. The existing diverse national traditions and capacities of governance across the country and these differences still influence practices in the regional level.

The national urban development policy 2017 clearly indicates that Nepal has to shift towards governance in the urban and rural municipal policies. In addition, the shift towards governance is urgent but it is the greatest challenges on the way towards governance face. Nepal is characterized traditionally by a somewhat rigid administrative structure and an (over-) regulatory state, with generally low commitment to rules (weak rule of law) and a powerless civil society. Social embeddedness of most institutions is weak. Under such circumstances, it would be risky to directly and immediately weaken top-down regulation and shift towards new governance types based on partnership, openness, and consensus-based decision making. The shift towards new governance forms can only be a result of a long learning process, and a step-by-step transformation. Dissolving, loosening the traditionally top-down regulatory state in an artificial way could lead to an eastern type of new governance system, where corruption and the norms of rent-seeking behavior dominate and fill the emerging room for manoeuvre. Considering the over-fragmented municipal system, with a huge number of underfinanced municipalities lacking the appropriate resources to fulfill the huge number of tasks delegated to the municipal level. The challenges of this system are even increased by one-way financial mechanisms and the lack of resource sharing together with the generally weak willingness and culture to cooperate. There is hardly any real dialogue and cooperation among municipalities. Therefore, in this regard, the local level needs substantial reform and transformation in Nepal.

In this fragmented settlement system, micro-regions based on functional linkages could be the appropriate units of spatial development to enable cooperation and partnerships, and offer opportunities for dialogues between settlements. This is not (or hardly) working in Nepal partly because of the settlements themselves, who constantly compete with each other, and partly because of the unstable micro-regional system due to the constantly changing legal delineation of micro-regions. Furthermore, multifunctional, multi-purpose associations of micro-regions can be formed by local governments in order to perform some tasks of public services jointly, as well as their responsibilities related to micro regional spatial development (MOUD, 2016). Therefore, the new forms of territorial governance supporting territorial cohesion are still incomplete and imperfect and real decentralization and the realization of the principle of subsidiary

are hampered by administrative and regulatory obstacles as well as by inappropriate norms of behavior and approaches. The realization of participatory and consensus-based decision making together with the application of new forms of territorial governance still poses a big challenge for the Nepalese practice, and this challenge is even greater concerning processes crossing (administrative or regional) boundaries.

h) Development of the local economy, local markets

The effects of globalization increasingly reach individual settlements and regions. They often find themselves in a rather vulnerable situation, and some rural areas of Nepal gradually lose their economic role. Especially in view of the current global financial and economic crisis, it is highly important to assign and implement development directions adapted to local conditions and resources. This includes also cooperation between enterprises, as well as economic processes generated with the involvement of local stakeholders evolving from bottom up along specific value-chains. Forming autonomous local and territorial systems can reduce the vulnerability of regions and their dependence on external resources. At the same time, intensive and partnership based territorial cooperation can help successfully reach external markets. By way of enabling a gradual shift from self-sufficiency and primary production to higher levels of the production value-chain in rural and disadvantaged areas, and by forming diversified agrarian economies in each landscape unit, the production of high-quality and marketable local products and the development of local brands can be attained. As a consequence, the significance of local markets will rise. In order to minimize transport costs and environmental pollution, it is necessary to promote a greater focus on production for local markets as this contributes to sustainable development.

Polycentric for social and spatial cohesion

There is important of communication for the ecological, economical and cultural development for the social cohesion that needs to consider into development policy across the country. The currently ongoing reform process of the local development can play significant role in strengthening spatial cohesion. However, to make it effective, the distinctive territorial characteristics and unique cultural challenges of each locality require more attention than before. In order to attain social cohesion it is necessary to integrate the sub-systems of development policy (besides cohesion policy, agricultural and municipal policies, and competition policy), and meanwhile to take global processes and challenges into continuous consideration. The potential role of spatial cohesion is to ensure social and spatial cohesion by culturally, socially, environmentally and economically sustainable with the integration of the province into the policies aiming at polycentric settlement development level. Promotion of regional solidarity could promote by securing better living conditions and quality of life with equal opportunities at all levels. Thus, implementing spatial cohesion is a permanent cooperative process involving the various actors and stakeholders of territorial development. Spatial dimension has to play a stronger role in the future integrated development policy. Spatial cohesion can only be achieved through an intensive and continuous dialogue between all stakeholders. This is called territorial governance, where the private sector (especially the locally and regionally based entrepreneurship), the scientific community, the public sector (especially local and regional authorities), non-governmental organizations and different sectors need to cooperate with each other. Integrated urban development and territorial cohesion further contribute jointly to the achievement of the goals of sustainable development.

Polycentric policy priorities

The territorial and cultural promotion ensures to develop a balanced and polycentric urban system and new urban-rural relationship. It also secures parity of access to infrastructure and knowledge and sustainable development, prudent management and protection of natural and cultural heritage. The polycentric centers as well as spatial priorities, which contribute to a shift towards a more competitive, sustainable and diversity of development. Hence, to realize the social and spatial cohesion by adopting following six polycentric policy priorities.

- Strengthening polycentric development and social innovation through networking of rural and urban municipalities through interregional networking cooperation of urban areas and urban regions and connecting regional centers with infrastructure networks and extending trans-border networks.

- New forms of partnership and spatial governance between rural and urban municipalities by enhancing urban-rural partnerships and joint strategies; and new forms of territorial governance arrangements.
- Promotion of regional clusters of competition and innovation across the country by the creation of suitable and innovative clusters where the business community, scientific community and administrations work together and international cooperation of settlements.
- Supporting the strengthening and extension of trans-border networks using sustainable development of multi-modal transport systems; unhampered access to information and communication technologies; and opportunities for decentralized, efficient, safe and environmentally friendly production of renewable energy.
- Promote trans-border risk management including the impacts of climate change through spatially differentiated adaptation strategies and integrated trans-boarder and cross-border risk management.

Strengthening ecological structures and cultural resources as the added value for development of coordinated transnational interventions are essential which associated management of natural and cultural heritage; developing networks of valuable nature areas and cultural landscapes; and strengthening integrated spatial development policies in ecologically or culturally fragile areas in order to harmonize economic development and environmental, social and cultural sustainability.

CONCLUSION

The polycentric settlement development strategies, policies and plans are prerequisites for achieving the goal of inclusive, sustainable development and national prosperity as expected in the constitution of Nepal. Polycentric centers not only promote agglomerative economies and facilitate economic growth; they also generate a disproportionate number of trips and promote accessibility network. It can be stated that policy supports that need to promote such polycentric settlement (urban system) development in order to improve the livelihood of the rural population and also meet the national goal of peace, prosperity, and sustainable progress. The polycentric settlement model as a sustainable development encourage housing development within the transit commute shed of these centers. Such policies, combined with simultaneous expansion and coordination of transit service to existing employment centers, would serve to balance jobs and housing within the transit commute sheds and similarly serve the goals. This development strategy also promotes the careful coordination of provincial and federal level budgetary systems to balance development within a center's periphery. It is therefore, the development plan of the country has to encourage the concentration of economic and livelihood opportunities within superior settlement centers and encourage territorial development by promoting network of development functionaries, social innovation and cultural development of the centers as well as neighbors of the centers. This will improve infrastructure investment with high commitment of local government, provincial and that of the federal fostering networking of functions and build confidence of the local people discouraging migration to higher order service centers and cities.

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