

Strategic Planning for Sustainable Development in District Karak, Khyber Pakhtunkhwa, Pakistan



Shandana	Centre for Disaster Preparedness & Management, University of Peshawar
Fazal Ghani (Corresponding Author)	Department of Urban and Regional Planning, University of Peshawar fazalghani033@uop.edu.pk
Haroon Ahmad	Department of Urban and Regional Planning, University of Peshawar
Ahmad Nangyal	Department of Urban and Regional Planning, University of Peshawar

Abstract: *Strategic planning for social development needs future vision. The planned development is the paramount condition for effective social development; hence regional/district development is associated with the systematic utilization of indigenous resources (physical, economic, and social). This study aims to identify the major problems of the study area and the available indigenous resources of the same for social development. Published research material is used as a problem identifier. Planning guidelines for the social development in the region are recommended, which include training/education of skilled manpower for local natural resources-based industries, the establishment of technical education institutes, and up-gradation of necessary elements of regional development i.e. communication and roads network, education, health, public health services, etc. Furthermore, planning Agro-politan and rural development will lead to the sustainable utilization of ecological and natural resources.*

Keywords: Strategic planning, Regional planning, Social Development, Natural Resources, Ecological Resources, Health, Education, Employment, Agriculture, Roads

Introduction

The process of strategic planning of local development typically depends on the political choice concerning the utilization indigenous resources. Logic from the fact that a local authority always politically rational there is a possibility to define two approaches to the development of the strategic plan and associated development (Victor and Ivan, 2015). Regional planning provides a direction and a complete course of actions for the development of a society in a region. Regional planning organizes the actions and amenities which directs the land-use activities. Regional Planning is done for resolving socio-economic problems in a district. Regional planning addresses the disparities among developed and less developed areas

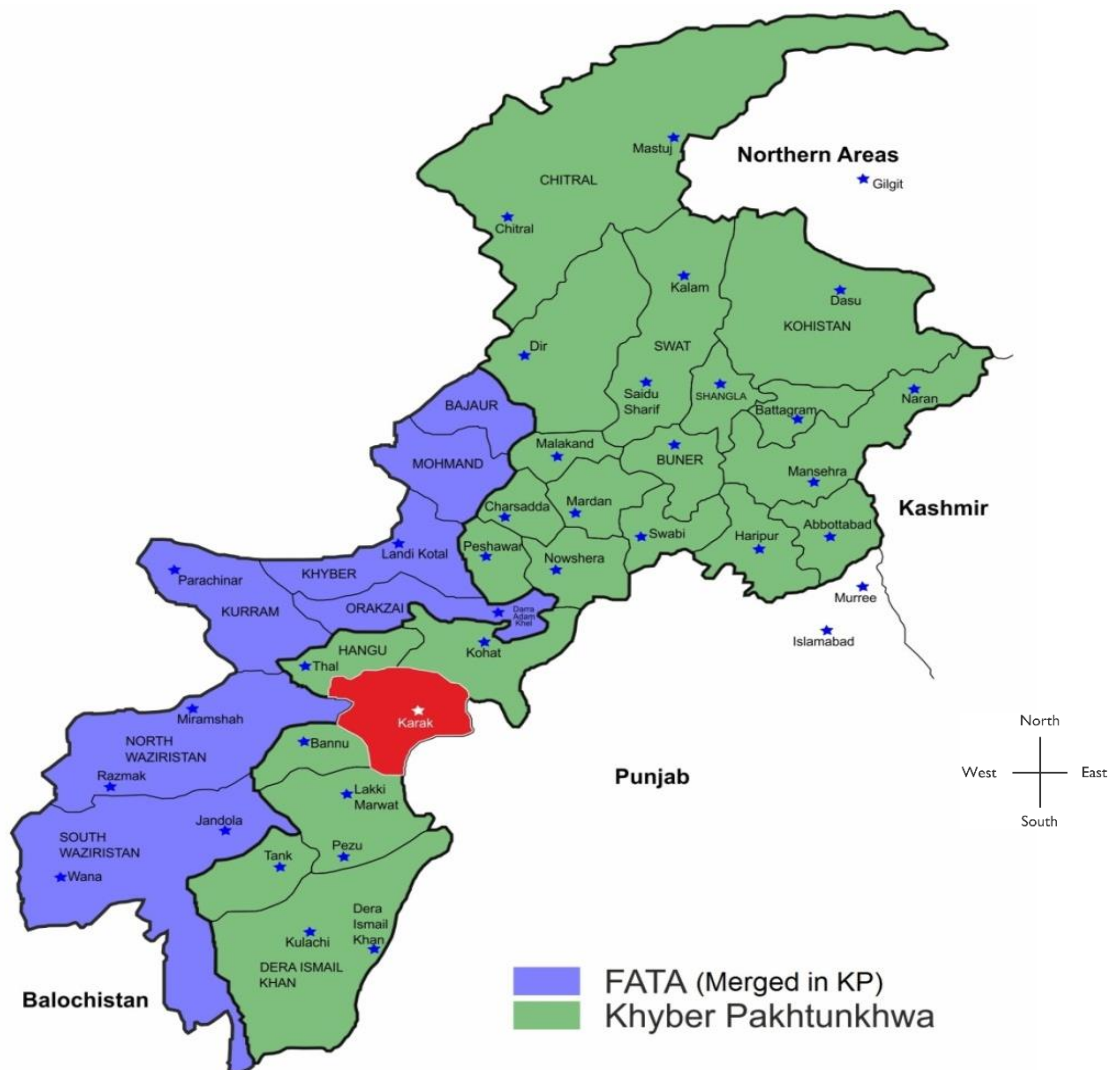
(Adnan, 2015; Glasson, 1978). Regional planning bridges the national and local planning. The regional planning involves the physical and economic planning for the resolving of related regional issues. Regional planning approach according to the country approach (Ash, M. 1968; Council of Europe, 1968). Regional planning not only provide guidelines for social and physical development, but it also provide guidelines for the conservation of flora, fauna and historical sites of the region (Qureshi Z.A, 2015).

