TEACHING A NEW MIXED METHOD IN SPATIAL CASE SELECTION THROUGH DEPOLITICIZE OF PLANNING. CASE STUDY: LESS DEVELOPED REGIONS (1144)

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Abstract. Urban planning is an inherently political activity, Therefore, political science approaches are included in it; But this does not always have positive synergistic results of the cooperation of different disciplines in interdisciplinary; Especially in researches that focus on evaluation of plans and in important steps such as sampling, politicians' interventions have a bad effect; Because the quality and correct selection of samples has an undeniable effect on the generalizability of the research. So it should be controlled by the researcher.

In this research, we will introduce a mixed method in spatial case selection among less developed regions(provinces), while helping to improve the validity and reliability of the research, it will remove the shadow of political interference and bias in sampling. In line with the scope of the research, which is the less developed regions of Iran, sampling has been done. The sampling results in this research, show that the selected provinces from each cluster promote geographical and spatial contiguity with their previous (less developed) cluster, a matter that was expected to happen due to the isotropic property of spatial development

Keywords: Interdisciplinary, Depoliticizing planning process, Mix method, Spatial case selection, Less developed regions.

1. Introduction and purpose

Several researches confirm the role of politics in planning and the political role of planners, because planners are active forces in creating change (Albrechts, L., 2003). While plan evaluation has received significant attention from researchers in recent years, the process of plan evaluation is usually not done properly in practice (Guyadeen and Seasons, 2016). One of the factors of this issue is the undeniable link between politics and planning. In fact, urban planning is inherently a political activity (Adam, 1994), so political science approaches are included in it. But this does not always have positive synergistic results from the cooperation of different fields in an interdisciplinary field.

Especially in researches that focus on the evaluation of plans and in important stages such as sampling, politicians' interventions have a bad effect. Indeed, there are always tensions over issues such as who (what), how, and under what circumstances are involved (C White, 1996), because the outcomes of planning processes are always affected by the interrelationships between a variety of stakeholders and parties. (Campbell, 2001). In this regard, continuous efforts have been made to depoliticize development (and what is somehow related to development, such as evaluations and reform policies) in the planning process (HOUT, 2008). For example, Mössner (2016) describes how consensus building emerges as a political strategy that aims to depoliticize sustainable urban development. This issue becomes more sensitive when it comes to the evaluation of spatial samples in spatial development plans and especially cross-cutting issues such as the sustainability of settlements. Therefore, it is necessary to deal with the results of spatial plans and in other words to evaluate it from the perspective of the sustainability of settlements implementation (Niazkhani, 2023); in this evaluation process, it is more important to pay attention to the subtle points that affect the correct and unbiased evaluation; Because the quality and correct sampling has an undeniable effect on the generalizability of the research. Therefore, it should be controlled by the researcher. Finding a way based on scientific methods and techniques for it, is the main problem of this research. In fact, this research seeks to answer the question of how to select spatial samples in planning processes, such as the evaluation of development plans, especially in less developed regions, in a scientific and valid way and free from harmful policy interventions.

Of course, the traditional approaches of planning and its modules such as evaluation do not work for today, and one of the necessary changes in planning is that planning should also pay attention to the effects of policy issues and decision-making processes. Without this, development plans are unlikely to be more useful than in the past (Rakodi, 2001). But in the parts of the planning process, which in this research is the evaluation of plans in general and sampling in particular, political interventions diminish the reality necessary to be published in the evaluation result. Because politicians don't want some regions to be known as less developed and research on them, especially of the evaluation type. In many less developed societies, urban planning organizations are vulnerable because their activities (such as plan evaluation) are dictated and hindered by traditional political elites and mainstream intervention (Cobbinah, P.B., Darkwah, R.M. 2017). Therefore, newer and mixed methods should be used in planning, which can be both a scientific and justified defense against the intervention of politicians and also create a deeper understanding of the phenomenon for the researcher.

