Material for the case work

Determining whether SEA is needed for the proposed plan

Laran's Special Economic Zones and their development context

The Laranian Parliament approved the Free Zones Act in September of 1993. The activities of Laran's Special Economic Zones are supervised by a High Council comprising of 14 minister members headed by the President. The High Council adopts the bylaws of the free zones which set out all regulations pertaining to import, export, investment, insurance, banking, labor and employment of these zones. Each zone is administered by its management organization.

Laran's Special Economic Zones are located in the most strategic regions of the country from the viewpoint of road, rail and air transportation. They are mainly located in areas where loading and unloading of the goods can provide exporters and importers with the best and most proper places for warehousing their merchandises while marketing and distributing their goods.

The special economic zones are managed through special laws and bylaws and are excluded from the normal laws in Laran. These zones are excluded from the domain of the custom authorities and enjoy the full freedom for the in and out flow of goods and commodities. No customs duties and commercial benefits are imposed on the goods and merchandises to be re-exported abroad.

Basic facts about planning of Lars Special Economic Energy Zone

The High Council of Free Zones has identified in September 2011 a Special Economic Zone (SEZ) in Lars region as a priority for future development. The aim of the Lars SEZ will be to process natural gas from the South Lars Gas Field which is one of the 50 world's largest gas fields that contains an estimated amount of 1 trillion cubic meters of gas and 1 Billion barrels of condensates.

The SEZ is located approximately 120 km north from drilling wells at the South Lars Gas Field. It can obtain gas from South Lars Gas Field via multiple pipelines.

The primary reason for locating SEZ in this areas is its low seismic risks. The area is situated in low risk earthquake band - only about 3% of lands fall within high earthquake risk zones and 75% of lands are located in low earthquake lands. Other reasons for location of the SEZ include existence of an old airport able to provide sufficient services during the construction period and a possibility of turning it into international airport that can be used for passenger transport in the future. There is also a possibility of connecting the SEZ through a motorway with the supra regional arterial roads, or developing rail connection to East-West International rail-line.

The approval by the High Council provided the Lars SEZ with an area of 14000 hectare and it has requested the Ministry of Economy to prepare a **Development Plan for the Lars SEZ** that will define the possible industries to be located in the zone, activities necessary for the preparation of land and detailed plans for provision of all supporting infrastructure and facilities for attraction of domestic and foreign investments.

Material for the case work

Determining the relevant environmental issues

The Ministry of Economy started to prepare the Development Plan for the Lars SEZ and it proposed that SEZ will include a number of industrial installations for complex gas processing, production of urea and different types of plastics and production of special industrial gases.

The zone shall also need basic infrastructure services such as provision of reliable supply and distribution of electricity and water, telephone and internet connections, number of stores and retail shops as well as restaurants, mosque, a bank a and post office and a medical center.

Topography

The study area features two distinct mountain ranges with direction of northwest to southeast. Narrow plateaus lie between these mountain ranges and this is where the Larz SEZ is proposed. About 46% of the total area is covered by mountainous land with very restricting topographical conditions for future developments.

Mountains are generally without soil cover and without vegetation. Type soil on the plateau has low to medium soil cover with considerable amount of sands. These soils are covered with low to medium vegetation that has potential of controlled grazing. About 8% of total land area fall in class II that are cultivable. Class III lands cover 31.9% of the area that is moderately suitable for cultivation but possess some limitation for irrigation. Finally, 59.1% of lands fall in class IV that can be used for cultivation under special conditions.

Climatic conditions

The study area is situated in the warmest part of the country. The average mean temperature during eight months of a year has always been reported to exceed 24^{oC} and the highest temperature has reportedly been 51.5^{oC}. The average temperature during temperate period is approximately 18^{oC} and the absolute minimum temperature in last 27 years has been slightly over 0^{oC}. Rainfall takes place in winter season. A ten year mean precipitation is about 160.7mm.

The study area is particularly prone to accumulation of air emissions because of its topography and limited air circulation. It had however until recently air quality below air quality standards, although there is a trend or rapidly worsening local air quality especially in NOx due to increasing local motorized transport. No fuel was being used for house heating which was rather limited given the local climatic conditions.

Water resources

The rivers of Fond and Zaghan are amongst the most important surface flows. The river Mond does not have satisfactory water quality due to high dissolved solids which come from evaporative sediments, other sediment layers associated with salt and lime and also salt domes.

The river Zaghan is one of few potable water bodies in the study area. The water quality of Zaghan River is relatively suitable even though it does not meet WHO drinking water quality standards (see the table

below). Average water discharge at Zaghan village is about 0.9m^3/s. The maximum discharge of Zaghan River in the study area is about 7.9m^3/s.