STUDY AREA'S DESCRIPTION

The Karak district is situated in the southern region of Khyber Pakhtunkhwa, Pakistan in Kohat Division between 70–40° to 71–30° N and 32–48° to 33–23°E on the main Indus

highway between Peshawar and Karachi. The same is situated at the south of Kohat district and on the north east side of Bannu and Lakki Marwat districts (Map – A). It is 123 km from the provincial capital Peshawar. Total area is 3,372 km² (1,302 sq mi). The District has curved dry hills and rough terrain (Malook A. et al. 2016; Tehsin J. et al., 2019). The population of Karak by the 2017 census is 706,299 (Table – 1). 92.75 % of population is rural population (Table - 2). Average annual growth rate is 2.63

from 1998 to 2017 (GOP, 2018). Topographic is not uniform. It comprises mountains, desserts, salt range and somewhere the fertile agriculture land. The climate is hot during the summers, with temperature touching 40-45 degree and sand storms are common in Tehsil Takht-e-Nasratti. The average rainfall is from 30 to 110 inches in which the major precipitation time is summer monsoon. The major source of income of the people is on rain agriculture (Tabassum et al., 2014).



Map – A. Location map of district Karak

The district Karak is divided in to three administrative divisions (Map - B)

- Tehsil Karak
- Tehsil Banda Daud Shah
- Tehsil Takht-e-Nasrati

Table: 1. Tehsil wise population distribution in the Study Area

S.no	Name of City, Tehsil	Population
1.	Karak District	706,299
2.	Karak Tehsil	293,520
3.	Takht-e-Nasrati Tehsil	257,137
4.	Banda Daud Shah Tehsil	155,642

(Source: Distract Census Report, Government of Pakistan, 2017).

Tehsil Karak is most populated tehsil among all three tehsils. 41.55% of total population is residing in Tehsil Karak. Services and institutions are concentrated to the central area