Mixed methods enable the political researcher (such as planners) to understand complex phenomena qualitatively and also to explain the phenomena through numbers, graphs and basic statistical analysis. According to Rossman and Wilson (1985), a multi-method

approach for research that is influenced by political factors in some aspects, has the potential to understand complex phenomena, see this phenomenon from multiple and more complete lenses, and use eclectic methodologies which gives better answers to problems. In brief, it should be said that a mixed study is a study in which the researcher combines both quantitative and qualitative methods of data collection and analysis in a unique and integrated study. These studies are more suitable for problematic issues. One of the possible problems in sampling is deviating from the path of choosing samples that contain the most information (Berndt, 2020) and are the best for research; It means that the result of their investigation is the richest.

On the other hand, since in the processes of reducing inequalities and promoting balanced regional development, the less developed regions have been neglected (Moreno Pires et al, 2020) and have suffered from the accumulated negative factors of economic and social development for a long time (Majerová, 2007); Studies show that in these regions, urban and settlements sustainability indicators have a lower score than other regions (Xu et al., 2020). In fact, the lack of attention to sustainable development in these regions has faced its settlements to: an adverse cycle of socio-economic and environmental imbalances, unprecedented challenges such as poverty, decline in quality of life, income gaps, rupture social issues and injustice in the distribution of services. Considering the spatial nature of development and its opposite, i.e. underdevelopment and deprivation that can leak to its neighboring regions, the underdevelopment regions of a country can be considered as a threat to national development. Therefore, the proposed models presented in the direction of sustainable development try to maximize the benefits for the development of communities by giving priority to less developed regions (Sherafati et al, 2019). Therefore, it is important to provide a framework that can be used to evaluate the quality of spatial development plans from the perspective of sustainability of settlements implementation (Niazkhani, 2023); And in this regard, the more desirable is the mechanism of evaluation controlled from the shadow of negative interventions such as the deviation created by politician in dictating samples. The validity of different parts of this mechanism, which means that in sampling part, samples be the richest, is proven by finding facts such as isotropic properties in development in spatial placement of samples. Therefore, the main goal of this research is to present a new hybrid method in selecting spatial samples through depoliticization of planning in less developed regions of Iran.

2. Theoretical and experimental foundations

In terms of epistemology, political issues have become more obvious with the development of planning from a rational perspective to the contemporary communication situation (transition from instrumental rationality to communicative

rationality in planning) (Khakee, 1998). In a research, Albrecht documents the powerful informal arenas that are brought to the open space and the power games involving planners and politicians and shows that many of the actual planning discourses are in conflict with the logic of some politicians (Albrechts, L., 2003).Politics and planning cannot be separated, and in this connection, planners often defend public interests; But there are unresolved process issues in planning (and its modules including accurate and comprehensive evaluation)(Pløger, 2021). On the other hand, judgment about the broader claims of systems planning should be suspended until a rigorous and comprehensive evaluation. Indeed, as part of this evaluation, the relationship between policy and planning activities will remain ambiguous as long as these two concepts retain their elastic definitions. In this context, it is not desirable that the deductive logic dominates the political activity, nor is it possible that the interactive logic of politics dominates the planning activity, mutual influence can be considered acceptable. Finally, although policy is a logical activity in advance and although planning is a tool for development goals, they should be conceived as interdependent but semi-autonomous activities. They are linked to the process of formulating desirable goals that are also feasible (Dimitriou., 1973).

The issue of inequality and less developed regions in many countries is a fundamental challenge in the path of development. Especially for those countries whose territory of sovereignty includes vast geographical areas. These inequalities are a serious threat to the balanced regional development and make it difficult to achieve national unity and integration (Shankar and Shah, 2003). People who live in the marginal regions of countries are usually far from the focus of development plans and policies; This causes to decrease the level of their economic and social development (Dawson, 2001. Inequalities within and between regions are one of the prominent phenomena of third world countries, which are caused by economic, social and political conditions (Hosseinzadeh Dalir, 2003). In Iran, there have also been regional inequalities and disparities with increasing alarming rates; This situation has led to serious problems such as migration from deprived regions to more prosperous and developed regions (Noorbakhsh, 2002); Human Development Report in Iran (2019) explains these differences; It introduces spatial plans as a long-term plans to achieve social justice and regional balance as one of the most important human development policies in development PBOIRI and UN, 2019). The correct regional development policies play an important role in strengthening the economic activities and sustainable development of less developed regions and, as a result, reducing regional differences. Appropriate guidance of public investments and development programs and projects is an important step in the direction of reducing regional inequalities and achieving sustainable and balanced development in the settlements of less developed regions (Matsumoto. 2008).
Convergence in the development of regions will be achieved when the less developed