Water quality parameters	River Zaghan	River Fond	WHO standards
Electrical conductivity - EC [micro Mohs/cm]	2630	10306	1000 (max permissible level)
Total dissolved solids - TDS [mg/l]	1844	7233	706.1 (average)
Chlorine - Cl [mg/l]	355	3647	250 (max permissible level)

Table 1 Water quality parameters of key freshwater water bodies in the study area

The study area has low quality of groundwater. Only 29% of ground waters in the area fall within classification of potable water, 20% fall within medium quality water and the remaining 51% within unsatisfactory water quality. Poor quality of ground water is naturally caused by existing geological formations in the study area. Drinking water can be also possibly withdrawn from groundwater of carbonate formation – i.e. from the extension of Mangestan geological formation in the east of area.

Ecosystems

Terrestrial ecosystems of the study area do not feature high quality plant growth due to high water tables, unavailability of deep soils, low rainfall, high evaporation, high salinity in soils and low organic contents of soils. About 60% of the total area faces lack of vegetable covers due to the climatic conditions prevailing in the area. Biological centers are very scattered and their density is low

Waste management

Generally, the average amount of household waste produced in the urban areas of the region has risen from 550 gr. per person per day in 1986 to 2036 gr. per person per day in 2010. It is estimated that approximately 25 ton of waste per day is produced in urban areas. The local landfill is not in a suitable state due to non-hygienic land filling. It is not located to close proximity of protected areas or watercourses and it reportedly does not pollute ground waste or surface waters. However, waste burning is considered as a serious problem because of the resulting air pollution and odors.

Other issues

Noise levels have not been monitored so far in the study area. Thus, it is not possible to discuss on this issue.

Many ancient and historical vestiges are present in the study area. The most important ancient and historical vestiges include:

- Siraf mosque - had been constructed at the end 8th century A. D.;
- Mansouri castle and ancient cemetery in Luyeh township

Islam is main religion in urban and rural areas. Social survey shows that here have not been any major past clashes amongst citizens of various towns' in the study area. Possible disagreements on land, pasture, and animal husbandry and tribal problems that occur have been so far resolved by elderly people.

Community involvement has been successful in the study area and the main processes where community becomes involved include implementation of projects for development of electricity grid, school construction, water pipeline, telecommunication and medical centers.

The study area has higher occurrence of the following illness then the rest of Laran country. The most important epidemic illnesses are Tuberculosis (24.7% of ill persons in the province) and Hepatitis B (44.5% of ill persons in the province). Unavailability of potable water is among the main factors in such an increase of illnesses. About 32.5% of those, whom have paid a visit to hygienic centers in the study area, have diarrhea that is also indicative of water pollution.

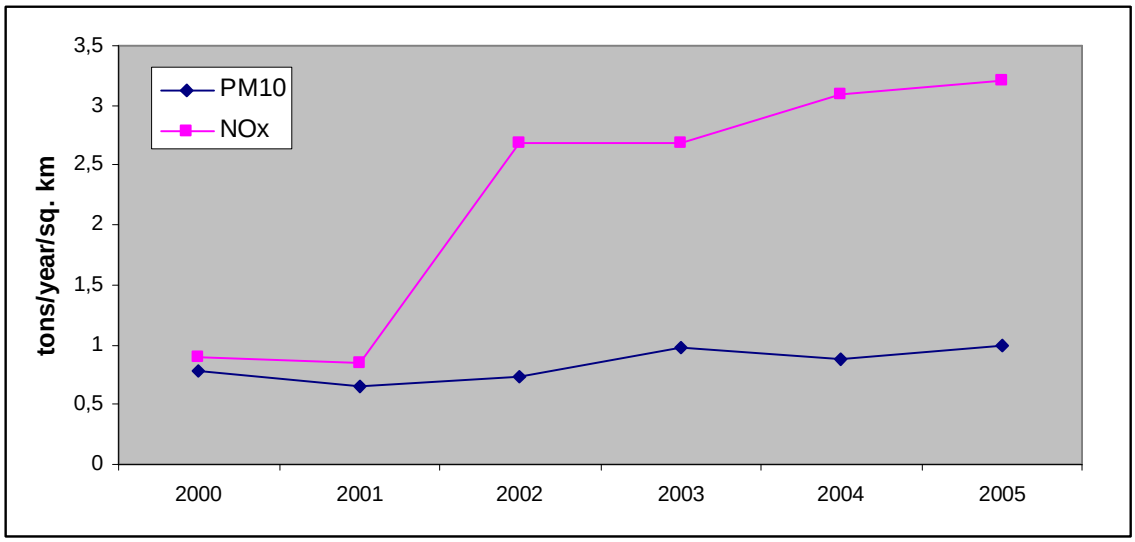
Material for the case work

Analysis of the baseline trends

Trend in the Air pollution

The National Programme for Air Protection stipulates that all regions need to fulfil the national ceilings for the emissions of NO_x of 3,5 tons/year/km^2.

The following chart provides the overview of the progress of NOx emissions in the study area.



Drivers of the trend

The main driver of air pollution in the study area is the car traffic. The chart bellow describes trends in the transport of goods on roads in the region.

Future evolution of the drivers of the trend

The transport projects in the study area indicate that even without the development of the SEZ, the volume of transport in the study area is likely to increase to 640.000 tons/year by 2015 – this means 33% increase in volume of regional transport over 10-year period between 2006 and 2015.