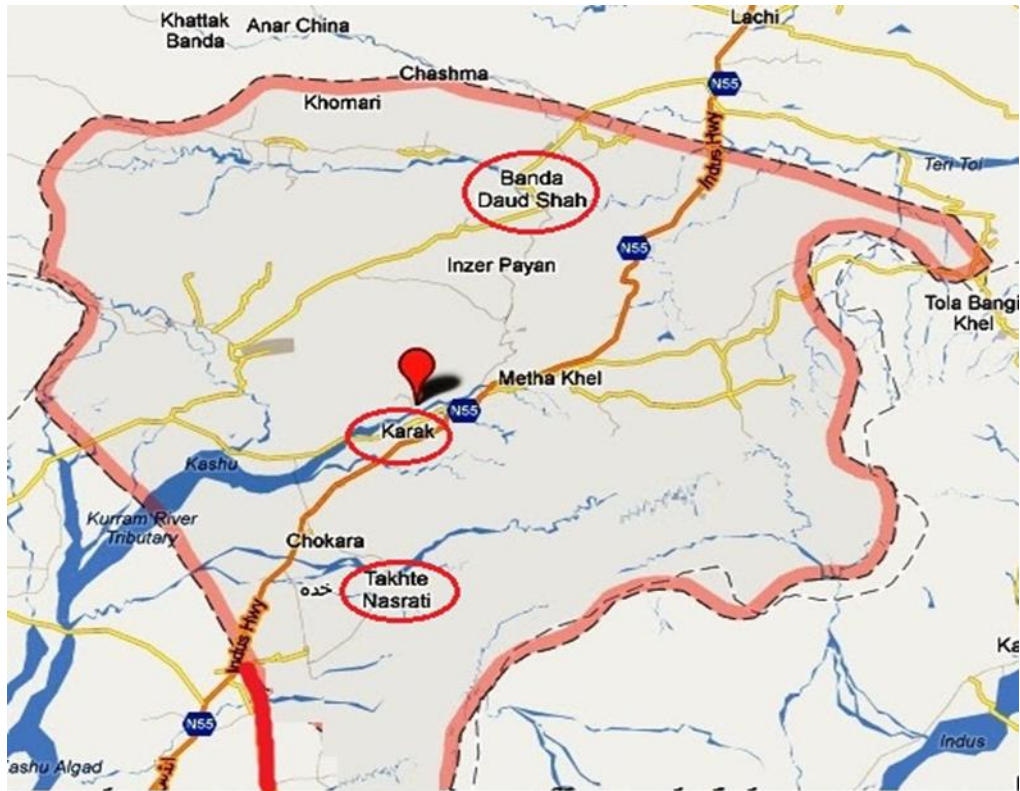
of District. Therefore, the central area i.e. tehsil Karak is most populated. Table no. 1 shows the population breakup at tehsil levels. Tehsil Takht-e-Nasrati is second most populated and tehsil Banda Daud Shah is third populated tehsil of the district.

Table: 2. Gender wise population detail and number of households' in the Study Area

S.no	Population	Rural	Urban	Grand Total
1.	Total	655150	51149	706299
2.	Male	323752	25681	349433
3.	Female	331395	25468	356863
4.	Transgender	3	0	3
5.	Household	67784	5360	73144

(Source: Distract Census Report, Government of Pakistan, 2017).

Gender wise comparison of the population in the area shows that, the female population is more than the male population. Majority of population in study area is residing in rural areas. About 92.75 % population is residing in the rural areas of the study area (Table - 2).



OBJECTIVES OF THE STUDY

Map – B. Administrative units (tehsils) of district Karak

Map – B. Administrative units (tehsils) of district Karak

Map – B. Administrative Unites (Tehsils) of District Karak

- 1) To highlight the available resources/natural resources in the study area.
- 2) To identify the major problems of the study area and the available indigenous

resources of the same.

- 3) Suggestions/planning guidelines for the development of the Study area.