regions grow and develop at a faster rate than other regions. Otherwise, the continuation of existing trends with the focus of economic development in developed regions will lead to national and regional divergence and imbalance (Purohit. 2008). Spatial plans try to create a kind of coordination and homogeneity of growth between different regions and each region can enjoy proper growth and development in the same way and uniformity with the order of the whole of the national land (Ashkouri, 13 85). Proper evaluation of spatial plans by prioritizing the positive and negative points of less developed regions spaltial plans, helps countries to approach the goals of balanced and sustainable development faster. In the way of implementing this evaluation, the first important step is the accurate and scientific sampling in less developed regions.

2.1 Less developed regions council of Ministers approval document

As it was said, one of the major and fundamental comprehensive issues in the field of spatial development planning is the issue of paying attention to less developed regions and creating balanced development, which can be presented in the form of balanced development of sectors or regions. But before trying to implement any balanced regional development strategy, or evaluating related plans, it is necessary to identify the less developed regions through the regional differences in the environmental, economic and social dimensions (Arief, 1982). Therefore, the balanced regional policy framework can be properly guided and organized. In line with the policy of social justice, as the central goal of development plans, the level of regions in terms of the distribution and consumption of various economic, social, environmental and etc indicators, the deficiencies and inadequacies for future development plans has considered in legal documents of government. These types of documents can show the situation of different spatial regions in a comparative manner and classify them in terms of development opportunities and bottlenecks and determine development priorities for governments. In this way, by measuring the development level of the regions, it is possible to target and make decisions about the necessary tools to prioritize them in planned interventions. The less developed regions council of Ministers approval document of Iran (approved in 2008, extended until now), is a document that is used as a criterion in Iran's spatial development planning.

2.1.1 Classifying method in "Less developed regions council of Ministers approval" document

There are various methods for classifying the development of regions and any of them has advantages and disadvantages. The lack of statistics and information and their inadequacy, as well as the existence of numerous and scattered indicators in many cases, cause confusion and in identifying and determining level of development in regions; Therefore, logical combination of indicators is necessary to facilitate decision-making. Of

course, any kind of integration should be done based on scientific principles to make the indicators sufficient, expressive and meaningful (Hosseinzadeh Delir, 2013). Classifying and zoning socio-economic development level of regions is often considered as a decision-making issue of several MCDM[1] indicators (Martic and Savic, 2001), which is used in the mentioned document on the less developed regions in Iran. This method can analyze different aspects of the study, simultaneously and integrally (Papadopoulos and Karagiannidis, 2008).

2.1.2 Classifying criteria and indicators:

In order to clear the nature of the less developed regions mentioned in the above document, it is necessary to know the criteria and indicators classifying based on them. In the main aspects of:

