Spatial analysis and site selection post centers using Geographical Information System (Case study: zone 5 & 6 of Isfahan city)

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Extended abstract
1- Introduction
In recent decades, rapid growth of urban population, rural-urban migrations & urban regions natural population growth, made very difficults for big cities & metropolises of our country. Before of this time Cities that had little growth, with very new difficults faced. One of the Maine needs of urban populations is fine access to urban sevices. Acceability is one of the Maine characterizes of a good city and can divide to diver shape of access such as activities, goods, resources and services.

2- Methodology
Primary, Effective alternatives of post center site selection converted for information layer with shape file format. In next stage, best buffer for any layers determined and for each considered range weight between 1(lowest value) & 5(highest value). Because the entire information layer that used isn't equal effect in post center site selection and because to be many Layers, compare & determine value of each seems very difficult, so AHP technique used for weighting and combaine layers. The export of this stage is land zoning for locating post centers in 5 ranges with amount of goodness: very much, much, mediane, low & very low. So, in order to determining poor regions, network analysis tools in GIS environment used and 750 meters of standard buffer access for exist centers designed and with period rank planning, the best sites for construction post centers in 3 periods(low, mediane & long) determined.
3- Discussion

In case study (zone 5 & 6 of Isfahan city), that 5 post services center exist, bad spatial distribution & locating near of the main roads, created very difficults for settlers for access to this services. So in this research primary effective factor in post center site selection distincted that involved information layer such as radiant access, access to roads, nearest to attractive centers such as: educations, military, cultural, religious centers, center of regions and far from exists post centers. So using analytical hierarchy process technique compared these layers and for each layers one weigh in base amount of important considered. That far from exist post center gained highest value and radiant access of each center post gained lowest value. Then weighted sub alternatives form each alternatives for amount of importance using analytical hierarchy process technique. The weight that gaind for each alternative and sub alternative used in stage of combining in GIS environment and finally leveling of area surving for amount of goodness achived in order construction new post centers. Because the goal of research is construction post center ranking, so with attention to amount of lands goodness, with considering 750 meters access buffer, new post centers in 3 period (low, mediane, high times) porposed.

4- Conclusion

Results of this research shows that exist post centers in zons 5&6 of Isfahan city, haven’t good distribution and don’t considered exist alternatives for post centers site selection in their locating and exist center instead locating in center of neighborhoods & zones of city and corporate with other land uses, located near the main roads that this forther more condemn extera finances for citizens, caused more attract people to near of this roads and created tertiaf challenges. So in order to doing exist standards with determine buffers with750 meters for each center, in one term with low, mediane & long periods, ultimately 10 new post center in optimal sites porposed that in low period 2 center, median period 3 center and finaly in long period 5 new post center porposed.

Key words: spatial analysis, site selection, geographical information system, post centers, Isfahan.

References
Aghababai, m (2010), spatial analysis of Khomeini shahr fire stations & services with using GIS, supervisor: Ali zangi abadi, university of Isfahan, geographic & urban planning department.
Al sheikh, a. & et al (2002), application GIS in site selection flood distribution areas, geographical researchs magazine, year 17, number 67, Mashhad.
Azimi hosseini, m & et al (2010), application GIS in site selection, mehregane ghalm press, one publication, Tehran.
Azizi, m (2005), application geographical information system in site selection, spatial distrubition & network analysis of healt & medical centers, case study: mahabad city, supervisor: Mohammad reza pur mohamadi, university of
Tabriz, geographic & urban planning department.

Bahreini, H (1998), urban designs process, university of Isfahan press, one publication, Isfahan.

Esmaili, A (2003), application GIS in fire stations route finding process, news of terrific, year 4, number 19, Tehran.


Faraj Zadeh, M & et al (2005), evaluation & site selection urban educational centers with using geographical information system (GIS), case study: Moalem neighborhood of Kermanshah, modares human science magazine, vol 8, number 1, Tehran.


Haji Khani, GH & et al (2000), urban services using (characterizes, failures & alternatives), municipals magazine, number 17, Tehran.


Saidi Khah, A (2004), survey urban facilities & equipments (Post, telegraph, fire station) & those site selections in old and new sector of Mashhad city, supervisor: mohsen shaterian, sistan and baluchestan university, geographic and urban planning department.


Seifodini, F (2006), urban & regional planning terms, aceizh press, publication 1, autumn, Tehran.

Shahivandi, A (2007), urban green area site selection (case study: khoram abad), supervisors: hamid reza varesi & jamal mohammadi, university of Isfahan, geographic & urban planning department.


geographic & urban planning department.


Taghvai, m et al (2006), unrest ranking in rural setelments (with AHP method) (case study: bazoft province), university of Isfahan research magazine (human science), vol 20, number 1, Isfahan.

Taheri, a (1998), management of municipal affairs, ghumes press, publication one, Tehran.

Talei, m & et al (2010), development an minor spatial algoritm in order evaluation amount of access to urban services, technical department magazine, vol 43, number 5, Tehran.


Usefi, z & et al (2007), haraz river and determine environmental position of haraz river in geographical information system (GIS) metod, ten national conference of environment health, hamedan.

Varesi, h & et al (2009), urban green area site selection with using geographical information system (case study: khoram abad city), geographic and regional development magazine, number 10, Mashhad.


Ziari, k (2002), urban land use planning, university of Yazd press, publication 3, Yazd.