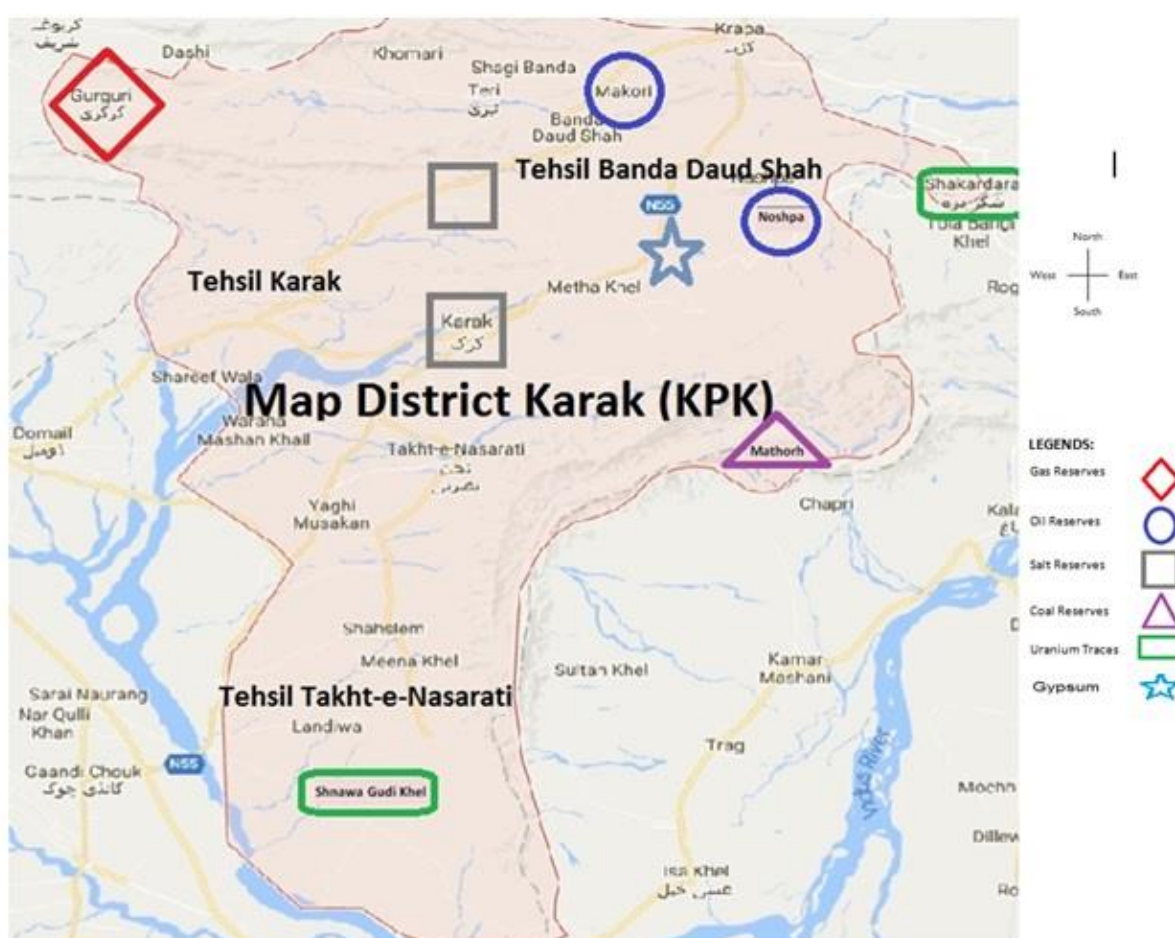
AVAILABLE NATURAL RESOURCES

The northern and north-western and north-eastern region of the study area has gas reservoirs, oil withdrawal and petroleum industry profiles. The salt, coal, gypsum, limestone, sand stone, shales / clay and uranium are found in the central and northern vicinity (Map - C). The stated area has the following towns and villages;

1. Gurguri
2. Makori

3. Noshpa Banda
4. Shakardara
5. Tapi Karak
6. Jhatta Bahadar Khel
7. Speenakay
8. Mathorh
9. Shnawa Gudikhel

The above stated circle is producing 7000 barrels of oil and 2500 cubic feet gas per day which is a record production from one oil field in the country (Tehsin J. et al., 2019).



Map – C. Natural and Mineral Resources in the Study Area

LITERATURE REVIEW FOR THE IDENTIFICATION OF ISSUES IN THE STUDY AREA

In this section a comprehensive literature review is presented to know the problems/social problems faced by inhabitants of the study area.

a) Health/ Public Health Situation:

Public health situation is not satisfactory in the study area. According to Ahmad *et al.* 2013, the hospitals are poorly governed in district Karak. Hygienically the public hospitals are reported to be the dirtiest places in area having no proper cleaning mechanism. Absence of monitoring system and accountability

mechanism are the key factors leading to the worst situation. There is deficiency of advanced and modern medical equipment as well as the specialist medical staff in district headquarters hospital. Hence, in case of seriousness the patients are referred to the Provincial capital (Peshawar) hospitals (Ahmad *et.al.* 2013). The entire district has no “Category A” hospital (Table - 3). Drinking water has a simultaneous impact on public health. Waterborne diseases are caused by polluted drinking water. Cancer cases in local people were highlighted by a research study in Tehsil Takht-e-Nasrati in south-western region of the District (Map-B). A survey conducted by International Nuclear Information System and observed very high level of

uranium in drinking water sources obtained from uranium rich bedrocks (> permissible limit of WHO (15 micro g l/sup -1/) for human consumption). There is one of Asia’s richest mineral deposits of uranium in the above stated Tehsil of District (Hussainullah *et al.*, 2013). The district has some rain fed water dams. These dams are located in north, east-south and south western regions (Junaid *et al.*, 2018). A study in other locality of the study area stated that, the water table is showing slightly rising trend, except Sur Dag, Narre Khawar and Takht-e-Nasrati areas, where the water table is declining. An appropriate measure may be adopted for recharge of the ground water aquifer through development of small dams in the catchments plain (Khan M.J., 2018).