- environmental criteria, indicators such as: the share of arable land from the total land, land erosion class, average height and slope class of land, average annual temperature and rainfall, climatic condition, water resources condition, mineral potential of the region, earthquake and flood potential;
- Social and cultural criteria, indicators such as: household size, real population growth rate, population density, ratio of urbanization, literacy rate, ratio of health and treatment centers and health centers to the number of villages, ratio of doctors to population, ratio of secondary schools to the number of villages, The ratio of public library to the number of villages, the ratio of sports facilities to the number of villages, the ratio of villages with safe drinking water to the number of villages, the ratio of villages have post offices to the total number of villages, the ratio of uninhabited villages to the total number of villages in the district,
- Economic criteria and its infrastructure indicators such as: employment rate, activity rate, job burden, ratio of employees by agricultural, industry and service sectors to total employees, ratio of agricultural land to total land of the sector, ratio of irrigated and dryland the total of agricultural lands, per capita of heavy and light livestock, density of tractors and combines per 100 hectares of land, ratio of rural cooperative companies to the number of villages, ratio of villages have gas to the number of villages, ratio of bank branches to 10,000 population, the distance of the center of the district from the center of the city, the distance of the center of the district from the center of the province; has been considered for classifying the regions. As it is found, in this document, an attempt has been made to select indicators that:
- First, covers different dimensions, including the natural situation, the capabilities and talents of the region, and the potentials of the occurrence of danger, deprived, health

[1] Multiple Criteria Decision Making

and medical, educational, population, social and cultural services, human resource, infrastructural services and agricultural production characteristics of the regions and
- Second, should have the least overlap with each other and its information should also be available and up-to-date in terms of geographic political divisions up to the sector level.

According to what was mentioned, classifying of the less developed sectors was done based on each of the environmental, social-cultural and economic indicators separately, and to be continue based on the composite index in each of those main aspects by MCDM method. At the end, the final classifying was done based on the overall composite indicators (all environmental, social-cultural and economic indicators) and the result reflected in the less developed regions council of Ministers approval document.

2.2 Evaluation of spatial development plans and sampling methods:

Although many efforts have been made to correct regional development imbalances in Iran, there is an uneven distribution of facilities, services and activities, and the existence of inequalities and development gaps, both between provinces and within provinces. It has been always as one of the topics the subject of attention of the socio-economic organizations and institutions of the country. Most of the studies in this field have also confirmed the existence of spatial disparities in the level of development, the increasing trend and its adverse consequences and obstacles to run correct and accurate evaluation (Klantari,1998; Amirahmadi, 1986; Norbakhsh, 2005; Sharbatgholei, 1999). Table 1 shows a summary of the most important researches carried out in the field of evaluation of spatial development plans and sampling methods related to this research along with its results.

Table 115**.** A summary of the most important researches and their results

Title	Result	Source
Evaluation of the planning process of "territorial spatial development" in Iran and improvement solutions	- Documentary and qualitative method - The most important reasons for the non-realization of development plans in Iran are conceptual, organizational, and legal aspects and the inability to control negative political interventions.	Sharif Zadegan et al (2010).
Evaluating obstacles to territorial spatial plans in Iran with an integrated approach	- hybrid approach - The most prominent obstacles among the six categories of obstacles studied (economic, geographical and territorial, political and security, study and research, social and cultural, and administrative	Soltani, (2012)

	and structural), is administrative-structural obstacles and their effect on the weakness of control in political interventions in The implementation of plans.	
Pathology and evaluation of territorial spatial plans in Iran	- Documentary-analytical method (relying on the network analysis method) - The most important factors in the crippling damage of spatial development plans in three management areas, "the dominance of the petroleum economy and its political shadow over other aspects", the structural area, "the traditionally of the planning system and the content area, is "the depth of regional inequalities and the increase of less developed regions " .	Amou and Hataminejad,(2018)
Urban planning and politics in Ghana	Dominant political elites, with little or no urban planning background, control and dictate urban planning activities. This leads to chaotic scenes and urban damage across Ghanaian cities. The analyzes here reinforce the growing recognition that urban planning outcomes in Ghana and most African countries are not shaped by professional practice and reflect political elites, not the aspirations of the community interest and goals.	Cobbinah, P.B., Darkwah, R.M. 2017
Sampling Methods	In this research, specific sampling techniques are listed and defined, and the pros and cons are presented for consideration. In addition, issues related to sampling methods are described to highlight potential problems. One of these problems is deviating from the path of sampling that are richest and the best for research	Berndt,2020

According to the findings of studies, the negative involvement of politicians in planning processes, including the evaluation of development plans, is significant. In order to

answer the research question that "What is the proper method for choosing suitable spatial samples in the field of plan evaluation?", It is doubtful that data can be collected from all cases. Therefore, there is a need to select rich samples that can be the most comprehensive representative of the statistical population. Since there are different types of sampling techniques/methods, the differences must be understood to choose the appropriate sampling method for research (Taherdoost, 2016). Therefore, with respect, this paper presents a new mix method for spatial sampling.