Table No. 3

S.No	Type of Hospital	Number
1.	Category A (MTI)	0
2.	Category A (Non-MTI)	0
3.	Category B	01
4.	Category C	02
5.	Category D	03
6.	Hospitals not categorized	01
7.	Rural Health Centers (RHCs)	07
8.	Basic Health Center (BHUs)	19

Source: Government of KP Report, District Health Information System 2017

b) Education Situation: Overall statistics of education level in the district is satisfactory but the villages in remote areas and in hilly areas are away from the basic education facilities. According to an official report the district Karak has 51.5 score and is at 95 number in the ranking of total 144 districts of Pakistan. The girls’ education needs special

attention (Alif Ailaan 2017). A research study pointed the factors affecting girls’ education in the study area are illiteracy of the parents, negative perception and gender discrimination, poor financial status, long distance to school, early marriage and involvement in social activities (Suleman Q., 2015).

Establishment of Institute of Petroleum Technology at Karak is proposed in public sector development programme 2019-20. The

plan is approved by Central Development Working Party (CDWP) (GOP 2019).

c) Road Network: Road network in the district is inadequate. Like other less developed districts of the Province the Karak is also least industrialized districts with relatively low road density and lack of access to road infrastructure and highways. Indus highway is passing across the area but the link roads and road infrastructure in rural and hilly area is absent. Industrial and economic disparity within Khyber Pakhtunkhwa Province is also a consequence of geography (elevation and terrain), which is a hurdle for infrastructure development. Subsequently most economic activity is concentrated in the central region of the Province KP (Kazmi S.Z., 2016).

d) Livelihood, traditional setup and ecological practices and issues: The study area has diverse topography and land surface. Therefore, it has diversity in agricultural production. Peanuts, gram, different kinds of Beans, Millet (Bajra), Honey and livestock farming practices are common. The majority of inhabitants of the district depend on communal land resources for multi purposes. The communal land comprise of diverse topography; dry hilly and semi hilly terrain and dessert. According to Tabassum *et al.*, 2012, communal land in the district Karak is widely utilized as rangeland. The local people heavily depend upon the vegetation cover for cattle grazing, fodder, fuel wood, house building material and collection of medicinal herbs. It is also earning source from the sale of these products. The women are the main users and are mainly involved in the collection, transportation and processing of these products from communal lands. Women have a substantial knowledge about the resource as well as changes that have taken place in the last three decades. The

rangelands in the study area are deteriorating due to anthropogenic factors and non-equilibrium dynamic pattern. The local inhabitants are aware from this state of affairs and they do have the capacity, knowledge and managerial skills to change the existing scenario. However, due to changes in the socioeconomic structure collective survival strategies, mutual cooperation and implementation of locally formulated rules for resource utilization is weakening. The degradation of these resources is now becoming a major threat to the natural environment. According to Murad *et al.*, 2013 that the inhabitants of the area are very much dependent on plant species for their health care needs, fuel wood and fodder. Due to financial constraints, changing life styles and unavailability of resources, the local medicinal flora is facing overexploitation from the local inhabitants. Over grazing, fodder collection, logging and medicinal plants collection are major threats to the vegetation of the studied area. Such practices have resulted in the vulnerability of multipurpose species such as *Acacia modesta* and *Dalbergia sisso*, wild-olive (*Olea Europaea*). The same region has also some unique species of birds e.g. chukar partridge (چکور), partridge (تیتھر) etc.

Desertification has become an important problem for the farmers in the dry lands of Pakistan as it increases the vulnerability of the households whose livelihoods depend predominantly on land resources. A research study concluded that, causes of desertification in the study area are the declining land productivity and increased water scarcity during last thirty years. In response, the local inhabitants have opted for new livelihood strategies, i.e. both off farm and on farm (Tabassum *et al.*, 2014). The district has some rain fed water dames. Physical and chemical analysis of the dame's water shows that, it is suitable for fish culture. Encouragement of fish culturing in these

reservoirs would give economic and social benefits to the local population of study area (Junaid *et al.*, 2018).

SOCIAL AND ECOLOGICAL ISSUES

As a native resident and a researcher in the field of regional planning, I myself is a primary source of knowledge and have faced and observed the following social, physical and ecological issues in the area. Some serious ecological operating problems facing to the area are as follows:

- The district Karak (study area) has no accessibility to railway line, motorway network and other main stream transport corridors. Indus Highway (from Peshawar to Karachi) passing through the district is the only major route which invites every sort of traffic of the entire south Khyber Pakhtunkhwa as well as the transport from South Punjab, Sindh and Baluchistan province.
- Majority of the District's area and villages are mountainous and sub mountainous. Roads network is nearly absent there.
- Drinking water supply is nominal. Water from Open well, streams and hand pumps are common. There are some villages even in this modern era, where the dwellers store rain water and use for drinking as well as other household purpose.
- The villages at the mountainous regions near district Mianwali (Punjab Province) have no facility of electricity. The girl's education is an uncommon phenomenon in the above stated area.
- **Deforestation:** A serious ecologically operating problem is rapid cutting of plants and rare forests of wild olive.
- **Over Grazing:** Grazing, browsing, and trampling by domestic livestock is a serious problem in the area. Grazing has caused to decline vegetation where edible species have been reduced and non- edible species became increased.