3. Methodology

3.1 Methods

For almost three decades, various researchers have debated the concepts, methods, and quality standards for studies that use a hybrid of quantitative and qualitative approaches (Creswell, 2003~ Greene & Caracelli, 1997~ Miles & Huberman, 1994; Newman & Benz, 1998; Tashakkori & Teddlie, 1998, 2003). According to Rossman and Wilson, the hybrid of qualitative and quantitative research methods strengthens and validates these methods; Richer data is provided (Rossman and Wilson; 1985: p.637). In other words, in mixed research methods, the researcher combines the elements of qualitative and quantitative approaches in order to deeply understand the phenomena. The approach of this research is Mix-Method Research; Nastasi et al. (2007) believe that the research process of evaluating of developing plans reaches its peak in a qualitative-quantitative process, going back and forth. In this research, in order to provide rich samples to evaluate the spatial plans of less developed provinces, the quantitative method (Quan) is used for Clustering the statistical population (provinces). In fact, when the total research area is vast, the better method for the researcher is to divide the area into equal or smaller parts and then choose smaller units (Etikan, 2017). The right option in this situation is clustering. Cluster sampling is also called Block sampling. In cluster sampling, the sampled population is divided into groups called clusters. Instead of these subgroups being homogeneous based on selection criteria such as stratified sampling, a cluster is as heterogeneous as possible to match the population (Linda, 2008). In fact, the nature of the clustering technique causes the cases within each cluster (provinces in this research) to be most similar to each other (isotropic) and least similar to rest of the other (Edwards, 1965). One of the advantages of using cluster sampling is its cost-effectiveness in reducing costs by focusing on selected clusters, which gives less accuracy than simple random sampling (Etikan, 2017).

In the next step, instead of randomly choosing from each cluster, in order to choose the best sample that has the most data and data saturation occurs in it (Gill, 2020), one of the qualitative sampling techniques, judgmental or purposive sampling is used. That is,

here the usual path of clustering is changed and the sampling path continues with the qualitative method (Quan). Informed decisions about sampling are critical to improving the quality of research synthesis. In primary research, Patton is often cited as an authority on the subject of purposive sampling. However, in Patton's original texts there is no suggestion as to which purposive sampling should be used for which research combination, but it is explained that different purposive sampling strategies may be particularly suitable for constructing multi-perspective, liberating, participatory and deconstructive interpretations of published research (Suri, 2011). The perspective that is the focus of this research is getting rid of the negative shadow of politics in diverting the direction of planning research. So one of Patton's 16 purposive sampling strategies appropriate to the synthesis process of qualitative research, which has been found suitable for this research, is Critical case sampling. It is popular in the first stages of research for more in-depth study or in cases where funding is limited. It is a method in which a number of important or "critical" items are selected and then reviewed. The criterion for deciding whether an instance is "critical" or not is generally decided using the following phrase: "If it happens there, does it happen anywhere?" or "If that group has a problem, can we be sure that all groups have a problem?" (Etikan et al, 2016). Therefore, the critical samples of each cluster have been selected with a purposive non-random technique to select the richest samples that the most comprehensive and most difficult evaluation results are obtained from them.

In the final step, qualitative methods will be used again to interpret the output based on spatial development facts, such as the property of isotropic development in adjacent regions.

3.2 Method execution

In the first step of the research, in line with the purpose of the research, based on the less developed regions determined in the document approved by the Council of Ministers, the provinces of the country have been clustered; The data was analyzed with SPSS software and the provinces that are close to each other in terms of less developed parts were classified into five clusters with clustering technique; The data in this matter were extracted from the latest less developed regions council of Ministers approval document. The fifth cluster, which includes the capital province of Iran, i.e. Tehran, was excluded from the sampling, because it did not have less developed regions at the city level. From the other four clusters, the least developed or in other words the most critical province of each cluster, which had the highest percentage of less developed regions, were chosen as the representative of that cluster.

4. Conclusion and discussion

The selected provinces(samples) resulting from the execution of the method explained in the previous part are: Sistan and Baluchistan province with 92.9 percentage (92.9 %) of LDR[2] (which is the strongest breaking point among other provinces and alone in the first cluster), Ilam with 75 percentage (75%) of LDR, Khuzestan with 60.9 percentage (60.9%) of LDR and Kerman with 45 percentage (45%) of LDR that they have accommodated. Table 2 shows the output of the software analysis and the selection of critical samples.

Table 16. Output of software analysis and selection of critical samples

Province	Number of Cities	Number of LDR Cities	LDR %	Cluster	Critical case
Sistan and Baluchestan	14	13	0.929	**1**	*
Ilam	8	6	0.750	**2**	*
southern Khorasan	8	6	0.750	**2**	
kordestan	10	7	0.700	**2**	
Bushehr	9	6	0.667	**2**	
Hormozgan	12	8	0.667	**2**	
Khuzestan	23	14	0.609	**3**	*
Kohgiloyeh and Boyerahmad	5	3	0.600	**3**	
Western Azerbaijan	17	10	0.588	**3**	
Kermanshah	14	8	0.571	**3**	
Kerman	20	9	0.450	**4**	*
North Khorasan	7	3	0.429	**4**	
Zanjan	7	3	0.429	**4**	
Khorasan Razavi	25	10	0.400	**4**	
Chaharmahal va Bakhtiari	7	2	0.286	**4**	
Fars	26	6	0.231	**4**	
Golestan	13	3	0.231	**4**	
Hamedan	9	2	0.222	**4**	
Ardabil	10	2	0.200	**5**	
Yazd	11	2	0.182	**5**	
East Azarbaijan	19	3	0.158	**5**	
Lorestan	10	1	0.100	**5**	
Markazi	11	1	0.091	**5**	
Mazandaran	17	1	0.059	**5**	
Esfahan	23	1	0.043	**5**	
Tehran	15	0	0.000	**5**	
Semnan	9	0	0.000	**5**	
Qazvin	5	0	0.000	**5**	
Qom	1	0	0.000	**5**	
Gilan	16	0	0.000	**5**	

The locations of these provinces, selected sample of this research, marked in Iran's geography illustrated in Figure 1.