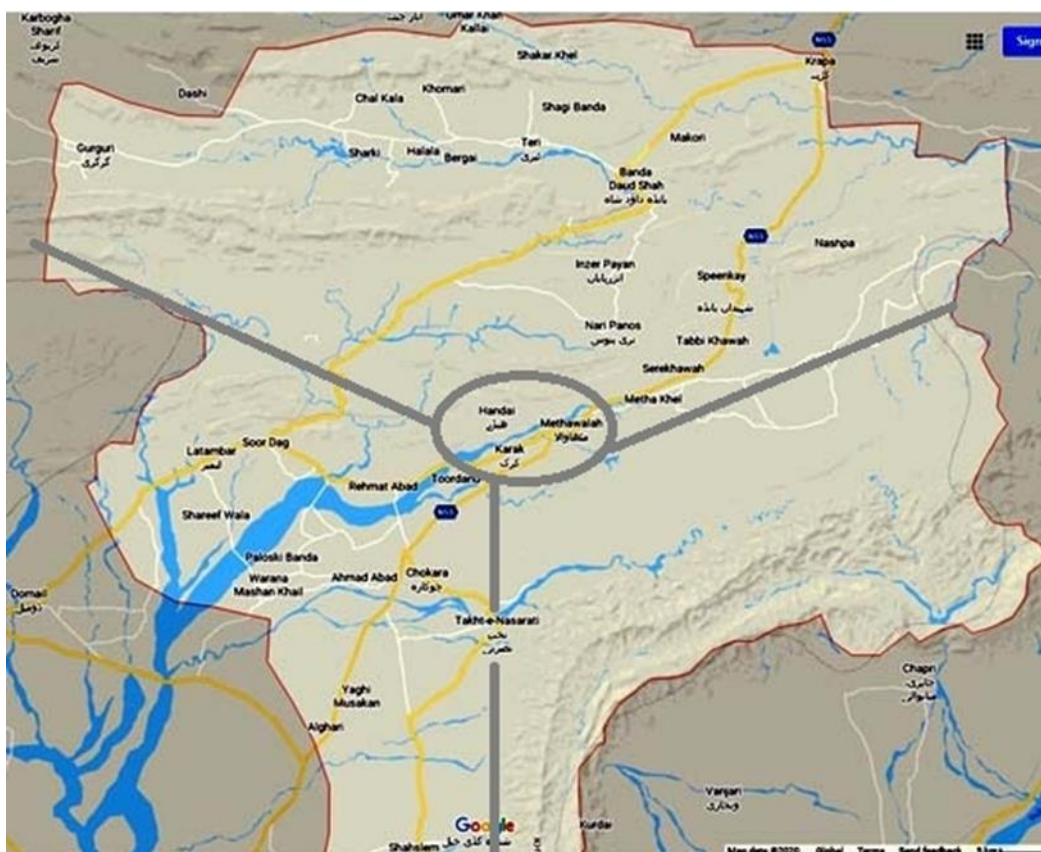
- **Soil Salinity:** Central, North and North western area of Study area (Map-B) is facing salinity problem. The water is neither suitable for cultivation nor for drinking. It has poor scant vegetation.
- **Soil erosion:** Soil erosion by the seasonal pouring stream water by rainwater in sloping area and wind in the plain is also a threat to cultivable land and natural habitats.

PLAN FOR THE SOCIAL DEVELOPMENT OF DISTRICT KARAK

For the development of a District like Karak, we should focus to uplift the main component of the Social Development i.e. Roads and Communication network, Education level, Health Institution, Public Health Services, Employment Opportunities, Ecosystem Restoration and Public Awareness. The above stated indicators for development can be achieved through adequate planning for the utilization of local resources for development.

The District Karak has mix topography. Broadly it can be divided into three major regions (Map - C).

- North-East to North West Region (Comprises Majority of Tehsil Banda Daud Shah Region)
- Central and South-East Region (Comprises Majority of Tehsil Karak Region)
- South-Western and South-Eastern Region (Comprises Majority of Tehsil Takht-i-Nasrati Region).