[2] Less developed regions

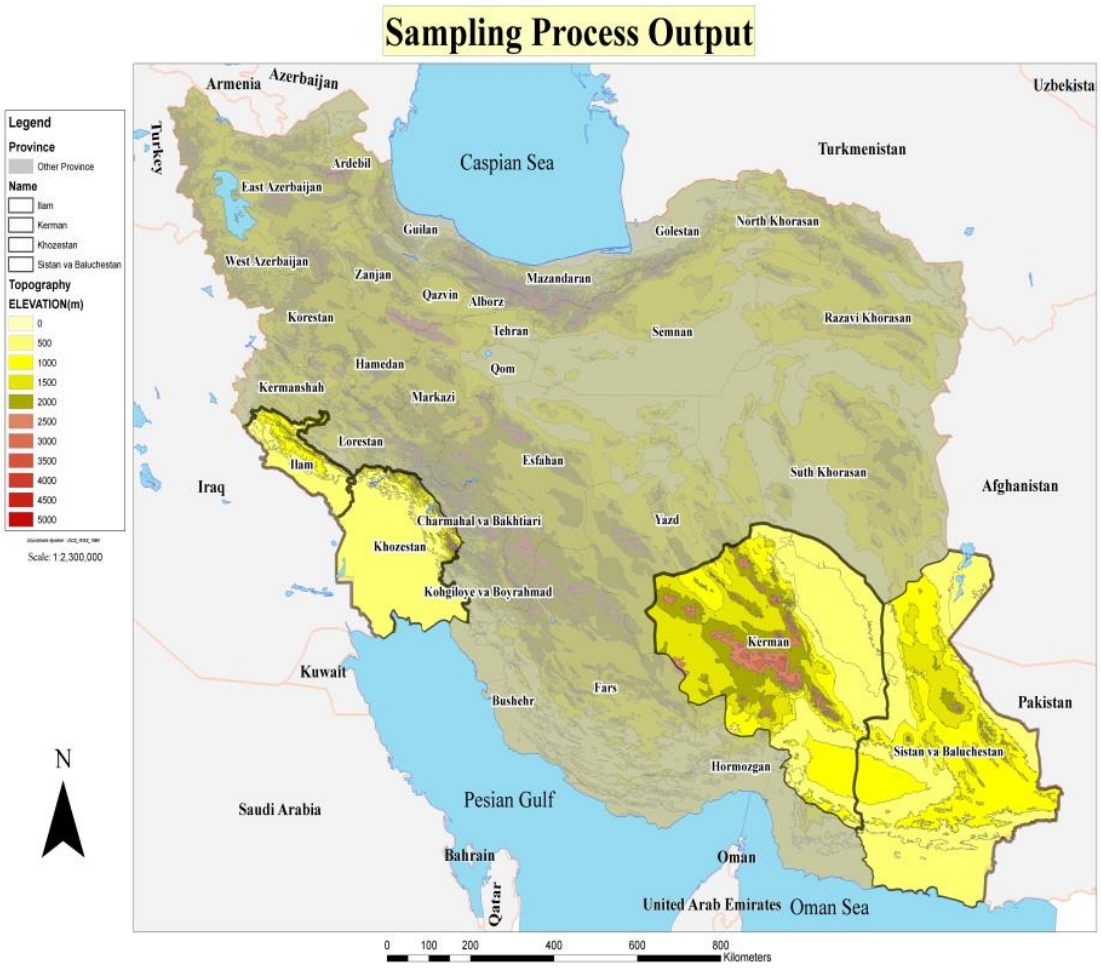

Figure 1. Spatial proximity of selected samples

As the map shows, selected provinces from each cluster promote their geographical and spatial contiguity with the previous (less developed) cluster. This was expected to occur due to the spatial isotropic property of the development. In fact, its reflection in development can be explained that the drivers and stimulators of the development in a region, penetrate into the adjacent region after a while and can be the driver and stimulator of the development for adjacent region as well. This is because most of the adjacent regions have the same or similar natural advantages; Therefore, activating the industries and activities related to that natural advantage in one of the regions, after a while through the transfer of technology and labor, is the catalyst for the activation of similar industry and activity for the adjacent region. Even if the natural advantages of the adjacent regions are not similar, the similar culture and social context work to place the adjacent regions on the same track for development; The concept of trickle-down effect in the Growth pole theory (Gai and Zhou, 2022; Roberts, 1995; Lasuen, 1969) is

rooted in this fact. There is also the opposite side. That is, the regions whose economic and social equations have determined underdevelopment, remain like a patient with a contagious disease, and often their dysfunctions and weaknesses in development affect the adjacent regions as well. For example, patterns of agricultural cultivation that are not compatible with the environment, immigrant flows, non-completion of the production and trade chains of goods, etc. are examples of this contagion. In a word, regions learn from each other in the path of development; Both positive and negative. This leads to their isotropic at the level of development. Isotropic, a concept that describes similarity in different sciences such as physics, chemistry, economics, and geography, can be recognized in urban development and planning be as a radiant horizon of further research in interdisciplinary planning education field.

In brief since the Depoliticizing of planning is an issue that has been addressed in the current discussions of planning, teaching a Method that can cancel the negative interventions of politicians by relying on scientific evidence can be very useful. Also, introducing of the Isotropic concept in spatial development, which is one of the results of the application of this method, can open the horizon for further interdisciplinary researches in urban planning.

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