1. Transport Infrastructure and Roads Network:

The aim of transport infrastructure should be to improve the connectivity of economic clusters in the center with the less developed area. This will lead to increased economic activity and creation of employment and income in less developed areas. It is recommended that;

- i) Connect the rural and remote villages to the District “headquarter” by metaled road network and further connect the District to economic hubs of the province and country through railway, motorways and highways. This will open up avenues of developments for the study area which is relatively remote and economically depressed areas. Subsequently it will facilitate inter and intra-district flow of goods, local investment and skilled manpower.
- ii) Presently in the absence of an extensive railway service, roads and highways are heavily used for passenger and freight traffic, resultantly the roads become broken and deteriorated rapidly. To

mitigate this phenomena the existing network should be improved with special emphasis on transport infrastructure up-gradation and maintenance.

- iii) The government should also focus on completing existing initiatives on the regulatory and reform side as well as those dealing with infrastructure. This includes the following:

- i) Establishing and strengthening of a Transport Regulatory Authority that will take over some critical regulatory functions of the Transport Department
- ii) Construction of trucking terminals at district level to serve as focal points for trucks and containers and assist the government institutions to better regulate the trucking industry.

2. Health:

In order to overhaul the health issues in the study area the government should;

- i) Government District Headquarter hospital needs to be upgraded to Category “A”. Subsequently, the tehsil levels hospitals should be upgraded to Category “B”.
- ii) To minimize the load on OPDs at the DHQ and THQ hospitals, Rural Health Centers (RHCs) at Union Council and Basic Health Units (BHUs) at Village Council level should be established.
- iii) Increase the health sector budget and to initiate rural health programs to ensure access of local people to good quality of health services. The health institutions of a minerals’ rich district (study area) should provide free health services to the patients of the same.
- iv) There should be incentives for medical staff/doctors to make the treatment environment more favorable. In order to ensure good governance at public hospitals, a proper feedback and complaint mechanism and monitoring system needs to be installed.

3. Education:

- i) The study area has scattered nature of population’s settlements and the schools and colleges especially girls’ education institutes are far away from the localities. Therefore, more schools and colleges should be established in remote areas.
- ii) Technical and professional education institutes should be established for the provision of skilled manpower to the local industry. Subsequently the local resources and industry will be helpful in minimizing the issue of unemployment.
- iii) Special emphasis should be on the utilization the abilities of local youth. Oil refineries, gas plants, and scientific education in the field of agriculture, forest resources and the extracting of chromite, salt and coal minerals can minimize the unemployment in the area.

4. Agriculture Development:

- i) The agriculture setup is based on traditional methods and equipment’s, needs to be advanced. Training programme for the use of scientific methods and equipment can increase the agricultural production in the district.
- ii) Horticulture crops especially fruits, off season vegetable, mushrooms culture and honey production may be extended for the economic uplift of the area.

5. Ecosystem Restoration and Management:

- i) Certain measures (controlled grazing, reforestation, rangeland management etc.) need to be addressed for the protection of threatened biological species. In-situ conservation methods should be practiced in the region.
- ii) Specific Planning techniques may be adopted for the management and Utilization of these forests.
 - a. The technique of Hybridization and Grafting should be introduced which will be a good effort in conservation and expansion of many species i.e Olea ferruginea should be grafted with valuable oil yielding species Olea europea.
 - b. Access to the market would increase the income generation. The loss of wild fruit and products can be controlled by providing access to the market.
 - c. Medicinal farm should be set up in the study area to promote the vital importance of the plants and its conservation. The plants should be introduced in botanic gardens for public display.
 - d. Documentation of the traditional knowledge related to flora of the area should be done.
 - e. Alternate environmental friendly and sustainable jobs should be provided to the people attached with

the selling and cutting of trees.

- f. Alternate means of energy like electricity and natural gas should be provided in the area to reduce indiscriminate use and cutting for fuel purposes.

- iii) Fish culturing in the small water dunes would give economic and social benefits to the local population of study area.

6. Awareness and Community Participation:

1. Community mobilization and involvement may be assured in natural conservation. In this regard education programmes and Awareness workshop should be arranged.
2. Local traditional folk technologies may be incorporated in developing plans. The community may be educated and trained for the collection and sustainable use of medicinal flora. Additionally, the native healers may also be encouraged to accurately inculcate their traditional knowledge to local community.

REFERENCES

- Adnan M., (2015). The need of Regional Planning in the context of Pakistan. Presentation delivered in Pakistan Urban Forum, Lahore and held on 5th Sep 2015.
- Ahmad N., Mamoon K.K., Khanzadi F.K., Farhat U., Amanullah K., Mahfooz R., Said. A. S. (2013). "Health Conditions: Analysis Of Patients' Social Problems At Public Hospitals In Southern Region Of Khyber Pakhtunkhwa. *Gomal University Journal of Research*. 29(2).
- Alif Ailaan., (2017). Pakistan District Education Rankings 2017, Islamabad.
- Ash, M., (1968). Realism and Regionalism, Town and Country Planning, 36, 4.
- Ayaz Malook ,Zulqarnain, Zain Ullah Khan Rehman Ullah Khan, Amna, Kalsoom., (2016). Functional Diversity of the Southeastern Areas of District Karak, SYLWAN. 158(x).
- Council of Europe. (1968). Regional Planning: A European Problem.
- Faisal Junaid, Hameed Ur Rehman, Naqeeb Ullah, Muhammad Tariq, Muhammad Ayub, Muhammad Naseem, Abdul Majid, Jalil Khan, Maqsood Ali, Parsa Shaffait and Muhammad Ibrahim., (2018). Physiochemical parameter of water and soil of Nashpa district Karak KPK Pakistan , International Journal of Fauna and Biological Studies. 5(4): 98-103.
- Glasson J., (1978). An Introduction to Regional Planning Concepts, Theory and Practice. Second edition.
- Government of Pakistan., (2019). Public Sector Development Programme 2019-20, Planning Commission Ministry of Planning, Development and Reform.
- Hussainullah., Rehman A., Ahmad I., Fozia A., Ali N., Wasim A. (2013). Physiochemical parameter of water and soil of Nashpa district Karak KPK Pakistan. Journal of the Chemical Society of Pakistan. 35(3); 1000-1004
- Hussainullah., Rehman A., Ahmad I., Fozia A., Ali N., Wasim A. (2013). Physiochemical parameter of water and soil of Nashpa district Karak KPK Pakistan. Journal of the Chemical Society of Pakistan. 35(3); 1000-1004
- Kazmi S. Z., (2016). Final Research Paper Industrial Policy, W. BOOTH School of Engineering and Practice, MC Master Engineering University, 2016 (Master Degree Research Thesis).
- Khan M. J., Malik A., M. Shahzad K., , Naveedullah, Naeem I., and Ishaq A. (2018). Status of Water Table Depths and Water Quality in District Karak, Khyber Pakhtunkhwa, Pakistan. *Sarhad Journal of Agriculture*. 34, (2) 282.
- Munir T., Maimmona S., , Hameed R., Shaista R., Tahir A., Ijaz A., (2016). "Heavy metal analysis in fishes and water of

- Changhoz dam district Karak, KPK, Pakistan". *Journal of Entomology and Zoology Studies*. 4(2): 321-325.
- Murad W., Azizullah Muhammad A., Akash T., Kalim U. K., Saqib Waheed, Ashfaq A. (2013). Ethnobotanical assessment of plant resources of Banda Daud Shah, District Karak, Pakistan. *J Ethnobiol Ethnomed*. 9: 77.
- Qureshi Z.A., (2015). Regional Planning concept for Khyber Pakhtunkhwa. A presentation delivered in Pakistan Urban Forum, Lahore and held on 5th Sept 2015.
- Suleman Q., Hassan D. A., Kausar Y., Mehrdad J., Zaitoon A., Basreen A. (2015). Exploring Factors Affecting Girls' Education at Secondary Level: A Case of Karak District, Pakistan. *Journal of Education and Practice*. 6 (19).
- Tabasum I., Fazlur-Rahman., Ihsanullah, Fazlul-Haq. (2015). "Degradation of Communal Natural Resources and their Impacts on Mountain Women: A Case Study of Karak District Pakistan. *Pakistan Journal of Social Sciences*. 32 (1), 157-169.
- Tabasum I., Muhammad A.K., Ihsanullah, Fazlul-Haq. (2014). Farmer's Perception on Desertification Dynamic s and Sustainability of Adaptive Strategies in Semiarid Regions: Observations from Karak District, Pakistan. *Life Science Journal*. 11(9), 445-452.
- Viktor Bond Aruk, I. K. (2015). Strategic planning for regional development on the basis of the concept of "point of growth". *Journal of Public Administration, Finance and Law* , 7, 16- 21.
- Viktor Bond Aruk, I. K. (2015). Strategic planning for regional development on the basis of the concept of "point of growth",. *Journal of Public Administration, Finance and Law* , 7, 16- 21.